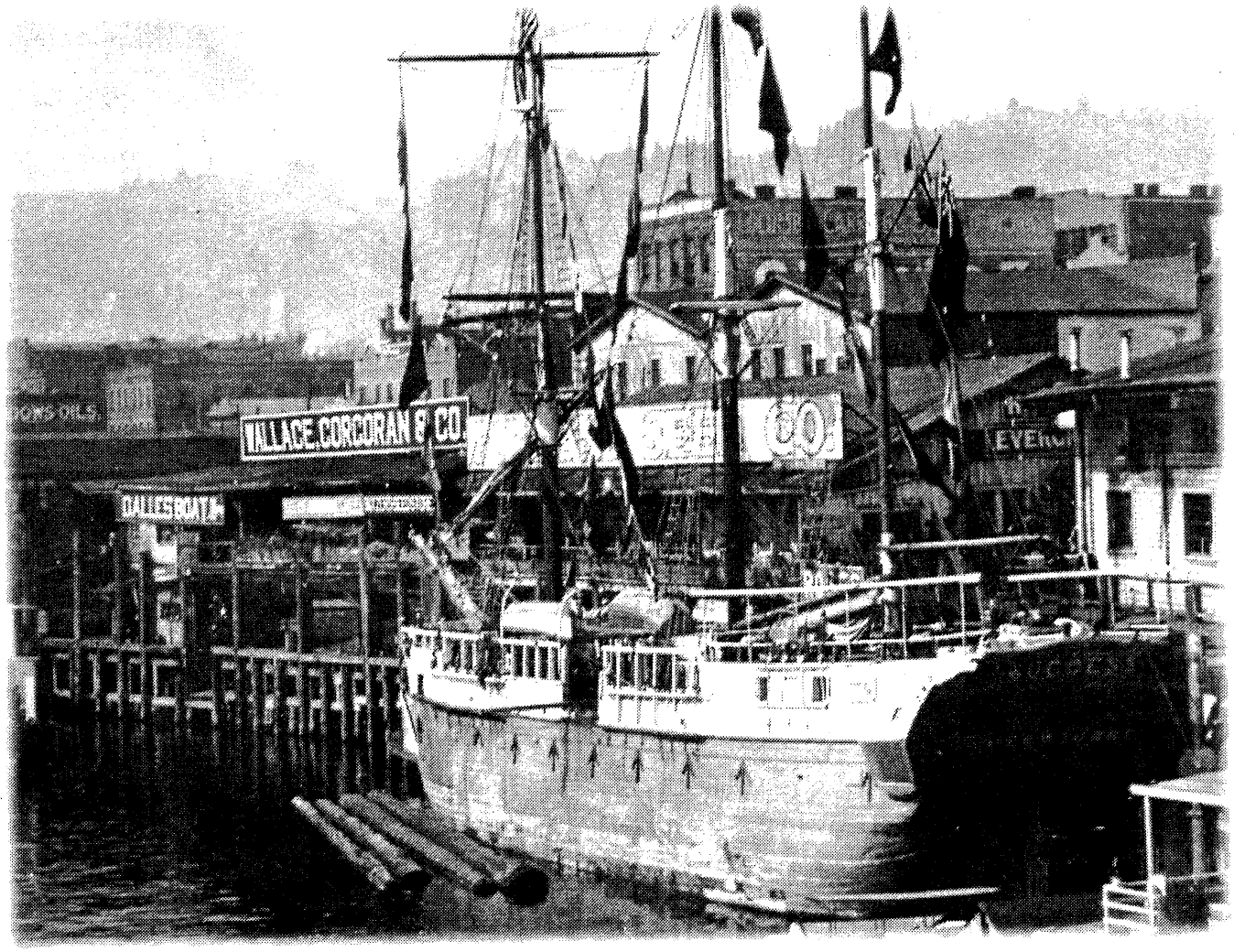
US Army Corps
of Engineers®
Portland District

Volume II: Draft EIS Comments and Responses

Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement

Columbia & Lower Willamette River Federal Navigation Channel



Portland Waterfront Circa 1900
Photo Courtesy of Port of Portland

August 1999

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

FEB 4 1999

Reply To
Attn Of: ECO-088

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E ATTN: Steven J. Stevens
P.O. Box 2946
Portland, Oregon 97208-2946

Dear Mr. Stevens:

The Environmental Protection Agency (EPA) has reviewed the Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (draft EIS) for the Columbia and Lower Willamette Rivers for review in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. The draft EIS analyzes alternatives for improving deep-draft navigation for 103.5 miles of the Columbia River below Vancouver, Washington and 11.6 miles of the Willamette River below Portland, Oregon.

1. EPA is a cooperating agency on this EIS and intends to adopt the final to support our formal designation of Ocean Dumping sites at the mouth of the Columbia River. The information contained in the draft EIS is considered insufficient for designation purposes. Deficiencies include inadequate discussion of the Ocean Dumping Site Evaluation process that was conducted by the Corps and EPA which resulted in the identification of three potential sites described in the draft EIS, and the narrow scope of the draft Site Management and Monitoring Plan for those potential sites. Regarding the latter, not all management options were disclosed and a final "plan" agreed upon. In addition, most of the information pertaining to the ocean sites was relegated to Appendix H. A summary of environmental effects and compliance with the Ocean Dumping criteria needs to be included in the main body of the final EIS. EPA intends to work closely with the Corps to rewrite the appropriate sections of the EIS and appendices and respond to comments from the agencies and public on the ocean dumping components.

2. It is important to recognize that these comments on the draft EIS stem from our NEPA review authorities described above and that they are separate from our participation as a cooperating agency. These comments do, however, reflect significant coordination within our agency to include our Aquatic Resources staff recommendations as part of the ongoing cooperating agency process. We offer our comments here in the spirit of creating a more thorough document for public understanding and review under NEPA.

EPA commends the Corps for incorporating Ecosystem Restoration as an integrated part of the proposed project. In addition, EPA appreciates that the Corps has included "ecosystem

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1. The final EIS has been revised to include a thorough discussion of ocean dumping criteria as well as additional discussion on ocean disposal site selections.

2. Comments noted.

Restoration for fish and wildlife habitats" as a major part of the purpose and need for the project.

Based upon our review we have rated the draft EIS EC-2 (Environmental Concerns – Insufficient Information). We are concerned that in addition to the aforementioned Ocean Dumping Site Evaluation concerns, the draft EIS lacks information regarding the following issues:

1. Upland and instream dredged disposal sites.

2. Impacts of the new channel and sediment regimes in the Columbia and the Willamette Rivers.

3. Cumulative environmental impacts from past, present and future activities in the project area.

4. The absence of firm commitments to implement and follow through on the above referenced proposed Ecosystem Restoration measures.

5. The relationship between the proposed dredging activities and the future decision on whether to draw down the John Day Reservoir and selected dams on the Lower Snake River.

An explanation of the EPA rating system for draft EIS's is enclosed for your reference. This rating and a summary of these comments will be published in the Federal Register. If you have questions, please contact John Bregar (206) 553-1984 or John Malek (206) 553-1286 in our Office of Ecosystems and Communities.

Sincerely,

Richard B. Parkin

Richard B. Parkin, Manager
Geographic Implementation Unit

Corps of Engineers Response

3. Comments noted. Specific responses are provided to these issues and others provided in your attachment.

Environmental Protection Agency
Detailed Comments on the Draft Integrated Feasibility Report for Channel Improvements

Upland and Instream Dredging Disposal

4. Many of the diked areas along the Columbia River are wetlands. We are aware that some of the areas that have been diked and are now being considered as dredged material disposal sites, are also wetlands. The document does not indicate that wetland determinations have been made for all such diked areas being considered as disposal sites. If such determinations have been made, the data sheets need to be included in the EIS indicating size and location of the wetland in order to explain how wetland functions lost and acres of wetlands lost have been used to determine adequate and/or appropriate mitigation. Some of the proposed fill sites are areas under agricultural use (cropping or grazing) which still possess the characteristics of wetlands, and have the potential for restoration and enhancement.

5. The Columbia River Channel Improvement Study maps that are included in Chapter 4, do not indicate where the in-water disposal sites will be located. On earlier maps, not associated with this EIS, information on in-water disposal sites are clearly shown. The final EIS should include more specific maps showing proposed in-stream dredged material disposal sites.

6. In addition, in inland waters, the Corps and EPA can cooperate to select sites using the Clean Water Act §230.80 advanced identification authority. EPA anticipates that these actions will occur following the publication of the final EIS for the Columbia River Deepening. As part of the §230.80 process, we also expect that the Corps and EPA, along with both Washington and Oregon partners, will develop site management and monitoring plans (SMMP) for all sites, that will guide future use of each site. At this time it is uncertain whether all sites could be covered by a single generic plan, presumably some sites will need to be managed uniquely. Appropriate early management of sites may provide environmental benefits. Indication of the necessity and intent to develop these plans should be included in the EIS.

7. On Pg. 4-15, (under paragraph 4.4.3.4 Upland Disposal Site Screening) the document states, "Unconfined in-water disposal in or adjacent to the channel was counted as one site for the length -of the river regardless of the initial disposal depth identified." How is this information related to the topic of the paragraph, upland disposal? In light of the information in the sentence, how are the individual disposal sites to be monitored and tracked?

Channel/Sediment Issues

In several areas the EIS discusses the realignment of the river bottom sediment after

Corps of Engineers Response

4. Although wetland determinations were not made for disposal sites, they will be prepared by project sponsors in conjunction with the 404 permit process before any wetland fill occurs at the two remaining upland disposal sites that affect wetlands. Although some of the proposed fill sites may still possess some of the characteristics of wetlands, it is very unlikely that these sites would be withdrawn from agricultural use to allow for wetland restoration without landowner compensation. The wildlife mitigation process was relied upon to characterize the wildlife value of each disposal site, including those areas with some wetland characteristics. The mitigation process represents an alternative means to assess wetland value. Participants in the interagency mitigation team sought an emphasis on wetland development in the wildlife mitigation plan. The mitigation plan in the DEIS (Appendix G) would restore or develop 210 acres of wetland habitat or over ten times the 20.4 acre impact. Several state agencies have stated that Peavey Oval will require mitigation for the wetland habitat present. As a result of this new information, the disposal plan has been adjusted by eliminating Peavey Oval as a disposal site to avoid wetlands impacts.

5. Section 4.4.3.7 describes the in-water disposal sites; sites other than flowlane are mapped.

6. Comment noted. Text has been added to the final EIS concerning SMMP development. Development of upland disposal site SMMP's will occur after the sites have been acquired by the non-federal sponsor.

7. The section heading will be changed to read "Disposal Site Screening" as in-water, beach nourishment and upland disposal sites were considered in the analysis discussed in this section. Unconfined, in-water disposal would not be restricted to explicit sites. Rather, unconfined in-water disposal locations would shift over time depending upon location of shoals and availability of suitable water depth adjacent to the dredging area for disposal actions.

deepening the channel. In wider reaches of the river, a new angle of repose may not be a problem as a result of dredging. However, in narrower reaches, dredging could create a
8. realignment of 50 to 60 feet which could involve the entire river bed., from bank to bank. Such a change in the river bottom could have far-reaching effects on the local ecosystem. There does not appear to be a discussion in the document where such effects have been measured qualitatively or quantitatively. The final EIS should address this concern.

Certain Willamette River sediments are contaminated and are presently undergoing remediation studies. Since any future development along the Willamette River will probably involve those same sediments, what type of coordination has been initiated to integrate this deepening study with studies of potentially contaminated sediments? In Appendix B, page 11, the conclusion drawn is that Willamette River sediments "would be required to either undergo biological testing under Tier III or be disposed of under guidelines and regulations for confined
9. in water or upland" disposal sites. The document does not appear to go further in dealing with a sampling plan or potential sites for disposal. The information related to advanced identification of sites for disposal of contaminated sediments, sampling plans, dredging volumes and methods, etc., should all be discussed in the final EIS.

Section 5.1.7.3, Navigation Channel Sediments, describes the results of June 1997 sampling efforts along reaches of the Columbia and Willamette Rivers. The final EIS should clarify which of the Willamette River samples were surface grab samples and which were core samples. The core samples should be further broken down to indicate sample depth.

Cumulative Impacts

The cumulative impacts section on page 6-57 indicates that approximately 51,997 acres of wetland/marsh habitat and 27,004 acres of forested wetland habitat has been lost along the lower Columbia and Willamette rivers since the 1880's. In addition to substantial hydrologic alteration, these rivers have almost lost all of their natural flow characteristics and have sustained tremendous cumulative damage over the years. We believe that the Corps has an obligation to attempt to minimize future disturbance of wetlands and other sensitive areas along the rivers in order to help move them toward a more natural state. The January 1997 cumulative impacts guidance from the Council on Environmental Quality (CEQ) entitled, "Considering Cumulative Effects" speaks to this issue:
10.

> The historical context and full suite of ongoing actions are not only critical for evaluating cumulative effects, but also for developing potential restoration as well. The first step in developing a river restoration plan is to understand how past actions ... have contributed to the current condition of the water body. (Page 42).

The guidance goes on to define several examples of significant cumulative impacts, including cumulative impacts on wetlands. Significant cumulative wetland impacts occur when

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8. Sections 4.4.3.2 and 6.2.3.1 of the report discuss this concern.

9. All data generated under this study has been or will be provided to DEQ for incorporation into their database. The local sponsor has requested to defer all dredging on the Willamette River pending the completion of the ongoing remediation studies. No further studies of the sediment quality or identification of disposal options are planned until a decision is made whether or not to deepen the Willamette River.

Appendix B Section 5.0 and Sections 7.1 and 7.2 describe the sample notation number which identifies surface samples and core samples. All samples with a "BC" designation are surface grab samples (i.e. CR-BC-34 or WR-BC-5) collected by a Van Veen grab sampler. The core samples collected in the Willamette River were collected using a 4-inch vibra core.

10. The FEIS, including the 404(b)(1) analysis, has been revised to include more detailed discussion of the guidelines and cumulative effects. The recommended plan is revised from that found in the DEIS to reduce the wetland impact to 20.4 acres. The rationale for disposal site selection, including wetland and riparian areas, is thoroughly discussed. We have concluded that these remaining impacted sites cannot be reasonably avoided, and that, with mitigation, net wetland/riparian values would be greatly increased.

hypothetical past actions have created large reductions in wetlands, present and future actions would cause a small loss of wetland acreage annually and the proposed action would disturb a small amount of wetlands. It is important to note that the proposed action alone would not create significant cumulative impacts, but when combined with past, present and future impacts, not necessarily within the jurisdiction of the lead agency (40 CFR part 1508.7), the action is considered significant.

> If it is determined that significant cumulative effects would occur as a result of a proposed action, the project proponent should avoid, minimize, or mitigate adverse effects by modifying or adding alternatives. (Page 44.)

With specific regard to the proposed action, four of seven alternatives contain provisions to fill approximately 38 acres of wetlands and 66 acres of riparian habitat. We believe that further justification is required in the final EIS to support these actions in order to meet the intent of the CEQ cumulative impact guidance, as well as to demonstrate consistency with the Clean Water Act Section 404(b)(1) requirements which stipulate that filling of waters of the U.S. must undergo a least environmentally damaging practicable alternative analysis. The draft 404(b)(1) analysis in Exhibit D does not readily demonstrate compliance with requirements or intent of the Clean Water Act Section 404 guidelines which state at 40 CFR 230.5 which state in part,

> In evaluating whether a particular discharge site may be specified, the permitting authority should use these Guidelines in the following sequence:
> ....(c) Examine practicable alternatives to the proposed discharge, that is, not discharging into an alternative aquatic site with potentially less damaging consequences.

11. Continued at 230.10, the Guidelines state,

> (a) Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences..... (a)(2) An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes...

The 404(b)(1) analysis in Exhibit D is missing the necessary elements to support the conclusion that, "Any remaining wetlands or riparian areas affected by disposal were considered unavoidable in achieving a practicable disposal plan, identified as the Least Cost Disposal Plan." As the guidelines in 230.10 stipulate, it is assumed that upland disposal sites are available and less damaging unless specifically proven otherwise. This proof is absent from the existing analysis.

The alternatives analysis presented in the draft NEPA EIS can, according to 230.10(4), provide information required for the 404(b)(1) analysis. Although proposed sites are displayed on Table 4-4, there is no reference to 404(b)(1), nor is there any detailed look at why upland sites did not take precedence over aquatic sites. The final EIS should provide more information, presented in one designated area in the text, to describe the 404(b)(1) process and explain the

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11. The Corps exercised its obligation to minimize future disturbance of wetlands and other sensitive areas along the project area. We proceeded through an extensive disposal site screening process (reference Section 4.4.3.4 and Table 4.4). Disposal site screening included cost analyses for using alternative sites versus mitigation of impacts. These referenced areas of the DEIS represent a least environmentally damaging practicable alternative analysis. Additionally, we hosted seven interagency meetings on disposal siting by reach early in the feasibility study. Agency opinions on disposal siting were actively sought to aid our disposal site selection process. Separate meetings were held with NMFS on ESA Critical Habitat for listed salmonids. The Corps executed these actions in order to minimize impacts to riparian and wetland habitat to the extent practicable. The Corps actions, as identified in the DEIS and our Dredged Material Management Plan, will lead to a virtual elimination of shoreline (beach nourishment) disposal in the future allowing gradual recovery of natural banklines.

Also see response #4 of this letter.

rationale behind the chosen disposal sites.

11. (con't)

The incremental filling of 38 acres of wetlands and 66 acres of riparian habitat may not seem significant at first, but when added to the past damage that has accrued over the years, it is an unacceptable impact without a strong justification of costs/benefits. Restoration alone is not enough in this situation to compensate for these losses without such a justification.

Ecosystem Restoration

12. There are four large scale ecosystem restoration measures provided as a result of consultation with Federal agencies and the sponsoring ports. These are discussed on pages 4-65 through 4-71. We are strongly in support of the implementation of these proposed measures. However, in the main body of the draft EIS the assurances that these measures will be successful are absent. The final EIS should contain detailed commitments to implement these measures as well as monitoring plans, contingency plans and assurances that all project-related mitigation measures will be completed within a specified time frame with sufficient funding sources identified.

13. EPA understands that ecosystem restoration objectives are implemented under separate authority than for mitigation for project impacts. Under ecosystem restoration provisions, congressional approval is ultimately required to guarantee that the proposed measures will go forward and be funded. It is difficult to predict the outcome of a congressional vote on the subject. Absent these ecosystem restoration objectives, however, EPA will have very strong concerns with the continuation of the dredging project as proposed. The final EIS should provide additional clarity regarding the authorities for ecosystem restoration and a plan for assuring that these measures will be implemented even in the event that Congress does not approve them as part of the ecosystem restoration package.

Lower Columbia and Lower Snake River Drawdown

14. The draft EIS is largely silent on the issue of potential drawdowns in the future at the John Day Dam and the four Lower Snake River dams. Presently, no decisions have been made regarding drawdown, but studies by the Walla Walla District Army Corps and regional working groups have indicated that the only way to truly restore the dwindling aquatic resources in the Columbia Basin is to move the river toward a more normative flow regime. If this were to occur, it would seem to have significant implications related to the proposed action with regard to flow regimes as well as shipping activity up the river. The cost/benefit relationships for this project may also be altered. The final EIS should examine the relationships between the proposed deepening action and potential drawdown actions as well as the environmental and economic effects.

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12. If the project is authorized, it will include the ecosystem restoration features described in the FEIS, which will be constructed during the construction period for the project starting in November 2001. Mitigation efforts are distinct and separate from ecosystem restoration efforts. Monitoring plans for wildlife mitigation measures were presented in Appendix G. We perceive no need to develop contingency plans. Project-related wildlife mitigation measures will be implemented prior to or concurrent with project construction per established Corps guidance. Mitigation costs are part of the general project cost and mitigation funds will become available when Congress appropriates construction monies. There are no Corps monitoring plans established for ecosystem restoration measures.

13. The Corps will provide additional clarification on the ecosystem restoration authority in Chapter 4, Section 4.8. The Corps will implement those ecosystem restoration measures that Congress authorizes and appropriates funds for their construction. As ecosystem restoration is an integral element of the study, Congressional approval of the study automatically confers approval of the ecosystem restoration measures.

14. The dams in question provide minimal flow regulation for the mainstem Columbia River. Alterations in flow regimes, if those dams were ever drawn down, would have insignificant impacts on sediment discharged to the Pacific Ocean and on the maintenance-dredging forecast.

The sensitivity analysis in the Economic Appendix (C) addresses concerns regarding reduction in tonnage due to drawdowns. All of the tonnage that arrives via barge could be removed from the benefit analysis without significantly impacting the benefits.

Page Specific Comments on the Main Body of the EIS and Volume I of Appendix H.

15. 1. Suggest reducing the written material from mid-page 2 to bottom of page 3 in the executive summary that discusses dredging and disposal for present operations and the proposed 43-foot channel. A properly designed table here and one in Chapter 4, Alternatives, that show the dredging and disposal amounts as well as disposal locations for both present and proposed operations would supplant much of the written material and make it more understandable for the reader. Construction as well as Operation & Maintenance volumes for periods up to 50 years should be included. For example, from the numbers shown on page 2-13, if the present shoreline disposal volume is desired, that number needs to be backed out from the other numbers given on that page. Tabular presentations would be clearer and cleaner.

16. 2. Pages 2-1 & 2-2 Depth of channel should be more accurately described -- considering advance dredging and portions of channel naturally deeper than 40 feet.

3. Page 2-1 Define difference between short ton and ton

4. Page 5-1 p.3 Unclear sentence meaning-- wave heights are greater seasonally?

5. Page 5-3 p.l Believe published estimates give mouth of Columbia River flow as about 260,000 cfs

6. Page 5-3 p.4 Suggest expanding explanation on flood and ebb tide and estuary circulation direction for clarity or delete entire paragraph.

7. Page 5-4 p.3.... velocity drops below 3 fps.... instead of 3 cfs

8. Page 5-4 p.4 Not sure of meaning of phrase.... current average suspended bed material transport..... in suspended sediment section of text

9. Page 5-6 p. 4 The explanation to arrive at conclusion that effects occur above -3 feet CRD is not clear

10. Page 5-7 P.2 and other locations-- Suggest specifying river mile for islands and other locations referred to in text

17. 11. Page 5-7 p.3 Implies that more than 40 miles of shoreline have been dredged material disposal sites. Is that correct?

18. 12. Page 5-7 p.4 Erosion rates should be in units of feet per year if that is what they are.

13. Page 5-13 p.3 Third sentence is incomplete

Corps of Engineers Response

15. Comment noted.

16. Your suggested report changes and clarifications in comments # 2 through #10 have been made in the final EIS.

17. Yes, this is a correct statement.

18. The suggested report changes have been made in the final report.

19. 14. Page 5-27 p.4 Ospreys not mentioned. Suggest discuss osprey use of unneeded navigation aids in Columbia River

20. 15. Page 5-35 p.4 Suggest more specificity as to ... very high ... North American population density

21. 16. Page 6-27 p. 1 Suggest more prominent placement of plans for upland disposal sites management and monitoring plans. We understand that these plans will be developed after the final feasibility report and EIS.

The comments following refer to Appendix H Volume 1

17. Page 7 p.1 Separate paragraph starting with ... Since 1977.... from material preceding it

18. Page 7 p.3 Suggest moving the reference to figure 2 to the end of the next sentence because the 1993 expansion is not shown on figure 2

22. 19. Page 8 p. 2 Suggest rephrasing or rewriting to clarify meaning and intent of first sentence

20. Page 10 p.4 Suggest locating estuarine sites C and D on an illustration.

21. Page 16 Most of page 16 is an almost word for word repeat of material on pages 13 and 14. Presume this was not intended.

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19. The following text has been added to the final report. "Osprey occur throughout the project area. They nest on navigation aids, dolphins, range markers and natural locations such as snags. Their presence along the lower Columbia River has increased markedly since the late 1970s."

20. Comment noted.

21. We have incorporated this brief paragraph under its own subsection heading in the final report to highlight its placement. As stated in the text, disposal site management plans will be developed after site acquisition.

22. Concur with your comments #17, #18, #19, and #21: text has been revised.
Comment #20: Sites C and D are located on Figure B-3, Exhibit B in Appendix H.

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

Environmental Impact of the Action

LO - - Lack of Objections

The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonaby available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information. data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
HABITAT CONSERVATION DIVISION
525 NE Oregon Street
PORTLAND, OREGON 97232-2737

February 2, 1999

Mr. Steve Stevens
Corps of Engineers, Portland District
Attn: CENWP-PE-E
P.O. Box 2946
Portland, Oregon 97208-2946

RE: Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement

Dear Mr. Stevens:

The National Marine Fisheries Service (NMFS) has reviewed the subject Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (EIS) which describes the Army Corps of Engineers' (COE) proposed plan for deepening the existing 40 foot navigation channel in the Columbia River and lower Willamette River to a maximum depth of 43 feet. We provide the following comments based on our concerns for the potential impacts of this project on marine, estuarine and anadromous fishery resources and their habitats.

The NMFS appreciates the amount of work the COE has put into development of the report. It has been a significant task to determine and address potential issues that result from the proposed project. The COE has done an admirable job in attempting to accomplish that. However, NMFS believes that there are still several major issues that need to be addressed: ocean disposal impacts; in-water disposal impacts to sturgeon; disposal on estuarine islands; impacts to estuarine fish and invertebrate species; impacts to Columbia River smelt; increased wave erosion; sediment budget for the Columbia River; contamination in the Willamette River and ecosystem restoration.

1. Pacific coastal waters are some of the most productive in the United States (Resources Agency of California, 1995). Estuaries are the bays and inlets influenced by both the ocean and a river and serve as the transitional zone between fresh and salt water (Botkin et al. 1995). Estuaries support a community of plants and animals that are adapted to the zone where fresh and salt waters mix (Zedler et al. 1992). Estuaries are naturally dynamic and complex. Human actions alter estuaries by stabilizing and simplifying this complexity (Williams et al. 1996). These activities have substantially changed the estuaries' ability to function in a manner beneficial to anadromous and marine fish. Habitat degradation and loss adversely affect inshore and riverine ecosystems critical to living marine resources (Chambers 1992). In addition, the cumulative effects of small changes in many estuaries may have a large systematic impact on estuarine and coastal oceanic carrying capacity (Monaco et al. 1990).

Corps of Engineers Response

1. Comments noted.

Fox (1992) states: "The ability of habitats to support high productivity levels of marine resources is diminishing, while pressures for their conversion to other uses are continuing." Point and non-point discharges, waste dumps, eutrophication, acid rain, and other human impacts reduce this ability (Fox 1992). Population growth and demands for international business trade along the Pacific Rim exert pressure to expand coastal towns and port facilities - resulting in net estuary losses (Kagan 1991, Fawcett and Marcus 1991). Carefoot (1977), discussing Pacific seashores, states "Estuaries are complex systems which can succumb to humankind's massive and pervasive assaults."

2. Estuarine habitats fulfill fish and wildlife needs for reproduction, feeding, refuge, and other physiological necessities (Simenstad et al. 1991, Good 1987, Phillips 1984). Coastal fish populations depend upon both the quantity and quality of the available habitat (Peters and Cross 1992). Almost all marine and intertidal waters, wetlands, swamps and marshes are critical to fish (Fedler and Crookshank 1992).

Estuarine zone fisheries are of great economic importance across the Nation (Herke and Rogers 1993). Three-fourths of the fish species caught in the United States are supported by estuarine habitats (Hinman 1992, Fox 1992). Clams, crabs, oysters, mussels, scallops, and estuarine and nearshore small commercial fishes contributed an average dockside revenue of $389 million nationally from 1990 to 1992 (National Marine Fisheries Service 1993). Using National Marine Fisheries Service data, Chambers (1992) determined that seventy-five percent of all commercial fish and shellfish landings are of estuarine-dependent species. Of the 83 species identified by the Pacific Fishery Management Council in its Groundfish Fishery Management Plan, at least 31 inhabit estuaries and nearshore kelp forests for part, or all, of their life cycle.

Ocean Disposal Impacts

NMFS realizes the need for designation of new sites for disposal of dredge material from the Columbia River. The designation of new sites is critical to maintaining the navigation channel at the mouth of the Columbia River. Although the size of the proposed sites will alleviate the need to continuously designate small sites as they fill, the NMFS believes that there are still major issues to be resolved regarding the exact configuration and placement of the proposed sites. Therefore, the COE should further work with the resource agencies and commercial fishermen to refine the proposed sites. The NMFS also has concern over the proposed disposal methods within any sites and the lack of mitigation for impacts to resources from disposal.

3. The COE indicates that a single dredging dump would result in up to 10 inches of material spread over a 20-50 acre area. The material from a single year of disposal in the nearshore area of the proposed sites would result in a uniform 10 inches over 4 square miles, and the offshore area could receive a 1-5 foot thick mound covering a quarter mile square area. The study conducted by the Corps on impacts to crabs indicated that 72% of the tested crabs died when depth of accumulation was greater than about 4 inches. The potential impacts to the crab

Corps of Engineers Response

2. Comments noted.

3. Concur with comments. Since the preparation of the draft report, further workshop meetings have been conducted which have resulted in modification to the site location, size, and management/monitoring. The management plan will be reviewed on an annual basis. The report has been revised to address the issues you have raised; see Chapter 4 and 6 of the main report and Appendix H. Impacts to the resources have been minimized by reducing the size of the sites and locating them in areas that have acceptable impacts to the commercial fishery.

resources and the crab fisherman off the Columbia River mouth resulting from disposal would be substantial. An analysis of these impacts should be included in the final EIS.

3. (con't)

Based on this, NMFS cannot support any disposal methodology that would result in widespread depth accumulations greater than 4 inches. The ability to place disposal in a dispersive or thin layer manner is unproven off the Columbia River and needs to be tested before it is selected as the method to be used. NMFS recommends that the COE work with the resource agencies and commercial fishermen to develop and utilize appropriate methodology for dumping within the newly designated sites prior to any further disposal events.

The COE identifies a proposed management plan that would be in place for ten years before any review is conducted. A thorough review of any final plan should be conducted at least every five years throughout the life of the project and yearly for the first five years to adequately address the success or failure of the plan.

This area will probably soon be designated as Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act. The NMFS, in their recommendations to the Pacific Fishery Management Council on EFH designations for groundfish stocks, provided the following general considerations for assessing potential impacts of proposed projects.

- The extent to which the activity would directly and indirectly affect the occurrence, abundance, health, and continued existence of fishery resources;
- The extent to which the potential for cumulative impacts exists;
- The extent to which adverse impacts can be avoided through project modification, alternative site selection or other safeguards;

4.

- The extent to which the activity is water dependent if loss or degradation of EFH is involved; and
- The extent to which mitigation may be used to offset unavoidable loss of habitat functions and values.

The following recommendations were made for dredging and dredge material disposal:

- The cumulative impacts of past and current dredging operations on Essential Fish Habitat should be addressed.
- Environmentally sound engineering and management practices (e.g., seasonal restrictions, dredging methods, and disposal options) should be employed for all dredging and construction projects.
- Compensation for impacts to benthic environments from dredging should be provided.

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4. A discussion of impacts of the proposed project is found in Chapters 4 and 6 of the main report and Appendix H.

- Federal agencies should identify the direct and indirect impacts such projects may have on EFH. Benthic productivity should be determined by sampling prior to any discharge of fill material. Sampling design should be developed with input from state and Federal resource agencies.

4. (con't)

Disposal by any method will result in mortality of crabs, fish and other benthic animals. The extent of that loss has not been addressed in the EIS. The COE has also not provided any proposed mitigation for this loss in the EIS. The size of the proposed sites (over 70 square miles) is unprecedented. The COE will need to extensively evaluate impacts from their disposal actions to consult with NMFS on impacts to EFH. Much of the area has not been evaluated as to its productivity and substrate composition. Sediment grain size from the Columbia River may be close in size to substrate within the disposal area, but there will be differences, especially the further offshore the disposal is placed. An analysis of the effects on benthic invertebrates resulting from the change should be undertaken and provided to the resource agencies for review. Comprehensive surveys are needed to identify areas that are of high biological productivity, of unique substrate/habitat and to establish a baseline for evaluation of impacts. Mitigation for impacts and substrate changes are necessary. NMFS recommends that the COE work with the resource agencies and commercial fishermen to develop mitigation for impacts resulting from disposal.

In-Water Disposal Impacts

The COE indicates that over 15 million cubic yards (mcy) of material would be placed in the main in-water disposal area (Columbia River miles 27-42) over the 20 years of the project. They further indicate that this would result in a 20 foot rise over 400 acres of riverbed. The EIS does
5. not adequately describe how this impact could be avoided or mitigated. If a majority of this material would be destined for the proposed restoration activities near Miller Sands (see comments below on restoration), the COE will need to identify other alternatives and propose mitigation. NMFS recommends that the COE work with the resource agencies to develop mitigation for impacts resulting from disposal.

In-water disposal within the Columbia River also has the potential to impact juvenile sturgeon. The Washington Department of Fish and Wildlife has indicated that there are four potential impacts to sturgeon from channel dredging and flowlane disposals: 1) alteration of critical rearing habitats, especially nursery habitat, 2) disruption of benthic invertebrate production- an
6. essential forage base for sturgeon of all ages, 3) disturbance and reintroduction of contaminants into the food chain bound in river sediments, and 4) direct mortality of juvenile, subadult, and adult sturgeon from dredging operations.

Juvenile sturgeon utilize deep water areas quite extensively. Most young-of the-year (YOY) and juvenile white sturgeon were captured in the thalweg and deeper holes of the lower Columbia

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5. In-water disposal could occur at numerous locations in the reach between river miles 27 and 42. This reach has been used in the past for in-water disposal during maintenance dredging. The 2.5 mcy of construction disposal is a one-time action that is much larger than the annual O&M disposal in this reach. The 12 mcy of O&M equates to an average of 600,000 cy/yr, which is only a one third increase over the 1990-96 O&M average of nearly 450,000 cy/yr. Nearly half of the proposed in-water disposal in this reach would occur between CRMs 29 and 32 with the remainder spread throughout the reach. The actual change in bed elevations that occur will depend on factors such as the total area used for disposal, the volumes disposed, and the amount of material transported away from the sites. If the 14.5 mcy of disposal were concentrated on 400 acres and no material was transported away, the bed elevation would be raised by about 20 feet. This depth of fill is only likely to occur between CRMs 29 and 32 as the flowlane disposal can be moved around to avoid large changes in bed elevations.

Coordination with resource agencies has resulted in an agreement to conduct biological sampling in these areas to determine level of resources impact. If the sampling identifies high levels of important resources, the disposal plan will be modified to avoid or minimize impacts.

6. Impacts to juvenile sturgeon from in-water disposal have been discussed in the EIS. Some additional information has been added to the effects section in response to your comments. As discussed in the EIS, benthic invertebrate recolonization rates for the freshwater portion of the Columbia River were investigated in a study done for a dredging project for the Westport Ferry near Puget Island. Though this site was shallower than the sites referred to in the above comment (and recovery rate likely faster), the study should still give an indication of how benthic invertebrate populations would recover from a major disturbance.

river where dredging operations will be concentrated (McCabe and Tracy 1994, Parsley et al. 1993). The impact to them from continuous disposal in deep water areas has not been analyzed.

6 (con't) The EIS states that deep water areas are relatively low in productivity. Almost all age classes of sturgeon subsist to some degree on benthic invertebrates, especially *Corophium* spp. McCabe et al. (1993) found that there is a critical dependence on benthic invertebrates by YOY and juvenile white sturgeon <725mm. Since juvenile sturgeon frequently use these areas, any impact to productivity would have a much larger impact than if it was a highly productive area. In addition, there is no information presented as to how long it takes to recolonize deep water areas that are buried. A lack of any benthic invertebrates could pose significant risk to sturgeon populations. The COE should conduct studies to determine rates of benthic recolonization in these deep water areas.

Studies of the Lower Columbia River indicate relatively high concentrations of heavy metals, PCB's, organic pesticides and other polycyclic aromatic hydrocarbons, dioxins, furans, and
7. radionuclides in lower Columbia River sediments (Tetra Tech 1993). Sturgeon bioaccumulate many of these due to the nature of their feeding habits and the fact that they are long-lived. This bioaccumulation could lead to reduced breeding success and threats to human health from ingestion of sturgeon.

In the response to the Fish and Wildlife Service's Draft Coordination Act Report (CAR), the COE stated that juvenile flatfish survival rates after burial should be analogous to juvenile sturgeon and therefore there should be little affect to them (Page 1 of the COE's response to the CAR). The NMFS disagrees with this analogy. Different species often do not exhibit the same behavior patterns in response to perturbations, and different environments (river vs. ocean) will
8. also elicit different responses. We do not know how juvenile sturgeon would respond to being inundated with sand. In addition, juvenile sturgeon have been found to be susceptible to entrainment by dredging (Buell 1992), yet juvenile salmonid entrainment studies conducted by the COE have not shown entrainment to be a problem (Kim Larson personal communication). In light of many of these uncertainties and the potential impacts, the COE should work with the resource agencies to evaluate the impact to sturgeon from flow-lane disposal.

Estuarine Fish and Invertebrate Impacts

In earlier fish entrainment studies conducted by the COE at the mouth of the Columbia River, 30 different species were collected (Larson and Moehl 1990). The primary species entrained were Pacific sand lance (*Ammodytes hexapterus*) at a rate of .341/cy. Other species were entrained at a
9. much lower rate: juvenile flatfish at .008/cy, Pacific staghorn sculpin at .003/cy, Poachers at .009/cy, herring and anchovy at .008/cy and Eulachon (Columbia River smelt) at .002/cy. While these numbers seem low, they are based on a value per cubic yard. The COE proposes ocean disposal of 6.2 mcy for construction of the 43' channel and 4.2 mcy per year for the 20 year life of the project. Results from multiplying the entrainment rate of the above species are shown in

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6 (continued). Since the flowlane disposal sites will be used on a continuous basis, full recovery of benthic productivity is not expected to occur between disposal events. Productivity in these deeper areas is very low and it is unlikely that they provide much in the way of food for juvenile sturgeon even in an undisturbed condition. It is more likely that if sturgeon are feeding in the deep holes, then they are feeding on items that are drifting down river and settling in the deeper areas.

The two dragheads of the hopper dredge *Essayons* have a combined width of about 12 feet with a zone of effect extending a few feet beyond that. The cutterheads of pipeline dredges have a similar narrow zone of effect. When operating and buried in channel sediments, their ability to entrain organisms is limited to a narrow area immediately around the draghead. The navigation channel is generally 600 feet wide throughout the project. The main river channel is about 1,500 to 2,000 feet wide. Consequently, dragheads and cutterheads influence at any one point in time about 2 to 3 percent of the navigation channel, and only a fraction of a percent of the main river channel. Further, dragheads of hopper dredges are not continuously in operation, as the vessel must periodically transit to and from disposal locations. Dredging operations are also site specific at any given point in time. Therefore, impacts are limited in geographical scope and do not encompass all of the potential travel path at any given point in time. Cutterheads and dragheads only impact a limited area at the bottom of the water column.

Juvenile smelt and sturgeon are mobile whether through active movement or passive transport by the current. Consequently, once they have moved past a dredging operation, their exposure to entrainment is generally over. Additional entrainment opportunities may arise if the dredging operation shifts downstream. As demonstrated above, their exposure in a specific section of the navigation or main river channel is minimized at the point of dredging operation.

7. The Bi-State study only sampled 2 stations in the federal channel. Both were in the estuary and both were sand. Contamination levels were mostly below detection limits. No constituent exceeded the established screening levels for the evaluation of dredged material in the Columbia River. Four out of 69 total Bi-State sediment stations had contamination levels above the Dredged Material Evaluation Framework (DMEF) screening levels. All were for DDT. These stations were not located in the federal channel and consisted of fine-grained material not typically found in the areas to be dredged for the project. Channel materials are not considered contaminated and would pose no impact to sturgeon.

8. We concur that different species of fish may behave differently to similar circumstances and therefore, the juvenile flat fish tests may not directly apply to sturgeon. Both species, however, are bottom dwellers and live in a moving sand environment and appear to be similar in structural resistance to mechanical damage. Consequently, it seems reasonable to conclude that survival from dredged material disposal would be similar for both species. The Corps has agreed to conduct benthic and fish sampling in the deep water areas of flowlane sites between CRMs 27 to 42 to further assess potential impacts to juvenile sturgeon.

Table 1.

Although these are some fairly significant numbers, there are no estimates of the populations of these species within the Columbia River. Without those numbers, it is hard to establish the extent of impacts resulting from the proposed dredging. The NMFS believes that there may be a significant impact to Pacific sand lance populations and that the COE should evaluate that impact prior to construction. In addition, the NMFS has concerns about the impacts to Columbia River smelt, which are discussed below.

9. (con't)

Table 1. Entrainment of estuarine fish species over the proposed 20 year dredging program

Species	Construction Entrainment	Maintenance Dredging Entrainment	Total Entrainment
Pacific Sand Lance	2,114,200	28,644,000	30,758,200
Juvenile Flatfish	49,600	672,000	721,600
Pacific Staghorn Sculpin	18,600	252,000	270,600
Poachers	55,800	756,000	811,800
Herring and Anchovy	49,600	672,000	721,600
Eulachon (Columbia River smelt)	12,400	168,000	180,400

The proposed and current dredging operations conducted by the COE also results in mortality of Dungeness crabs, which are potentially found as far upstream as Grays Bay. The Coastal Zone and Estuarine Studies Division of NMFS found extensive populations of Dungeness crabs in the Columbia River estuary, extending as far upriver as River Kilometer 27. Their study indicated that the estuary provided valuable habitat for Dungeness crabs whose populations fluctuated temporally and spatially. Entrainment of these crabs needs to be mitigated. The COE should work with the resource agencies to develop appropriate mitigation for impacts to crab and estuarine fish species prior to beginning the deepening project.

Estuarine Island Disposal Impacts

10. The estuarine islands created by dredge disposal have created habitat that has been extremely productive for avian predators such as gulls, terns and cormorants. Piscivorous bird populations have increased exponentially in the Columbia River Estuary due almost entirely to the creation of protected nesting islands by the Corps of Engineers in the course of navigation channel maintenance. Most of this increase has been in the past ten years and coincides with precipitous declines in salmonid survival. Estimates of juvenile salmonid mortality from avian predators range from 10 to 30 million. This represents up to 30% off all smolts that enter the estuary.

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9. The entrainment samples referred to in this comment were taken from the Mouth of the Columbia River (MCR) project, which extends from river miles 3.0 to -3.0, which is not part of the proposed channel improvement project. Most of the species referred to in the comment do not occur in large numbers upstream of river mile 3.0. This is particularly true for sand lance which are principally marine species. Your concerns should be addressed in connection with the MCR project.

10. The Corps has worked cooperatively with the interagency Caspian Tern Working Group, since its inception, on management solutions to Caspian tern predation on juvenile salmonids in the Columbia River estuary. We have implemented and/or cooperated in a number of management strategies so far in 1999 to preclude Caspian terns from nesting on Rice Island, except for a one acre control site, and to shift the tern's nesting efforts to East Sand Island. Measures implemented included planting of winter wheat on Rice Island, Miller Sands Spit, and Pillar Rock Island, development of alternative nesting habitat on East Sand Island, and placement of silt fencing at Rice Island. Further management efforts will be directed toward reduction of tern numbers and predation impacts to juvenile salmonids in the year 2000 and later. Interagency team work is now addressing long-term management strategies. Further, management measures under the BIOP's for DMMS and this study are being negotiated.

11. Further disposal activities on these islands needs to be conducted in a manner that does not facilitate further expansion of these colonies. The NMFS recommends that the COE engage in further discussions with NMFS to determine how best to dispose of material on the islands and what measures need to be taken to mitigate for past and future use of the islands.

Columbia River Smelt Impacts

Columbia River smelt are an important resource in the lower river. They serve as the prey base for numerous birds, fish and mammals. In addition, they are a commercially viable species. The EIS section on commercial fisheries (page 5-23) does not address commercial fishing for Columbia River smelt. An extensive fishery has been in existence for a number of years with substantial landing and earnings. The 1997 value of the fishery was roughly $145,000 to 300,000 dollars. This fishery has been in substantial decline since 1992 (3.67 million pounds in 1992 to 9 thousand pounds in 1996) and Columbia River smelt are now a species of concern to NMFS. Known spawning areas in the Columbia River include Clifton Channel, between Eagle Cliff and Stella, and between the Kalama River and the Lewis River. Smelt also are known to spawn in the Grays River, Cowlitz River, Kalama River, Lewis River, and the Sandy River.

Spawning occurs primarily over a bed of fine pea-sized gravel or semi-sandy areas where the water flows at moderate velocities. Normal hatching time is approximately 30 to 40 days after spawning. Newly hatched smelt drift with the current and are swept down river to the ocean. Preferred smelt spawning habitat in the mainstem Columbia River may be affected dredging. This may further impact an already depressed population

12. Time closures for dredging operations within the Columbia River from the Sandy River to below Cathlamet, Washington are being recommended by both NMFS and WDFW to protect juvenile smelt. The CAR issued by the Fish and Wildlife Service recommended the use of a clamshell dredge from January 1 to June 1 downstream of the mouth of the Lewis River. We recommend that restriction be extended up to the mouth of the Sandy River.

In its response to the Draft Coordination Act Report, the COE indicated that these closures would increase cost and not allow them to meet construction time lines. The COE indicated that it may be possible to alter areas of dredging to avoid impacts. If the population of these fish does not improve, there is a definite possibility that they will be proposed for listing, or listed, under the ESA prior to the proposed deepening occurring. The COE should consider this potential and modify their construction techniques and time lines accordingly. These comments also pertain to current maintenance dredging practices conducted by the COE.

Wave Erosion

The NMFS is concerned about potential increases in wave erosion associated with ship wakes as a result of channel deepening. The COE indicates that there could be larger wakes generated by

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11. See response #10. Through ESA consultation, currently ongoing, the Corps will reach an agreement with NMFS regarding further disposal of dredged material on these islands. This agreement will include an acceptable solution to preclude tern use of the islands while allowing for the islands continued use as dredged material disposal sites.

12. A discussion on the commercial smelt fishery has been added to the final EIS.
A discussion of dredging impacts on smelt has been added to the final EIS. Dredge timing restrictions to prevent impacts to smelt would only be appropriate for construction dredging since maintenance dredging does not normally begin until after June. Restricting the construction dredging to 6 months per year (July to December) will increase construction time from two years to four years. Using a clam shell dredge during the January to June time period will increase construction from two years to three-four years because it is a slower form of dredging and requires double handling of the material. In addition, we know of no information that would lead to the conclusion that clamshell dredging would entrain fewer smelt. Each scoop with a clamshell dredge will impact both the water column and the surface of the bottom with each pass. A hopper dredge, on the other hand, has the draghead buried in the bottom during operation with only a small area surrounding it that could potential entrain smelt. Tests done on model dragheads have indicated that the entrainment area from the side is about half the width of the draghead. Consequently, it seems likely that hopper dredging would have a lesser impact on smelt than clamshell dredging and in addition would complete construction of the project in a more timely manner.

See our response #6. Dragheads only encompass a small percentage area of the navigation channel and a lesser amount of the river channel at any point in time. Therefore, it is difficult to conclude that there would be a significant impact to the smelt population.

ships drawing more than their current target drafts (page 6-2). They further indicate that results from the one study conducted on wave erosion on Puget Island could account for up to 24% of the total erosion. The COE states that "The impacts from a few larger wakes could be partially offset by the reduction in the total number of ships transiting the river." However, the deepening may further encourage expansion of port facilities resulting in an increase in vessels, not a decrease. The increased depth of the channel will increase the depth certainty for vessels allowing for increased vessel speeds. This also could increase wave action and shoreline erosion.
13. There are already substantial requests by landowners along the Columbia River for the COE to periodically provide beach nourishment to their eroding waterfront property. Increased erosion could further exacerbate that problem. The COE needs to further evaluate increased wave erosion potential resulting from channel deepening.

The COE further states that the natural shoreline of the Columbia River has been stable for the last 100 years (page 6-3). The shoreline of the Columbia River has been so severely altered through filling and diking that there is very little natural shoreline left. Buildings and other facilities have been placed outside flood control dikes and are being impacted by erosion. The COE needs to evaluate these impacts and include them in the evaluation of the overall cost of this project.

Columbia River Sediment Budget

The COE estimates that 19 million cubic yards of material would be removed for construction of the 43' channel. Upland disposal would be the major source of disposal, removing the material
14. completely from the system. However, there is no analysis of recruitment and what the removal of this material from the system will do to the overall sediment budget of the Columbia River. The COE should further evaluate these impacts and provide the results to the resource agencies prior to construction.

Willamette River Contamination

The lower Willamette River has been nominated for inclusion on the National Priorities List (NPL) also known as Superfund. The Environmental Protection Agency (EPA) has delayed a decision until May 99 on adding the site to the NPL in order to give the Oregon Department of Environmental Quality (DEQ) time to develop a remediation plan. DEQ's proposed process is
15. intended to result in an implementation plan with sufficient detail to convince EPA that DEQ can pursue an NPL-caliber cleanup without a listing. Any activities the COE would undertake to deepen the channel should not preclude clean-up efforts by either agency. This process could take many years to develop and implement. Therefore, the NMFS recommends that any further actions taken towards deepening the Willamette River be shelved until such time as the contaminant issue is resolved.

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13. Sections 5.1.5.3, 6.2.2, and 6.2.3.1 of the main report discuss ship wake size and frequency, and ship wake caused erosion. Corps regulations preclude us from including costs associated with erosion to beaches or structures built on fill outside of flood control structures on a federally authorized navigation channel.

14. Sections 5.1.5 and 6.2.3.1 of the report discuss the sediment budget and sand recruitment.

15. The local sponsors for the channel improvement project have requested that the Willamette River dredging be delayed in order to allow coordination with the Oregon DEQ investigation and remediation planning for the Portland Harbor. If the harbor is listed as an EPA-designated Superfund site, no navigational maintenance or new work dredging can be conducted in the listed area under the Clean Water Act (CWA). If the harbor is not listed, dredging for navigation channel improvements would not preclude cleanup activities but would enhance and perhaps extend the effort. The dredging in the Willamette River would require full compliance with the all laws including the CWA, Endangered Species Act, and the National Environmental Policy Act.

Ecosystem Restoration

16. The proposed improvement to embayment circulation appears to have merit, however there is no information provided as to current usage of these areas by juvenile salmonids nor on how monitoring will be conducted to determine if the actions are successful in increasing juvenile usage. The COE should develop a monitoring plan and conduct an analysis of juvenile usage of the embayments to establish baseline information to evaluate the success of the project.

17. The COE has proposed tidegate retrofits as part of ecosystem restoration (Page 4-68). The NMFS suggests that the tidegate on Chinook River be added to the proposed list. Modifying the tidegate here would allow for increased and safer passage for both adults and juveniles within the Chinook River. The NMFS does have concern over the proposed tidegate retrofit at Deep River. The WDFW is currently developing a coho net pen terminal fishery in this river. Without further information as to what species are being targeted as part of the habitat improvement, NMFS believes that the retrofit at this site needs substantial review before approval.

18. The proposed ecosystem restoration project to restore shallow water habitat areas around Miller Sands and Pillar Rock Islands, which at first glance appears beneficial to juvenile salmonids, could actually result in increased losses of juvenile salmonids. The placement of pile dike fields necessary to sustain the habitat will result in an increase in avian predator usage of the area. The potential for increased bird predation on juvenile salmonids resulting from these activities outweighs any potential benefit that could be provided. The NMFS does not support the placement of any pile dike fields in the Columbia River estuary, especially in the area around Miller Sands and Rice Island. The approximately 3 million dollars proposed to be spent for this project would be better spent on other activities. The NMFS is willing to aid in identification of some of these potential activities.

The COE proposes that the actions be adopted given their "contribution to recovery" of ESA listed or proposed species. Of the three actions only the tidegate retrofits would directly aid salmonids. The Shillapoo Lake project will not benefit anadromous fish stocks and would have to be carefully designed to not impact salmonids within Lake River. The other two projects are, or may be, detrimental to salmonids. Consequently, the contribution to recovery of upriver salmonid stocks may be at best minimal. The retrofits of tidegates would be of benefit to lower river stocks.

In summary, the NMFS believes that the COE should undertake the following recommendations as part of any deepening of the Columbia River Navigation Channel:

19. • The COE should further work with the resource agencies and commercial fishermen to refine the proposed disposal sites.

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16. We have made preliminary inquiries with NMFS to determine approximate costs for monitoring juvenile salmonid use of these embayments for the pre- and post-construction condition. The initial estimate exceeded $100,000 which is far in excess of the construction cost for the simple channels proposed at these two locations. It is not cost efficient to implement a monitoring study nor does it seem necessary when, intuitively, the proposed action would benefit juvenile out-migrants. No monitoring effort will occur.

17. Portland District has received a letter dated April 14, 1999 from Sea Resources, Inc. requesting a Section 1135 (environmental restoration) study of the Chinook River restoration. The proposed study would entail removal or modification of the tidegate, if warranted. We have received Section 1135 funds for an initial appraisal study to determine if there is a federal interest in this potential project.

Additional information on Deep River fisheries resources benefiting from this tide gate action and the engineering aspect of this proposed action would be developed during the PED phase. The Corps finds it somewhat perplexing that NMFS would favor a commercial operation over the recovery of salmonid resources. The Deep River system upstream of the tidegates appears capable of supporting coho and winter steelhead. Spawning and rearing habitat appears available in this system for restored runs.

18. The Miller-Pillar ecosystem restoration proposal has been dropped from further consideration.

19. Concur with comment.

20. • The COE should work with the resource agencies and commercial fishermen to develop and utilize appropriate methodology for dumping within the newly designated sites prior to any further disposal events.

21. • The COE should review the final offshore disposal management plan at least every five years and yearly for the first five years to adequately address the success or failure of the plan.

22. • The COE should conduct a comprehensive survey of the proposed offshore disposal sites to identify areas that are of high biological productivity, of unique substrate/habitat and to establish a baseline for evaluation of impacts.

23. • The COE should work with the resource agencies and commercial fishermen to develop mitigation for impacts resulting from offshore disposal.

24.
- The COE should work with the resource agencies to develop mitigation for impacts resulting from riverine in-water disposal.
- The COE should conduct studies to determine rates of benthic recolonization in deep water areas within the Columbia River.
- The COE should work with the resource agencies to evaluate the impact to sturgeon from flow-lane disposal.
- The COE should evaluate impacts to Pacific sand lance populations resulting from estuarine dredging.
- The COE should work with the resource agencies to develop appropriate mitigation for impacts to crabs and fish species entrained by dredging operations in the estuary.

25. • The COE should engage in further discussions with NMFS to determine how best to dispose of materials on islands within the estuary and what measures need to be taken to mitigate for past and future use of the islands.

26.
- The COE should conduct dredging operations using only a clamshell dredge form January 1 to June 1 of any year downstream of the mouth of the Sandy River.
- The COE should consider the potential for Columbia River smelt to be listed under the ESA and adjust their construction techniques and time lines accordingly.

27. • The COE should further evaluate increased wave erosion potential resulting from channel deepening.

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20. Concur with comment.

21. Disposal operations are reviewed every year, monitoring is conducted yearly, and the management plan must be reviewed every 10 years at a minimum.

22. A baseline survey already exists for the proposed disposal sites; a pre- and post-assessment survey will be conducted. The extent of data collection for the assessment surveys will be discussed with the Ocean Disposal Taskforce. Input from this group will be used by EPA and the Corps in deciding on funding and scope for the assessment surveys.

23. Impacts to the resources have been minimized by reducing the size of the sites and locating them in areas that have acceptable impacts to the commercial fishery.

24. See our responses #6, #8, and #9.

25. Through ESA consultation, currently ongoing, the Corps will reach an agreement with NMFS regarding further disposal of dredged material on these islands. This agreement will include an acceptable solution to preclude tern use of the islands while allowing for the islands continued use as dredged material disposal sites. No mitigation for past or future impacts is proposed. Management actions have been implemented to shift the tern population and reduce their predation on juvenile salmonids.

26. See our response #12 concerning smelt impacts. In the event that Columbia river smelt is listed under the Endangered Species Act, we will consult with NMFS on any action that has the potential to impact them.

27. Sections 5.1.5.3, 6.2.2, and 6.2.3.1 of the main report discuss ship wake size and frequency, and ship wake caused erosion.

28.
- The COE should shelve consideration of deepening the Willamette River until such time as the contaminant issues are resolved.

29.
- The COE should develop a monitoring plan and conduct an analysis of juvenile usage of the embayments to establish baseline information to evaluate the success of the restoration project.
- The COE should add the tidegate on the Chinook River to the list of ecosystem restoration projects.
- The COE should further discuss the value of the tidegate on Deep River as a potential restoration project.
- The COE should further discuss the value of creation of shallow water habitat near Pillar Rock with NMFS.

30.
The COE will need to consult pursuant to the Endangered Species Act, with NMFS on the final alternative selected. The Biological Assessment will need to address potential impacts to Snake River fall chinook salmon, Snake River spring/summer chinook salmon, Snake River sockeye salmon, Upper Columbia River steelhead, Lower Columbia River steelhead and Snake River steelhead, all listed under the Endangered Species Act. Also Lower Columbia River chinook salmon, Upper Willamette River chinook salmon, Upper Columbia River spring run chinook salmon, Columbia River chum salmon, Upper Willamette River steelhead and Middle Columbia River steelhead have been proposed for listing and should be included in the Biological Assessment.

The following should also be included in the Biological Assessment: an evaluation of the continued use of Rice Island as a dredge spoil site, its use as an avian breeding colony and impacts to salmonids; and, the impact of current pile dike fields and navigation structures on salmonids.

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28. See our previous response #15. The Corps has and will continue to participate in EPA's and ODEQ's efforts to clean up the Willamette River.

29. See our previous responses #16, #17, and #18.

30. These issues have been addressed in the Biological Assessment for the channel improvement project. Further discussions regarding the Biological Opinion are ongoing.

Questions regarding this letter should be directed to Ben Meyer at (503) 230-5425.

Sincerely,

Ben Meyer

for Steven Morris, PhD.
Chief, Oregon State Branch
for Habitat Conservation

cc: USFWS - Kathi Larson
ODFW - Greg Robarts
WDFW -Ken Mahoric
Perkins Coie LLP - John Dentler
Northwest Environmental Advocates - Susan Crisfield
Dale Beasley

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United States Department of the Interior

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IN REPLY REFER TO:

ER 98/699 February 8, 1999

Col. Robert T. Slusar, District Engineer
US Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland OR 97208-2946

Dear Col. Slusar:

The Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (DEIS) for the Columbia and Lower Willamette River Federal Navigation Project, Oregon and Washington. The following comments are provided for your information and use when preparing the Final Environmental Impact Statement (FEIS).

We have reviewed the subject document and have the following comments to offer for inclusion in the Departmental response.

General Comments:

1. The proposed Columbia and Willamette River channel deepening is very broad in its scope and quite complicated in terms of its alternatives array, its proposed implementation, its impacts to fish and wildlife resources, and in its mitigation requirements. The Corps of Engineers (Corps) has done an admiral job in drafting this document which is well written, detailed, and thorough. The salinity intrusion and ecosystem restoration workshops; candidate offshore disposal site selection process, dredged disposal studies on crabs and juvenile flatfish; and Habitat Evaluation Procedures (HEP) analysis conducted as part of the feasibility study required a significant effort on the part of the Corps and the study participants. This effort has resulted in a much better understanding of the proposed project's overall impacts on the Columbia and Willamette River environments.

2. The Service appreciates the emphasis given to consideration and discussion of alternatives in the EIS other than the typical "no action" and preferred alternative. However, we believe there is justification for a more thorough analysis of the upgrading of the LOADMAX system, i.e., the non-structural alternative. The EIS acknowledges that improving the efficiency of LOADMAX would accommodate larger, deep-draft ships safely. As a non-structural alternative, it would cause the least damage to fish and wildlife species and their habitats. It does not provide for the

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1. Comments noted.

2. The Loadmax river stage reporting and forecasting system has provided safety and transportation benefits to Columbia River shipping for the past 15 years. Loadmax forecasts are provided by the Port of Portland as a navigation planning tool for use by the shipping industry. The Loadmax forecast is based on data collected at gauging stations at several locations between Astoria and Vancouver. The forecast is generated by the National Weather Service (NWS) Northwest River Forecast Center (NWRFC), a branch of the National Oceanic and Atmospheric Administration.

Continuous improvement of Loadmax is an important priority for the ports, river and bar pilots, the NWRFC, and steamship line customers that utilize the projected and real-time tide and river-stage information system. Over the last two years, and as part of a national modernization effort, the NWRFC has made significant improvements to its hydrologic modeling that underlie the Loadmax system. These include expansion of the geographic boundary of the Dynamic Wave Operations Model that is used to forecast river stage, updating the dynamic wave calculations, adding new channel cross sections and recalibrating the model with the benefit of the data from extreme high water conditions in 1996 and 1997.

At the same time, the NWRFC has implemented advanced technology in weather forecasting which is a key component of Columbia River flows. Several automatic adjustment procedures have also been installed to remove biases between predicted and actual tides and model biases at each forecast location. Taken together, these changes have enhanced the accuracy of the river forecasts under all flow conditions. Also, the Port of Portland has installed technology at its river gauges to allow the pilots to call ahead from the vessel's bridge to obtain real-time river level information. The Port has also improved and automated the electronic delivery of the forecast data to the commercial users and research institutions that utilize the information on a regular basis. Currently, the real-time river level data collected from the Port's Loadmax gauges is reported on the NWRFC's web site at http://www.nwrfc.noaa.gov/data/streamflow/nwrfc/lc.html. Forecast information will be presented on the NWRFC's web site in the future. This improvement will provide a graphical representation of the forecasts, increase confidence level in the predictions, and provide public access to the data.

The uncertainties are due to the significant influences of Bonneville releases, tidal variations, and changes in the meteorological conditions that affect streamflow forecast. The NWRFC estimates that the current accuracy of the Loadmax forecast is 0.3 to 0.4 feet for the first 24 hours, increasing to 1.0 to 1.4 feet for the 6th day (the current forecast limit). These factors cannot be predicted or controlled far enough in advance to provide an extended forecast of greater utility to river users beyond the historical flow information already available through Corps and USGS sources.

However, maintaining safe underkeel clearance while maximizing draft requires knowledge and understanding of both water surface and riverbed conditions to predict the total depth of water available at any point in the navigation channel. The benefit of Loadmax as a navigation tool can still be enhanced if it provided controlling riverbed elevations along with the predicted river levels. Such data would provide the vessel operator with additional information to make a departure decision for a Columbia River transit, possibly allowing the ship to time a departure to avoid a shoal, load deeper and maintain safe underkeel clearance.

greatest amount of economic development but it does provide for some economic expansion without the need to deepen the channel. Another advantage of this alternative is that if it is judged infeasible to be used on its own to achieve expanded economic growth within the region, it could be readily used in combination with another, less damaging, alternative like a tiered channel
2. (con't) or a 41-foot channel. These options allow for more economic grow than just the upgraded LOADMAX system but, again, with far less impact to the environment and a lower economic cost. We recommend that these lower cost options be given a much more serious analysis. Additionally, these alternatives would be more compatible with numerous ongoing efforts in the Region to restore ecosystem health to the Columbia River and its resources, including anadromous fish.

Willamette River Dredging

The Service has serious concerns regarding dredging in the Willamette River. Although most of the dredging would take place in areas of the channel where the sediment has been characterized as appropriate for in water disposal, there are other areas that may potentially be dredged that have been defined as significantly contaminated. Disturbance of these areas must be avoided. We
3. still leave concerns about bioaccumulative impacts associated with the in water disposal of material which meets screening criteria, particularly that material which is just under the screening threshold. Based on these concerns, the Service recommends further study in the Willamette River on the impacts of dredging and disposal of contaminated materials. If the contaminant issues in the Willamette River cannot be satisfactorily resolved, it may be necessary to consider dropping the Willamette River portion of the channel deepening project.

Contaminants in Sediments

Numerous studies conducted by the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, U.S. Geological Survey, and natural resource agencies in Oregon and Washington reveal contamination of persistent, toxic, and bioaccumulative compounds in fish and wildlife in the lower Willamette and Columbia Rivers. Studies have shown elevated concentrations of PCBs, DDE, dioxin, and furans in fish, waterbird, and in fish-eating animals such as great blue herons, minks, river otters, double-crested cormorants, ospreys, and bald eagles. Current studies are evaluating these contaminants in fish, river otters, ospreys, and semi-permeable membrane devices (SPMDs) from both rivers. The elevated concentrations of these chemicals in fish and wildlife suggests that either: 1) toxicity screening levels used to assess materials to be dredged do not adequately represent conditions in the Columbia River and are not protective of fish and wildlife; or 2) tropic transfer of these contaminants occurs primarily through the aqueous phase and the contaminants are not necessarily influenced by dredging activities.
4.
Sediments are commonly the major source of hydrophobic contaminants for biota (Maruya and Lee 1998, Thomann 1989, Forbes et al. 1998) and should be considered a plausible transfer pathway in the lower Willamette and Columbia rivers. Data from the draft EIS suggest that sediment from the lower Willamette River, as opposed to the navigation channel for the Columbia River, could be a source for transfer and subsequent bioaccumulation of contaminants in biota. In order to address this complex issue, the Service recommends the Corp add specific information or

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2 (continued). The port sponsors agree that bathymetric survey information should be presented with the Loadmax river forecast in a user-friendly manner. Such improvement will add to the safety of navigation and may assist in marginally increasing departure drafts in the Willamette and Columbia Rivers under certain conditions. The Corps has recently made its hyrdrographic surveys available in an electronic format at http://www.nwp.usace.army.mil/op/n/wh/). The port sponsors are eager to work with all the stakeholders on the design of such a new format for the forecasts.

However, even with the improvements envisioned by the Corps, the non-structural alternative described in the feasibility report does not provide sufficient potential for transportation benefits in order to be carried forward as an alternative to deepening the navigation channel. While factoring in riverbed information and improving the public presentation of Loadmax data would add to its usefulness to the marine industry, the resulting increases in both safety and maximum drafts are marginal, seasonal, and will not serve as an alternative to deepening the channel from the perspective of the deep-draft navigation users. However, they will certainly serve to maximize the benefits under any and all of the channel depths considered in this study.

This will be especially important to the container industry and its customers. Continuing the current operating practices in the proposed 43-foot channel would restrict container ships to a maximum draft of 39 feet (38 feet saltwater draft) at a time when the saltwater design drafts of newer container ships are moving toward 45 feet. A continually improved Loadmax system will afford transportation cost benefits even to these vessels from a 43-foot channel depth. With these technological improvements, the Loadmax system, among the most sophisticated of its kind in the world today, will continue to provide marine transportation benefits in the 21st century.

3. See our responses # 15 and #28 to the NMFS letter.

4. Regarding screening levels; the screening levels adopted by the states of Washington and Oregon, the Corps, and USEPA in the November 1998, *Lower Columbia River Management Area Dredged Material Evaluation Framework* (DMEF), are based upon the direct results of effects-based testing. Hundreds of pared chemical and biological tests are required to develop these values. In some cases thousands of pared tests are behind the development. These values are continually being reviewed and updated based upon new data being incorporated into the database. The DMEF tiered approach is a risk-based system for the evaluation of environmental and ecological risk of the disposal of dredged material. Sediments that demonstrate risk through biological (including bioaccumulation) testing are not allowed to be placed in open-water.

A third suggestion for elevated concentrations of the chemicals found in fish and wildlife are that contaminated sediment exist in the system which exceed screening levels. The recent EPA-DEQ Willamette River study found surface sediments with concentrations of 20,000 ppb DDT. The highest in the proposed areas to be dredged for the project was 23 ppb total DDT, the DMEF screening level is 6.9 ppb total DDT. The DDT bioaccumulation trigger for sediments is 50 ppb.

a preliminary ecological risk assessment to the EIS, to define the conditions in the two rivers that would either support or negate sediments as the source for transfer of bioaccumulative compounds. In addition, we recommend convening a forum with the Service, U.S. Geological Survey, State agencies, and other interested parties to begin an ecological assessment addressing the risks of dredging activities to higher tropic level feeders in the lower Willamette River, and to develop a monitoring plan to identify any impacts to biota during and after dredging and disposal activities.

HEP Process

Late in the HEP process conducted by the Corps and state and federal resource agencies, it was discovered that there were discrepancies in how habitat suitability indices (HSIs) were determined for some disposal and mitigation sites, for both with and without project scenarios. Unfortunately, these misinterpretations made some of the HEP data unreliable and, by inference, the habitat units calculated to be lost and gained over the life of the project inaccurate. The issue of greatest concern is the HSIs for farmed wetlands and riparian habitat.

Despite these inconsistencies, the Service believes that the HEP analysis has provided valuable information on the amount and types of habitat and the species that would be most impacted by the project. Furthermore, we believe that these discrepancies in HSI values may be balanced out by the Corps' conservative estimates of habitat recovery, i.e., in all probability, recovery would occur at a faster rate than predicted by the Corps, thus providing benefits to impacted species at
5. an earlier stage of the mitigation process. However, because of these inaccuracies in HSIs, the mitigation analysis remains suspect and the appropriateness of the project mitigation plan (Appendix G) cannot be accurately determined. Additional HEP team meetings were held to discuss how to resolve this problem. As a result of these meetings, the WDFW, WDOE, ODFW, and the Service have identified two possible options that would prevent untimely delay of the project, keep the planning process moving forward, and, at the same time, offer suitable protection of fish and wildlife resources:

Option 1. Complete the BEP analysis by collecting data to represent all habitat types and re-analyze current and future conditions based on changes in individual habitat parameters. This re-analysis could be completed during the preconstruction engineering and design (PED) phase of the project.

Option 2. Without the ability to quantify impacts and mitigation needs, it becomes necessary to look at the probable impacts of dredged material disposal and opt for a mitigation plan that provides full mitigation for these impacts. Based on the upland wildlife resource impacts expected, the Service recommends a mitigation plan that includes the addition of Burke Island and, as needed, Sauvie, Joslin, and Woodland Bottoms (or a mix of equivalent sites approved by the HEP team) to the list of mitigation sites proposed for each of the disposal plan options.

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4 (continued). Even if the Willamette River deepening were not deferred, the preliminary ecological risk assessment suggested would be beyond the scope of the proposed project. Such an assessment needs to address the entire lower Willamette River and not just be limited to the dredging projects that are limited in material and time. Most of the material routinely dredged is material transported into the system and are not as contaminated as other areas in the river.

5. The Corps proposes to implement Option 1: Complete the HEP analysis by collecting data to represent all habitat types and reanalyze current and future conditions based on changes in individual habitat parameters. This re-analysis would be completed during the preconstruction, engineering and design (PED) phase of the project. Please see the addendum prepared for the wildlife mitigation plan (Appendix G) for further information.

Offshore Disposal

Candidate offshore disposal sites, i.e., expanded site E, site North, and site South, have been selected by the Corps to accommodate present and future dredged material disposal from the mouth of the Columbia River (MCR) and from the proposed channel deepening project (new construction and maintenance dredging material). The Service is in general agreement with the selection of these sites. We believe that they are the most practical based on the Corps' need for additional disposal areas and the need (from the Service's perspective) to select disposal areas that minimize impacts to fish and wildlife resources.

The candidate offshore disposal site selection process occurred over a period of many months and attempted to garner as much input as possible from resource agencies, fishing groups, and the general public on what areas would be acceptable in terms of impacts to biological resources as well as economic use of those resources. Bearing in mind that the final decision on disposal sites rests with the EPA, but, also acknowledging that this decision would necessarily require compromise, the selection of candidate sites for disposal appears reasonable. These candidate sites are located in areas of high energy (decreasing chances for mounding), within the littoral transport zone (increasing the probability for beach nourishment), outside tow lanes, and in areas of low benthic productivity. The configuration of these sites also attempts to avoid areas of high crab concentrations, fish rearing, and fisheries use.

6. The candidate sites do cover a large area but this is to provide for the opportunity to dispose of material without causing mounding or permanent losses of habitats and organisms occasioned by disposal in the same area year after year. A portion of the proposed disposal site South does contain an area mapped as having high importance for Oregon crab fishing. To mitigate for possible detrimental impacts to the Oregon crab fishery, this area could be eliminated from the disposal site or it could be designated as a site which would only be used when crab fishing activity was minimal.

As far as impacts to soft-shell and hard-shell crabs are concerned, the Corps' study indicates that most crabs survive if they move into the water column during disposal. Experiments with adult hard-shell crabs in aquarium tanks showed that this avoidance behavior is what occurred under most disposal conditions. Most young-of-the year (0+) and juvenile (1+) soft-shell crabs also moved (or were floated) into the water column upon disposal and survived. Mortality was more severe for soft-shell adult crabs which were buried by 6-10 inches of sand under worst-case disposal conditions. Most of these crabs failed to dig themselves out after disposal and died. However, experiments on this subset of crabs involved the fewest numbers of crabs and the fewest number of replicate tests. Also, these larger adult crabs were confined spatially in buckets rather than in an aquarium (as occurred with tests on adult hard-shell crabs). It may be that the adult soft-shell crabs were not afforded the same opportunity to escape the disposal conditions as the adult hard-shell crabs. We would recommend that these experiments on adult and juvenile soft-shell crabs be continued using aquarium tanks to determine if survival changes under these more natural conditions. The data from such an extended study would be more statistically valid and would provide information needed to finalize selection of new offshore disposal sites.

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6. Comments noted. See our response #3 to the NMFS letter. The EPA and Corps have agreed to convene a taskforce to provide input on management and monitoring of the ocean dredged material disposal sites. Pre- and post-assessment surveys may include additional tests on soft shell crabs.

6.(con't) Several studies relating to sturgeon impacts, ecological risk assessment, and, possibly, a modified HEP are being recommended by the Service for areas in the Columbia and/or Willamette River prior to project initiation. When a selected alternative is chosen for the final EIS, it may be necessary to reevaluate this alternative in light of the results of these studies before a final judgement can be made by the Service regarding impacts of the project. Therefore, the Service reserves the right to provide comments and recommendations regarding impacts of the selected alternative and appropriate mitigation for such impacts in a supplementary Coordination Act Report.

Specific Comments:

7. Page 2, Executive Summary, last paragraph. The reference to in water disposal of 2.5 million cubic yards (mcy) of dredged material between Columbia river miles (CRM) 27 and 42 during construction should indicate whether this figure includes maintenance (O&M) dredging from the 40-foot channel. The 2.5 mcy figure does not match construction figures referred to later in the EIS of only 2.0 mcy for the entire Columbia River (page 4-36).

Page 3, Executive Summary, first paragraph. The statement that in water disposal could raise 400 acres of riverbed in and around the disposal areas by as much as 20 feet should be clarified. It is not clear whether the area effected is only between CRM 27-42 or spread out over all the in water/flowlane disposal sites. The Service has concerns about this potential cumulative impact, especially if it is confined primarily to the estuary.

8. Page 4, Executive Summary, fifth paragraph. Land use, particularly at port-owned disposal sites, would, in many cases, change from agricultural/open space to industrial development.

9. Page 2-5, Section 2.3.1, Traffic Volume, first paragraph. It would be helpful if the traffic volume data were updated in the final EIS with the most recent data available. This would provide further clarification of channel deepening needs.

10. Page 2-15, Section 2.5.1, Water and Sediment Quality, third paragraph. This section should indicate how many samples from outside the channel were sampled so it is clear to the reviewer how many of the total number of samples were found to exceed the screening standards for unconfined in water disposal.

11. Page 2-16, Section 2.5.2, Aquatic Resources, second paragraph. Distribution of benthic and epibenthic organisms is also related to the amount of available food in an area.

Page 2-16, Section 2.5.2, Aquatic Resources, fourth paragraph. The squaw fish is now more commonly referenced as pikeminnow.

12. Page 3-2, Section 3.2.1, Containers, second paragraph. The average annual rate of increase for container traffic should be updated for the final EIS, using the latest year that data are available. Export projections should be similarly updated.

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7. In-water disposal could occur at numerous locations in the reach between river miles 27 and 42. This reach has been used in the past for in-water disposal during maintenance dredging. The 2.5 mcy of construction disposal is a one-time action that is much larger than the annual O&M disposal in this reach. The 12 mcy of O&M equates to an average of 600,000 cy/yr, which is only a one third increase over the 1990-96 O&M average of nearly 450,000 cy/yr. Nearly half of the proposed in-water disposal in this reach would occur between CRMs 29 and 32 with the remainder spread throughout the reach. The actual change in bed elevations that occur will depend on factors such as the total area used for disposal, the volumes disposed, and the amount of material transported away from the sites. If the 14.5 mcy of disposal were concentrated on 400 acres and no material was transported away, the bed elevation would be raised by about 20 feet. This depth of fill is only likely to occur between CRMs 29 and 32 as the flowlane disposal can be moved around to avoid large changes in bed elevations.

8. Gateway 3 is the only port-owned site that contains agricultural lands not previously used for disposal purposes, and is zoned for industrial development. Martin Bar is used for cattle but is a previously used disposal site. Currently five sites with agricultural lands and not in Port ownership are proposed for dredged material disposal. Site W-96.9 lies adjacent to the Fazio Sand and Gravel operation and may probably be used as a borrow site in the future. The Mt. Solo (W-62.0) location is zoned for industrial development. Of the remaining locations, Scappoose Dairy and W-95.7 have been dropped from the recommended disposal plan; Puget Island is far from urban/industrial areas and would be an unlikely location for industrial development. The disposal sites are generally required for the long-term as disposal locations.

9. Comment noted.

10. The Bi-State sampled 54 stations during the 1991 Reconnaissance Study and 15 stations as part of the Backwater Study in 1993. Only two stations were located in the federal channel both in the lower estuary.

11. Concur. Text has been revised.

12. The FEIS and Appendix C have been updated using 1997 and 1998 export data.

13. Page 4-12, Section 4.4.3.2, Maintenance Dredging Forecast, second paragraph. This paragraph should indicate whether the maintenance dredging figure for years 21-50 includes totals from both the Columbia and Willamette Rivers.

Page 4-36, Ocean Disposal. The figures regarding ocean disposal of O&M materials over 20 years for both the 43 -foot channel and MCR needs to be clarified.

14. Page 4-48, Section 4.5.1.1, Physical Impacts, first paragraph. Increased ship traffic associated with the deepened channel would increase the likelihood of erosion impacts from ship wake.

15. Page 4-49, Section 4.5.1.2, Biological Impacts, first paragraph. The habitat at depths greater than 35 feet may not be as productive as at shallower depths, but it is important to sturgeon and other deepwater fish, particularly in the estuary.

16. Page 4-49, Section 4.5.1.2, Biological Impacts, first paragraph. This paragraph states that the channel deepening would have no adverse impact on threatened or endangered species. This statement seems premature given that the Corps is still in consultation with the Fish and Wildlife Service regarding project impacts to listed species, particularly in the Willamette River, where there is concern that dredging and in water disposal of dredged material could have bioaccumulative contaminant impacts on aquatic resources, and, consequently, on some threatened and endangered species. Clarification of these biological consultation issues should be included in this section. The dredging activity and in water disposal of material contaminated with PCBs and DDE, as well as other chemicals, would be contributing additional toxins to an area that is already classified as "Water Quality Limited" under the Clean Water Act. Fish and wildlife in these areas already carry loads of bioaccumulative contaminants which could be detrimental to some species. Specific information should be added or studies should be referenced to support the Corp's contention that bioaccumulation will not occur after material is dredged and disposed of in the manner proposed.

17. Page 4-58, Section 4.6.1, Turning Basins. This section should provide information on any shallow water habitat, fines, or previously undredged areas that may be associated with those turning basins that will need to be dredged. This information is particularly important for the proposed deepening of turning basins in the Willamette River.

18. Page 4-64, Section 4.8, Ecosystem Restoration Plan, second paragraph, last line. This sentence needs to be completed.

19. Page 4-69, Section 4.8.3, Improved Embayment Circulation, first paragraph. It should be noted here that, at least in the initial phases of restoring flows through the embayments, there is the possibility of some increased predation on juvenile salmonids by warm water fish inhabiting these areas. This would occur until an equilibrium in terms of flow and colder water temperatures is established.

20. Page 4-70, Section 4.8.4, Restore Shallow Water Habitat, second paragraph. Recent studies in the estuary (Lyons personal communication) have indicated that cormorants, terns, and other

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13. Report text for the maintenance dredging forecast and ocean disposal has been clarified.

14. Sections 5.1.5.3, 6.2.2, and 6.2.3.1 discuss ship wake caused erosion.

15. Concur. The importance of deep water habitat to sturgeon is discussed in the EIS. We are unaware of other deep water fish in the river or estuary that would find this habitat important.

16. The referenced text will be modified as follows. "The Corps forwarded a biological assessment (BA) to the U.S. Fish and Wildlife Service on September 24, 1998. The BA and the Service response letters are found in Appendix I. Exhibit D of the BA provides a tabular reference for Corps determinations for 12 species at 46 disposal sites, 4 ecosystem restoration locations, and 5 mitigation sites. A total of 660 determinations were made for the proposed actions within the overall project (602-'no effect;' 39-'may affect but not likely to adversely affect;' 3-'may adversely affect;' and 16-'may beneficially affect'). The Service, in their letter of October 26, 1998, stated their concern that resuspension of contaminated sediments from the Willamette River is likely to adversely affect peregrine falcons. Subsequently, the Corps has proposed to seek authorization for CRCIP construction but delay implementation of the Willamette River portion of the channel improvement efforts until the contaminated sediments issue is resolved. This allows all interested parties to address contaminated sediment concerns, including the Service's concern over Willamette River sediments."

17. The FEIS has been revised to reflect additional information on turning basins and to include sediment analysis of berthing areas which could be deepened. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging and disposal activities. The Corps has and will continue to participate in EPA's and ODEQ's efforts to clean up the Willamette River.

18. The completed sentence, as follows, has been incorporated into the FEIS. "This awareness, in conjunction with the knowledge that ecosystem restoration measures can be easily coupled with an ongoing feasibility study prompted the Corps and local sponsors to incorporate ecosystem restoration into the feasibility effort."

19. The opportune time to construct channels through the old disposal sites which close off these embayments would be in September/October during low flow periods in the Columbia River. This also corresponds to a low abundance of out-migrants in the river. Consequently, any adjustments in embayment water temperatures and flow should occur by the beginning of the next out-migrant period.

20. (con't) piscivorous birds frequently use pile dikes as roosting and foraging sites. Therefore, pile dikes may be contributing to increased foraging opportunities on juvenile salmonids in the estuary, with possibly significant impacts on salmonid mortality. Because of these possible predation impacts associated with pile dike fields, this restoration project should be re-examined. It may be possible to construct the pile dikes using methods that would discourage use of the pilings by cormorants. Pointed, metal caps (cones), wires, or spikes could be placed on top of the pilings to make them inhospitable to bird use.

21. Page 6-9, Section 6.2.5.1, In water Disposal, second paragraph. There is a discrepancy between the 2.5 mcy listed for in water disposal during construction in the area between CRM 27 and 42 and the 2.0 mcy figure that represents the total amount of disposal in the Columbia River during construction. These figures need to be reconciled. In addition, impacts on benthic organisms, sturgeon, and other deepwater fish from disposing in deepwater areas and raising the bottom by 20 feet need to be thoroughly examined and explained.

22. Page 6-11, Section 6.4.1, Navigation Channel, second paragraph. There is a need for discussion of bioaccumulative impacts associated with dredging and disposal of contaminated sediments, even of sediments meeting screening criteria. Data from previous studies have shown elevated concentrations of PCBs, DDE, dioxin, and furans in great blue herons and their prey in the lower Willamette River, and in fish, river otters, bald eagles, double-crested cormorants and other wildlife in the lower Columbia River. Specific evidence is needed in this section or in Section 4.5.1.2 (Biological Impacts) to support the contention that the activity of dredging and disposal of materials with any detectable concentrations of lipophilic contaminants will not bioaccumulate in these biota.

Page 6-11, Section 6.4.1, Navigation Channel, third paragraph, last line. The Service disagrees with the statement that, overall, the "sediment quality impact to the Willamette River would be beneficial, by removal and isolation of contaminated sediments . . ." This section should discuss the possibility of resuspending contaminants during dredging and creating a negative impact to the river system. We understand that regulations apply to the disposal activity and not the dredging activity. However, biological organisms will respond to the dredging activity and could be harmed by resuspension of contaminants. The impacts on biota should be evaluated in an ecological risk assessment prior to dredging contaminated sediments, and a monitoring plan should be developed to sample and evaluate biota during the dredging operation.

23. Page 6-13, Section 6.5.3, 41-foot, 42-foot, and 43-foot Channel Deepening Alternatives, first paragraph. Additional information should be listed regarding the presence of disulfoton. This is an organophosphorus pesticide and could be extremely harmful to aquatic organisms (especially salmonids) if it is present in the sediment and is disturbed by dredging. The concentrations and location of this chemical should be identified in this section, as well as a description of how the substance will be handled if dredged.

24. Page 6-13, Section 6.5.4, Least Cost and Sponsor Disposal Alternatives, first paragraph. The number of disposal sites should be changed to 31.

Corps of Engineers Response

20. The ecosystem restoration project at Miller-Pillar has been dropped from further consideration.

21. See response #5 to the NMFS letter. Additional information on the impact to sturgeon by flowlane disposal has been added to the FEIS.

22. See our response #17.

23. Disulfoton is not on the list of chemicals for which routine dredged material chemical analyses are conducted. The draft DEQ Portland Harbor Sediment Management Plan, dated April 19, 1999 does not list this chemical in their list of chemicals of interest in the Willamette River. The chemical could be added to any dredged material analyses if a "reason to believe" is established that the chemical is likely to be present.

24. Disposal site information has been revised in the FEIS.

25. Page 6-18, Section 6.6.1.3, 41 -foot, 42-foot, and 43-foot Channel Deepening Alternatives, first paragraph. The issue of possible contaminants in sediments deeper than -40 feet (actually deeper than –45 feet with overdraft included) needs to be discussed here. This is particularly important for the Willamette River. Any sediment testing done by the Corps in the deeper levels of the channel (below –45 feet) should be included in this section.

26. Page 6-19, Section 6.6.1.3, 41-foot, 42-foot, and 43-foot Channel Deepening Alternatives, second paragraph. Larval and juvenile smelt would be particularly susceptible to entrainment by pipeline dredges and, to a lesser extent, by hopper dredges. Since smelt populations have been declining in recent years, additional losses due to dredging must be avoided or minimized as much as possible. Seasonally restricted clamshell dredging in areas of the Columbia River where smelt larvae and juveniles are known to be present would help to reduce detrimental impacts to this species.

27. Page 6-22, Dredged Material Disposal, fourth paragraph. According to previously stated figures, flowlane disposal would generally occur in depths of 45-65 feet, not 50-65 feet as discussed in this section. Disposal at depths greater than 65 feet may have negative impacts on sturgeon populations, particularly juvenile sturgeon, since they use the deepwater areas of the river to feed and rear. Since flowlane disposal would occur at many sites along the river, including some sites over 65 feet in depth, the long-term impacts could be significant. The Service believes a study is needed to determine the impacts of flowlane disposal on sturgeon and sturgeon habitat, particularly in those areas of the river where the bottom would be raised by 20 feet over 20 years.

28. Page 6-27, Section 6.6.2.5, Least Cost Alternatives, 0- 105.0, West Hayden Island. This paragraph indicates that the West Hayden Island disposal site would be impacted by Port of Portland disposal actions prior to project implementation. This statement is true only if Hayden Island development as a port industrial site is approved.

29. Page 6-29, Section 6.6.2.5, Least Cost Disposal Alternative, 0-77.0, Lower Deer Island. Bald eagles may forage in the vicinity of this disposal site, i.e., there are several bald eagle nests located at sites on both sides of the river near Deer Island.

30. Page 6-37, Section 6.7.1, Aquatic Species, second paragraph. Flowlane disposal could also take place in shallower areas along the channel margins in some areas. This could have an impact on migrating juvenile salmonids which are known to use the channel margins.

31. Page 6-40, Section 6.7.2, Wildlife Species, second paragraph. The new candidate sites for offshore disposal include areas within the near shore littoral zone. Disposal of those sediments that meet contaminant screening criteria may still have bioaccumulative effects on prey species of marbled murrelets located in the near shore feeding areas. The possibility of impacting the long term health of murrelets should be evaluated and discussed.

32. Page 6-43, Section 6.8.1, Economic Impacts, first paragraph. The statement that the dredging and disposal "alternatives are not expected to. . . result in a shift in the type or size of vessels on the river" is confusing in light of the fact that the supposed goal of the deepening project is to

Corps of Engineers Response

25. In areas where the exposed sediment is anticipated to be contaminated above the *in situ* sediment, a sample from the first foot below the dredging overdepth is collected and archived. This will allow possible future analysis to evaluate chemical concentrations in the newly exposed sediment if necessary (November 1998 Lower Columbia River Management Area Dredged Material Evaluation Framework, Chapter 7). The present study conducted only physical analyses on these lower samples. A "Z" in the sample designation (i.e. WR-GC-35Z) identifies these samples.

26. See response #12 to the National Marine Fisheries Service letter.

27. See response #5 to the National Marine Fisheries Service letter.

28. Disposal site O-105.0 is an existing upland disposal site used frequently for disposal of dredged material by the Corps. The 102-acre footprint envisioned for use as a dredged material disposal site will have been impacted by on-going disposal activities, including existing channel maintenance dredging, prior to its use for the proposed channel improvement project. Approval of the Hayden Island site for industrial development has no bearing on impacts to O-105.0.

29. Bald eagle presence was addressed in the biological assessment (Appendix I). Bald eagle territories are located at river miles 80.5 (WA), 81 (OR) and 73 (OR). While bald eagles may forage near O-77.0, the majority of their activities would occur much closer to their nests which are 3+ miles from this site.

30. Flowlane disposal will not occur in depths less than 35 feet. Since juvenile salmon do not occur to any extent at this depth, impacts are not anticipated.

31. Hunt (1995) in Ralph et al. (1995) states, "Murrelets are probably at low risk from global food web bioaccumulation of pollutants because of their foraging habits, prey size and the distribution of prey in coastal habitats. Most fish eaten by murrelets are juveniles of commercial species, or ground fish without a wide pelagic distribution. The background global organochlorine input into the seabirds of the North Pacific has resulted in a modest increase in organochlorine pollutants in seabird eggs over the past two decades (Elliott and others 1989), but the levels remain below those generally considered to be of threshold biological significance."

32. The projections of traffic levels and export levels are assumed to occur with or without any channel improvement. The number of vessels expected to call on the river in the base condition does not represent an impact caused by any channel improvement alternative. The size of vessels in the future is also expected to be independent of any channel improvement activity.

32. (con't) provide for increased use of the channel by larger, deep-draft ships. Even if the immediate goal were to provide for improved passage of the present ships utilizing the channel, the availability of a deepened channel would eventually encourage future use by larger ships.

33. Page 6-44, Section 6.8.1, Economic Impacts, first paragraph. This paragraph should reiterate that expanded Area B, a productive and economically important crabbing area, is avoided as a disposal site under the candidate offshore disposal site process, as requested by crab fishermen.

34. Page 6-51, Section 6.9, Secondary Impacts, first paragraph. It seems the availability of a deeper channel would, in time, be taken advantage of by more deep-draft ships and, consequently, over time, there would be an increased possibility for exotic species to become established.

Page 6-51, Section 6.9, Secondary Impacts, third paragraph. We disagree with this outlook on secondary development associated with the channel deepening. It would seem more appropriate to recognize that if a deepened channel is provided, more ships will use the channel and secondary development of port facilities and shoreline industrial sites will follow. The possible negative environmental impacts associated with such development should be identified and discussed.

35. Page 6-53, Section 6.10, Mitigation. Late in the HEP process, it was discovered that, in certain instances, habitat suitability indices (HSIs) were assigned rather than calculated. This misinterpretation of how HSIs are utilized in the HEP process has resulted in the generation of some unreliable data in terms of average annual habitat units (AAHUs) lost and gained for both disposal and mitigation sites. The resource agencies on the HEP team have determined that, to resolve this issue, either portions of the HEP should be redone or additional mitigation sites should be added to the Government and Sponsor disposal plans (see General Comments).

36. Page 6-59, Section 6.12, Cumulative Impacts, third paragraph. Cumulative losses of lower Columbia River riparian forests over the last century has been very high. It should be noted here that any additional loss of the remaining riparian habitat in the lower Columbia River could have serious impacts on fish and wildlife.

Page 6-59, Section 6.12, Cumulative Impacts, fourth paragraph, last line. The accuracy of this statement is dependent on successful mitigation and considerable attention to strict monitoring of the implementation and success of the mitigation plans for each of the mitigation sites, with necessary follow-up actions as appropriate.

Appendix H, Volume I.

37. Page 16, Phase 1, Defining a Zone of Siting Feasibility. This page should be edited; it appears to be a repeat of what is discussed on pages 13 and 14.

Page 20, Biological (Living) Resource (Exhibit A), first paragraph. It should be emphasized that the majority of the crab fishing occurs during the winter (December -February) and that the major portions of the catch also occur during this period.

Corps of Engineers Response

32. (continued). Currently, there are vessels moving on the river with design drafts greater than 40 feet, and that is expected to continue with or without a channel improvement. Any impacts related to the amount of cargo shipped out of the Columbia are expected to occur regardless of channel improvement. In order for the number of vessels moving on the river to stay the same after a channel improvement, there would need to be additional exports of over 2 million tons in 2004 in response to a channel improvement. By 2014, the response would have to be over 2.7 million tons.

33. Concur. The final EIS has been revised.

34. Ship traffic volume is dependent upon the market for commodities at any given time. Channel depth does not in itself induce more ship traffic and consequently, would not potentially increase the introduction of exotic species. Deeper draft vessels are now calling at Columbia River ports which cannot be fully loaded due to the 40-foot depth limitation. The primary benefit attributed to a deeper channel is that these vessels would be allowed to fully load. This creates much higher cost efficiency for both shippers and commodities. Likewise, the market for commodities determines the extent of port development required. A deeper channel would not affect the demand, but would increase cost effectiveness of shipping. The final EIS includes additional discussion of this point.

35. The Corps proposes to implement Option 1: Complete the HEP analysis by collecting data to represent all habitat types and reanalyze current and future conditions based on changes in individual habitat parameters. This re-analysis could be completed during the preconstruction, engineering and design (PED) phase of the project. Please see the addendum to the wildlife mitigation plan (Appendix G) for further clarification.

36. The Corps identified the importance of riparian habitat and historical losses in Section 2.5.3 of the draft EIS. The 66 acres of riparian habitat loss would occur over 8 sites ranging from 2.7 to 20 acres, and represent about 3 percent of the remaining cottonwood-ash forest downstream of Portland. All 8 disposal sites are former dredged material disposal sites. About 32 acres (3 sites) are early stage riparian habitat, e.g., cottonwood trees pioneering onto disposal sites. Eight acres (3 sites) are riparian areas on agricultural land where cattle grazing has degraded the habitat. Two sites totaling 26 acres support mature riparian stands. To characterize the loss of these 66 acres as leading to serious impacts to fish and wildlife is an overstatement. The sites are generally small, non-contiguous with other riparian habitat, have been impacted by human activities and/or are established on dredged material. They have value for fish and wildlife but to a lesser extent than large, contiguous blocks of mature riparian forest established on native soils with a full complement of understory species. Establishment of 424 acres of riparian forest was identified in the wildlife mitigation plan and is about six times the acreage being impacted. The emphasis on riparian habitat in the mitigation plan reflects its importance and the desire of the interagency team to emphasize it. Implementation, operation and maintenance, and monitoring actions have been detailed in the current wildlife mitigation plan. Further refinement of the mitigation plan will occur during the PED phase.

37. Comments noted. The report will be revised.

Page 52, Sites Proposed for Designation, second paragraph. The discussion of Peacock Spit in this section should be rewritten since candidate sites 6 and 7 do not appear to include disposal on Peacock Spit.

38. Page 52, Sites Proposed for Designation, fourth paragraph. It appears that site South does include some areas with high concentrations of crabfishing activity. Perhaps, it would be possible to eliminate the latter sections from the disposal area or to schedule disposal when crabfishing in the area is minimal.

We appreciate the opportunity to comment.

Sincerely,

Preston A Sleeger
Regional Environmental Officer

Corps of Engineers Response

38. Both candidate sites 6 and 7 included a disposal on Benson Beach which has also been referred to as disposal on Peacock Spit. The South site is no longer proposed for ocean disposal.

REFERENCES

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JOHN A. KITZHABER
GOVERNOR

February 3, 1999

Colonel Robert T. Slusar
US Army Corps of Engineers, Portland District
CENWP-PE-E Attn: Steven J. Stevens
PO Box 2946
Portland OR 97208-2946

Dear Colonel Slusar:

Thank you for the opportunity to comment on the *US Army Corps of Engineers' Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel (DEIS).* I continue to support moving forward with the Columbia and Lower Willamette Channel Deepening Project as long as environmental concerns raised by the state and others are adequately addressed by the Corps in the Final Environmental Impact Statement (FEIS).

The Columbia River navigation channel is vital to the state's economic health, which is dependent on international trade. However, in considering deepening the channel, we need to maintain our region's rigorous environmental protections. Decisions regarding project design, construction and maintenance must be rooted in an understanding of the potential impacts to river and
1. nearshore ecosystems and the overall sediment budget of the Columbia River system with the goal of minimizing environmental impacts. With both Endangered Species Act listings and Clean Water Act concerns in both the Columbia and Willamette Rivers, making sure the project is done in a way that minimizes and mitigates potential impacts to water quality and native salmonids becomes all the more important.

I am pleased that ecosystem restoration proposals are included in the DEIS. These projects would support the work the state has begun under the Oregon Plan for Salmon and Watersheds.

Attached you will find comments from several state agencies and the Oregon Office of the Northwest Power Planning Council. There are several overarching concerns raised by these comments which need to be addressed in the FEIS.

2. First, the project must be implemented in a way that is consistent with local, state and federal requirements, including those federal requirements implemented by the State. The attached comments highlight the topics and policies requiring further analysis prior to the FEIS to ensure compliance.

STATE CAPITOL, SALEM 97310-0370 (503) 378-3111 FAX (503) 378-4863 TDD (503) 378-4859

Corps of Engineers Response

1. Comments noted.

2. Comments noted. Specific responses are provided to these concerns and the agency comments provided in your attachment.

Corps of Engineers Response

Second, the Corps must look at ways to maximize the beneficial uses of dredged sand and minimize disposal on farmlands, riparian areas and wetlands by considering other alternatives for disposal sites such as those in the sponsors' plan. Ocean disposal of dredged material, both in relation to the navigation channel and the federal project to maintain the river's mouth, is also of concern to the State. We must work cooperatively to ensure navigational safety but with the goal of selecting disposal sites and practices that will not substantially interfere with Oregon's commercial fisheries or the long-term protection of ocean resources. Legal and environmental concerns are raised by all of the Corps' alternatives for disposing of dredge materials.

2 (con't)

Third, given the concerns that have arisen about contamination and disposal of Willamette River sediments, consideration must be given to lengthening the proposed project schedule for the Willamette portion of the project so that these concerns can be addressed. Disposal of contaminated sediments by deep placement and capping with clean materials is one option for addressing these concerns but other alternatives should be examined in detail in the FEIS. The DEIS itself suggests a strategy of phased construction for the Willamette and I recommend the Corps adopt that strategy in the FEIS.

Finally, specific agency concerns need to be addressed in the FEIS. Oregon's agencies stand ready and willing to work with the Corps to resolve these issues.

Again, I want to thank you for the opportunity to comment on the DEIS and look forward to working with the Corps to make this project one that not only provides economic benefits for the state and region, but one that also maintains or improves the ecological health of these two important river systems.

Sincerely,

John A. Kitzhaber, M.D.

JAK/NR/sm

Attachment

Oregon Department of Land Conservation and Development (DLCD)

SUMMARY OF COMMENTS

COASTAL ZONE COMPLIANCE- OVERALL

DLCD will conduct the official Coastal Zone (CZ) Consistency review when the FEIS and associated final consistency determination are available from the Corps of Engineers but prior to a final federal decision on the project.

The federal Coastal Zone Management Act (CZMA) mandates that federal agencies comprehensively consider the effects of their proposed actions on the CZ, regardless of whether the action would occur in or outside of CZ boundaries. The Corps acknowledges that ocean disposal of dredged material is subject to CZ review even
3. though partially outside the territorial sea because of the potential for CZ impacts. Given the magnitude of the channel deepening proposal, the Corps will also need to address the potential effects of actions upstream of Oregon's coastal zone boundary on resources and land and water uses within the coastal zone.

The Corps must address the effects of the project in light of all applicable CZ policies. There are several CZ policies that are not acknowledged in the DEIS.

The Corps must consult with all affected local governments to ensure compliance with local land use programs at all project stages.

CZ EFFECTS - RIVER AND ESTUARINE RESOURCES

4. The FEIS and Final CZ Consistency determination must address the different standards for maintenance and new dredging in the Columbia River estuary and present an analysis that responds to the different requirements.

5. It is unclear whether the estuarine disposal sites truly have adequate capacity to handle the predicted volumes.

6. In the FEIS, the Corps must address whether "upland" dredged material disposal in the estuary will result in habitat changes and, if so, what the long-term implications of such habitat changes would be for the lower river and estuary.

7. The FEIS must both address the impacts of flow-lane disposal at CRM 27-42 and compliance with the applicable Oregon CZ policies.

8. The Corps must include mitigation for impacts within the estuary due to dredged material disposal.

Corps of Engineers Response

3. Comments noted.

4. The CZ Consistency Determination has been revised to address the different standards for new work and maintenance.

5. See our response #31.

6. The proposed upland disposal sites in the estuary downstream of Puget Island are all existing dredged material disposal sites. Their footprints are not targeted for enlargement, rather, the existing sites will be built to higher elevations. These existing disposal sites are principally bare sand or very early successional grass-forb communities. Narrow bands of riparian habitat occur on the perimeter of portions of the proposed disposal areas. These disposal sites have been used for dredged material disposal for decades and future use will maintain the status quo.

7. The CZ Consistency Determination has been revised to specifically address flowlane disposal between river miles 27 and 42.

8. We have worked with both the Federal and State Resource Agencies to reduce the aquatic impacts of the project such that they will be commensurate with the level currently occurring with the existing maintenance dredging program. We are also proposing to conduct studies of the deeper flowlane disposal sites to determine their productivity and what fish populations are present. This information will be used to manage the disposal actions to avoid productive areas or time the disposal to minimize impacts to a species. Additionally, we have included several ecosystem restoration projects to provide additional aquatic habitat that would be of value to several aquatic species. Also see our responses #34 and #35.

9. To ensure that adverse project impacts are minimized, the Corps must obtain agreement from federal and state resource agencies on appropriate dredging and disposal measures to protect salmonids, sturgeon, smelt, and other aquatic species.

CZ EFFECTS - OCEAN DISPOSAL OF DREDGED MATERIALS

10. The Corps must demonstrate that ocean disposal complies with the standards of Goal 19 to give clear priority to the long-term protection of renewable ocean resources over the use of non-renewable resources (Goal 19 and ORS 196).

The FEIS must make clear how and where the proposed ocean disposal sites would be used in actual yearly operations, how sediment compatibility within these areas will be achieved, and how monitoring will occur.

11. Oregon will not issue a CZ approval for a 50 year period based on lack of information and analysis to determine compliance with Oregon's ocean policies.

12. The DEIS does not present adequate biological resource information and analysis to address our concerns about long-term biological impacts of broad based disposal, particularly for much of the south site, and does not provide sufficient information and analysis to support statements and conclusions that thin-layer disposal will have minimal biological impacts.

13. DLCD supports ODFW's recommendations for a more comprehensive study to better understand the effects of dredged material disposal on Dungeness crab and other species, including sub-lethal effects.

14. The Department suggests that the Corps, EPA, the coastal states, and other interested parties work cooperatively to identify long-term research and monitoring needs, develop a research plan, and work cooperatively to obtain funds to implement needed studies.

15. The DEIS does not adequately state the impacts of proposed ocean disposal on Oregon's commercial fisheries. The FEIS must fully address the potential effects on Oregon's commercial fisheries and propose measures or alternatives to avoid, reduce, or minimize these effects.

16. For the South disposal site, DLCD finds that there is minimal potential for littoral contribution from dredged material disposal while there is a high likelihood of impacts to biological resources and commercial fisheries.

17. Pursuant to the Coastal Zone Management Act and Oregon Coastal Management Program, DLCD will require a site-management coordination process that includes the state and affected parties in monitoring, review of monitoring results, discussion of modifications or alternatives, revision of disposal practices, resolution of use conflicts, and other needed project changes.

Corps of Engineers Response

9. See our response #8.

10. Concur with comments. A site management an monitoring plan for ocean disposal has been prepared and included in Appendix H, Exhibit H. The Management and Monitoring Plan states the Corps/EPA preference to first place material in Site E and the North Jetty site. These two near-shore sites will be used to their maximum extent. Any additional material will be places in the agreed upon deep water site.

11. The footprint of the disposal sites have been revised to minimize the impact. We have existing data and have agreed to do pre- and post-assessment surveys, as well as agreed to the formation of a task force to provide input on site management. We would expect that your agency's participation on the task force would satisfy your concerns with CZMA consistency.

12. Thin layer disposal is no longer being considered. The south site is no longer being considered as a disposal site.

13. Deciding on the need for additional studies on Dungeness crab will depend on input from the task force.

14. This project cannot fund basic research. We have agreed to pre- and post-construction assessment studies. Input for these studies will be obtained from the Ocean Management and Monitoring Task Force. Some of these efforts may dovetail into studies you agency may wish to fund.

15. Additional information has been added to Chapters 4 and 6, and Appendix H on Oregon's commercial fisheries and impacts to these fisheries. The size and location of the deep water site has specifically taken into account potential impacts to the commercial fishery.

16. The south site has been eliminated.

17. See our response #11.

18. The Oregon Coastal Management Program must take a conservative position on ocean disposal of dredged materials because of the serious implications for Oregon's renewable ocean resources if widespread disposal in the Columbia River offshore region does have significant impacts.

19. The Corps must develop and assess a range of options for meeting multiple management needs including minimizing the geographic extent of impacts, restricting the quantity of marine habitat and resources potentially at risk, contributing to littoral transport, reducing potential conflicts with fisheries and other ocean users, and facilitating pre-disposal studies and post-disposal monitoring.

OTHER ISSUES

20. DLCD fully supports the DEQ in its requests for information related to water quality effects of the project and will rely on the expertise and authority of the DEQ to determine whether the project complies with state water pollution-control policies and standards.

21. The Final EIS must address the consequences of omitting or deferring the Willamette River portion of the proposed project due to the presence of contaminated sediments in this portion of the river, including an assessment of the need for, benefits from, and viability of the entire project if this river segment were omitted.

22. The FEIS must respond to DSL's concerns and where these concerns relate to coastal zone uses and resources, the FEIS must address compliance with these state statues in the final coastal zone management consistency determination.

23. Although the Corps cannot predict the exact uses that might be proposed for upland DMD sites, the FEIS must acknowledge the potential for land use conversion effects from upland disposal and coordinate with local jurisdictions and DLCD on the eventual 'retirement' of sites from DMD use.

24. DLCD supports the "sponsor's alternative" over the "least-cost alternative" to protect farmland.

The Corps must coordinate with affected local jurisdictions to obtain and use relevant land use information in the FEIS and to ensure the local comprehensive plan and zoning ordinances reflect the long-term management goals for these sites.

Corps of Engineers Response

18. Comment noted.

19. Concur. These concerns have been addressed through the Ocean Disposal Working Group. Sites have been selected to minimize the impacts to the resources and to include pre- and post disposal assessment monitoring.

20. Comment noted. Prior to project implementation, State Water Quality certification will be obtained.

21. The final EIS has been revised with a recommendation that the Willamette River segment be deferred. Incremental analysis has been done. On of the increments assessed was the Willamette River (see Appendix C, Economics). The Willamette River is economically justified as both a stand alone portion of the project, or in combination with the rest of the project. When more is known about the Portland Harbor Remediation Plan, the Willamette River portion will be evaluated again to determine if this reach is still economically justified.

22. The majority of DSL issues would be addressed by the sponsoring ports during the disposal site acquisition phase. This would also apply to resolution of specific land use issues. This would occur following project authorization. Also see our responses #55 to 57. The CZM Consistency Determination prepared for the proposed action concludes that it is consistent with state and local plans to the maximum practicable extent.

23. Section 6.8.2 of the report acknowledges that there is a potential for land use conversion for upland disposal sites used during the course of the project. These changes are not predictable. Implementation of site Management and Monitoring Plans under Article 230.80 of the CWA will address DLCD's desire for coordination on the eventual "retirement" of disposal sites.

24. The sponsor's preferred alternative now represents the proposed disposal plan. The DEIS has been reviewed by local jurisdictions and their comments reviewed. Also see our response #23.

25. More discussion of alternatives like the LOADMAX system or the use of LOADMAX with a tiered channel seems warranted to determine if these can meet project goals while minimizing environmental impacts.

SPECIFIC COMMENTS

I. BACKGROUND:

The Department of Land Conservation and Development Coastal Management Program (DLCD) has reviewed the Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement, Columbia and Lower Willamette River Federal Navigation Channel (DEIS), including the appendices, prepared by the US Army Corps of Engineers Portland District, October 1998. DLCD has specifically focused on compliance with the federally-approved Oregon Coastal Management Program (OCMP). Pursuant to the state's federal consistency authority under the Coastal Zone Management Act (CZMA), the Corps must assess the direct, secondary, and cumulative impacts of the federal project on Oregon's coastal zone resources and land and water uses and conduct the project in a manner consistent with the policies of the OCMP, which include state agency programs as well as coastal city and county land use plans and implementing measures. DLCD has also reviewed general land use information included in the documents in relation to our role administering the statewide land use program.

26. The DEIS documents contain a significant amount of information about the project and its area and we recognize the large amount of work behind such an effort. We believe the DEIS has helped agencies and others to better understand the complex project. The Department's review of the DEIS has helped focus our attention on particular topics that we believe require further analysis. The purposes of these comments are to explain the Department's concerns, to serve as a basis for continuing dialogue between our agencies regarding the project, and to provide a preliminary assessment of coastal zone (CZ) consistency to assist the Corps with the preparation of a final consistency determination at the FEIS stage. Please note that DLCD is willing to coordinate meetings with the Corps and other parties to discuss our concerns and work towards resolution of outstanding issues.

DLCD's comments focus on the "least cost" and "sponsor's preferred" build-alternatives for the project. Under these alternatives, the navigation channel would be deepened by 3 ft. (plus standard 5 ft. over dredging) from Columbia River Mile (CRM) 3 to 106.5 (near Vancouver) and 11.6 miles up the Willamette River. Dredging for construction would remove 19.1 mcy, with 90 mcy of maintenance dredging over the following 20 years (p 2, DEIS). Construction would occur in 2002 -2003. The biggest difference between the two build-alternatives appears to be that the sponsor's preferred alternative maximizes the use of port-owned property and existing sand and gravel pits for upland (i.e., not in-river or ocean) dredged material disposal (DMD) sites. In-river and ocean disposal volumes would be the same for these two build-alternatives. (App. D, p. 6)

Corps of Engineers Response

25. See response #2 to the US Department of Interior letter concerning LoadMax.

26. Comments noted.

II. COASTAL ZONE COMPLIANCE

A. Timing of CZ Review

The study/DEIS includes a section titled "Coastal Zone Management Act Consistency Determination" to elicit comments from DLCD and others on whether the project, as described in the DEIS, appears to comply with Oregon's CZ policies. These comments
27. provide the Corps with a preliminary, detailed assessment regarding project compliance with the OCMP. However, the Corps and DLCD agree that a final decision by the State on the Corps' consistency determination for the project would not be appropriate at this stage (per 12/2/98 letter, Corps to DLCD). DLCD will conduct the official CZ review when the FEIS and associated final consistency determination are available from the Corps of Engineers but prior to a final federal decision about the project.

B. Scope of CZ Review

The draft consistency determination in the DEIS describes the proposed federal action subject to CZ review as the use of new ocean DMD sites and construction of pile-dikes with associated dredged material disposal near Miller Sands within the estuary. DLCD agrees that both actions are subject to CZ review but disagrees with the Corps that its responsibility to ensure CZ compliance is limited to these two actions. The Corps' final CZ determination must also address all aspects of the project that are likely to affect the state's coastal zone, such as dredging for channel deepening, in-water disposal, upland disposal, and wildlife mitigation.

It is our position that the entire project will affect Oregon's coastal zone due to its scope and complexity. The federal Coastal Zone Management Act (CZMA) mandates that federal agencies comprehensively consider the effects of their proposed actions on the CZ, regardless of whether the action would occur in or outside of CZ boundaries. The DEIS addresses ocean disposal outside of the territorial sea. Given the magnitude of the channel deepening proposal, the Corps will also need to address the potential effects of
28. actions upstream of Oregon's coastal zone boundary on resources and land and water uses within the coastal zone. Essentially, the Corps' CZ assessment must take into account effects on the overall ecosystem as well to individual resources and uses. The assessment must consider reasonably foreseeable secondary and cumulative effects that are indirectly caused by the project even though these impacts may be later in time and farther removed in distance from direct project work. For example, how will upstream actions impact water quality, various fish species, marine mammals, or other resources that are not bound by a jurisdictional line? The final consistency determination needs to detail the assessment supporting the Corps determination of CZ consistency.

In addition to addressing a broader project scope in the final CZ determination the Corps must address the effects of the project in light of all applicable CZ policies. The draft consistency determination discusses some CZ policies, such as certain policies in the Columbia River Estuary Management Plan and statewide planning Goal 19. But other CZ policies, such as estuarine policies for new dredging and flow-lane disposal and state agency authorities incorporated in the OCMP are not mentioned (please refer to DLCD's

Corps of Engineers Response

27. Comment noted.

28. The final EIS and Consistency Determination have been revised to address the full range of actions affecting the coastal zone. We have determined that the proposed action outside the coastal zone would have some effect on resources within the coastal zone. However, we have concluded, based on the results of sediment testing and salinity intrusion analysis, that these effects would not be significant.

August 4, 1997 letter to the Corps that outlines the CZ policies applicable to the channel deepening project).

28. (con't)

As a reminder, the CZMA and associated federal regulations mandate that federal projects must be fully consistent with state coastal programs unless specifically prohibited by other federal law or if found by the President of the United States to be in the paramount interest of the nation. If the Corps believes other federal law in any case precludes full consistency with the OCMP, then the Corps must specifically explain to DLCD those legal requirements and how full consistency is precluded. Please note that a lack of appropriations is not an acceptable reason for non-compliance with the OCMP. The CZMA specifically limits even the President's ability to exempt a federal agency from CZ compliance based on funding.

C. Local Government Coordination and Consistency

29. The Corps must consult with all affected local governments to ensure compliance with local land use programs at all project stages. The Department finds no evidence that the Corps consulted with Clatsop County or other local jurisdictions in the CZ. Coordination with local governments is essential.

III. EFFECTS ON RIVER AND ESTUARINE RESOURCES

A. Dredging for Channel Deepening - Estuarine Resources

30. Oregon's CZ policies for the Columbia River estuary distinguish between maintenance dredging of the existing channel and new dredging for channel deepening. Maintenance dredging of the navigational channel is generally permitted outright, although subject to certain environmental standards. New dredging, defined to include channel deepening, can be conditionally approved after local review but is not permitted outright. DLCD previously explained the standards that new dredging would need to meet (p. 5, DLCD's 8/6/97 letter). For example, new dredging must avoid erosion, sedimentation, circulation changes or other potential adverse impacts to the estuary, and any unavoidable impacts from new dredging must be mitigated. The FEIS and Final CZ determination must address the different standards for maintenance and new dredging in the Columbia River estuary and present an analysis that responds to the different requirements.

B. Disposal of Dredged Material - Estuarine Resources

31. In general, the channel deepening project emphasizes upland disposal of dredged material. The Corps states that the deepening project would reduce in-water disposal compared to current maintenance of the existing channel (p. 4-64, DEIS). The project proposes to use existing disposal sites within the estuary (with some expansion beyond current boundaries) along with flow-lane disposal. DLCD has three areas of concern with the proposed disposal actions.

1. Many of the identified estuarine disposal sites have been used in the past but not for the volumes anticipated under the channel deepening project and 20 years of maintenance dredging. It is unclear whether the estuarine disposal sites truly have adequate capacity to handle the predicted volumes.

Corps of Engineers Response

29. The Channel Improvement Study/draft EIS has been coordinated with all local jurisdictions within the study area. Comments were received from the counties within the coastal zone. Specific land use issues would be resolved by the Corps and sponsoring ports following project authorization.

30. The final EIS and Consistency Determination have been revised to directly address standards for new dredging.

31. In-water disposal could occur at numerous locations in the reach between RMs 27 and 42. This reach has been used in the past for in-water disposal during maintenance dredging. The 2.5 mcy of construction disposal is a one-time action that is much larger than the annual O&M disposal in this reach. The 12 mcy of O&M equates to an average of 600,000 cy/yr, which is only a one third increase over the 1990-96 O&M average of nearly 450,000 cy/yr. The actual change in bed elevations that occur will depend on factors such as the total area used for disposal, the volumes disposed, and the amount of material transported away from the sites. Flowlane disposal can be moved around to avoid large changes in bed elevations.

2. We have learned from the situation with Caspian terns and salmonid predation at Rice Island that there can be unintended but significant impacts from DMD in the
32. estuary. In the FEIS, the Corps must address whether "upland" dredged material disposal in the estuary will result in habitat changes and, if so, what the long-term implications of such habitat changes would be for the lower river and estuary.

3. A significant amount of flow-lane disposal is proposed within the mid- to upper estuary between Columbia River Miles (CRM) 27 and 42 "because there are few
33. upland disposal options (p. 6-9, DEIS)". A total of 14.5 mcy (million cubic yards) of material (from so-called "construction" or new dredging as well as maintenance dredging) would be disposed of in-water over the course of 20 years impacting about 400 acres. The 400 acres includes new flow-lane sites at Miller-Pillar and site W/O 30.

As stated in DLCD's 1997 letter, flow-lane disposal is considered suitable only in the navigation channel and in a 600 ft. strip along either side of the designated channel (i.e., where designated aquatic development). Certain standards apply to flow-lane disposal including: dredged materials must remain in suspension long enough to move
34. downstream, dredged materials must not be contaminated, adverse estuarine changes must not occur, the biological value of the benthos must be characterized prior to disposal, and the water depth must be 25-60 ft. Monitoring of flow-lane disposal is also required to ensure estuarine impacts are minimized and consistent with the natural resource capabilities of the affected area.

DLCD's analysis of the DEIS description of flow-lane disposal at CRM 27-42 concludes that this action would not, as proposed, comply with the OCMP requirements listed above. First, flow-lane disposal outside the Aquatic Development Zone is proposed. Second, some flow-lane disposal will occur at water depths greater than 60 ft. Third, significant amounts of dredged material will not move downstream but will instead
35. accumulate up to 20 ft. deep over the 400 acres (p. 6-9, DEIS). The DEIS does not fully address effects on the benthic community in flow-lane disposal areas, and we find no mention of monitoring or mitigation of flow-lane disposal impacts. Overall, the DEIS discussion of flow-lane disposal impacts is very minimal despite the fact that the draft USFWS report included in the DEIS indicates adverse impacts are likely (DEIS, Exhibit C, p. 9). The Department also notes that ODFW is concerned about the impacts of flow-lane disposal on sturgeon habitat, particularly for disposal at depths greater than 65 ft.

The FEIS must address the impacts of flow-lane disposal at CRM 27-42 and determine
36. whether such methods are in compliance with the applicable Oregon CZ policies such as the requirements of Statewide Planning Goal 16, Estuarine Resources, as adopted in the Columbia River Estuary Management Plan and associated documents.

C. Mitigation for Estuarine Impacts

Flow-lane and upland disposal in the estuary, dredging for project construction, and pile-dike construction at Miller Sands are activities DLCD judges are reasonably likely to

Corps of Engineers Response

32. See our previous response #6 concerning upland disposal in the estuary.

33. See our previous response #31.

34. As stated earlier, the CZ Consistency Determination has been revised to include additional discussion of proposed flowlane disposal actions, including disposal in areas deeper than 65 feet. We acknowledge that plan amendment review and new site designations would be required prior to disposal at depths greater than 65 feet.

35. We have discussed these concerns with the resource agencies and have agreed to do a study of flowlane disposal areas in this reach to determine the productivity of the benthic invertebrate populations and the use of the area by larval and juvenile sturgeon. This information will help design the disposal plan for these sites such that impacts to the sites can be minimized to the extent possible. Once the results of the study are complete and it has been determined that the use of these sites will not significantly impact estuarine resources, we will move ahead to ensure consistency with the Coastal Zone Management Act.

36. See our previous responses #31 and #35.

impact estuarine resources. Disposal on the islands of the lower river may also affect estuarine resources over the long-term. The Corps has proposed mitigation for impacts to wildlife habitat that will be caused by upland disposal of dredged material but has not proposed mitigation for effects within the estuary. Local government elements of the
37. OCMP contain a requirement for compensatory mitigation for certain unavoidable estuarine impacts by creation, restoration, or enhancement of estuarine areas (Columbia River Dredged Material Management Plan, Section 2.2.1-2.2.3 and associated Clatsop County review standards). DLCD and the Corps must discuss ways to ensure compliance with the estuarine mitigation requirements of the OCMP prior to completion of the FEIS. Any costs for estuarine mitigation must be considered as a project cost

D. Dredging and Disposal Methods

The Corps could minimize the impacts of channel deepening construction and channel maintenance both in the estuary and elsewhere by following dredging and disposal methods designed to minimize project impacts. Yet, we did not find any discussion in the DEIS of alternative dredging techniques such as when to use a clamshell vs. hydraulic dredge, the use of silt curtains or other techniques to limit migration of suspended sediments, or specific techniques to minimize blasting impacts. In addition, the Corps
38. asserts that in-water work for dredging and disposal must occur year round to accommodate a two year construction schedule (DEIS, Exhibit C) but does not indicate why dredging must be completed in two years. Such a tight schedule, in the Department's opinion, increases the potential for adverse environmental effects on aquatic resources. To ensure that adverse project impacts are minimized, the Corps must obtain agreement from federal and state resource agencies on appropriate dredging and disposal measures to protect salmonids, sturgeon, smelt, and other aquatic species (per Columbia River Dredged Material Management Plan Section 2.2.1-2.2.3 and Clatsop County review standards at S4.232).

IV. OCEAN DISPOSAL OF DREDGED MATERIALS

A. Ocean Disposal Site Designations

1. *Standards for Review*

DLCD's review of the proposed ocean disposal sites focuses on compliance with Oregon's ocean management policies: the mandatory standards of Goal 19- Ocean Resources and the requirements of Part Two of the Oregon Territorial Sea Plan (TSP). Goal 19 recognizes the importance of maintaining safe navigation, as well as maintaining Oregon's recreational and commercial fishing industries, and allows ocean disposal of materials dredged for a navigation project provided that disposal
39. sites and practices do not substantially interfere with commercial and recreational fishing, navigation, or the long-term protection of renewable ocean resources. Goal 19 places strong emphasis on ensuring that agencies have adequate information to analyze and understand the effects of the proposed action on ocean resource and other uses. Part Two of the Territorial Sea Plan includes detailed requirements for providing that information and developing the analysis. The Corps must demonstrate that ocean disposal complies with the standards of Goal 19 and the paramount ocean policy of the State to give clear priority to the long-term protection of renewable ocean resources over the use of non-renewable resources (Goal 19 and ORS 196).

Corps of Engineers Response

37. See our responses #8 and #35.

38. Alternative dredging methods are discussed in the EIS. The final dredging plan for construction will be developed to minimize impacts to species of concern. Turbidity is not considered to be a problem during hydraulic dredging consequently no silt curtain will be required. Deployment of silt curtains in the mainstem Columbia River is not feasible given it current, tidal action, and waves. A detailed blasting plan was developed with both state and Federal resource agencies. This plan is discussed in the EIS. In regards to mitigation, see response #8.

The two main reasons for the two year construction schedule are: 1) from a least cost perspective, minimizing the construction costs reduces the overall cost of the project, and 2) the quicker the 43-foot channel is constructed, the sooner the National Economic Benefits are realized. The Corps, through the Coordination Act Report and numerous meetings, has coordinated extensively with state and federal resource agencies.

39. Comments noted.

2. *New Sites for Ocean Disposal*

DLCD and other state and federal agencies have worked with the Corps in recent years on interim designation of ocean dredged material disposal (ODMD) sites needed to alleviate an existing problem of mounding caused by an accumulation of sediments from maintenance dredging disposed onto small disposal sites off the mouth of the Columbia River. DLCD also participated in the Corps process for developing candidate sites for ocean disposal. In working with the Corps, DLCD and other Oregon and Washington agencies requested that the use of site B be discontinued and made it clear that conflicts with commercial fishermen at Expanded Site E (also known as Candidate Site 2) needed to be avoided. Oregon did not, however, object to the careful use of Site E (i.e. adopt measures to avoid mounding and limit conflicts with the fishery). Site B will no longer be used. Expanded Site E was recently designated by the CORPS as an interim disposal site.

40.

Now, as part of the channel deepening DEIS, the Corps is seeking US EPA designation for three ocean disposal sites (Expanded E, South site, North site) because some materials dredged for channel deepening, as well as future maintenance downstream of CRM 30, would be disposed offshore (estimated to be 20 mcy for channel deepening and 17 mcy for channel maintenance over 50 years). A large majority of offshore disposal (191 mcy over 50 years), however, will be generated by another federal dredging project at the mouth of the Columbia River (App.. H, Vol. I, p. 1). Two of these new sites are quite large: the North site on the Washington side of the channel is approximately 19,000 acres and includes portions of interim candidate sites 6 and 7; the "South" site offshore Clatsop Spit on the Oregon side is approximately 33,000 acres and includes portions of interim candidate sites 1, 5, 6, 7, and.10 Together, these proposed sites cover approximately 81 square miles of ocean floor.

This DEIS review is the first opportunity for DLCD and others that participated in the ocean disposal site committee to see, evaluate and respond to the proposed very large 'North" and "South" sites. We had understood that any proposed new sites would be subsets of interim candidate sites and expected proposed sites to be mostly limited to areas discussed under the candidate site process. The lack of discussion by all concerned parties of the North and South sites is evident in the problems with these proposed sites discussed below.

3. *Thin-layer Disposal*

The ODMD site committee thoroughly discussed the use of "thin-layer" disposal, which is defined as anywhere form 2.5 to 10 inches accumulation per each disposal event, because of the Corp's desire to use this method to avoid mounding height problems. So-called "pin-point" disposal, on the other hand, is the targeted disposal of a sediment load onto a particular spot on the ocean floor. The Corps estimates that, based on an average yearly estimate of 4.6 mcy of ocean disposal, a disposal area of 4.4 square miles would be necessary to ensure 10" or less accumulation per year on the ocean bottom (App.. H, Vol. II, Physical Processes Report, p. 52).

41.

The DEIS is ambiguous and confusing as to the extent of either thin-layer disposal or pin-point disposal. The option of mounding dredged spoils through pin-point disposal in the deeper portions of the north and south sites is alluded to in App.. H, Vol. I, Tech. Ex. G. The DEIS also discusses an equal distribution of materials

Corps of Engineers Response

40. Comments noted. The North and South sites have been eliminated.

41. Noted. Thin layer disposal is no longer being considered. An Ocean Disposal Management and Monitoring Plan has been developed for the proposed sites; see Appendix H, Exhibit H.

between the north and south sites because of uncertainties about sediment transport at the mouth of the river but confuses matters by stating that disposal of materials from the mouth of the Columbia River (MCR) is operationally limited to a 4.5-mile "zone of siting feasibility" (ZSF). The ZSF description for the MCR project suggests that materials would be concentrated very close to the channel entrance and mostly in the portion of the south site within the 4.5 mile ZSF (App.. H, Vol. I, p. 11, 13-14). The estuarine dredged materials (not the mouth), which are given a 13-mile ZSF, are a small portion of the total ODMD volume proposed for these sites.

41. (con't)

The use of these sites is further compounded by the issue of "sediment compatibility." The DEIS states that like-on-like disposal is a goal with coarser material going to the "nearshore" (30-100 ft. depths) and finer materials to the offshore (100-200 ft.), but neither the volumes of "coarse" and "finer" materials nor how this relates to the 4.5 mile ZSF is clear (App. H, Vol. I, 49-50). The DEIS states that a management and monitoring plan will be developed by the Corps and EPA for the new sites to ensure that "no unacceptable harm to the ecosystem or resources" occurs and that "conditions that will lead to an unacceptable impact are not developing" (App.. H, Vol. 1, Tech. Ex. G). A key assumption in this plan is that "dredged material is similar to existing substrate [and thus] no significant impact to the habitat is anticipated (Tech. Ex. G, Section 2, p. 2-6). Given this basic assumption, the Corps explains that disposal practices will only be revised and biological monitoring will only occur if unacceptable mounding occurs.

The FEIS must make clear how and where the proposed ocean disposal sites would be used in actual yearly operations, how sediment compatibility within these areas will be achieved, and how monitoring will occur.

B. Effects of Ocean Disposal

42. The DLCD, ODFW, and others have serious concerns about the large North and South disposal sites because of. (1.) site-management time-frame; (2.) potential for significant adverse effects on marine resources; (3.) potential for adverse effects on commercial fisheries; (4.) inadequate information for selecting sites, assessing impacts, determining alternatives; (5.) effects on nearshore littoral drift; (6.) lack of biological monitoring and responsive site management; and (7.) availability of alternatives.

1. *Site Management Time Frame*

43. Although, the Corps and EPA may be required to plan for a 50-year ocean disposal period, DLCD cannot concur with the concept of a 50-year designation period. The lack of available information presented in DEIS and the low likelihood that sufficient additional information will be forthcoming make predictions of 50-year or even 20-year cumulative effects of ocean disposal virtually meaningless. Both the 50 year designation period as well as the Corps' interest in thin-layer disposal methods sites directly affect the size of the proposed north and south sites. The DEIS explains that the north and south sites each would have a capacity of 230 mcy of dredged material, i.e. the predicted 50 year disposal volume. The rationale for doubling the estimated 50 yr. disposal capacity is unclear. Oregon will not issue a CZ approval for a 50 year period based on lack of information and analysis to determine compliance with Oregon's ocean policies.

Corps of Engineers Response

42. Comments noted. Both the North and South sites have been eliminated from further consideration. See responses provided below.

43. All sites are designated for perpetuity and the North and South sites have been eliminated. We would expect that your participation on the Ocean Disposal Sites Management and Monitoring Task Force would satisfy you concerns with CZMA consistency.

2. *Effects on Biological Resources*

The biological effects of ocean disposal of dredged materials, especially over wide ocean-bottom areas, over long periods of time, and in biologically-productive marine environments are of serious and significant concern to DLCD, ODFW, and other state agencies. During the candidate site process, Oregon agencies and others expressed questions about the feasibility and impacts of thin-layer methods in the nearshore ocean area off the mouth of the Columbia River. The DEIS does not present
44. adequate biological resource information and analysis to address our concerns about long-term biological impacts of broad based disposal particularly for much of the south site, and does not provide sufficient information and analysis to support statements and conclusions that thin-layer disposal will have minimal biological impacts. These conclusions are based on review of thin-layer studies conducted in the Gulf of Mexico, a region physically and biologically very different from the Columbia and on a pilot study of the effects of thin-layer disposal on Dungeness crab, discussed below (see also ODFW comments).

Battelle Laboratories conducted a pilot study to assess the impacts of thin-layer disposal on crab and juvenile flatfish. While DLCD believes the study was an important step in increasing our knowledge of thin-layer disposal impacts, we disagree with the Corps' conclusion that the study demonstrates no significant effects
45. on crab. ODFW has explained its concerns with the study and with the Corps' interpretation of the results in great detail. We note ODFW's concerns about the high mortality shown for the two larger class sizes at disposal depths over 4 inches; this is a significant impact to crab. DLCD supports ODFW's recommendations for a more comprehensive study to better understand the effects of dredged material disposal on Dungeness crab and other species, including sub-lethal effects.

The ability of the state to approve ocean disposal sites proposed by the Corps will be limited by the information available to assess the effects of these actions. The DEIS discusses the increasing difficulty of finding environmentally-acceptable disposal sites in upland, riparian, and in-river areas and, consequently, the increasing shift to disposal of dredged sediments in the ocean. In relation to the Columbia River, DLCD finds that the trend towards increased ocean disposal over a larger offshore area is
46. likely to continue. The Department suggest that the Corps, EPA, the coastal states, and other interested parties work cooperatively to identify long-term research and monitoring needs, develop a research plan, and obtain funds to implement needed studies. Initial candidates could be a more comprehensive crab study, a nearshore disposal study, and field tests of thin-layer disposal. Funding some offshore studies as part of the channel deepening project is reasonable since the construction and maintenance of the project will impact ocean resources.

3. *Effects on Commercial Fisheries*

Potential effects of dredged material disposal operations on Oregon's commercial
47. fisheries are discussed in detail within ODFW's comments. In particular, the proposed sites coincide with prime crabbing grounds inshore of 200 ft. depth and

Corps of Engineers Response

44. Comments noted. Thin layer disposal is no longer being considered. See the Ocean Dredged Material Management and Monitoring Plan in Appendix H, Exhibit H, for a discussion of these issues.

45. The need for additional studies on Dungeness crab will be considered by the task force.

46. This project cannot fund basic research. We have agreed to pre- and post-construction assessment studies for the ocean disposal sites; some of these efforts may dovetail into studies your agency may wish to fund.

47. The proposed sites have been located in areas that minimize impacts to commercial fishing; in addition, the size of the deep water site has been reduced. The percent by income has been revised and included in Appendix H, Volume III.

close to the river mouth. ODFW surveys of Oregon fishermen indicate that more than 40% of their crab catch comes from the south site, and 15% of the catch from the north site. Astoria has the highest crab landings for Oregon over the last decade. The economic overlay used in the candidate site evaluation process did not accurately reflect Oregon crabbing or trawling efforts because it was based on interviews with only a few Oregon fishermen. As a result, the DEIS does not adequately state the impacts of proposed ocean disposal on Oregon commercial fisheries.

47. (con't)

In addition to adverse effects on the biological resources that support commercial fisheries, the proposed offshore disposal has the potential to conflict with these fishing operations in a variety of ways, including burial of gear in dredged spoils, loss of set gear, direct conflicts between dredge and fishing boat operations, and reduced catch due to impacts to commercial species. The DEIS does not indicate how the Corps would work to minimize conflicts with the fishing industry. DLCD understands that, given the estimated number of annual dredge trips, the large dump sites proposed, the timing of dredging which coincides with fishing seasons, and the logistics of operating dredges around weather and other variables, there may be few reasonable measures for avoiding conflicts. But we propose that the most obvious way to avoid conflicts with fishing efforts would be to minimize the size of the proposed disposal sites and concentrate disposal operations in discrete areas that are known to and can be avoided by fishermen. The FEIS must fully address the potential effects on Oregon's commercial fisheries and propose measures or alternatives to avoid, reduce, or minimize these effects.

C. Littoral Contribution from DMD

Nearshore disposal would likely provide some sediment to the littoral drift, a highly dynamic oceanographic zone that could disperse sediments in a way that mimics natural along-shore transport of sediments from river mouths and beaches. These sediments would then be available for beach nourishment and could provide, at least in the case of Long Beach Peninsula to the north of the river, an important contribution to the supply of sand to maintain the beach against erosion. A major drawback to nearshore disposal is the potential conflict with shallow-water commercial fisheries in the area.

48.

The Corps explains that to provide a littoral contribution, disposal would need to occur in <60 ft. water (App. H, Vol. I, p. 52-53 & Tech. Ex. G). Both the proposed North and South sites include depths inshore to approximately the 30 ft. contour. Approximately half of the North site falls between 30 and 60 ft. water depth contours which makes possible significant littoral contribution of material to Washington. But very little of the South site is within the 30 to 60 ft. depth zone so the majority of materials placed there would not be available for the nearshore sediment supply. In addition, disposal between the 30 and 60 ft. depths, where contribution to littoral transport is most likely, is problematic because disposal operations require calm ocean conditions which are generally not present during much of the year. For the South disposal site, DLCD finds that there is minimal potential for littoral contribution from dredged material disposal while there is an high likelihood of impacts to biological resources and commercial fisheries.

Corps of Engineers Response

48. The North and South sites have been eliminated from further consideration.

D. Site Management

1. *On-going Process Needed*

The Corps and EPA recognize a need for on-going evaluation of the new ocean disposal sites to provide for appropriate site-management. But the role of state agencies and other interested parties, such as commercial fishermen, in the on-going evaluation process is not clear. Pursuant to the Coastal Zone Management Act and

49. Oregon Coastal Management Program, DLCD will require a site-management coordination process that includes the state and affected parties in monitoring, review of monitoring results, discussion of modifications or alternatives, revision of disposal practices, resolution of use conflicts, and other needed project changes. We suggest data-sharing of monitoring results on a yearly basis with formal site reviews every five years.

2. *Justifying Assumptions*

DLCD disagrees with the basic assumption that disposal will not impact ocean resources and that therefore biological monitoring is generally not necessary. Ocean resource data is limited, and DLCD believes the jury is still out on the long-term impacts of disposal on ocean resources. The resistance to biological monitoring pre-

50. and post-disposal greatly limits the feasibility of taking an adaptive management approach to ODMD sites because no new information on disposal impacts to biological resources would become available over the years. The FEIS must either include adequate biological information and analysis of the effects of dredged materials on marine resources to support a conclusion of no impacts to ocean resources, or build in a biological monitoring program.

E. Alternatives

1. *Minimizing Impacts*

For the reasons cited above and expressed in ODFW and DEQ's comments, the OCMP must take a conservative position on ocean disposal of dredged materials because of the serious implications for Oregon's renewable ocean resources if widespread disposal in the Columbia River offshore region does have significant impacts. In addition to lethal and sublethal effects on crabs, ODFW describes potential effects on other marine biota caused by changes in sediment characteristics and bathymetric structure over the long-term, alteration of the benthic and epibenthic community structure, burial of woody debris, shells and other structure that provides shelter and refuge for adult and juvenile marine organisms, including flatfish. Oregon is unwilling to gamble with 81 square miles of offshore habitat without rigorous substantiation that disposal will not adversely impact ocean resources.

51.

While no ocean disposal site will be without impacts on ocean resources, we believe that carefully located, confined disposal sites would greatly limit adverse effects of disposal on navigation, commercial fishing, and renewable ocean resources. The DEIS does not adequately address alternatives for more confined or targeted disposal operations. Oregon has not objected to careful use of Site E, as mentioned previously. And although not acoean sites, direct beach placement at Benson Beach and the north jetty hole are other confined disposal options that need to be address in the FEIS. As a third option, we suggest small sites at 250-300 ft. depths, for example something like candidate site 8. A fourth option might be to test confined nearshore disposal, for example targeted at addressing WA's erosion problems. Agreement for the fishing community would be imperative in establishing such a nearshore site, and

Corps of Engineers Response

49. We have agreed to form a task force to provide input on management and monitoring of the ocean disposal sites.

50. Concur with comment; pre- and post-construction assessment studies will be conducted for the ocean disposal sites.

51. Comments noted. The proposed deep water site has been modified to address these concerns. Appendix H documents the Ocean Disposal Working Group process that was implemented to attain the ocean disposal siting plan. The agreed upon ocean disposal sites were located to minimize the impacts to the commercial fishing industry. The Corps gives special thanks to DLCD, ODFW, CREST, and CRCFA for bringing the Ocean Dredged Material Working Group to this consensus position.

The Ocean Disposal Working Group has evaluated all options identified to this point. Some of the options, such as direct placement on Benson Beach will be evaluated through other programs. Additional information concerning Benson Beach has been added to Appendix A.

of course, Benson Beach seems to provide a more direct option for addressing the erosion problems. Any site other than Benson Beach or the north jetty hole would require pre-disposal assessments to confirm that potential impacts from disposal are correctly understood.

2. *Assessing Other Options*

52. We believe that designation of confined disposal sites would be compatible with several site-management concerns raised during the ODMD site committee processes. The Corps' primary concern with pin-point disposal was mounding, which is not a concern if the disposal site is of sufficient depth (as can be determined with the Corps' modeling program). Oregon and Washington agencies were concerned with widespread effects on marine resources and fisheries. Washington agencies expressed concern that sediments disposed offshore were unavailable for littoral drift. Because littoral contribution is not likely at the South site (see discussion in previous section) or from disposal in the offshore portion of the north site, disposal in confined nearshore portions of the North site, along with direct beach placement, are potential options to address Washington beach erosion concerns. The Corps must develop and assess a range of options for meeting multiple management needs including minimizing the geographic extent of impacts, restricting the quantity of marine habitat and resources potentially at risk, contributing to littoral transport, reducing potential conflicts with fisheries and other ocean users, and facilitating pre-disposal studies and post-disposal monitoring.

V. OTHER ISSUES

A. Water Quality

1. *Additional Information and Analysis*

53. Pursuant to the Coastal Zone Management Act, state water quality requirements established under the Clean Water Act have been incorporated into the OCMP as the primary water pollution-control policies for the CZ. DLCD thus relies on the expertise of the Oregon Department of Environmental Quality (DEQ) to evaluate compliance with state water quality requirements. DEQ's concerns about this project's compliance with water quality standards and protection of beneficial uses are attached. Briefly, DEQ has expressed concerns for adverse effects on the Willamette and Columbia rivers by dredging and disposal of contaminated sediments and flow-lane disposal in deep water sites, adverse effects of offshore disposal, loss of wetlands from upland disposal, water quality effects on endangered and threatened species, and the need for pre- and post-disposal monitoring. In its comments, DEQ requests additional information to address these and other water quality concerns. DLCD fully supports DEQ in its requests for information related to water quality effects of the project and will rely on the expertise and authority of DEQ to determine whether the project complies with state water pollution-control policies and standards.

2. *Willamette River Segment*

54. In addition, significant, serious issues have recently been raised by the US EPA and DEQ about the widespread presence of contaminated sediments in the lower Willamette River and Portland harbor, contamination that could preclude dredging under this plan, at least for the foreseeable future. The FEIS must address the consequences of omitting or deferring the Willamette River portion of the proposed project due to the presence of contaminated sediments in this portion of the river,

Corps of Engineers Response

52. The Corps and EPA, with extensive input from the Ocean Dredged Material Working Group, have developed a Management and Monitoring Plan that addresses your concerns.

53. Comment is noted that DLCD will rely on DEQ concerning compliance with water quality requirements. See Corps responses to DEQ comments.

54. Contamination would not preclude dredging under this plan unless EPA lists the Portland Harbor as a Superfund site. The material can be dredged under the CWA with equivalent protection of the environment and human health. See our response #21 concerning incremental analysis of the Willamette River segment. Dredging of the Willamette River has been delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor.

including an assessment of the need for, benefits from, and viability of the entire project if this river segment were omitted.

B. Removal-Fill Law and State Ownership

55. Oregon laws regarding removal-fill and management of state lands, including submerged and submersible lands, are enforceable components of the OCMP. The Division of State Lands (DSL), which has authority for these components, has identified several issues regarding the applicability of these statutes to the channel deepening project. While the Removal-Fill Law does not apply to dredging for navigational purposes or ocean disposal of dredged materials, DSL has determined that upland (i.e., not in-river or ocean) disposal can be subject to the Removal-Fill Law if dredged material is ultimately used as fill. This must be addressed in the FEIS. In addition, DSL may collect state royalty fees for certain uses of dredged material. DSL also has serious concerns about placing dredged material in wetlands and the completeness of the wetlands data presented in the DEIS. The FEIS must respond to DSL's concerns and where these concerns relate to CZ uses and resources, the FEIS must address compliance with these state statues in the final CZ management consistency determination.

C. Land Use

1. *Land Use Conversion*

56. The channel deepening project raises several concerns about the effects and implications of upland DMD on existing and ftiture land uses along the Columbia River. The Corps concludes that the deepening project will have only minor effects on land use by changing some agricultural and open space areas to DMD sites (p. 9-3, DEIS). The DEIS explains that these disposal sites will be used for various time periods up to 20 years, which is the planning period for this project. However, DLCD is concerned that future conversion of these sites to other land uses must be compatible with Oregon's land use program, including local comprehensive plans and implementing regulations. Dredged materials from the proposed project would fill what are now rural resource lands and could result in pressures for conversion to industrial or commercial sites or urban-level residential development without adequate public facilities and services to support such development. Although the Corps cannot predict the exact uses that might be proposed for DMD sites, the FEIS must acknowledge the potential for land use conversion effects from upland disposal and address coordination with local jurisdictions and DLCD on the eventual 'retirement' of sites from DMD use.

2. *Farmlands*

57. The Department previously notified the Corps of specific concerns about the potential for upland DMD to affect farmlands protected under Oregon's land use program, and the Corps has been responsive to those concerns. Under the least-cost alternative, only one site, the Scappoose Dairy (107 acres), would be converted to a disposal site. The least-cost alternative would convert 400 acres of farmland for wildlife mitigation at three sites (Westport and two Sauvie Island sites). The sponsor's-preferred alternative would reduce the effects on farmland from wildlife mitigation to only a 100-acre conversion at Westport and would not use the Scappoose Dairy site as a disposal site (p. 6-46, DEIS). DLCD supports the "sponsor's alternative" over the "least-cost alternative" to protect farmland.

Corps of Engineers Response

55. General land use issues and requirements are described in the final EIS. Resolution of site-specific issues such as State removal-fill requirements would be addressed by the sponsoring ports during the site acquisition phase. See response #4 and #10 to the US Environmental Protection Agency letter concerning wetlands.

56. The planning period for this project is actually 50 years. Most of the upland disposal sites are expected to be used at least through that time period and beyond. A few sites are expected to be converted to port and industrial use at some time in the future. These are noted in the final EIS. The disposal plan has been revised with a new combination of least cost and sponsor's preferred alternatives. The proposed disposal plan no longer includes Scappoose Dairy.

We are aware of land use and/or zoning restrictions that may preclude or impair use of the sites for disposal. Any specific land use amendments, if required, would be addressed by the sponsoring ports during the site acquisition phase.

Also see previous response #23 concerning the potential for land use conversion effects.

57. Comment noted. See our response #56.

DLCD continues to request that the Corps clearly explain to land owners and the public that the purpose of disposing of dredged material on farmlands is not to
58. convert rural lands to urban-type uses. Also, if the Scappoose Dairy site is used, the Corps must justify an exception to Oregon's Statewide Planning Goal 3, Agricultural Lands (see p. 2 of DLCD's 8/6/97 letter) and would also need to address ODFW concerns about effects on wildlife from converting the dairy site to a dredged material disposal site.

3. *Local Land Use Information and Coordination*

DLCD cannot determine from review of the DEIS whether the Corps contacted affected local jurisdictions for land use data such as base zoning, overlay zoning, public facilities, or the presence of protected natural resources at DMD and wildlife
59. mitigation sites. The Corps must coordinate with affected local jurisdictions to obtain and use relevant land use information in the FEIS and to ensure the local comprehensive plan and zoning ordinances reflect the long-term management goals for these sites.

4. *Alternatives to the Project's "43 ft. Build-Alternative"*

DLCD recognizes that the primary objective of the current study was to examine the 43 ft. build-alternative. However, this build-alternative would come at significant financial cost and would have widespread effects on the river environment, adjacent uplands, the estuary and nearshore ocean. We believe that, overall, the FEIS must
60. consider a wider range of alternatives that might be used to meet the overall objective of improving the navigability and safety of the river for deep draft vessels. Therefore, the FEIS should further assess other non-construction alternatives such as use of the LOADMAX system or LOADMAX with a tiered channel to determine if project goals can be met. The Corps should look at how the LOADMAX system is being used elsewhere, particularly at other west coast ports.

5. *Future Need*

Last, we are concerned that even if this project proceeds, on-going changes in the maritime industry will yield bigger ships and eventually result in calls to deepen the
61. shipping channel yet again. Is there a point at which continued deepening of the Columbia River is neither feasible or justified? The FEIS should clearly address this question.

Oregon Department of Environmental Quality (DEQ)

The sponsors have forwarded a proposal for deepening the Columbia and Willamette River shipping channel. Given its nature the project is likely to be very controversial. Clearly, by law and regulation, the sponsors bear the burden of responsibility for proving
62. and ensuring that the project has minimal long-term impacts to the environment and natural resources of the effected areas of Oregon and Washington. The role of the natural resource agencies, both federal and state, is to ensure that the project sponsors live up to their mandated responsibilities. In view of this, the following document contains comments on inconsistencies, shortcomings and omissions of the DEIS, in terms of

Corps of Engineers Response

58. The Corps has held three series of public workshops during the course of the feasibility study, the last occurring after release of the DEIS. In addition, we have met with individual landowners whose lands are proposed for use as upland disposal or wildlife mitigation sites. We have consistently identified that our purpose for utilization of their lands dealt with dredge material disposal or wildlife mitigation. Also see our response #56. The Scappoose Dariy site is not part of the proposed disposal plan in the FEIS.

59. The Channel Improvement Study/draft EIS has been coordinated with all local jurisdictions within the study area. Comments were received from the counties within the coastal zone. Specific land use issues would be resolved by the Corps and sponsoring ports following project authorization.

60. See response #2 to the US Department of the Interior letter concerning LoadMax.

61. Our analysis was limited by statute to study deepening no greater than 43 feet. There is a point at which continued deepening would not be justified, and it is something deeper than 43 feet.

62. Comment noted.

project effects on water quality and the ability of the sponsors to secure a 401 water quality certificate from ODEQ.

I. Contaminated sediments:

A. Willamette Basin-

1. Needs additional sediment testing in specific areas to be identified.
2. Flowlane disposal of contaminated sediments even below screening level is imprudent given widespread and panoramic nature of contaminants due to Bioaccumulation, Biomagnification, Synergistic potential which is unknown and needs to be documented. Downstream "fallout" of contaminated spoils is unacceptable.

63.

3. Turbidity in dredge areas resuspends contaminants to migrate in the water column, exposing more organisms to risk.
4. Project will trigger a cascade of dredge applications from Port users who wish to have their berthing areas deepened to accommodate deepdraft vessels. It is well documented that shallower nearshore areas contain higher concentrations of contaminants.
5. The use of silt curtains or other new technology is not discussed for limiting migration of suspended sediments during dredging.

B. Columbia Channel-

1. The Lower Columbia River is already listed on the 303(d) list as Water Quality Limited for toxics. Some fish currently exceed health criteria for human consumption.
2. The Bi-States study appears to disagree with Corps data on CR contaminants, which suggests that more testing is needed, particularly in past disposal sites that will be re-used. More disposal at these sites will cause old sediments to slump into channels, potentially freeing contaminants to migrate. Dredging a deeper channel will also encourage "slumping" with the potential to re-suspend silts and contaminants.

64.

3. Migration of re-suspended silts and their associated contaminants into the water column make them available for uptake by organisms which salmonid smolts require for rearing. This will endanger T&E smolts as well as other endemic fishes and will work its way up the food web. Elevated levels of contaminants in top predators such as eagles and otters is well documented, and is affecting reproductive success, Where is it coming from? The Corps needs to document that it WILL NOT be coming from their activities.
4. In-river work- Timing of work, equipment used, processes, can minimize impacts to fish and also minimize resuspension and redistribution of contaminated sediments. This issue is not properly discussed.

Corps of Engineers Response

63. ODEQ Cmt #1: Concur with comment.

ODEQ Cmt. #2: This is in conflict with the Lower Columbia River Management Area Dredged Material Evaluation Framework, November 1998 signed by Langdon Marsh and other state and federal agencies. This document provides a consistent technical framework to follow in identifying environmentally acceptable alternatives for the management of dredged material. The framework is consistent with and meets the substantive and procedural requirements of NEPA, CWA, and MPRSA and is applicable to dredged material management alternatives.

ODEQ Cmt. #3: Special dredging equipment may be required for the Willamette River to minimize suspended sediments in highly contaminated areas.

ODEQ Cmt. #4: Although higher concentrations of contaminants have been found in nearshore areas of the Willamette River, the number of such applications and the degree of contamination of specific sites that would be dredged under those applications cannot be determined at this time. Sediment data on the berthing areas which would benefit from a deepened project has been added to the FEIS.

ODEQ Cmt. #5: Silt curtains do not work in any system with a current such as the Willamette River but may be effective in certain backwater areas with limited flow. Special dredging equipment may be required such as closed clam buckets. There is existing dredging technology developed to dredge highly contaminated sediments.

64. ODEQ Cmt. #1: Comment noted.

ODEQ Cmt. #2: The Bi-State study only sampled 2 stations in the federal channel both in the estuary and both sand. Contamination levels were below detection limits for all constituents analyzed except for metals. No constituent exceeded the established screening levels for the evaluation of dredged material in the Columbia River Federal Navigation Channel. This is in agreement with the data collected under this feasibility study. (See general discussion regarding Columbia River Sediments and the Bi-State study.)

ODEQ Cmt. #3: The evaluations conducted under the feasibility study have shown that the material to be dredged from the Columbia River is primarily sand, low in fines (1%), and low in organics (<1% TOC). These sediments meet the exclusionary criteria of both the CWA and MPRSA and are considered suitable for unconfined in-water disposal without testing. This is further discussed in the Lower Columbia River Management Area Dredged Material Evaluation Framework, November 1998 (DMEF).

ODEQ Cmt. #4: Sediments in the mainstem of the river have been found to be acceptable for unconfined in-water disposal and are considered suitable for upland in accordance with the guidance provided in the DMEF. A discussion of construction and disposal timing is included in the Biological Assessment; the NMFS is preparing a biological opinion based upon the assessment. See also our response #6 to the NMFS letter.

64. (con't) 5. Cumulative impacts of multiple dredges operating simultaneously at several sites over time will lead to undesirable cumulative impacts to resident and migratory fish and wildlife.

II. Disposal of materials in deep in-river sites:

65.
- A. Turbidity Issues
- B. Sturgeon habitat loss
- C. Potential contamination
- D. Direct loss by burial of juvenile fish, benthos, and other organisms.

III. Off-shore disposal:

66.
- A. Concern for crabs, crabbing industry. Crab study funded by Corps inadequate to address loss of organisms. More research needed.
- B. Widespread habitat loss/disruption, species displacement.
- C. Turbidity concerns not addressed.
- D. Thin layer disposal not tested adequately.
- E. Fishermen issue not adequately addressed.
- F. Mounding and its impacts to maritime safety, trawl fishermen.
- G. Beach nourishment issue on WA side not properly addressed. WA wants the material but Corps won't go the extra yard to create a win-win solution.

IV. Upland Disposal:

67.
- A. Potential for contaminated sediments to re-enter river through runoff, either at time of disposal or later due to stormwater dispersal as surface water or groundwater.
- B. Potential for toxins to enter groundwater aquifers.

V. Wetland Loss:

68.
- A. Fill of estuary, wetlands, farmland, leads to degraded water quality. Not addressed.
- B. Land-use Conversion- Productive habitat is filled, becomes industrial site, WQ loss. Irreversible loss of estuarine/riverine habitat.
- C. Potential to contaminate wetlands with contaminated sediments.

VI. ESA considerations relative to water quality issues:

69.
- A. Contaminants and their effects, particularly but not limited to T&E spp.
- B. Turbidity
- C. Direct habitat loss
- D. Incidental "Taking"

VII. Monitoring Protocols-NOT DISCUSSED

70.
- A. Areas containing elevated contaminant levels will need sampling concurrent with dredging as well as post-dredging sampling to

Corps of Engineers Response

ODEQ Cmt. #5: See our previous response.

65. Additional discussion has been provided in the report on these issues.

66. See previous responses #40 to #47.

67. Columbia River sand meets the exclusionary criteria of the CWA and has been found suitable for both in-water and upland disposal. Since the sand is not considered contaminated, runoff or ground water contamination will not occur. Material from the Willamette River is not posed to be placed upland. Dredging of the Willamette River is delayed until supported by the local sponsor.

68. No estuarine fills that would create fast land are proposed. Open water, unrestrained placement of dredged material at water depths of 50-65 feet in or adjacent to the channel or deep water sites and Harrington Sump, would place medium-grained sandy material with low percent fines onto like material. This material is considered clean and meets guidelines for in-water disposal. Thus, no degradation of water quality would occur nor would wetland contamination occur. Improvement of the Willamette River navigation channel has been deferred until all parties reach a mutual agreement on handling of the contaminated sediments. Wetland fill has been minimized to the extent practicable. Those wetlands subject to filling lie behind dikes, their waters are directed to drainage ditches and exhausted through pumps to the river, are subject to agricultural activities, and exist in a degraded condition. Their ability to filter water of sediments and contaminants has already been lessened by man's activities. Further, the mitigation plan emphasizes wetland habitat development which would more than offset the anticipated loss of wetland habitat or any perceived loss of wetland capability to address water quality. Industrial site development would be contingent upon land use zoning changes and the Corps no longer needing the site for disposal. We anticipate many sites will be required for the 20-year period and beyond.

69. ESA consultations with the NMFS and USFWS are underway for listed species.

70. Testing is conducted prior to dredging, not during or after. Dredged material evaluation must be consistent with the DMEF jointly prepared by the ODEQ, DOE, DNR, EPA, and Corps.

70. (con't) determine dredging effects. This sampling must include biological testing to determine levels of resuspension and uptake by organisms.

In order to make a determination whether the proposed project would meet State and Federal Water Quality Standards and the requirements of the CWA, the following additional information is needed:

71.
- Provide a copy of the sediment sampling plan to compare with DEQ and EPA approved sampling methodologies and protocols.

- Conduct additional sediment sampling in both the Willamette and Columbia River particularly in the proposed turning areas near the Ports of Longview, Kalama and Astoria. In the Willamette fill in data gaps on the west bank areas between River Miles 4 through 11.

72.
- Conduct biological sampling in areas that exceed threshold values including the collection of fish tissue using the EPA Human Health Risk Methodology consistent with that used by the Lower Columbia River Bi-State and Willamette River Studies, and the EPA and CRITFC study. Biological sampling should also be conducted to identify potential bioaccumulation, biomagnification, and synergistic impacts by the proposed project given the numerous studies showing impacts to human, fish and wildlife health.

73.
- Identify the water quality impacts during dredging and disposal both in-water and upland areas. The Port of Portland has previously collected water quality samples during their dredging and in-water disposal activities at Ross Island. In addition, develop for approval a proposed water quality and ecological sampling and mitigation plan to be completed during all proposed dredging, in-water and upland disposal activities and a monitoring plan for the duration of the life of the project. For upland site disposal, also develop a surface water and groundwater sampling and mitigation plan. If needed, identify measures to collect and treat run-off to meet surface and groundwater CWA and Drinking Water Act standards.

74.
- For the Willamette River, identify cooperative actions the CORPS will take with EPA and DEQ to clean up and properly dispose of the contaminated sediments within the proposed dredging areas.

75.
- It is important to recognize ODEQ's efforts to lead the development of a sediment management plan for Portland Harbor and a 5.5 mile stretch of the Willamette between Swan Island and Sauvie Island. This section of the river is being considered by the EPA as a potential addition to the National Priorities List (Superfund Site). The sediment management plan is being developed as a cooperative effort between State, Federal, and, local agencies and entities doing business in this section of the Willamette River. The management plan, to be released in May 1999 will include sediment sampling and analytic methodologies and protocol for developing fresh

Corps of Engineers Response

71. The sediment sampling plan developed and used for the feasibility study sediment quality evaluation will be added to Appendix B. The local sponsors have completed sediment sampling of the berthing areas. Their general report will be added to Appendix B. Deepening of the Willamette River is to be deferred, no additional sampling or evaluation is scheduled.

72. Testing of material to be dredged shall be consistent with the DMEF. No additional sediment evaluations or biological testing is anticipated at this time.

73. Based upon existing information, dredged material proposed for upland disposal would not require collection and treatment. No further testing or monitoring is required. The Willamette River material is not proposed for upland disposal in addition the deepening of the Willamette River will be deferred at the request of the local sponsor.

74. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remedition planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging and disposal activities. This includes the development and design of appropriate management strategies to assure the biological integrity of the system consistent with all state and federal laws and regulations. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

75. Comment noted. See previous response.

75. (con't) water sediment screening levels and risk determination. The outcome will result in a Department-led effort to address necessary cleanup of contaminated sediments in an efficient manner.

76. • Identify the impacts to water quality and beneficial uses for in-water shelf/bank slumping and erosion of potential contaminated sediment areas within and adjacent to proposed channel dredge areas.

General DEIS Comments:

77. 1. Provide table(s) and text identifying screening levels of contaminants and how they protect fish, wildlife and human health with particular regard to impacts from bioaccumulation, biomagnification, and synergy.

78. 2. Air Quality Impacts need to be better defined with data. The following comments are provided by the DEQ Air Quality Division:

"The proposed channel improvement project is subject to the general conformity requirements of OAR 340-20-1500 through 340-20-1600 Determining Conformity of General Federal Actions to State and Federal Implementation Plans. Documentation must be provided to determine if total direct and indirect emissions from the project are above or below applicability threshold limits. For projects with emission increases in excess of the applicability threshold, the conformity analysis must demonstrate that the proposed activity will not cause or contribute to any new violation of air quality standards, and that anticipated emission increases are consistent with increases accounted for in air quality plans. The conformity analysis should be made part of the Environmental Impact Statement so that air quality impacts from this project can be adequately assessed.

The conformity analysis must consider both direct and indirect emission increases resulting from the proposed action. The EIS should quantify and evaluate emission increases from dredging, disposal and increased ship engine exhaust as well as increased truck travel associated with the movement of goods that are delivered by the increased commercial activity in the channel. Where mitigation measures such as stabilization of dredge disposal sites are relied upon these should be clearly identified."

79. 3. The DEIS should identify the potential for upland disposal sites impacts to water quality.

80. 4. In Appendix B, the sediment data tables need to identify the measurement values, e.g., in parts per million (ppm) or parts per billion (ppb).

81. 5. Need to identify in DEIS whether any of the possible future berthing and port dredging and maintenance activities are being covered by this EIS and what process will be followed to meet NEPA, 401 Certification or other CWA requirements

Corps of Engineers Response

76. See our response #74.

77. A discussion of screening levels is presented in the DMEF. Screening levels for various chemicals are provided in the chemical data tables presented in Appendix B.

78. Discussion with DEQ Air Quality Division staff further clarified this comment as follows: The General Conformity requirement in OAR 340-20-1500 applies to emissions within the Portland area. Portland is classified as a "maintenance area" under Section 175A of the Oregon Clean Air Act. A conformity determination is required if direct and indirect emissions equal or exceed 100 tons per year for ozone precursors, carbon monoxide, and particulate matter. Direct emissions would apply to exhaust from dredging required to deepen the navigation channel. Using emissions data from the Corps dredge *Essayons* and estimating dredging time for channel deepening in the Portland area, total direct emissions are estimated at 40 tons per year for ozone precursors, 4 tons per year for carbon monoxide and 1.2 tons per year for particulate matter. This is well below the emission thresholds. As previously stated, shipping increases and port and industrial expansion are the result of commodity demands. A deeper channel primarily allows existing deep draft vessels to fully load, increasing transportation efficiency.

79. There are no upland sites in the Willamette River. There are no identified adverse impacts for the dredging of mainstem sediments to water quality.

80. Comment noted. Metals are in ppm and all organic analyses were conducted at the ppb level. Units will be added to the tables as suggested.

81. Dredging requirements for port berthing areas are addressed in section 4.6 of the EIS.

Oregon Department of Transportation (ODOT)

ODOT has concerns on how the dredged materials will be transported to proposed upland disposal sites: if by truck, ODOT has concerns about increased traffic, access, sifting loads and unsecured leaking loads. Coordination with ODOT district offices regarding the transport of materials needs to occur prior to transport.

82.

There is an interstate study group reviewing options to replace or add a second bridge over the Columbia River at Ranier/Longview. Coordination with this study group needs to occur during the planning and final design of the proposed dredging operation.

Proposed disposal site: 0-65.9: ODOT owns, or may have property that abuts the proposed disposal site. ODOT is concerned that any disposal would alter drainage to and from the ODOT property, which could negatively impact ODOT roads. Any disposal would need to be coordinated with the ODOT District 2A office.

83.

Proposed disposal site: 0-82.6- Reichold Chemical. Coordination with the ODOT District 2A office will be required on the plan and permit requirements for the pipe relocation.

Proposed disposal site: Morse Brothers Quarry: ODOT may have concerns regarding this site depending on how, and if the site is to be used. Coordination with the ODOT District 2A office should occur if the upland portion of this site is selected.

ODOT has concerns that contaminated disposal materials will be placed adjacent to ODOT properties.

Oregon Department of Fish and Wildlife (ODFW)

SUMMARY OF COMMENTS

The Oregon Department of Fish and Wildlife's (ODFW) Northwest Region, Habitat Division, and Marine Resources Program have reviewed the US Army Corps of Engineers' (USACE) Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement for the Columbia River (DEIS). These comments serve as ODFW's response to the DEIS concerning both river dredging and disposal options and ocean disposal issues.

84.

We understand this project intends to dredge Columbia and Willamette River sediments to increase the channel depth from -40 to -43 feet deep. An estimated 115 million cubic yards (MCY) of river sediments will be removed (24.4 MCY in deepening and 90.6 MCY in maintenance dredging). Dredging will extend from RM 3.0 upstream on the Columbia River to RM 105.5 near the I-5 Interstate Bridge crossing at Vancouver. Dredging is also proposed to occur up the

Corps of Engineers Response

82. Material will be placed on upland disposal sites by a hydraulic dredge. Please furnish us with a point of contact and what is the envisioned outcome from coordination with this interstate study group.

83. Site O-65.9 is not being used for the proposed project. We will coordinate with you on site O-82.6. The Morse Brothers site has been dropped. No contaminated material is being dredged from the Columbia River. Dredging of the Willamette River has been deferred; see our response #74.

84. Comments noted.

Willamette River to the Broadway Bridge. Channel deepening will be completed in 2003 and channel maintenance under this proposed project will continue for 50 years. This $189 million project proposes to add $39 million annually to the economy by increasing shipping tonnage capacity by deeper draft vessels.

84. (con't)

Dredge disposal in marine offshore areas will cover 75 square miles (the equivalent of 16,000 football fields) of ocean floor. Dredge spoils will cover some 400 acres of farmland including 38 acres of wetland and 66 acres of streamside forests. The project area is situated within federally designated critical habitat for Snake River sockeye and chinook salmon. Dredging will occur in the Lower Columbia River where steelhead are also listed as threatened under the federal Endangered Species Act. There are also a number of state-sensitive species in the project area.

While the USACE has undertaken to write a comprehensive DEIS to address project impacts, ODFW continues to have a number of serious concerns with the proposal. For river impacts, we are generally satisfied with the efforts of USACE and believe that project impacts will be adequately mitigated if properly implemented by USACE so that fish and wildlife are protected. We do, however, have some specific concerns and comments about the channel deepening and disposal options that are discussed in the attachment, section D. In addition, we have serious concerns with the proposed offshore management of dredged material disposal (DMD). We summarize the ocean disposal issues below. Specific comments on the offshore and riverine portions of the DEIS are addressed in sections A-D of the attachment.

Off-Shore Disposal Issues

ODFW recognizes the obligation of the EPA and USACE to find long-term disposal sites for Columbia River dredged material and the agencies' obligations to ensure navigational safety and economic savings in site selection. EPA and USACE are also obligated to ensure that dredged material disposal does not degrade marine resources or economic potentials of the state. In the process of proposing new ocean disposal sites, we believe that the EPA and USACE have underestimated the adverse environmental and economic consequences of ocean dredged material disposal.

85.

After review and consideration of the DEIS with respect to the proposed ocean disposal sites and supporting information, ODFW is opposed to the designation of the USACE proposed sites, referred to as the "North Site" and the "South Site". Reasons for our position are listed below. Further discussion on the proposed disposal sites is presented in section A of the attachment:

1) Direct conflicts with the commercial crab fishery in this productive and important fishing ground would be unacceptably high;
2) Adverse impacts to Dungeness crab, especially juveniles and molting soft-shell crab, would be too great;

Corps of Engineers Response

85. Comments noted. These concerns and the concerns expressed at the Ocean Disposal Working Group have resulted in the selection of the revised proposed deep water disposal site.

3) The size of the proposed sites (75 square miles total) is unprecedented, and would result in degradation of too much marine habitat;
4) The ability to place disposal in a dispersive or "thin-layer" manner to reduce environmental impacts is unproven in the ocean off the Columbia River.

85. (con't)

Continuous ocean disposal in the same location results in long-term loss of biological resources. Although some disposal is necessary, the loss of productive capacity of up to 75 square miles of prime nearshore ocean habitat is unacceptable. ODFW supports the following alternatives to the proposed sites (contingent upon the conditions described for site alternatives in section B of the attachment):

1) Placement of material on Benson Beach for beach nourishment,
2) Continued disposal in Area E, providing that navigation hazards can be avoided and crab loss mitigated, and
3) Utilization of a deepwater (250-300ft.) confined disposal area at or near candidate site #8, as proposed by the Ocean Disposal Working Group, as a fallback site to (1) and (2) above.

86. Prior to the final designation of new ocean disposal sites, comprehensive biological surveys will be needed to determine potential impacts to marine resources. Needed information will include identifying unique habitats and identifying concentrations of biological resources. This will provide baseline biological information from which periodic biological monitoring of the sites may occur. The monitoring plan presented in the DEIS for ocean disposal sites monitors primarily physical changes at the disposal sites, and does not adequately monitor for biological impacts. A biological monitoring plan will need to be developed for the FEIS. This is further discussed in section C of the attachment.

87. Mitigation is a component of the Channel Deepening Project for freshwater and wildlife species but has not been addressed for marine species in either the dredging or ocean disposal projects. ODFW's mitigation policy (OAR 635-415-0020) does not differentiate between marine and freshwater, all fish and wildlife species and habitats are covered under this Rule. The commercially important Dungeness crab will require mitigation for entrainment mortality due to dredging and direct burial mortality due to disposal. ODFW's primary recommendation is avoidance of impacts through alternative disposal sites, and secondarily, habitat enhancement or recovery. The Gray's Harbor Crab Mitigation Program can provide a framework for developing a mitigation plan for Dungeness crab in and off the mouth of the Columbia River (MCR). The USACE should work with ODFW and other resource agencies to develop the mitigation plan.

The attached document provides expanded discussions on the above-listed concerns and recommended alternate disposal sites. The attachment is in 4 sections; section A discusses the proposed ocean disposal sites, section B discusses alternate disposal sites, section C discusses other ocean disposal issues in the DEIS, and Section 4 covers river dredging and disposal issues. ODFW

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86. In addition to the biological data known about these sites, we will conduct pre- and post-construction assessment surveys. These surveys will be established in cooperation with the management and monitoring task force who will aid the Corps and EPA in the management of these sites.

87. The location of the proposed deep water disposal site was selected by the Ocean Disposal Working Group to avoid and minimize impacts to important resources. Management and monitoring of the sites would seek to further minimize these impacts. There is no change in dredging of the MCR project; consequently, entrainment will not be increased. There will not be compensatory mitigation for entrainment of crabs which occurs primarily at the existing MCR project.

appreciates the USACE's consideration of our comments and recommendations in the FEIS. We look forward to and support the USACE re-evaluation of potential ocean disposal sites. Thank you for the opportunity to review the draft material.

SPECIFIC COMMENTS

A. Proposed Ocean Disposal Sites

The Ocean Disposal "Working Group" mentioned in this letter, refers to the group of agency and fishing industry representatives who were assembled by the USACE to provide data and knowledge about natural resources off the MCR and to evaluate candidate disposal sites.

1. Crab fishery conflicts

Prime crab fishing grounds are inshore of 200 feet deep and close to the MCR. The 4-mile radius around the MCR that the USACE defines as the Zone of Siting Feasibility (ZSF) incorporates most of the prime inshore crabbing area. Conflicts with the fishery were severely underestimated in the draft EIS, in part due to the under-estimation of the size of the commercial crab fishery in the nearshore area off Oregon. The commercial crab fishery income overlay presented in the draft EIS does not accurately depict the proportion of income by area for the Columbia River crab fleet. While efforts were made to contact Oregon crab fishers, only two of the 15 responses were from Oregon crab fishers, the rest were from Washington. The income overlay showed much higher percentages of catch north of the River than south. To the contrary, crab landings are much higher in Oregon ports than in Washington ports. Additionally, the Port of Astoria has received the most landings of any Oregon port during the current decade. Because we suspected a large-scale
88. error in the percentage income by area, ODFW conducted interviews with 17 Oregon commercial crab fishers using the same area-of-catch cells presented in Appendix H, volume II, "October 1-2, 1997 Interviews". Oregon crab fishers reported that greater than 40% of their combined crab harvest is from the proposed South Site, and at least 15% from the North Site. The commercial crab fishery off MCR is one of the most concentrated and economically important fisheries in Oregon. The crab income overlay in the draft should be replaced by a new overlay with accurate information for the FEIS.

Direct conflicts between the disposal operations and commercial crab fishing will be unavoidable during the time period when the two activities overlap, from May to August 14. According to the predicted disposal schedule in the DEIS, there will be 1,170 dredge disposal events per year during their 40-50 day dredging season from May to October. Impacts to the crab fishery will include: sand burial of crab gear, loss of set crab gear, and reduced catch due to crab mortality and to physiological and behavioral responses that affect movement of crabs into crab pots. The DEIS concluded that dredged material

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88. We have minimized impacts to the crab fishery by locating the deep water site in an area that the commercial crab fishing fleet does not use. The location of the deep water site was agreed to by the Ocean Disposal Working Group.

disposal will have no economic impacts to commercial fishing. This conclusion is contrary to information we obtained from crab fishers and to the available data on direct impacts to crabs. The FEIS will need to accurately reflect all current information.

2. Biological impacts to Dungeness crabs:
Dungeness crabs will be subjected to lethal and sublethal impacts from dredged material disposal. Individuals particularly vulnerable to impacts are adult females as they move through the nearshore areas during summer and crabs in the softshell condition, as the they are highly vulnerable to physiological and physical impacts.

89. The laboratory study designed by the USACE and conducted by Battelle Laboratories in Sequim, WA., provided a preliminary examination of burial impacts from disposal on softshell and juvenile crabs of various size ranges. Crabs that burrowed in the sand prior to a disposal event died. The extent to which softshell crabs burrow naturally in the ocean floor is not known and requires further study prior to proposing or designating disposal sites in prime crab habitat. Mortality was 15% for the smallest size class, and greater than 40% for the 2 larger size classes tested. The combined mortality for all crabs tested was 30%. Mortality for the middle and large size classes was 48% and 75% when burial depth was equal to or greater than 4.2 inches and 6.6 inches, respectively. Although the author concluded that death might be attributed to pre-disposal burrowing activity rather than depth or sand accumulation, results are not conclusive. Several limitations in the study preclude a complete analysis of the latter. Although the Battelle study was only a pilot study, the results do suggest that direct disposal on softshell crabs kills a high percentage of individuals. Further study is needed to determine the dynamics of crab burrowing activities, such as: crab diel activity patterns, behavior in response to predators, ocean currents and storms. Understanding the timing and frequency of burrowing activity would aid USACE in determining areas that should not be utilized for dredged material disposal.

The DEIS concluded that dredged material disposal will have minimal impacts on soft-shell and juvenile crabs. This conclusion was made prior to the completion of the Battelle pilot study and are contrary to the final Battelle study results and to expert scientific opinion (Dr. David Armstrong has conducted numerous research studies on crab ecology and dredging impacts to crabs and provides written testimony of potential impacts in the 1998 lawsuit [CRCFA vs. USACE] over Site B). The statement throughout the DEIS that "most crab" survive implies acceptable levels of survival. ODFW does not consider 30% mortality acceptable. The DEIS also states that impacts to crab population will be "minimal". ODFW does not consider 30% mortality over 52,000 acres of marine habitat, "minimal impacts". The interpretation of the Battelle study results throughout the DEIS is inaccurate and misleading. If no additional studies will be conducted prior to the final EIS, the USACE

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89. Further discussion on Dungeness crab impacts due to disposal have been added to the final EIS. Conducting additional testing on Dungeness crab will depend upon the recommendations of the management task force and availability of funds.

summary of the Battelle study must be rephrased to reflect the actual results and implications of the study.

The Battelle Crab study does not provide information on other adverse impacts. Actual disposal events are likely to cause adverse effects on the respiratory system, mating behavior, feeding behavior, prey availability, and responses to structural habitat changes, e.g., debris used as shelter by small crabs. Furthermore, ocean conditions not reproducible in the lab will likely effect survival for crabs already compromised by the physical impacts of disposal. Further studies are needed to adequately characterize these impacts. Additional comments on the Battelle study are provided under Dungeness Crab and Flatfish Research in this letter.

89. (con't)

The Battelle study was a pilot study designed to test the study design and the ability to induce crab molting in the lab. The USACE committed to following the pilot study with a more complete study once study design issues were resolved. We assume the study will occur as planned. The author of the study concluded that the study had several limitations and results should be considered preliminary. The follow-up, *full* study must include as a partial list, examination of the potential impacts described above, larger sample sizes and *actual* disposal sediment (additional comments are provided under Dungeness Crab and Flatfish Research). In the event that a follow-up study is not conducted, ODFW must rely on the pilot study results which indicate that sediment accumulation of as little as 4 inches results in proportionally high mortality in juvenile and softshell crabs. To understand the total implications of dredged material disposal on crabs, comprehensive field studies are also needed to determine crab distribution and abundance in and around disposal areas and habitat impacts specific to the disposal sites.

3. Marine Habitat Degradation: Disposal of dredged material will effect the quality of bottom habitats in the following ways: (a) changing sediment characteristics (replacing finer-grained sediment with coarser-grained sediment), (b) changing the benthic-epibenthic community structure, (c) burying woody debris, shells and other organic matter that provide shelter and refuge for juvenile crabs, (d) changing the "mud hole" adjacent to the North site, and (e) long-term bathymetric and structural changes. Further discussion of these impacts follows.

90.

(a) The draft EIS states that sediments from the MCR and upriver are similar to sediments at the new ocean disposal sites. This appears to be a main premise on which the new sites were chosen. However, according to data presented in the draft EIS, sediment grain size from MCR and up to rivermile (RM) 29 can be several times coarser than that of the new sites, depending on which page is referenced. The draft EIS contains numerous conflicting statements regarding sediment properties.In Appendix H, Vol. 1, Exhibit B, page 54, the ocean disposal site sediments are 0.09 to 0.15

91.

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90. Comments noted.

91. Although we generally concur with the statement as it related to the North and South sites presented in the draft EIS, the overall sediment characteristics would be compatible with the dredged sediments. Of the currently proposed sites, expanded Site E would follow the like on like principle; sediment grain size at the deep water site will be permanently altered by dredged material.

mm with 0 to 10 percent fines, while the dredged river sediments are 0.19 to 0.37 mm with 1 to 4 percent fines. The average sediment size ranges do not overlap, yet they are described as being similar. Elsewhere, in Exhibit D, the median grain size of disposal sediment is 0.1 to 0.2 mm. The statement in Exhibit B that *"physical properties of the ocean floor will not be changed"* is not substantiated, nor is the statement in the Section 103 Evaluation that *"sediments are similar to bottom materials at disposal sites"*. The final EIS needs to correct these inconsistencies. Also needed is a detailed explanation of the criteria on which sediment types are deemed "similar", and how the physical properties of disposal sites will remain unchanged by disposal sediments, if this is indeed the case.

(b) Changes to the integrity of the benthic community following disposal are probable. Bottom habitats in the deeper portions of the new sites beyond 100 feet are considered stable environments relative to the shallower portions of the sites where waves, currents and circulation patterns naturally disturb the bottom. Bottom dwelling organisms that inhabit the deeper areas are likely adapted to this more stable environment. Disposal of dissimilar, coarser sediment will likely cause a greater impact to the deep-water benthic community than to the shallow water community. Species adapted to finer sediment would be replaced by species adapted to coarser sediment. These species may or may not be suitable prey for fish and other marine predators that inhabit the area. Durkin and Lipovsky (1977) found that some fish were smaller in size after disposal events, and suggested that changes in the food source may be one reason, among others.

92. Recovery of a benthic community after a disturbance takes months. Recovery is not "rapid" as mentioned in the Summary of Benthic Invertebrate Information ("Hancock Report") (Hancock, 1997) in the draft EIS. Previous studies reported that recovery time for invertebrate density takes about 6 months, while species composition takes up to 17 months. It is unclear to what degree species composition would recover if the sediment properties of the habitat were permanently altered, as in the case of dumping coarser sediment on top of finer sediment.

In addition to the physical effects of disposal on benthic recruitment, the enormous size of the disposal site may affect recruitment mechanisms, such as recruitment into the interior sections of the site. Recruitment of benthic organisms into disturbed areas occurs, in part, from neighboring areas. As neighboring areas are disposed on and disturbance spreads over a larger area, recruitment of benthic organisms into the interior areas may decline or slow. As a result, the 75 square miles encompassed in the proposed north and south sites will be subject to widespread disturbances.

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92. Concur with comments. The North and South Sites have been eliminated.

Although there have been several NMFS benthic invertebrate studies off MCR, they do not adequately represent the newly proposed South Site. The draft EIS references past studies as having provided sufficient information to determine that impacts in the new sites will be minimal, yet

92. (con't) since 1975, there have been few benthic infaunal samples taken immediately south of the River, and even fewer from areas south of the 4-mile ZSF. There is not sufficient data on invertebrate communities in the proposed South Site for the determination to have been made that the invertebrate population is less complex and dense, or that impacts to the benthic population will be minimal.

(c) Degradation of juvenile crab habitat may occur by burying or reducing the amount of material available for shelter and refuge. In a study in Grays Harbor and surrounding waters (Pearson, W.H. et al. 1987, Battelle, Pacific Northwest Laboratory), juvenile crabs were found to be dependent upon the presence of debris on the seafloor for shelter from the environment and refuge from predators. Juvenile crab density was

93. significantly correlated with the extent of organic debris. We assume that juvenile crabs off the MCR exhibit a similar adaptation, but this will need to be verified through field studies. Although dredged material may contain some organic debris, it is not clear if the disposal event itself would distribute the debris so that it would come to rest on top of the spoils for habitat utilization. Field studies are needed to determine the availability of naturally occurring habitat structure for juvenile crabs and the amount and fate of organic debris from the disposal operation.

(d) The area defined as the "mud hole" in the nearshore area off Washington has been described as a unique marine habitat with high biological

94. productivity. No ocean disposal should occur in or near the mud hole. Any disposal site designated near the "mud hole" would require a sufficient buffer zone to protect the mud hole from migrating disposal material.

(e) The FATE modeling scenario calls for disposal material to be equally distributed between the nearshore (30-100 ft) and offshore (100-200 ft) portions of the sites. The model assumes that material placed inshore of 100 ft will transport to the littoral zone and aid in beach nourishment. The fate of sediment placed in the nearshore is still under dispute among marine geology experts. The outer depth limit of the littoral zone is not known, but is assumed to be somewhere between 60 and 80 feet, not 100

95. feet. The lack of sediment transport at Disposal Site A (70 ft. deep) is evidence of the lack of sediment transport in relatively shallow water. Some geologists comment that sand placed deeper than 30 feet is not likely to move directly onto the beach. The uncertainties about the actual fate of disposal material raises concerns about alterations to various physical components of marine habitats, such as alterations to depth in a given area and changes in the structure and shape of the bottom. The

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93. Long-term use of the deep water site would likely impact Dungeness crab resources to some extent. Site specific impacts to crabs and other resources may be further evaluated during site monitoring, pending input from the Ocean Dredged Material Management and Monitoring Task Force.

94. This area has been eliminated from consideration.

95. The North and South sites have been eliminated so the comments regarding nearshore transport are no longer applicable.

modeling scenario calls for limiting sediment accumulation in the offshore portion to 5 feet per year. This could result in several feet over the 50-year life cycle of the disposal site. There is no indication what the total vertical

95 (con't) accumulation would be over the 50-year life cycle. Marine habitats in the deeper portions of the sites will likely experience long-term or permanent alterations due to the lack of sediment transport. It has not clear how long-term bathymetric and structural changes over a broad area will effect the biological community.

4. Dispersive or "Thin-layer" disposal concerns:

"Thin-layer" placement of disposal material was promoted by the USACE during Working Group sessions as a means of preventing impacts to crabs. This assumption is based on an earlier lab study in which adult crab in hard-shell condition survived burial up to 20 cm (7.9 inches) of accumulated sediment, and that the resulting layer from a single dump could average 2.5 inches in vertical accumulation. The recent Battelle study demonstrated high percentages of mortality for softshell crabs when buried under 4 or more inches of clean sand, depending on the size of the crab. No field tests have been conducted off MCR to determine if the dredges are capable of delivering the disposal material with such precision that the resulting per dump mound is below the lethal limit for crabs (as determined by the Battelle study). Instead, a computer simulation model is determining the fate of dredge material. According to the FATE computer model, a single disposal can result in mound heights between 2.5 and 9 inches. Attempting to determine the exact amount of sediment accumulation lethal to crabs is irrelevant if it is not possible to control the vertical accumulation of sediment. Even if the model is reproducible in the field, it is still inadequate. Resulting mound heights would have to be consistently small to ensure minimal impacts to softshell and juvenile crabs.

96. The Working Group requested a field test of "thin-layer" application prior to the adoption and initiation of a thin-layer disposal management plan because of concerns for the potential magnitude of resource impacts that could result given the extensive areal coverage required for thin-layer application. To our knowledge, no tests have been conducted off MCR. Yet, according the draft EIS, the USACE has developed a management strategy that includes "thin-layer" placement of dredge material. Although the USACE originally presented "thin-layer" to the Working Group in the context of minimizing impacts to crabs and reducing navigational hazards, there is no reference to the former in the disposal modeling strategy presented in the draft EIS. Instead, the strategy specifically refers to managing mound height for ensuring safe navigation only. If resource impacts are not a primary focus in the disposal management plan, there is no assurance that resource impacts will be avoided.

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96. Thin-layer disposal is no longer being considered for the proposed project.

In general, ODFW finds the Management Practices outlined in the Management Plan (Appendix H, Volume 1, Technical Exhibit G) to be vague and non-committal to a particular disposal regime. As the Plan states, "*it may be possible to regulate vessel speed to control sediment accumulation*", yet, precise control of vessel speed is the main premise on which the FATE model and thin-layer placement is based. There is also mention of allowing mounding as an option in the deeper portions, yet the capacity and enormous size of the sites were precisely calculated and proposed based on thin-layer placement throughout the entire site (Appendix H, Exhibit B, Vol. 1, Section 6). There is also no indication as to what the total per dump vertical accumulation amounts will be. Allowing sediment to accumulate in the deeper portions of the site contradicts the implied management prescriptions stated elsewhere in the DEIS. In addition, ODFW finds that the Management Practices as outlined in the Plan do not support the general Management Goal of *"no unacceptable harm to the ecosystem or resources"* nor the specific goal to "*.... minimize adverse environmental effects during the specific disposal event*".

96. (con't)

Given the lack of supporting evidence for appropriate management of "thin-layer" disposal off Oregon, the lack of a specific management plan, the expected impacts of dredge material disposal on marine habitats, marine resources and economic potentials, plus the huge areal extent of the North and South Sites, ODFW is convinced that "thin-layer" disposal methods are not compatible with the marine environment off Oregon and should not be employed by the USACE.

B. Recommendations for Alternate Sites

1. Benson Beach:

ODFW fully agrees with Washington Department of Fish and Wildlife (WDFW) that the best disposal option for MCR dredged material is placement on Benson Beach, WA. adjacent to the north jetty where severe erosion has occurred. This option is the best example of beneficial use of all sites proposed. Use of the site would either involve pumping material directly from the hopper dredge to Benson Beach or placing dredge material in a temporary in- estuary sump using the hopper dredge and piping the material from the

97. sump to Benson Beach. Rehandling of the dredged material will probably result in additional mortality of crabs, but the loss would likely be offset by the protection of crabs, marine habitats and commercial fisheries from disposal impacts in the nearshore or offshore. ODFW agrees with WDFW that this would be an acceptable trade-off. The actual impacts to crabs in the vicinity would need to be determined through USACE sponsored studies and loss of the crab resource would require some mitigation. The costs of such studies and mitigation for this habitat loss will undoubtedly outweigh the costs of biological studies in the ocean and mitigation for 75 square miles of ocean

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97. Additional information on Benson Beach has been added to Appendix A. Corps guidelines require a non-federal entity to pay the incremental costs associated with direct placement of material onto Benson Beach. The State of Washington, WDNR, or Washington State Parks would all qualify as viable non-federal sponsors.

habitat. In addition, the USACE should consider the economic savings to the hopper dredge by using a site that does not require great hauling distances or time. ODFW recommends that Benson Beach be considered a priority disposal site.

2. Site E:
Expanded Site E as the second priority disposal site. Expanded Site E may have the capacity for 2-4 mcy per year. Portions of the expanded site are said to be highly erosive and facilitate sediment transport. These are desirable
98. features for nearshore disposal. The drawbacks to this site are the inevitable impacts to softshell crabs and conflicts with the commercial crab fishery. ODFW supports the use of Site E provided the following conditions are met: ongoing coordination with commercial crab fishers to avoid gear and vessel conflicts, no disposal in the expanded portion of the site after August 15, and mitigation for loss of crab resource.

3. Offshore Site:
ODFW supports small, confined offshore (250-300 ft. depth) disposal sites as fallback sites to the Benson Beach site and Site E, should capacity at these inshore sites be reached. The offshore candidate site 8 proposed during the Working Group sessions was endorsed by commercial crabbers and bottom fishers as an area of low impact to commercial fisheries. Working Group members were in close agreement in their evaluation of the site that most impact concerns were low, although concern was expressed over the loss of sediment to the littoral zone and potential impacts to the benthic community. Benthic productivity may be higher in this area and would sustain adverse impacts. However, the NMFS benthic invertebrate studies referenced throughout this DEIS did not collect data from beyond depths of about 260 feet, so invertebrate assemblages and densities have not been determined for deeper offshore areas. Potential impacts would need to be determined with field surveys prior to final site designation. Nevertheless, the amount of marine habitat subject to adverse impacts in a small, deep (250-300 ft.) offshore disposal site would be a hundred times less than in the expansive, 75 square miles of marine habitat slated for disposal in the proposed north and south sites. Rejecting potential offshore sites prior to determining impacts is premature.

99.
According to the DEIS, candidate site 8 was removed from further consideration by EPA and USACE because of its apparent close proximity to a shale area, although the exact location of the shale area was not known at the time sites were proposed and is still not known. The Group recommended that a survey be conducted to locate the area before accepting or rejecting the offshore site. No survey was conducted and candidate site 8 was rejected without sufficient information.

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98. The Ocean Disposal Working Group developed a specific management objective for the use of expanded site E. We will manage the site in conjunction with these points. The Ocean Dredged Material Management and Monitoring Plan has been revised to reflect this.

99. The Corps and EPA have fully considered the concerns of the Ocean Disposal Working Group and have reduced the size of the site and moving the deep water site further offshore.

99. (con't) No ocean disposal site will escape impacts. There are trade-offs made by sacrificing one part of the marine environment to protect another. The obvious solution is to choose a site where impacts are minimal and contained in a small, manageable area. Small, deep, offshore sites will minimize the geographic extent of impacts to marine resources, and thus minimize the quantity of marine life sacrificed to disposal. ODFW fully supports the designation of one or two small, confined offshore disposal sites such as candidate site 8 and another site at similar depth and substrate (excluding the Astoria Canyon) where resource and commercial fishing concerns are low. Commercial fishers support the use of candidate site 8 because it is an area of low catch rates and fishers agree that a relatively small disposal mound footprint in this area would be tolerable. The appropriate method of disposal for offshore sites is "pin-point" disposal, allowing material to mound to a height that does not impede safe navigation.

100. In summary, a management plan that relies primarily on Benson Beach and Site E (given the above mentioned conditions) with offshore sites as backup sites, could be economically feasible for the USACE, would minimize total impacts to biological resources, and would provide a beneficial use in the form of beach nourishment to Washington's eroding beaches. Candidate site 8 is beyond the USACE 4-mile ZSF, but is no further from RM 0 than the northern boundary of the north site or the southern boundary of the south site so costs of running the dredge to the site are not unreasonable. Also, costs incurred by travel time of the dredge to an offshore site would likely be offset by the savings accrued from the short travel distance to the temporary sump near Benson Beach and to site E. Although total dredging costs may increase due to rehandling of material, economic constraint should not be a limiting factor in designating offshore sites. The offshore site provides a good fallback site to Benson Beach and Site E if capacity is reached at these sites.

C. Additional comments on Draft EIS, Working Group Process, and Biological Research:

Monitoring Plan (Appendix H, Volume 1, Exhibit G)

101. The Monitoring Plan references studies from 1986 in which it was determined that extensive data gathering did not prove beneficial to the site monitoring process because of difficulties in determining adverse effects. This notion does not necessarily hold true today. New technologies are available that allow for discrete monitoring of disposal sites and have been used successfully by USACE in other regions. Two such technologies are Sediment Profile Technology and Laserline Scanning, both are innovative, effective tools that were developed for accurate and quantifiable measurements of the biota at disposal sites and are ideal for pre-survey and post-survey comparisons. ODFW recommended that USACE consider these monitoring options for evaluating impacts in our May 8, 1998 letter to USACE commenting on 1998 disposal site options. ODFW again, recommends

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100. Benson Beach would not be economical for the Corps to use as a disposal site. Further, it would require a non-federal cost-sharing partner that has not been identified. Use of Benson Beach would not preclude the need for an ocean disposal site. Additional information on Benson Beach has been added to Appendix A. The opportunity for direct placement onto Benson Beach is available to any permit applicant under Section 404 of the Clean Water Act.

101. The Corps and EPA have agreed to pre- and post-construction assessment monitoring in addition to the formation of a task force to aid in management decisions for using the site. The Corps and EPA will consider input from the Task Force on pre- and post-construction assessment studies.

that new technologies, as well as other contemporary field surveys be considered for discrete monitoring of disposal sites.

The tiered monitoring approach adopted by USACE and used primarily to monitor the behavior of disposal material eliminates all monitoring of biological resources until a dramatic change in bathymetry is shown (5 foot bathymetric increase over 50% of the site). Tier 1 only looks at bathymetric changes. If there is no significant mounding (5 feet over 50% of the site), then no additional monitoring would be forthcoming. Under the tiered approach, it is highly unlikely that a biological change would even be noticed and it is unclear if a biological assessment would occur without some other evidence of an impact. In essence, the USACE Management and Monitoring Plan has no mechanism for determining that a biological resource is at risk until the impact is severe enough to be noticed without directed effort.

101. (con't)

The tiered approach also requires that "quantitative changes in the resource or other indicators be predetermined and testable". Obviously, the mechanism required for this is pre-disposal monitoring. Yet, the Monitoring Plan includes no gathering of baseline data, no pre-monitoring to quantify and qualify resources, and no mid and post-monitoring to assess the status of the resources. Under the Plan, not until a resource is in serious jeopardy and discovered through some external mechanism, such as commercial fishing, would an impact even be suspected. ODFW finds the Monitoring Plan unacceptable. A specific pre-, mid- and post-disposal monitoring plan for biological resources must be developed for any and all offshore disposal site regardless of bathymetric changes. USACE should coordinate with resource agencies and academia to develop an effective, comprehensive monitoring plan.

Marine Protection Research and Sanctuaries Act (MPRSA), Section 103 Evaluation

102. ODFW finds the MPRSA, Section 103 Evaluation drafted by the USACE for the new ocean disposal sites inadequate. Contrary to the determinations outlined in the Evaluation, the new sites have not been adequately evaluated for the effects of dredge material disposal, the new sites do not meet the EPA's 11 specific and 5 general evaluation criteria, and adverse impacts on commercial fishing and living marine resources are likely, given available information.

Overlay and Site Evaluation Process

103. The USACE assembled a Working Group of state, local and federal agencies and local fishers to contribute resource information and to recommend potential candidate disposal sites. It was ODFW's belief that the USACE began this process in good faith by bringing to the process the expertise and knowledge of agencies and user groups in an effort to choose new ocean disposal sites that would minimize environmental and economic impacts. Having reviewed the EPA/USACE proposed disposal sites and DEIS, it is apparent that the relevant information and knowledge brought to the process are not reflected in the DEIS or in the choice of proposed sites. Events relative to this discussion are presented in the following paragraphs (a-c).

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102. The Section 103 Evaluation has been revised and evaluates the sites selected by the Ocean Disposal Working Group using the MPRSA criteria.

103. The final EIS has been revised to better reflect the process that was used in site evaluation and selection. The results of the working group and the information provided by the group have been incorporated into the FEIS and Appendix H.

(a)Candidate Sites and New Site Designation

Working group members were asked to draw candidate disposal sites on a map. Some areas were drawn to symbolize an "idea" of a disposal site, not necessarily to be taken at face value. EPA and USACE assured the group they would have an opportunity to alter or remove candidate sites. EPA also assured the group that the final sites would likely be some area within the candidate sites and would not likely be the whole candidate site. EPA and USACE then created the new sites by combining two or more candidate sites, thus making them larger than the original candidate sites. Additionally, the New South site includes candidate Site 5, a controversial site that was rated highest for actual and potential conflicts by the group. This site should not have passed the EPA site evaluation criteria. The group was informed that once candidate sites were chosen, no new areas would be considered. EPA and USACE then incorporated into their new sites, large areas not previously included in any original candidate site and justified these additions by making the determination of "no known limited resources". This contradiction to the site selection/evaluation rules has undermined the evaluation process and the effort of group participants. Equally disconcerting was that the new sites were proposed prior to the commencement of the *full* crab study and even prior to the completion of the pilot study, which was to be a key piece of information in the site selection process.

103. (con't)

(b)Information not available during Site Selection Process

Throughout the Working Group sessions, a 20-year life cycle for ocean disposal sites was implied. Not until the release of the DEIS was it evident that the sites would have a 50-year life cycle. The Working Group was not informed of the size requirements of the sites for either the 20 or 50-year life cycles during the many months of the Group's participation. The DEIS mentions that the results on site capacity were developed for the Working Group, although this information was never presented to the group. The statement should be removed from the EIS (Appendix H, Vol. 1, Section *5, Hypothetical Capacity for Dredged Material Disposal within the MCR ZSF)*. The group was also not aware that each new site would be expected to accommodate the total volume of disposal material in the event that one site or the other was no longer available. These important site requirements, had they been communicated to the group, might have made a difference during the Group's initial mapping and selection of candidate sites.

(c)Juvenile flatfish nurses areas

The USACE requested that group participants provide information on areas of biological significance. Fishermen and to a lesser extent, ODFW, provided information on juvenile flatfish rearing areas. This information was then removed from further consideration during EPA/USACE

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evaluation under the guise that nursery areas are not a limited resource, disregarding that a specific area off the MCR was mapped for having high concentrations of juvenile flatfish, and that the nursery area off MCR contributes significantly to the local population. Nursery and spawning areas are specifically listed in the EPA/USACE Eleven Specific Factors for Ocean Disposal Site Selection. This biological resource information is crucial to the Site Designation Process and should not be removed from the EPA/USACE evaluation process. The 1978 USACE report on the effects of dredging and disposal (Tech. Report DS-78-5) states "Disposal
103. (con't) sites should be located so as to avoid sensitive or critical habitats such as fish spawning or nursery grounds". ". In addition, new fish habitat provisions under the revised Magnuson-Stevens Fishery Conservation and Management Act consider nursery areas of federally managed commercial fish species "Essential Fish Habitat". The flatfish species that utilize the nursery area off MCR are federally managed. Under the Essential Fish Habitat provisions, federal agencies are required to consult with the Secretary of Commerce for federal actions that may adversely affect essential fish habitat. We have found no record of this consultation within the DEIS. ODFW considers nursery areas as critical habitat, especially the area off the Columbia River that is known as one of the most important flatfish nursery grounds in the region. ODFW is strongly opposed to creating disposal sites in this nursery ground and eliminating its consideration from the disposal site evaluation process.

Lack of sufficient biological data for site selection

A limitation in the site selection process has been the lack of current and accurate biological and physical data for the ocean off MCR. In order to find a disposal area of least biological impact, thorough biological assessments are needed. The only study referenced in the DEIS for impacts to demersal fish is now 24 years old (Durkin and Lipovsky, 1977). Several sampling limitations are noted in the report that limit the interpretation of the results with respect to disposal impacts on fish. Yet even with these limitations, it was determined that dredge disposal
104. caused a reduction in number of species, numbers of individuals, size of fish and prey species consumed. Recovery of fish took several months. This study should be repeated to account for current dynamics in fish populations off MCR and to correct for sampling problems and limitations encountered in the 1974 study. Furthermore, additional biological studies should be conducted to determine the survivability of fish affected by changes in prey species (due to disposal events) off MCR. New studies will provide baseline information that will facilitate biological monitoring in subsequent years that will help mangers to differentiate between environmental factors and ocean disposal impacts, as well as to determine the long-term implications of ocean disposal.

Biological assessments are needed for proposed disposal sites and the surrounding area prior to the designation of sites to ensure dredge disposal will not create unexpected impacts. This should include determining the distribution and density

Corps of Engineers Response

104. We disagree. We believe there is sufficient data to characterize the offshore area biologically. This information combined with the overlay information used in the workshop site evaluation process, aided in selection of suitable sites. We have agreed to conduct pre- and post-construction assessment surveys and seek input from the Ocean Dredged Material Task Force in the Corps/EPA decision-making process on Management and Monitoring of the ocean disposal sites.

of bottom fish, benthic and epibenthic invertebrates, and quantifying marine habitats at a biologically meaningful scale within and around the proposed disposal areas. It is imperative that adequate information on marine resources be gathered prior to the commencement of ocean disposal projects and monitored for changes during the life cycle of the disposal sites.

Appendix H, Vol. 1, Technical Exhibit F: Dungeness Crab/Flatfish Research

Exhibit F describes an effort to investigate methods for conducting laboratory research to examine disposal impacts on Dungeness crabs. The pilot studies alone do not provide sufficient information to evaluate dredge disposal impacts on Dungeness crabs, but does indicate the need for improved studies. Problems encountered while initiating the pilot project were unforeseen. It is to the USACE's credit that a trial project was begun prior to the release of the draft EIS. However, the pilot studies were not consistent with what had been planned and accepted by the ad-hoc crab study design group. The teleconference planning session of the group, in which study criteria were developed, was not included in any documents pertaining to the study, nor were the conference notes distributed to group participants. The draft research plan was also not distributed to the group prior to the commencement of the study, as the USACE indicated. The crab industry representatives originally included in the group were excluded from the study design process. Their experience and knowledge of crab was needed and expected. Some of the comments in the list below refer to recommendations made at that meeting.

105. Comments on Crab / Flatfish Impact Study Design (at Battelle)

The following list includes needed modifications to the study design.

a) four size groups, not three as stated in Exhibit F: < 50mm; 50-100; 100-150; >150.

b) Tank size was too small and needs to be increased. Crabs need the opportunity to move laterally during the dump episode and the sand dumped needs to fall through more distance prior to hitting the bottom to simulate actual disposal.

c) Transparent tanks were not utilized so observing specific behavior was not possible. Transparent tanks are a key element in qualifying the impacts.

d) The pre-dump sediment depth of 3 inches was inadequate, 12 – 18 inches was recommended.

e) The maximum test dump accumulation of 10 inches was inadequate, 12 inches was recommended.

f)Very limited data on the flatfish study was reported. The follow-up study should include more than one dominant species and size group to adequately represent the juvenile population found off MCR. Physiological and behavioral impacts should be determined in addition to physical impacts. Responses in relation to light levels should be included, as this is a key element in avoidance responses.

g) Sediment used in the tests must match that of the dredging areas. MCR sand will behave differently than the dry, clean quartz sand used in the Battelle study. The author of the Battelle study noted the difference between the sand types and described the test sand as "hour-glass" sand that slipped easily through the fingers

Corps of Engineers Response

105. We recognize the limitations of the pilot study. Input on the need for additional crab and flatfish burial studies will come from the management and monitoring task force. The design of any additional studies will be coordinated through the task force.

and should be easily penetrable by crabs. It is imperative that the sediment characteristics in the tests replicate all the characteristics of MCR and upriver sediment. Using dredge disposal sediment for the dump test is the simplest and best solution. The pilot test results indicate the need for designing a wet sand delivery system.

h) Dump times need to be standardized; the delivery system modifications should help.

i) Increases in predation on small crabs moving into the water column in response to disposal needs to be examined, possibly by adding predatory fish to the test tanks.

j) Sample size and numbers of controls per treatment were inadequate and must be increased to meet statistical requirements.

k) At least 3 replicate treatments are needed for variance estimates in statistical analyses (a treatment category is: crab size X disposal depth X duration of dump).

1) Food items offered should be representative of that found off MCR.

1) Cancer gracilis is not a good proxy for Cancer magister. C. gracilis prefer somewhat muddier areas than C. magister and require higher salinities.

m) Quantitative physiological measurements are needed to assess sublethal impacts.

n) Determine conditions that induce burial activity. Do recently molted crabs bury more than hard shell crabs? Do diel cycles affect crab activity? Bottom currents?

105. (con't)

The Scripps Study: The report presented in the draft EIS is very brief and does not provide enough detail to allow for critique of the study. However, some obvious limitations are apparent. The tests at Scripps used the wrong shell condition of crabs and only one size category, therefore, it tells us nothing about disposal impacts on the vulnerable softshell stages of crabs. The Scripps study does suggest that that there are impacts even on large, hard-shelled crabs. The deep tank system is superior for simulating a dump scenario and the facility seems suitable for further tests. The methods description, and possibly the methods themselves are incomplete: e.g. the sand (grain size, etc.) used, number of replicates, acclimation of crabs prior to testing, use of control animals, determination of physiological and behavioral changes due to disposal. A method to deliver a wet sand slurry similar to actual disposal conditions needs to be devised.

Summary and Recommendations of Crab and Flatfish Research

The preliminary write-up of the work at Battelle reflects a competent approach to this type of work, although system modifications would be required of this lab to perform an adequate crab study. The Scripps facility may be easier to modify, but other factors (logistics, crab supply, oversight) may be more difficult.

The two pilot tests suggest significant impacts on Dungeness crabs of all sizes and shell conditions. The usefulness of these tests is to provide direction for a comprehensive study.

Corps of Engineers Response

In addition to lethal impacts, the follow-up study should include examination of biological and ecological impacts, such as, physiological changes, mating disruptions, feeding disruptions, changes in prey dynamics, and changes to habitat structure that provide shelter/refuge for small crabs. The complexity of such a
105. (con't) study and the research expertise needed warrants contracting out the entire study, including the study design, with research biologists familiar with behavioral and physiological research and statistical approaches. State and federal agency biologists should have the opportunity to comment on the study objectives and design prior to commencement of the study, and to interact freely with the contract researchers. A completely independent, peer reviewed study would greatly increase the credibility of the study.

Adequacy of benthic invertebrate summary report.

The Hancock Report in Appendix H, Volume II did not depict the complexity and dynamics of the benthic communities as reported in the several studies that this document summarized. The Report does not include data from the original reports that are relevant to the current disposal project (e.g. the beam trawl data from Richardson and Carey, 1977, and crab density data should be in the epifaunal section 5.2). Other relevant information not included in the report include limitations of the data, data on unique habitats, locations of unusual abundance of a species, potential impacts to resources, and differences between data sets that effect comparisons.

106.

Although we did not have the staff resources to review all reference materials, we noted that the NMFS 1992, 1993, and 1994 benthic infaunal studies (Emmett, et. al., 1994), (Emmett, et. al., 1995) and (Hinton, et. al.,1996), respectively, were inadequately summarized in the Hancock Report. The report did not comment on the shallow water sampling stations north and south of the River had high densities of invertebrates, or the unusually high density of razor clams and other species at some sampling stations. Also not included in the summary were the author's discussion on fluctuations in invertebrate abundance effecting fish and shellfish populations, and comments that variations in the standing crop of invertebrates could be important to juvenile crabs since this is their primary food source. The Hancock Report mentions that physical parameters are important to biological fluctuations, but does not cover the full range of issues reported by the authors, such as the effects of sediment grain size, percent silt/clay, and frequency of disturbance. These points are also important considerations in the assessment of disposal sites. The limitations of this report should be noted the FEIS.

D. Concerns Regarding Channel Dredging and Disposal Options

Habitat Evaluation Procedure (HEP)

ODFW participated on a technical advisory team in a USACE-sponsored HEP along with representatives from Washington Department of Fish and Wildlife, Washington Department of Ecology and the various ports (project sponsors) to

107.

Corps of Engineers Response

106. The Hancock report represents the summation of information of benthic invertebrates as requested by the Ocean Disposal Working Group. The scope of the summary report was designed and agreed to by the working group (see meeting minutes October 22-23, in Volume II, Appendix H). It is recognized that a summary report of this nature would have the limitation noted in your comment. The current proposed sites has been revised and the actual data collected in 1992, 1994, and 1996 sampling was used in the selection process not the summary report.

evaluate wildlife habitats that would be impacted by dredge disposal. HEP analysis provided data that resulted in adjustment of dredge disposal sites to avoid impacts. It also influenced USACE decision to stack dredge spoils versus expanding areas of disposal. Some 13 new dredge disposal sites were added in Oregon including agriculture, wetland and riparian habitat that provide habitat for a number of wildlife species especially Canada geese and waterfowl. These species and habitats required mitigation via the HEP process.

Results

Mitigation analysis using the HEP process shows all species regain or exceed the maximum Habitat Suitability Index (HSI) values associated with the pre-project disposal sites. Replacement ratios were a) 6:1 for agricultural lands, b) 9:1 for wetlands and c) 6:1 for riparian lands impacted by dredge spoils. ODFW believes the HEP process served well to outline amounts and types of habitats that require mitigation. The HEP Team noted, however, some discrepancies in baseline information assumptions made by USACE and agreed to by HEP Team members that should be verified by ground truthing to ensure their validity. These discrepancies arose from USACE shortcuts in the HEP study that unfortunately made the HEP results unreliable. For example values USACE assigned to forested agricultural habitats may be incorrect and may ultimately provide less (or more) habitat mitigation units than are necessary. ODFW believes these discrepancies will be insignificant because USACE predicted rates of habitat recovery are generally conservative. That is, we believe rates of recovery will actually occur more quickly than USACE models predict. However, because mitigation decisions cannot be made with the existing HEP results and to ensure such compensatory mitigation will occur in a timely manner, Washington Department of Fish and Wildlife (WDFW) ODFW, US Fish and Wildlife Service (USFWS) identified two acceptable options that will prevent untimely delay, keep the process moving ahead and protect fish and wildlife:

108.

1. Complete the HEP analysis. Collect data to represent all habitat types and reanalyze current and future conditions based on changes in individual habitat parameters. This can be completed during the preconstruction engineering and design (PED) phase of the project.
2. Without the ability to quantify impacts and mitigation benefits, ODFW could only endorse a mitigation proposal if it clearly provides enough mitigation benefits to offset the probable resource impacts associated with the dredge disposal project. Based on the upland resource impacts expected, ODFW would accept a mitigation proposal that includes Burke Island to the mix of mitigation sites associated with any selected disposal sites. This modified mitigation package will protect wildlife along the lower Columbia River due habitat impacts from the proposed Columbia River Channel Improvement. The final EIS should reflect this change.

Corps of Engineers Response

107. Comments noted.

108. The Corps will complete the HEP analysis in the PED phase (Option 1). Please see the addendum to the wildlife mitigation plan (Appendix G) for further clarification.

Willamette River Sediments (DEIS pg. 2-15, 4-36)

The Willamette River will be deepened approximately three feet from its mouth upstream about 11 miles to near the Broadway Bridge. We understand 1.2 MCY of sediments from the Willamette River will be dredged. All of this material is scheduled to be disposed of in-water with ½ going to the in-lane disposal in the Willamette River and ½ to the Columbia River near its confluence with the mouth of the Willamette vicinity Morgan Bar. This bar is an historical USACE dredge disposal site. The bar already shows elevated levels of contaminants. The DEIS indicates USACE plans to spread more of these contaminated sediments onto the bar. The DEIS fails to adequately address contamination of fauna that could result from dredging Willamette River sediments. The river's sediment health is poorest in the Portland Harbor (the reach between the Broadway Bridge and the mouth). Here, elevated levels of arsenic, DDT, DDE, PCB dioxin, and several trace metals exceed U.S. Environmental Protection Agency draft sediment guidelines. These materials also contain low levels of organochlorine compounds that may pass screening levels and are approved for flow lane disposal in the Willamette River and Columbia Rivers. Based on this data, ODFW remains concerned about disturbing these contaminated sediments, spreading them over a larger area and thereby making them more bioavailable.

109.

In other studies sediments are linked to bioaccumulation. (Biota-Sediment Accumulation and Trophic Transfer Factors for Extremely Hydrophobic Polychlorinated Biphenyls. Keith A. Maruya and Richard F. Lee, Skidaway Institute of Oceanography, April 1998). More locally, heron eggs sampled from Ross Island rookeries showed higher levels of DDE, PCB and Dioxins than elsewhere in the basin. Willamette River sediments are likely the origin for these contaminants. USACE sponsored studies undertaken by USGS to look at bottom material quality and elutriates in the Willamette River. This information was used to determine that sediments in the river, in most cases, do not exceed USACE screening levels. Based on these studies and a Puget Sound sediment model, USACE considers these sediments safe for flowlane disposal. Such studies, however, fail to evaluate effects on fauna. Specifically, these studies are silent on higher trophic levels of contaminant transfer in the food chain.

Most contaminants in the Willamette River attach themselves to sediment particles and are transported wherever the sediment is moved. The Willamette River has much lower water velocity and finer grain sediments than the Columbia River. Thus, Willamette River fine sediments deposited in the Columbia River are rapidly dispersed and transported until they reach slackwater or the ocean. Dredging, as proposed in the Willamette River, is therefore an activity that will disturb streambed sediment, and move attached contaminants into shallow areas, tide flats or other depositional zones along the Columbia River. In these depositional areas contaminants will become available to aquatic food chain organisms. Many of these contaminants will likely bioaccumulate in higher food chain organisms such as fish, otters, herons and eagles where they cause acute

Corps of Engineers Response

109. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remedition planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging and disposal activities. This includes the development and design of appropriate management strategies to assure the biological integrity of the system consistent with all state and federal laws and regulations. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

(reproductive) abnormalities and chronic more subtle effects endocrine system effects. These very low concentrations could effect fish and wildlife during sensitive life history stages. Such human caused releases of these sediment contaminants clearly threaten immune and endocrine system function and long term survival of smolt salmonids including candidate and listed species such as steelhead, coho salmon and spring chinook salmon.

109. (con't)

Most highly contaminated areas in the Willamette River are in shoal areas outside the proposed dredge channel. USACE proposes to avoid dredging in these most contaminated shoal areas of the river. However, the channel sediments are also contaminated. Deepening the channel will likely accelerate erosion and slumping of contaminated areas into the channel thus exposing contaminants to the environment making them more bioavailable. These contaminants will likely be picked up and immediately mobilized into fauna during initial dredging and during the 50-year life of the project.

Turning Basins (DEIS pg. 4-60 to 4-61)

USACE also proposes deepening vessel turning basins at WRM 4, WRM 10 and creating a new turning basin at WRM 11.7. In order to achieve the benefits of channel deepening, USACE also plans to deepen six wheat, corn and barley exporting facilities in the Portland Harbor. A recently completed DEQ-EPA study of river sediments found contaminated sediments in shoal areas and shipping berths from WRM 3 to WRM 9 at Swan Island. DDT and TBT, PAH and lead were broadly distributed but concentrated near boat moorages and sand blasting areas near boat repair facilities. ODFW is concerned USACE sediment analysis did not fully consider new information derived from the DEQ-EPA study. This study indicates new areas of contamination near the channel which USACE dredging could disturb especially through turning basin creation and maintenance. Specifically, ODFW has the following concerns about USACE analysis of sediments:

110.

1. The DEQ-EPA river mile numbers do not compare directly with those of the USACE. USACE used a different starting point to designated river miles so they do not line up with those of DEQ-EPA. This difference makes comparison of DEQ-EPA and USACE data confusing.
2. DEQ-EPA was looking for source areas for the contaminated sediments so their study was confined to shoal areas and did not extend to the shipping channel. Consequently, there is no indication of how far out into the shipping channel contaminated sediments extend from the shoal and berthing areas.
3. DEQ-EPA study found highest concentrations of contaminated sediments in the shipping berths. This is where USACE plans to dredge.
4. USACE sediment sampling found elevated pesticide levels and lead at WRM 11.5. At this location lead was detected at 489 PPM. This is the location where USACE plans to dredge a new turning basin.

Corps of Engineers Response

110. See response #109.

5. USACE and DEQ-EPA study found heaviest petrochemical contamination near the old coal gasification plant (GASCO) near river mile 6.2 to 7.5. At this location contaminants likely extend into the shipping channel. Contamination is covered by DEQ-EPA at other shoal areas also extend into

110. (con't) the channel, but there is no data to show this shoal-channel contaminant connection.

6. USACE sediment samples in the channel did not have quality assurance so sample quality cannot be substantiated. Therefore, the results are questionable.
7. The DEIS suggests Willamette River sediments could be deposited in the proposed Willamette River sites, then recapped. Disposal in or along the Willamette River corridor does not ensure the material will remain encapsulated. For example, over 5,000 cubic yards of contaminated dredge spoils were recently inadvertently released back into the river at Ross Island disposal site. Floods and such accidental excavation of disposed dredge material may remobilize toxins into the environment and make the bioavailable via the food chain. Therefore, the final EIS should evaluate risks associated with confined in-water disposal at Ross Island.

Flow Lane Disposal in Sturgeon Habitat (DEIS Pg. 4-13, 4-36)

Impacts in the estuary and in the river channel, as proposed, could adversely impact fish and wildlife habitat especially, sturgeon habitat. Flowlane disposal at depths greater than 65 feet could impact benthic invertebrate populations in areas known to be frequented by juvenile sturgeon. These larval and young of the year white sturgeon would probably be most affected by disposal of dredged material in the flowlane disposal areas. Most likely these sturgeon would be buried in the sediments and die.

111.

White sturgeon may use deeper areas of the river for rearing and feeding. In the Columbia River downstream from Bonneville Dam, juvenile white sturgeon less than 800 millimeters in length typically feed on benthic invertebrates, particularly Corophium salmonis. It is uncertain whether these deeper areas of the river contain a greater abundance of benthic invertebrates (food for sturgeon) and therefore attract juvenile sturgeon. However, these young sturgeon do use these deeper areas for feeding and rearing. Such larval and small young-of-the-year sturgeon would probably be most affected by disposal of dredged material in flowlane disposal areas because use of these deep-water areas serves as deep water refugia, feeding and rearing. Filling these holes as proposed in the DEIS could jeopardize sturgeon food source and force juvenile sturgeon into more shallow-water habitats where there are potentially more predators. More laboratory research is needed to determine the mechanical impacts of flowlane disposal on white sturgeon.

Corps of Engineers Response

111. A study is currently proposed to evaluate these areas and sturgeon populations. Results of this study will be used to design disposal in these areas to minimize impacts. Also see response #35.

Scappoose Dairy Disposal Site

This comment reiterates comments ODFW's May 13, 1998 comments to USACE regarding our concern about impact of dredge spoils on the Scappoose Dairy site. The site covers 107 acres in Reach 2 of beneficial waterfowl wintering habitat. We believe the site is undesirable for dredge disposal.

Concern

The Scappoose Dairy site receives some goose use even though it is managed to minimize its attractiveness to waterfowl. It is managed in this manner to keep the site from receiving extreme goose damage. The site would have outstanding potential if managed for waterfowl.

112. If, however, the site is used for a dredge spoil site, it would not only destroy its waterfowl potential, it would substantially reduce the value of the migration portion of the property because the disposal site is the portion of the dairy closest to the ODFW, Sauvie Island Wildlife Management Area and the furthest from disturbance caused by a paved road to the west. Moreover, once spoils inundate the area, it will probably no longer be kept as open space and would likely attract development, further foreclosing its use by wildlife.

The Oregon Farm Bureau consistently opposes taking areas out of forage production for wildlife because of the increased damage to adjacent agricultural crops. Accordingly, to lose this area for goose use would be especially critical because it is an ideal location to be managed to significantly reduce crop damage to other nearby Scapoose flats properties. When geese leave Sauvie Island the dairy is one of the first areas they pass by. The site has too much value as a goose mitigation site to help alleviate serious goose depredation problems in the area to support any thought of wasting it as a spoil site.

Finally, the site remains on the USACE disposal site list because it is part of the "least cost alternative" approach to identifying viable spoil sites. The least cost alternative should not always be chosen especially in a situation like this where proper protection of Oregon wildlife resources is at stake.

Recommendations

ODFW recommends the Lonestar rock pit disposal site in lieu of the Dairy site. Aggregate removal created the pit. It is an ideal disposal site except it is not least costly. USACE should not use the Dairy site for dredge disposal. Setting the site aside would help maintain, not permanently foreclose, on the dairy site's important wildlife values.

113. To evaluate the pathways of contaminant uptake in the food chain, ODFW recommends USACE conduct studies to ascertain the connection between

Corps of Engineers Response

112. Comments noted. The Scappoose Dairy site is not being carried forward as either a mitigation or a disposal site in the proposed disposal plan. In order to avoid wetland and habitat impacts, disposal is now proposed for the Lonestar gravel pit.

Willamette River sediments and resultant biomagnification in Columbia-Willamette basin higher food chain organisms. Particular emphasis should be given to finding endpoints for these contaminants. This study should be completed before any dredging of the Willamette River is undertaken. To do this USACE should 1) conduct further sediment sampling in the Willamette Channel
113. near the contaminated shoal areas DEQ-EPA identified and 2) employ passive sampling devices to look at uptake of dissolved particles using semi-permeable membrane devices (SPMD) or caged bivalve studies or other appropriate passive sampling device to examine bioavailability and bioaccumulation potential. 3) Until such studies are completed and risks associated with in-water disposal of Willamette sediments is better understood, ODFW recommends USACE dredged material from the Willamette River not be deposited inflow lanes of the Willamette and Columbia Rivers. Instead this material should be transported to upland disposal sites, sealed and secured so that it will not leach into ground or surface waters.

In-water Blasting (pg. 6-20)

The DEIS discusses the possiblitiy of the need to do in-water blasting for deepening some stretches of the Columbia and Willamette rivers. Any in-water blasting requires a permit from the Oregon Department of Fish and Wildlife. The Department would expect any in-
114. water blasting permit to follow our "Timing of In-Water Work to Protect Fish and Wildlfe Resources". The in-water work timing for the Columibia River is November 1 - February 28. The timing for the Willamette River from the mouth to Willamette Falls is July 1 - October 31 and December 1 - January 31. The Department would also want to see a detailed explanation of the methods which will be used to scare fish from the blasting sites.

Oregon Department of Agriculture (ODA)

The ODA has reviewed the materials and information provided relating to proposals to dredge the Columbia River. Please accept the following comments.

Upland Dredge Spoil Deposition

The department is concerned that dredged materials deposition sites could convert agricultural lands to nonresource use. The deposit of dredged materials onto agricultural lands can render otherwise suitable lands unsuitable for farm use. If compatible materials are applied in small quantities, deposition can be beneficial to agriculture. As proposed, the quantity of material to be deposited is immense. It will not act as an agricultural enhancement nor would it be subordinate to the primary function of the land as agricultural land. In effect, the deposition as proposed would effectively render lands unsuitable for farm use. Such an action would entail the conversion of agricultural land to a nonfarm use.

115.

Please note that the disposal dredged materials is not identified in ORS 215 or OAR 660,

Corps of Engineers Response

113. See our response #109.

114. Concur. Your agency has been involved in development of the blasting plan. A final plan will be submitted to your agency for approval before the blasting is undertaken.

115. As a result of eliminating the Scappoose Dairy site (see response #112), no agricultural acreage remains under consideration for dredged material use in Oregon. The Sauvie Island site has been dropped from further consideration. Land use change concerns were addressed in the response to the previous ODFW question.

Division 33 as a use permitted in an exclusive farm use zone. As such, the use may not be permitted without first justifying an exception to the statewide planning goals. The exception process would insure that alternatives to converting agriculture and forest lands are analyzed and that resource lands are used only if necessary. The exceptions process would also insure that the proposed uses would be compatible with farm and forest operations in the vicinity.

Mitigation Activities

Mitigation proposals appear to focus on wetland issues and/or wildlife habitat. The creation of wildlife habitat can both convert agricultural lands to a nonfarm use and impact farm uses in the area of the wildlife site. Wildlife that are ultimately attracted to
116. such sites can be a nuisance to the operation of a farm and cause damage to crops. Proposed mitigation sites should be evaluated to determine if other sites are available that do not involve agricultural lands or if agricultural lands are needed, if lesser value lands in terms of soil capability are available. Second, any proposed sites should be evaluated for any potential impacts that the development of the site may have on agricultural operations in the area.

Ocean Disposal Sites

Proposed ocean dredged materials disposal sites include two very large areas of the mouth of the Columbia River. We understand that these areas include productive fishing grounds for several valuable commercial fishing species including Dungeness crab,
117. shrimp and groundfish. We are concerned about the possible impacts that the disposal of dredged materials over such large areas could have on the commercial fishing industry in the area. The department recommends that the following commissions be contacted for their comments: the Oregon Dungeness Crab Commission, the Oregon Salmon Commission and the Oregon Trawl Commission.

Economic Importance of the Port of Portland

Finally, we would like to emphasize the importance of the Port of Portland and the movement of commerce on the Columbia River to agriculture. Last year, the value of of the state's agriculture production exceeded 3.5 billion dollars. Eighty percent (80%) of
118. the state's agricultural production leaves the state. Approximately fifty percent (50%) of the state's agricultural production leaves the country. Sixty percent (60%) of the Port of Portland's total tonnage of exports are agricultural products. Any decision involving Columbia River channel improvements should recognize the importance of moving agricultural products and take into account the needs of agriculture to export it's products from the region.

Thank you for the opportunity to provide these comments. If you have any questions regarding our comments, please don't hesitate to contact us.

Division of State Lands (DSL)

Corps of Engineers Response

116. Agricultural lands were identified as potential mitigation sites as their conversion from agricultural purposes to wildlife habitat provides a greater net gain in wildlife habitat units than other land use categories. The development of Sauvie 94 as a wildlife mitigation site should have negligible impact on adjacent agricultural lands as the site is enclosed on three sides by the Sauvie Island Wildlife Management Area and the Columbia River on the fourth. Joslin Property at the upstream tip of Sauvie Island would be developed for wetlands and riparian habitat. Some minor additional waterfowl use on adjacent lands may occur with its development. Some additional waterfowl and/or Columbian white-tailed deer use may occur on lands adjacent to the Webb mitigation site. Waterfowl concerns on private lands typically arise from Canada goose use. The present wintering population of 350,000 Canada geese along the lower Columbia River and in the Willamette Valley, a greater than magnitude increase in wintering geese since the mid-70s, will result in landowner complaints regardless of whether mitigation sites occur on adjacent lands or not.

117. Comment noted.

118. Comment noted.

The Division of State Lands has seven comments on the U.S. Army Corps of Engineers' Draft EIS on deepening the Columbia and Willamette River navigation channels.

119. 1. Due to the contaminated sediments known to exist in the Lower Willamette River, DSL believes that area should be addressed separately through a coordinated process involving all affected federal, state and local government entities. This would allow full analysis of alternatives for removal and disposal of those sediments.

120. 2. DSL is concerned about cumulative effects of channel deepening not addressed in the DEIS: the number of non-Corps dredging projects that will occur to make side channels as deep as the main navigation channel. DSL has already had several inquiries about the permit requirements for such projects.

121. 3. No dredged material should be disposed of in wetlands, in riparian inclusions, or early successional habitat. Wetlands provide important ecosystem functions beyond wildlife habitat, including stormwater filtration and flood control. Historically most of the riparian wetlands in the Lower Columbia River have been filled, or diked and drained. Current emphasis should be on reversing this trend. Further, DSL does not believe the DEIS provides sufficient information about some disposal sites to make informed judgments about wetland impacts and mitigation requirements. For example, there are potential wetland impacts at Lower Deer Island (0-77.0) and Tensillahe Island (0-38.3) not shown in Table 4-4, *Disposal Site Screening Summary.* We recommend that full wetland delineations be conducted on all sites with potential wetland impacts. In addition, some of the material in the DEIS on wetland impacts is inconsistent. For example, Table 4-4 shows wetland concerns at both Crims Island (0-57.0) and Port Westward (0-54.0), but Table 6-1, *Mitigation Requirements and Site Differences,* shows no mitigation requirements at either site.

122. 4. Removal of material from the bed of the Columbia River is exempt from Oregon Removal-Fill Law permit requirements under the navigational servitude. However, deposition of that material on wetlands in Oregon will require a state permit.

123. 5. The bed and banks of the Lower Columbia River and the lower Willamette River are state property. The sale of any dredged material or other use of that material as an "article of commerce" is subject to royalty payments to the Division. However, the Division is willing to consider alternative royalty approaches such as a credit back against the State of Oregon's cost share for the channel deepening project to encourage utilization of dredge spoils for various mining and industrial land reclamation projects.

124. 6. As shown on the map of Reach 7, RM 3-29, most of Rice Island is within, and owned by, the State of Oregon, and its site designation should reflect that fact. As noted in the DEIS, Rice Island is currently the subject of intergovernmental efforts to address the Caspian tern problem there. To be consistent with those efforts, the Division does not believe any further disposal should occur on Rice Island.

Corps of Engineers Response

119. See our response #109.

120. Port dock areas scheduled for deepening are addressed in the EIS.

121. The Corps went through an extensive exercise, to include numerous meetings with the resource agencies, to minimize to the extent practicable, impacts to wetlands and riparian habitat. Location, nature, and mitigation for wetlands has been discussed in a previous response to DLCD. Riparian inclusions are forest fragments left within the boundaries of existing disposal areas. Riparian early successional habitat represents cottonwood trees pioneering onto disposal sites which have not been used for approximately a decade. Avoiding these areas would require a greater disposal focus on agricultural lands or other lands that have not previously been used for disposal purposes. That was not considered practicable. Regarding DSL site specific concerns, we invite a DSL representative to review aerial photographs with overlays of disposal sites or else a site visit. That would remove any questions on wetland inclusion in the disposal sites. The wildlife mitigation evaluation and proposed mitigation actions will more than address wetland impacts and would provide for wetlands with more functional values than those sites targeted for impacts.

122. Comment noted.

123. Comment noted.

124. The site designation for Rice Island, W-21.0, simply reflects that the site is toward the Washington side of the navigation channel. The Corps is substantially involved in the Caspian tern management efforts in the estuary and is a working member of the Caspian Tern Working Group. Caspian tern use of Rice Island has not been predicated upon their use of new disposal areas for nesting activities. Caspian terns have nested on the downstream tip of Rice Island since 1986; no dredged material has been placed at that location since prior to 1986. A number of management measures to preclude Caspian terns from nesting at Rice Island have been implemented in 1999, plus measures to attract them 15 miles downstream to East Sand Island. These actions are being monitored to determine their success. Further, the National Marine Fisheries Service, in their ESA biological opinions for the Dredged Material Management Plan (existing 40' channel) and for the Columbia River Channel Improvement Study, will require implementation of management practices to preclude Caspian tern nesting at Rice Island. The Corps will adhere to that guidance in order to continue use of Rice Island for disposal actions.

125. 7. The Division has sold 80 acres of the Rainier Industrial site (0-64.8) for industrial development. Therefore much of that site will not be available for dredged material disposal.

Department of Geology and Mineral Industries (DOGAMI)

Regarding dredging of the lower Columbia River the Oregon Department of Geology and Mineral Industries offers the following observations. Regarding upland quarry disposal there may be opportunities to pursue creative partnered solutions to possibly solve a number of interrelated problems, particularly in areas like Columbia or Clatsop counties.

Regarding the actual dredging we note that the removal of the sediment from the natural river and coastal beach system probably could aggravate already serious coastal erosion problems in southwest Washington.

126.

1. Upland rock quarries and sand and gravel pits should be considered as possible repositories for the dredged sediments from the Columbia. The sediments could likely be used beneficially in reclamation. Conceivably sequenced mining at a large site could be coordinated with receipt of dredge spoils. The goal could be to restore the approximate original contour at a site rather than a water filled pit (man made lake). This kind of reclamation avoids the concern of the man made lake attracting waterfowl which is a concern in Columbia County. We offer this as a concept having not discussed the acceptability of this with any parties.

   We would suggest that if the Corps consider such a proposal that it is important to work with local government, major mining companies and local citizens to explore whether or not partnered solutions are viable in the County.

   In a general sense it is clear that use of upland sites presents an additional benefit. Use of upland sites allows the Corps to avoid placement of these materials in more sensitive locations such as wetlands. However, if upland sites are to be used as repositories, then it is important that there be assurance that those sediments do not carry contaminants that would only relocate a problem. This type of fill likely would come in contact with ground water or surface water recharge.

2. In the past dredging of the lower Columbia river has produced of 5-6 million cubic yards/year and future amounts could exceed this volume. This puts the annual volume on the same scale as the general estimated offshore drift rate for southwest Washington. . Long term dredging on this scale might truly be a major factor (not simply dams) in the very high erosion rates noted along the Washington Coast. If this assumption is correct, then strategic placement of dredged sediments in beach nourishment areas could offset the potential negative effects of the drift.

Corps of Engineers Response

125. The Corps has confirmed with the Port of St. Helens that this comment actually refers to 80 acres of lands purchased on disposal site O-65.7. Site O-65.7 is not included in the proposed disposal plan. Site O-64.8 remains in the proposed disposal plan.

126. Comments noted.

It is noteworthy that coastal erosion in southwest Washington has become a very serious regional problem in recent years. Any increased removal of river sediments will farther aggravate the problem. Plans for dredge material disposal should be closely coordinated with policy persons in southwest Washington to minimize the problem.

126. (con't)

Disposal options that emphasize properly designed beach nourishment as a priority can minimize the impact of river dredging on the stability of the northwest Oregon Coast.

We note for your information that the presence of headlands along the Oregon Coast and the general northerly drift of coastal sands at the mouth of the Columbia River greatly redcue the impact of river dredging on the stability of the Oregon Coast. Stability problems of the Oregon Coast have other specific causes.

Oregon Office of Energy (OOE)

We have reviewed the DEIS and have two comments related to Appendix B, Section 7.5 - pp 10-11.

1. The statement as quoted may lead the reader to believe that there is evidence that the sediments contain harmless levels of radionuclides. Though it is true that Oregon Department of Energy has commented that the very short half-life radionuclides (less than 2.5 year half-lives) would be effectively gone, this does not imply that there are not other radio nuclides with longer half-lives which may be a concern. The amount of data gathered deep in the sediments in the Columbia River is not sufficient to reach this conclusion. We do believe based on the limited existing data that the bulk of the hazard from radioactive materials in Columbia River sediments is contained in sediments behind McNary Dam. Two studies we sponsored by graduate students at Oregon State University concluded that if the most contaminated of these sediments are dredged and used for fanning that the radiation dose to the exposed farmer(s) might exceed the annual maximum radiation exposure allowed under Federal law. This is a highly unlikely scenario. The contamination of down river sediments should be much lower, but we do not have data to assure that the levels are safe.

127.

2. Oregon was instrumental in the work of the Technical Steering Panel referenced in this paragraph. As with comment one, the statement is true, but incomplete. The levels of radioactive materials released from the Hanford Nuclear Reservation were very large. The majority of hazard during the years of operation came from very short half-life radioactive materials. However, as these have decayed away into insignificance, other nuclides with longer half-lives are of more concern. Some of these were deposited into the sediments of the Columbia River.

3. As with 1. and 2., the paragraphs comment about the position stated by the Oregon Hanford Waste Board is correct but incomplete and may mislead the reader and the authors. The Oregon Hanford Waste Board was concerned about the potential for harm

Corps of Engineers Response

127. Comments noted. Appendix B and Section 7.5 of the EIS have been revised.

from radioactive materials that remain in the Columbia River. After studying the matter, the Board learned that the bulk of these materials are now located behind McNary Dam and are buried under a significant layer of sediment. So long as this sediment is not disturbed, they pose no significant risk. The same is not necessarily true if this sediment is dredged. Additional data is needed prior to such dredging.

127. (con't)

Based on sedimentation mechanisms and the loading of the radionuclides, the Board expected that the McNary pool represents the worst case in the river. However, the Board did not do a large scale examination of the hazards downstream, as most of the sediment dropped out behind McNary.

Immediately following section 7.5, the report follows with Section 8.0, which begins by concluding that the material to be dredged consists of clean sands. We cannot support this statement without additional testing of the downstream sediments.

Oregon Office of the Northwest Power Planning Council

The Oregon Office of the Northwest Power Planning Council offers the following comments on the US Army Corps of Engineers Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement. The Oregon Office offers these comments in the spirit of improving the study and developing the information needed to adequately assess the environmental impacts and potential costs and benefits of the proposed action.

The Northwest Power Act of 1980 established the Northwest Power Planning Council. The Council is charged with developing a fish and wildlife program to "protect, mitigate and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia River and its tributaries." The program, to "the greatest extent possible, shall be designed to deal with that river and its tributaries as a system." (Section 4(h)(1)(A)).

128.

Federal hydroelectric operating agencies are instructed to "exercise such responsibilities consistent with the purposes of the Act and other applicable laws, to adequately protect, mitigate and enhance fish and wildlife, including related spawning grounds and habitat, affected by such projects or facilities in a manner that provides equitable treatment for such fish and wildlife with the other purposes for which such system and facilities are managed and operated." (Section 4(h)(11)(A)(I)). Section 4(h)(11)(A)(ii) of the Act requires the operating agencies to take the Council's fish and wildlife program "into account at each relevant stage of decision-making processes to the fullest extent practicable." A recent federal magistrate's opinion has reinforced the mandatory nature of Section 4(h)(11)(A)(ii) of the Northwest Power Act.

One of the purposes of the Federal Columbia River Power System is to improve navigation on the river. In fact, the federal hydrosystem has created a series of deep-water ports up to Lewiston, Idaho, all of which could benefit from the proposed channel

Corps of Engineers Response

128. Comments noted.

deepening action. The Corps is required, under the NPA, to take into account the Council program for fish and wildlife affected by the development of the hydroelectric projects and by the Acts application to "related spawning grounds and habitat" through potential effects to those fish and wildlife species from the proposed action.

129. Section 7.4 of the DEIS lists the environmental laws and executive orders addressed by the DEIS. The Northwest Power Act of 1980 is not listed in Section 7.4. The DEIS also fails to note how the project proponents have taken the Council's Fish and Wildlife program into account at this relevant stage of decision-making.

130. Several Council program measures directly pertain to the study. Measures 5.7B.20-22 of the program relate to avian predation on migrating juvenile salmonids including Caspian tern colonies utilizing man-made dredge spoil islands in the lower Columbia River.

131. Measure 7.1A involves assessing carrying capacity of the river including an evaluation of measures to protect and improve estuary habitat as well as increase the productivity of the estuary. 7.1A.3 requires the identification of federal, state and local management measures to immediately implement in order to "provide better protection and improve estuarine productivity."

132. Council Measure 7.6A states the Council's Habitat Goal. That goal includes "maintaining the present quantity and productivity of salmon and steelhead habitat." Measure 7.7 incorporates Council policy to develop cooperative habitat protection and improvement with private landowners. Included in 7.7 is a large federal role for coordinating watershed activities with states, tribes and private landowners so that actions are consistent to "achieve comprehensive watershed management." Measure 10.2B.1 applies the habitat protection measures of 7.7 to resident fish species such as sturgeon.

133. Although the DEIS has many components in the study that would address the Council program, the document never specifically addresses how the Corps and the other project sponsors have taken the program into account at each relevant stage of the decision-making process. Without some acknowledgment of the Council's program and the measures relevant to the DEIS, it is impossible to determine whether and how the Corps and other project sponsors have addressed the proscriptions of the Council's 1994 Fish and Wildlife Program.

134. The Council has concerns that the continued use of Rice Island as a repository for dredged materials will cause substantial and continuing impacts to salmonid species migrating through the estuary, the last leg of their journey to salt water. The study describes the environmental consequences of dredged material disposal under the environmental consequences section of the DEIS. The DEIS, however, treats Rice Island disposal under the impacts to wildlife resources section and not as an impact to aquatic resources. We feel the sponsors should acknowledge the biological impacts to juvenile salmonids from the creation of these man-made islands by noting them in Section 6.6.1 Aquatic Resources.

Corps of Engineers Response

129. Section 7.4 of the EIS applies only to laws and executive orders which are directly applicable to the proposed action. As such, we are required to describe how we have complied with, or intend to comply with, the applicable statute. Since the Northwest Power Act was enacted to address hydropower facilities, there would not be any compliance requirement for the proposed navigation channel deepening action.

130. See response #124 regarding Caspian terns.

131. See responses #129 and 133.

132. We have worked with the state and federal resource agencies, private groups and individuals during the design of the proposed project. We have minimized the impacts to species of concern to the extent possible and consequently, have incorporated these Council measures into the project design.

133. We acknowledge the efforts of the Council's Fish and Wildlife Program and the efforts to restore anadromous fish runs to the Columbia and Snake River system. In addition to the report recommendations for minimizing impacts of the proposed action on anadromous species, the ecosystem restoration component further recommends measures to increase habitat and productivity for these species. The participation of state and federal resource agencies and environmental groups, from initial scoping to final review, further illustrates the comprehensive review and coordination involved with this planning study.

134. Section 6.6.1 addresses project-related biological impacts. Additional discussion has been provided on fish impacts. The impacts from Caspian terns and other birds are currently being addressed (see response # 124) with NMFS through the biological assessment. Management actions will be in place prior to implementation of this project.

The study in section 6.6.2.5 acknowledges that Caspian terns and cormorants impact migrating juvenile salmonids. It also notes that proposals exist to provide vegetative cover for the island in an effort to discourage tern nesting and that the conduct of future disposal operations would reflect that management parameter.

135. NMFS' PIT tag detection studies on Rice Island indicate that as many as 40,000 tags lie buried in the sand on the island. Half the tags read come from releases of 1998 tagged fish. Most of these fish are tagged from the Snake River and have migrated through the Federal Columbia River Power System. NMFS' "best" estimate was that in 1997 the Caspian tern colonies nesting on Rice Island consume 14.5 million salmonid smolts, with a "maximum" potential of 24.7 million smolts. The combined total of avian predation in the estuary represents around 20% of all salmonid species that reach the estuary. (October 15, 1998 Memorandum from Herb Pollard to John Palensky).

136. The Oregon Office has concerns that both the least cost and preferred disposal alternatives continue to use Rice Island as a disposal site. With the estimated amount of bird predation, continued dredged material deposits could prolong the problem. Even if the management regime for the island accomplishes the objective of removing the terns, the DEIS on page 6-34 states that cormorants will continue to utilize the island's habitat. These birds prefer vegetation for their nesting habitat.

The NMFS' memo notes that the avian predation annual report estimates that cormorant colonies in the estuary consumed several million salmon smolts in 1997, but they lacked data for detailed estimates. (October 15, 1998 Memorandum from Pollard to Palensky). The memo also noted sockeye and coho were more susceptible to avian predation. Considering the endangered listing for Snake River sockeye, predation from this dredge disposal site poses a distinct threat to the continued existence of the species.

The Oregon Office recommends removing Rice Island from the proposed dredged material disposal sites in both the least cost and preferred disposal alternatives. While we do not wish to run afoul of the Migratory Bird Conservation and Migratory Bird Treaty Acts, Rice Island should not become a barrier to salmonid recovery for the entire Columbia River basin.

137. Section 3.2 of the DEIS provides a commodity forecast that indicates the level of commodity growth expected for the Port of Portland and other ports affected by the proposed channel deepening. Much of the data on commodity exports appears to be based on figures derived from 1993. That data for wheat exports and corn exports indicates an increasing Asian market for grains and corn exported from the ports. Projections for wheat and corn exports indicate export growth from 30-75% by the year 2054.

The possible problem in using projections from a boom economic period, such as 1991-1993, could result in an overly rosy expectation for commodity increases. In fact, the chart of wheat exports on page 3-3 indicates that exports decreased in 1996 and decreased dramatically in 1997 as the Asian economic downturn worsened.

Corps of Engineers Response

135. See response #124.

136. Management actions to preclude this concern are presently being implemented and further actions are under consideration. Removing Rice Island from consideration is neither practicable nor necessary.

137. The general consensus among major entities such as the World Bank, the International Monetary Fund, and the United States Department of Agriculture, is that the Asian economies have reached the trough of their downturn, and that those economies (along with the associated trade) are rebounding. The crisis has resulted in a short-term reduction in Columbia River exports, but the crisis does not represent a fundamental change in Asian economies that would result in a long-term decline or even stagnation of exports. Indeed, most forecasts call for Asian recovery to be well underway by 2001, and the first year that a deepened channel would be available is 2004.

Wheat exports were misreported in the draft EIS. In fact, wheat exports have remained above 12 million tons in both 1997 and 1998. If anything, this latest data could indicate that the wheat export projections are too low, given that strength of the numbers even during the last two years.

Historic barley exports indicate that that commodity has actually decreased rather steadily from 1987 highs through 1997, to its lowest level since 1985. Yet the projections call for modest growth during the entire study period. We wonder what
138. information forms the basis for these projections? Does the Asian downturn affect the projections in the analysis based on 1993 figures? Perhaps the Corps should take another look at the projections based on data gathered from the 1996-1998 period and adjust the tables accordingly.

Projections for alumina indicate a continued volume of imports coming from Australia for use in smelters throughout the region. While not wishing to dispute the production needs of this commodity, the 1999 decision on configuration of the hydropower system could have drastic impacts on the future of many of the regions smelters. The potential
139. drawdown or removal of lower Snake River dams to aid fish migration could cause power impacts that would seriously effect aluminum plants in the region. The Corps might wish to review its own lower Snake River Configuration study and its Drawdown Regional Economic Workgroup (DREW) analysis for the analysis of alumina commodity projections.

The Oregon Office has concerns for impacts to white sturgeon from dredging operations. The DEIS indicates that dredging may result in entrainment of fish, particularly white sturgeon since they occupy the depths of the river where dredging will take place and where in river disposal is likely to occur. On page 6-20 of the DEIS, the sponsors note that in the single entrainment study of dredging at 60-80 feet of depth, about 2000 juvenile sturgeon were entrained. The study determined that 3.5 percent mortality would occur for sturgeon passing through the dredge and into the runoff pond.
140.

Though white sturgeon are not a listed species, we are concerned about potential entrainment and possible mortality. Lower Columbia River white sturgeon represent the region's last abundant population of white sturgeon. The FCRPS has caused these fish to lose much of their historic migrating range, becoming essentially resident to particular reservoirs. As a result, the Northwest has witnessed substantial decreases in spawning for sturgeon entrained behind the dams. Maintaining the lower Columbia River stock may represent the best opportunity for sustaining this species.

We recommend the Corps perform additional studies to determine the extent of entrainment and mortality for dredging operations and in river disposals at depths the sturgeon normally inhabit.

The Oregon Office notes the care the sponsors have placed in the blasting plan noted on page 6-20. We agree that the listing of steelhead in the Willamette represents a significant consideration for examining the blasting window in that river. We urge the
141. project sponsors to re-examine that blasting window and shorten its duration to times when steelhead are unlikely to inhabit those sections of the Willamette requiring rock removal. We also would want the DEIS to contain a detailed explanation of the methods the sponsors will employ to scare fish away from the blast area.

Corps of Engineers Response

138. The latest data for barley exports reinforces the analysis in the report. In 1995, exports topped one million short tons and 1997 shows over 980,000 short tons. While 1998 numbers do show an expected decline to 450,000 short tons, it is still reasonable to expect relatively flat barley exports throughout the period of analysis.

139. Since alumina vessels are not projected to take advantage of any channel improvements, potential reductions in import quantities are not relevant.

140. No additional studies are necessary to assess entrainment impacts. We have conducted entrainment studies at two locations in the Columbia River and found entrainment does not occur during normal dredging operations. Additional studies are planned during the design phase to assess the production and sturgeon populations in the deep water disposal site from river miles 27 to 42. These studies will be used to design the disposal plan to minimize impacts to these areas.

141. The blasting plan will incorporate steelhead concerns to the extent possible. A detailed blasting plan, including biological measures, will be developed by the blasting contractor before blasting is allowed to be undertaken. The Willamette River construction has been delayed pending information on the Portland Harbor remediation plan.

Finally, DEIS Section 6.4 notes sediment quality impacts from dredging. The study notes that dredging material from the Columbia River would have no significant impact on sediment quality in the ocean, river or upland disposal sites. The DEIS does note that some sediments from the Willamette in areas that have not been dredged for twenty years have been found to "be potentially unsuitable for unconfined in-water disposal."

Our concerns stem from the possibility that much of the material at the depth of the proposed dredging operations has not been subject to dredging for the past twenty years in either the Willamette or the Columbia. That material may predate the Clean Water Act.

142. The project proponents note that biological testing of dredged material would be conducted. They further note that capping of contaminated dredged material has been successfully accomplished in the Willamette. They also note that the overall sediment quality impact to the Willamette "would be beneficial, by removal and isolation of contaminated sediments harmful to the aquatic environment."

Although we would hope the project would benefit the aquatic environment in this fashion, we wonder about the efficacy of disturbing and dredging material deposited in the river for over twenty years and prior to the effective enforcement of the prescriptions of the Clean Water Act. We certainly would encourage rigorous testing of dredged material. If significant samples indicate contaminated material, then we would ask that the sponsors develop a detailed disposal plan. Such plan should be reviewed by the Oregon and Washington water quality agencies and put out for comment by the public prior to any removal of contaminated sediments.

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement. We look forward to working with you to address our concerns.

Oregon Economic Development Department (OEDD)

The Oregon Economic Development Department has reviewed the US Army Corps of Engineers' Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel (DEIS). The OEDD supports deepening the Columbia River channel to 43 feet as proposed in the DEIS. We offer the following comments concerning the economic impacts of this proposal.

143. Maintaining economically competitive ports on the Columbia River is a key to Oregon's economy remaining competitive in a global market. The Columbia River serves as a vital trade corridor for Oregon's manufactured goods and agricultural commodities as well as a large share of the nation's grain exports. In 1997, approximately 30 million metric tons of cargo valued at $13 billion moved through lower Columbia River ports. This is due in part to the Lower Columbia River providing the shortest route to Asian markets for exports. Asian markets not only receive the majority of waterborne trade from the West

Corps of Engineers Response

142. Comments noted.

143. Comments noted.

Coast, but have also served as a critical component of Oregon's economic growth during this decade. The OEDD believes it is necessary to maintain a strong and direct link to Asian and international markets in order to ensure Oregon's current and future economic health and diversity.

The OEDD supports the analysis and conclusion of the DEIS stating that there has been steady growth in the level of waterborne commerce on the Columbia River. With this growth we have seen an increase in the average vessel size due in part to the efficiency gains for shippers using larger, deeper draft vessels to transport bulk items such as grain
143. (con't) as well as containerized goods. Without deepening the channel, these vessels cannot come into Portland fully loaded, thus making Columbia River ports less competitive. This creates market pressure to utilize California and Puget Sound ports, increasing the cost of shipping cargo from Oregon. If the Columbia River Channel is not deepened, Oregon companies will probably lose business to other locations with lower transportation costs.

Due to the added complexities of potential contaminated sediments within the Willamette River, the OEDD supports the Corps' recommendation contained in the Executive Summary to the DEIS to phase construction of the Willamette River channel. This will allow agencies and the public the appropriate time to study the issue adequately, explore a range of options, and develop a coordinated response.

Finally, there are some very minor corrections that would strengthen the DEIS. First, we recommend defining "DWT" and "TEU" at appropriate places in Appendix C. Second,
144. on page C-9, the socioeconomic profile could use currently available 1998 county and city population data. Finally, on page C-11, the employment data could be currently available 1997 data.

Corps of Engineers Response

144. Definitions have been added to the EIS. Your comments on the socio-economic profile are noted. The latest data, however, has relatively little impact on the benefit calculation, and will not be updated.

STATE OF WASHINGTON

February 4, 1999

Colonel Robert T. Slusar
District Engineer, Portland District
US Army Corps of Engineers, CENWP-PE-E
P.O. Box 2946
Portland, Oregon 97208-2946

Dear Colonel Slusar:

The State of Washington appreciates the opportunity to submit comments on the Corps of Engineers' (Corps') draft environmental impact statement (EIS) on navigation channel improvements for the Columbia and Lower Willamette Rivers. We also appreciate the Corps' extension of the comment period for this document, given the importance of the project and the broad scope of impacts requiring consideration by government agencies and the public.

Our state recognizes the significance of channel modifications to improve the accessibility of several ports in Washington and Oregon to deep-draft vessels. It is obvious that the economic health of the port communities – including Longview, Kalama, Woodland and Vancouver in our state – is closely connected to the ease and volume of shipping; moreover, a wide variety of
1. commodities, particularly agricultural goods, depend on a strong shipping industry reaching our ports. For these reasons, we understand why the Corps has been working cooperatively with the ports and the Environmental Protection Agency (EPA) for several years to complete this feasibility study of navigation improvements and dredged material disposal. We were pleased that the study also recognized the importance of providing ecosystem restoration for fish and wildlife habitat.

However, we have some reservations about this EIS as a decision-making tool in proceeding with the proposed project. The detailed concerns of our departments are described in the attached letters. These are the key points they share:

The draft EIS appears to be incomplete or inadequate on several grounds:

2. ♦ it fails to address the question of the project's long-term viability. That is, how long will the proposed deepening be sufficient when the global shipping fleet is already expanding to include even deeper draft vessels?

3. ♦ it does not give sufficient attention to possible alternatives such as partial deepening up to the Lewis River, use of an improved LOADMAX program to gain similar transportation benefits, or expanded use of vessels to shuttle cargo in the lower reaches of the River.

Corps of Engineers Response

1. Comments noted.

2. Our analysis was limited by statute to study depths no greater than 43 feet. There is a point at which continued deepening would not be justified, and it is something deeper than 43 feet.

3. See response #2 to US Department of Interior letter.

4. ♦ The document inadequately addresses the disposition of dredged materials with respect to both impacts of disposal and the scale and types of mitigation necessary to compensate for those impacts.

5. ♦ There is insufficient attention to the relationship between dredging, dredged material disposal and coastal processes (both accretion and erosion) which have been causing major problems for several coastal communities; the document also neglects the potential for beneficial use of the dredged material (for example, to slow or reverse the erosion of Fort Canby State Park and other areas along the coast).

6. ♦ The EIS is deficient in its attention to many species and their habitats; these include crab, smelt, sturgeon, coho, predatory birds and several species currently or soon to be listed under the Endangered Species Act such as Lower Columbia steelhead, chum, chinook, and cutthroat trout.

7. ♦ Perhaps of greatest concern, the EIS does not demonstrate that the Corps and EPA have evaluated whether the proposed actions are consistent with recommendations of key agencies and programs working on Lower Columbia River issues, such as the National Marine Fisheries Service, the Lower Columbia River Estuary Program and the US Geological Survey/WA Department of Ecology/local government study of Southwest Washington Coastal Erosion.

We consider it essential that these issues be addressed before a final EIS is prepared and a decision is made to implement the project. State agencies are prepared to work with the Corps, the affected ports and the Environmental Protection Agency (with respect to designation of new ocean disposal sites) to provide technical and scientific information that would help remedy some of the problems identified. Please contact Carol Jolly of the Executive Policy Office (360-902-0639) if your staff would like to pursue such discussions.

Sincerely,

Tom Fitzsimmons
Director, Department of Ecology

Charles Baum
Supervisor, Department of Natural Resources

Jeff Koenings
Director, Department of Fish and Wildlife

Cleve Pinnix
Director, Parks and Recreation Commission

cc: Governor John Kitzhaber
Chuck Clarke, US Environmental Protection Agency

Corps of Engineers Response

4. The Corps proposes to complete the HEP analysis by collecting data to represent all habitat types and reanalyze current and future conditions based on changes in individual habitat parameters. This re-analysis could be completed during the preconstruction, engineering and design (PED) phase of the project. Please see the addendum to the wildlife mitigation plan (Appendix G) for further clarification.

5. Comment noted. See our responses to your specific comments.

6. Additional information has been added in the final EIS for many of these species. A discussion of predatory birds, their impacts on juvenile salmonids, and management measures to address these concerns will be addressed in the biological assessment to NMFS and attached to the FEIS.

7. Comment noted. See our responses to your specific comments.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

January 26, 1999

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E ATTN: Steven J. Stevens
PO Box 2946
Portland OR 9/7208-2946

Dear Mr. Stevens:

Thank you for the opportunity to comment on the Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (EIS) for the Columbia and Lower Willamette River Federal Navigation Channel. We have reviewed the integrated feasibility report and EIS and have the following comments.

Alternatives Considered

There is one alternative and one channel option presented in the report that, together, could provide for improved transit of deeper-draft vessels in the existing navigation channel and that could be less environmentally impacting. The alternative (of a non-structural type) involves a major upgrade to the LoadMax system to facilitate the use of more and better real time data to better schedule the departure of fully loaded vessels to coincide with the most favorable tide and river stage conditions during transit.

The second alternative is a modification to the preferred 43-foot deepening proposal. This alternative is described as the tiered channel option meaning a full channel depth for outgoing vessels (43 feet deep x 400 feet wide) with the remaining width of 200 feet to be maintained at the existing channel depth of 40 feet. Optimistically, this option would significantly reduce dredge volumes and disposal requirements.

1. A combination of the above alternative and option would seem to present a viable alternative to the preferred full 43-foot deepening project. We note, for example, the following points that support further review and analysis of a combined lesser-impacting, but cost effective alternative:

LoadMax System: According to the report, the greatest need for deepening relates to bulk grain carriers since they draw the greatest draft outbound. Yet the report indicates these vessels have the greatest flexibility to delay departure if need be (pg. 2-6, pp. 4) and

Corps of Engineers Response

1. See response #2 to the US Department of Interior letter concerning the Loadmax system. An evaluation of the tiered channel configuration will be performed during the next phase of design.

that the existing LoadMax system has been especially beneficial to bulk grain carriers that can make last minute decisions to add more cargo (pg. 2-8, pp. 3). On page 4-5, pp. 3, the report states that "the benefits of this alternative (system upgrade) could be substantial, relative to the cost".

1. (con't)

Tiered Channel Option: The inbound depth of 40 feet is adequate for current and expected future inbound vessel traffic. Inbound ships rarely exceed 36 feet in draft and ships can ride high tides upriver to increase available water depths, if necessary. (pg. 4-63, pp.1). The tiered channel option was viewed unfavorably by the Columbia River Pilots organization; however, the report indicates that this option has sufficient merit to be carried forward for further design and analysis.

New Ocean Disposal Sites

As a general policy, clean dredged material should be used in an environmentally acceptable manner in the nearshore zone to provide nourishment to public beaches. The use of clean dredged sands is one of the few viable options for rehabilitating beaches and littoral drift already impacted by navigation and hydropower projects. Dredged material
2. should not be disposed in deep water where it is lost to the nearshore system. To provide benefit, dredged material must be placed within the zone of active longshore sediment transport.

We also note that deepening the lower river will likely cause a natural demand by the river for more sediment. The sediment would essentially be taken from the coastal littoral zone and pulled into the Columbia River estuary. Therefore, it is absolutely essential to use all clean dredged material for augmenting the nearshore sediment budget

Ecology participated fully in the interagency workgroup that met regularly to assist the EPA and Corps in selecting new disposal sites in the Pacific Ocean off the mouth of the Columbia River. The last meeting and correspondence with that workgroup did not result in the sites currently presented in the Draft feasibility Report as the preferred locations, except for that of "Expanded Site E". Site E received general concurrence from the
3. workgroup as a proposed site to proceed forward for further consideration and designation. The sites labeled as the North and South sites were chosen by EPA and the Corps without input or concurrence from the workgroup.

While we do not presently have any telling information that indicates the North and South disposal sites are unacceptable, we do not have any information that indicates these are the best sites given what is known about ocean disposal.

Corps of Engineers Response

2. Sediment transport through the mouth of the Columbia River occurs as both suspended and bedload transport. It is likely that most of the estimated 2 mcy per year of total suspended sediment is transported to the ocean during high flows. Hubbell and Glenn (1973) estimated that 30 percent of the fine suspended sediment entering the estuary from up river is retained in the estuary. The percent of the suspended sand retained in the estuary is likely higher than 30 percent.

The amount of sand transport through the estuary has not been determined, but it likely has been quite small during the past 100 years. The size, depth, and hydraulic conditions of the estuary do not suggest a high sand transport potential. During the ebb flow, riverine water leaves the main (South) channel, entering the side channels and spreading over the shallow flats. These areas do not have the transport capacity of the main channel and deposition is likely to occur. Sediment volume changes found by Simenstad et al (1984) support the potential for deposition in the side channels and tidal flats. They found these areas accumulated material between 1868 and 1935, and that they either continued to accumulate material or had small reductions between 1935 and 1958.

In the main channel, at a continuous average velocity of 3 ft/sec, it would take a sand particle nearly 12 hours to move through the estuary. Even during the largest freshet, flow in the estuary will turn slack and reverse with the tide cycle, not allowing a particle to move through the estuary without experiencing at least two slack waters. The sand in suspension has fall velocities of between 0.1 and 0.03 ft/sec, so it would take approximately 8 to 25 minutes of slack water to allow a sand particle in suspension at the surface to fall to the bottom of the navigation channel. While the flow does not remain still for any period of time, it does remain under 0.5 ft/sec for about an hour as the tide reverses, this would allow much of the sand in suspension in the main channel to deposit. This theory is supported by three data points presented by Hubbell et al (1971) that shows no sand in the suspended sediment samples collected at or near the slack water at Astoria.

Bedload transport contributes additional sand to the estuary, but it is not discharged to the ocean. Downstream from Harrington Point (CRM 25) to Desdemona Sands (CRM 10) the sand waves diminish in size and lose the downstream dominance in their movement. The shape of the sand waves indicates downstream transport to about CRM 18. Between CRM's 18 and 10, the sand waves transition from fluvial-dominated to tidal-dominated waves. Bedload transport at the entrance was found by Walter et al. (1979) to have a net inland transport.

3. Comments noted. The North and South sites have been eliminated. The currently proposed sites have been agreed to by the Ocean Disposal Working Group. The EPA and Corps have the responsibility to make the final selection and decision.

Corps of Engineers Response

We do not favor the South Site at all because of two factors:

1. Dredged material placed in the South Site would not serve the beneficial need of replenishing the nearshore littoral drift cell that extends north of the north jetty. Presently the beach at Fort Canby State Park is experiencing severe erosion and is in dire need of beach nourishment. Preliminary results of the Southwest Washington Coastal Erosion Study also point to the need to place dredged material in the northern drift cell to help ensure the continued integrity of the Long Beach Peninsula.

4.

2. The South Site is located much closer to the origin of the dredged material (the navigation channel) and thus, it is possible that most of the dredged material would go to the South Site versus the North Site since it is the most cost effective choice.

The North Site in turn is located too far offshore to achieve the potential benefits to the northern littoral drift cell. While we cannot confirm a specific depth limit at which sand is likely to (eventually) move onto the beaches, 100 feet is probably too deep and dredged material should probably be placed in waters 40 to 60 feet deep at most.

4. The North and South sites have been eliminated.

One of the disposal alternatives that Ecology has repeatedly requested be researched and evaluated by the Corps/EPA is the placement of dredged material directly onto Benson Beach at Fort Canby State Park. Not only would this type of disposal be immediately beneficial but it would eliminate or reduce impacts resulting from standard offshore disposal. As yet, we have not received any information pertaining to the engineering and cost feasibility of such an alternative nor is it included in this Feasibility Report. Furthermore, the above-mentioned siting workgroup recommended and highly endorsed an evaluation of such a disposal alternative for sediments dredged from the entrance channel.

5.

5. Additional information on Benson Beach has been added to Appendix A.

Dungeness Crabs

One of the more difficult issues to be addressed by the siting workgroup was the potential effect, if any, of dredged material disposal on Dungeness crabs found in the ocean environment off the mouth of the river. It was a consensus opinion that crabs in the soft-shell or molting stage could be more susceptible to detrimental effects from disposal, however there were no studies to verify such an occurrence one way or the other.

6.

As a result, the Corps initiated a laboratory pilot study to evaluate the effect of a small-scale disposal event on both soft-shell and hard shell crabs and juvenile flatfish. The results of the study indicated little to no effect on juvenile soft-shell crabs and flatfish but did cause detrimental effects to adult soft-shell crabs. All of the soft-shell adults tested (a

6. Comments noted. A decision on additional studies on Dungeness crab will depend upon input from the management and monitoring task force.

sample size of only three) were buried in the sand at the onset of the disposal event and subsequently perish when covered by only seven to ten inches of sand.

The results of the pilot study indicate the need for further study and cannot be used to make valid predictions of real-world impact because of a small data set and because there were too many variables in the study design. For example, large adult crabs were placed in a small confined space (a bucket 21 inches in diameter by 17 inches deep) which would not provide for natural escape movement and the study had to use dry sand as the disposal medium, versus wet dredged sands.

6. (con't)

The point to this discussion is that in the Feasibility Report there is reference to the pilot crab study. For example, the following statement is contained in the last paragraph on page 6-23: "Results of these tests indicate that both soft and hard shell crabs could survive disposal events up to ten inches (deep) if they moved into the water column during disposal, rather than staying buried in the bottom. Most crabs ... tested moved into the water column during disposal. Consequently, the impacts to these organisms by disposal is expected to be minimal."

Just as the study, in its present status, cannot be used to predict substantial impacts to the crab resource, it cannot be cited as the basis for predicting minimal impacts to the crab resource. The study has indicated the need for further study and refinement, and which if undertaken, may generate valuable information leading to better management of dredged material in the ocean environment.

Spill Concerns

The traffic analysis in inconclusive in identification of the mix of vessels expected to make use of a deeper channel. There are different permutations possible, each of which can have a dramatic impact on the spill response community. If we assume cargo parcels will increase to make use of the new maximum channel depth, the deepening could result in fewer, but larger, vessels. This would seem to decrease the risk of grounding incidents because of fewer transits. However, since these vessels would still be sailing at the maximum manageable draft, those areas of the basin which present grounding risk at low water will still present that same risk even with the deeper channel.

7.

A more likely scenario is that the deepening of the channel will result not in a decrease in the number of "shallow" draft transits but in an increase in "deep" draft transits as the deepening opens the river to vessels that could not previously transit with full loads. This would be a net increase in traffic, which would present a slightly increased risk of groundings.

Corps of Engineers Response

7. The size of the largest ships calling on the Columbia River is not expected to increase with a deeper channel. A 43-ft channel would allow the Panamax class ships currently calling on the river to more fully load, but it is not expected to attract many larger ships due to the draft limitation. Since the fleet is expected to be similar to today's, the risk of accidents and oil spills should be similar to today's. Also see our responses #32 and #34 to the US Department of Interior letter.

Corps of Engineers Response

While the casualty statistics for the Columbia River compare very favorably to other U.S. ports it is important to remember that those figures are measures of past performance and are not predictors of future performance. For example, crossing conditions on the Columbia River bar may negatively impact fully loaded Panamax vessels to a greater extent than presently experienced. Larger vessels may also be at greater risk of grounding than present. Either case increases chance of catastrophic oil discharge.

7. (con't)

The trend in the design and operation of container vessels is toward much larger vessels with much smaller crews, typically in the 11 to 13 man range (as compared to normal manning levels of 22 to 26 for similar sized non-container vessels). This type of manning arrangement presents a very severe fatigue problem, particularly with the 6 to 8-hour river transit and the accelerated cargo handling schedule these vessels must meet. Any increase in the numbers of transits by vessels with these minimal crews presents an increase in the risk of accidents/casualties, which may lead to an oil spill. These include groundings, collisions, allisions, and spills.

Opening the river to larger vessels (container, bulk carrier or tank vessels) will also increase the size of the "worst case spill" used in the development of spill response strategies and response equipment requirements. The EIS does not address these impacts at all.

8. While the subject of "squat" was introduced in the under keel clearance discussion the figures used are not conservative enough. Studies conducted after the grounding of the QE 2 off Cape Cod showed that squat is much greater than the 2.5 feet cited for fast container vessels. This discrepancy will have an impact on the ability of deep draft vessels to make full use of the deepened channel.

9. There are questions about the adequacy of the existing anchorages at Astoria, Longview/Kalama, and Vancouver for handling fully loaded vessels under the current draft restrictions. Increasing allowable drafts will further aggravate this situation.

The existing analysis does not adequately survey the state of the existing bulk terminals to determine if large numbers of Panamax vessels can be safely handled. The final EIS should include this evaluation.

8. The analyses of vessel squat and underkeel clearance are discussed in Appendix A. The squat equations used in this analysis have been field verified in the Columbia River. However, the squat calculations were based on average speed and do not account for all the variations that may occur during a transit. The results of the underkeel analysis were reviewed with the river pilots to confirm that they reflected the actual operating practices in the channel.

9. Section 4.6.2 of the report discusses anchorage for loaded ships; section 4.6.3 describes the safety of terminals for Panamax vessels.

Corps of Engineers Response

Comments Specific to Wetlands and Shoreline Management Jurisdiction

Jurisdiction:

10. The Department of Ecology's jurisdiction over activities that affect waters and shorelines of the state is derived primarily from the state Water Pollution Control Act (WPCA, Chapter 90.48 RCW) and the state Shoreline Management Act (SMA, Chapter 90.58 RCW). Under the Water Pollution Control Act, Ecology is given the responsibility to control and prevent the pollution of state waters and to ensure that there is no degradation of the beneficial uses of those waters. Waters of the state are defined to include wetlands. Under SMA, Ecology is responsible for monitoring the application of local Shoreline Master Programs (SMP) to ensure that development activities conducted within shoreline jurisdiction are consistent with the SMA.

Shorelines of the state are defined as those rivers and streams with a mean annual flow of 20 cubic feet per second (cfs) or greater and lakes with a surface area of 20 acres or greater. At a minimum, SMA jurisdiction includes all aquatic areas and their bedlands, and extends 200 feet landward of the ordinary high water mark (OHWM) of shorelines of the state, including the full extent of any wetlands associated with those waterbodies. SMA jurisdiction can be defined locally to further include all areas within the 100-year floodplain. In addition, the Columbia River is defined as a Shoreline of Statewide Significance (rivers with a mean annual flow greater than 1,000 cfs), making it subject to a set of hierarchical review standards.

The following comments are based on an evaluation of the proposal in relation to these regulations and pertain only to those sites in the state of Washington.

10. Comments noted.

SMA Issues:

11. The Shoreline Permit process is initiated at the local level. The project applicant must contact the Shoreline Administrator at each affected jurisdiction. The Planning Departments of Clark, Cowlitz, and Wahkiakum counties and any affected cities, will require a complete description of the project at all dredging, disposal and mitigation sites within their jurisdiction in order to start the permit process. The U.S. Army Corps of Engineers (Corps), the port sponsors, or the property owners will need to apply for these permits.

All areas within Shoreline jurisdiction have been given a "shoreline environment designation" in the SMP e.g., Rural, Urban, or Conservancy environments. The allowed

11. Your identification of shoreline jurisdictions, permit requirements, and mitigation requirements is appreciated. Specific shoreline permits would be obtained by the sponsoring ports during the site acquisition phase.

uses and permitting requirements are dependent on the shoreline designation and are established in the local SMP.

We have made a **preliminary** call on SMA jurisdiction and the shoreline environment for the identified sites based on the maps provided in the draft EIS and the applicable SMP. These are subject to revision based on additional information including, but not limited to, the extent of the 100-year floodplain as mapped by FEMA, site-specific characteristics such as the presence or absence of levees or associated wetlands, and accurate descriptions of shoreline environments, particularly at the boundaries. In addition, no attempt was made to identify those sites that fall within city jurisdiction. Any identified disposal site may ultimately be determined to be outside shoreline jurisdiction. However, the pipelines necessary to deliver dredge spoils to the site may trigger the need for a shoreline permit. Development activities at the mitigation sites will also likely require permitting.

Clark County:

11. (con't)

The Clark County SMP applies to all areas within the 100-year floodplain of shorelines of the state. Deepening of the channel and/or the placement of dredge spoils on new disposal sites will require Shoreline Conditional Use Permits in all shoreline environments.

Dredge disposal sites:

Government Plan

W-97.1 – Fazio Sand and Gravel – 27 acres Fill – Existing Upland Disposal (EUD) – 27 acres	SMA Jurisdiction – Rural
W-96.9 – Adjacent Fazio – 17 acres Fill – EUD – 8.8 acres; Agriculture (AG) - 8.2 acres;	SMA Jurisdiction - Rural
W-96.5 – N. Dike Field – 25 acres Fill – AG – 25 acres	SMA Jurisdiction - Rural
W-95.7 – No name – 25 acres Fill – AG – 25 acres	SMA Jurisdiction – Rural

Sponsor Plan

Add:
W-101.5 – Gateway 3 – 93 Acres SMA Jurisdiction - Urban
Fill – AG – 93 acres

11. (con't)

Remove:
W-96.9 – Adjacent Fazio – 17 acres
W-96.5 – N. Dike Field – 25 acres
W-95.7 – No name – 25 acres

Cowlitz County:

In Cowlitz County, shoreline jurisdiction extends to the landward limit of the 100-year floodplain. Dredging and spoils disposal (landfills) are generally prohibited on Natural and Conservancy shorelines except where they do not change the character of the district. This is of particular importance with regard to the proposal for spoils disposal on Martin Island. Martin Island is designated a Conservancy shoreline. Project proponents will

12. need to show how placement of dredge spoils will not change the character of the shoreline particularly in light of the alternative sites proposed in the project sponsor plan. Given the complexities associated with the use of Martin Island as a disposal site, its concurrent use as a mitigation site, and its existing value as wetlands and wildlife habitat, Ecology recommends that Martin Island be removed from the Government Disposal Plan.

In Rural shoreline environments, dredging and dredge spoil disposal activities are permitted with a Substantial Development Permit and subject to standards set out in the SMP. These activities in the Urban environment must meet the same standards as in the Rural environment but are only permitted with the issuance of Substantial Development and Conditional Use permits.

Disposal sites:

Government Plan

W-86.5 – Austin Point – 26 acres SMA Jurisdiction – Conservancy
Fill – EUD 23.3 acres; Riparian – 2.7 acres

W-82.0 – Martin Bar – 32 acres SMA Jurisdiction – Urban
Fill – EUD 29.1 acres; Riparian – 2.9

Corps of Engineers Response

12. The upland disposal site at Martin Island has been removed from consideration. Your identification of shoreline jurisdictions, permit requirements, and mitigation requirements is appreciated.

Corps of Engineers Response

W-80.0 – Martin Island – 80 acres SMA Jurisdiction – Conservancy
Fill – AG – 79.7; Riparian – 0.3 acres

W-73.5 – Peavey Oval – 43 acres SMA Jurisdiction – Urban
Fill – EUD – 43 acres

W-70.1 – Cottonwood Island – 50 acres SMA Jurisdiction – Urban
Fill – EUD – 45 acres; Riparian – 5 acres

W-68.7 – Howard Island – 200 acres SMA Jurisdiction – Urban
Fill – EUD – 180 acres; Riparian – 20 acres

W-63.5 – Reynolds Aluminum – 13 acres SMA Jurisdiction – Urban
Fill – EUD – 13 acres

W-62.0 – Mt. Solo – 50 acres SMA Jurisdiction – Unknown
Fill – AG – 25 acres; Wetland – 25 acres

W-59.7 – Hump Island – 69 acres SMA Jurisdiction – yes, unknown

12. (con't)

Sponsor Plan

Add:
W-72.2 – Northport – 50 acres SMA Jurisdiction—
Fill – EUD – 50 acres Urban/Conservancy

W-67.5 – International Paper – 8 acres SMA Jurisdiction – Urban
Fill – EUD – 8 acres

Remove:
W-80.0 – Martin Island – 80 acres

Individual Mitigation Sites

Government Plan (Modified Sponsor Plan)

Martin Island – 378 acres SMA Jurisdiction - Conservancy
Goal – Wetland – 39 acres; Riparian – 245 acres;
Other (beaches, water) – 95 acres

Woodland Bottoms – 285 acres SMA Jurisdiction – Conservancy

Corps of Engineers Response

Goal – Wetland – 97 acres; Riparian – 43 acres;
Assoc. Habitat – 122 acres; Other (levees) – 11 acres

WDFW Plan

Martin Island – 378 acres — SMA Jurisdiction - Conservancy
Goal – Wetland – 39 acres; Riparian – 245 acres;
Other (beaches, water) – 95 acres

12. (con't)

Woodland Bottoms – 285 acres — SMA Jurisdiction - Conservancy
Goal – Wetland – 97 acres; Riparian – 43 acres;
Assoc. Habitat – 122 acres; Other (levees) – 11 acres

Burke Island – 246 acres — SMA Jurisdiction - Conservancy
Goal – Wetland – 42 acres; Riparian – 122 acres;
Other – 82 acres

13. It should be noted here that all of the proposed mitigation sites are located in Cowlitz County. The Corps will need to conduct the necessary coordination with those jurisdictions where impacts will occur and where no mitigation will be conducted (i.e., Clark and Wahkiakum counties). It is possible that local regulations (e.g., the SMP and Critical Areas Ordinances adopted under the Growth Management Act) would require mitigation to be performed at or near where the impact occurred except with administrative review and approval of "offsite mitigation." Ecology fully supports the Corps plan to address mitigation with larger tracts of land and believes this approach greatly improves the chances of mitigation success. However, approvals and agreements between jurisdictions will likely be necessary to permit this level of "resource trading."

13. Concur with comment.

Wahkiakum County:

14. Wahkiakum County is a designated coastal county in the Washington State Coastal Zone Management Program. All federal projects and actions must be consistent to "the maximum extent practicable with the approved Washington state coastal zone management program subject to certain limitations..." (WAC 173-27-060). New dredging in the Aquatic areas is prohibited in the Natural environment, requires Substantial Development and Conditional Use Permits in the Conservancy environment and Substantial Development permits in the Urban and Rural environments. Dredged material disposal is prohibited in Natural environments, requires Substantial Development and Conditional Use Permits in Rural and Conservancy environments, and requires a Substantial Development Permit in Urban environments.

14. Comments noted.

Corps of Engineers Response

Disposal sites:

<u>Government Plan</u> (Washington)

14. (con't)

W-46.3 – Brown Island – 72 acres Fill – EUD – 72 acres	SMA Jurisdiction – Conservancy
W-44.0 – Puget Island (Vic) – 100 acres Fill – AG - 88.2 acres; Wetland – 5.4 acres; Riparian – 2.6 acres; Other – 3.8 acres	SMA Jurisdiction – Rural
W-21.0 – Rice Island – 228 acres Fill – EUD – 228 acres	SMA Jurisdiction – Conservancy

15. The involvement and cooperation of the respective local jurisdictions are critical for the approvals that will be necessary for this project. Ecology would advise the Corps to consider preparing a single SMA permit application for each affected jurisdiction. These applications need to include a full description of project impacts and mitigation, including construction details. This information will also be used by Ecology to perform our review.

15. The local sponsors are responsible for site acquisition and clearances and are aware of SMA permit requirements.

Wetland Issues:

30 acres of wetlands in Washington are identified in the government plan to be filled as disposal areas. In addition, 40 acres of riparian habitat and 350 acres of agricultural cropland are identified. The remaining areas (490 acres) proposed for disposal are considered as existing dredge material disposal sites; this distinction is made because no mitigation is proposed for impacts to existing disposal sites. Boundaries of these habitats were based on aerial photo interpretation with some ground-truthing; formal wetland delineations were not performed.

16. Comments noted.

16. Analysis of the potential project related impacts and the habitat value of the sites proposed for mitigation was performed using the USFWS Habitat Evaluation Procedure (HEP). Ecology agreed to this process, as did the other members of the Interagency Wildlife Mitigation Team. Ecology's willingness to participate using HEP, rather than our standard guidelines for mitigation ratios, was based on our confidence that the habitat elements of the nine species selected for HEP analysis would fully capture the beneficial uses of wetlands that are normally considered in Ecology's project review. Another important factor was that the HEP analysis was performed on all habitat types (except

those areas identified as existing disposal sites), so potential wetland functions and values were considered even for those areas not identified as wetlands. Also, Ecology deferred to the Washington Department of Fish and Wildlife (WDFW) for their expertise in the application and interpretation of the HEP.

Overall, Ecology is satisfied with the procedure and extent of the impact analysis conducted by the Corps. The Corps has made every reasonable attempt to avoid and minimize impacts to wetlands and other critical habitats. However, we do share the concerns raised by WDFW regarding the application of assumed HSI (Habitat Suitability Index) values for three new cover types that were not field verified. According to WDFW's analysis, these assumptions have affected the HEP results in two ways: first, the impacts at the disposal sites have been underestimated so less mitigation than is necessary to replace lost habitat is being offered. Second, the existing conditions at the mitigation sites are being undervalued which results in mitigation credits accumulating faster, again resulting in less mitigation being offered than is necessary. This issue needs to be resolved to the satisfaction of the mitigation team.

17. Our biggest concern involving the potential negative impact to wetlands is the site identified as the "Peavy Oval" (RM W-73.5). Peavy is proposed as a 43-acre disposal site in the current plan (government and sponsor's plan). This site is located on Port of Kalama property and was partially filled in 1982 for the construction of a grain elevator and rail loop. Mitigation was provided at that time by setting aside an adjacent parcel along the south shore of the Kalama River and a 20-acre parcel known as the "Nelson Property" immediately downstream (RM W-71.5). Because the Corps considers it an existing disposal site, no additional mitigation is proposed for this part of the project.

Shoreline Conditional Use Permit #3049-SB-81-0387 was issued for the Kalama Bulk Transshipment Facility and permitted the "filing of the site" for that use. The Department of Game, Department of Fisheries, USFWS, Port of Kalama, and Cowlitz County signed the original mitigation agreement in 1982. Ecology did not sign the agreement, but did include it as a condition of the Conditional Use Permit. The original project purpose was not for dredge material disposal, rather, it was for the construction of a grain loading facility that used dredge material, on-site material, and additional upland material as fill.

Site plans filed with the original permit application include clearly drawn cross sections that show the interior of the Peavy Oval was to remain at existing grade. In addition, references were made to a 15-acre area within the oval to be used as a borrow site for fill material and then would be converted to provide additional "wetland habitat for wildlife."

Corps of Engineers Response

17. Comments noted. Peavey Oval has been dropped from consideration as a disposal site. The local sponsor's are responsible for site acquisition and clearances and are aware of WPCA and SMA permit requirements, which they will meet before any upland disposal occurs at new sites.

Corps of Engineers Response

Site plans show that the original intent was not to fill the entire site, rather, just that area necessary for the construction of the grain elevators and rail loop.

The "Peavy Oval" was never established as a long-term or on-going dredge disposal site for Columbia River sediment. The permits that were issued to allow fill and development of this site have been duly executed. It is Ecology's opinion that the wetlands on this site are waters of the state and shorelines of the state and subject to the protection and
17. (con't) permitting requirements of the WPCA and the SMA. Therefore, Ecology will require a full evaluation of the habitat associated with the 43-acre site known as the "Peavy Oval." Full mitigation will be required for any project impacts to wetlands at this site. Without further on-site analysis (i.e., HEP as performed on other disposal sites), Ecology will assume that the entire 43 acres is wetland (as defined by state and federal regulations) and will require mitigation for all impacts to the site. Another option for the Corps and the sponsors is to remove the Peavy Oval from the disposal site list.

Mitigation:

More specific information will be required for each proposed mitigation site. Ecology's publication, Guidelines for Developing Freshwater Wetlands Mitigation Plans and Proposals (pub. # 94-29, 1994), provides a detailed description of the information that is
18. necessary to complete a mitigation plan. At a minimum, the Corps will need to provide site-specific information regarding mitigation goals and objectives, construction details, elevations of grade before and after construction, revegetation plans, monitoring plans, and contingency measures.

18. These features and requirements will be addressed in the more detailed mitigation analysis that will occur during PED. Please see the addendum to the wildlife mitigation plan (Appendix G) for further clarification.

Ecology does not believe that natural revegetation will be appropriate in all cases. The
19. opportunity for colonization of these sites by non-native, invasive species is too great. Planting plans that reflect native plant communities expected to occur in the region should be developed and applied.

19. This requirement will be addressed in the more detailed mitigation analysis that will occur during PED.

The necessity for long-term, active management of several of the mitigation sites is a concern. A significant factor in the success of wetlands mitigation is the degree to which the wetland can function on its own and mimic natural processes. We are concerned about the need for on-going hydrologic manipulation and vegetation management to
20. implement the mitigation plan. The simple question of "who will run the pumps when we're (i.e., current project managers) gone?" is enough to raise doubts about the practicality of such a plan. Alternatives to on-going water level control and manipulation need to be considered. Self-sustaining vegetation communities are also preferred. If the existing plan is pursued, operation and maintenance agreements for water levels and vegetation control will likely be necessary as a component of the mitigation plan.

20. The Corps is aware of the need for long-term, active management of the mitigation sites. The final report will recommend turning over operation and maintenance of mitigation sites to the appropriate state or federal resource agency after their construction. We are also aware of the funding need for long term O&M expenses and are working to address that issue through provision of O&M funds in an escrow account.

21. Water control structures (i.e., dikes) should be integrated into the design of the mitigation wetlands as naturally as possible. Slopes of 3:1 generally will not support the typical emergent wetland plant community expected in these systems. Not only are the grades too steep, but the area available for certain species with specific tolerances to water levels is too narrow to support any species diversity. The side slopes of the dikes should be more gradual and should be contoured to allow for greater topographical variation.

Permanent protection of these mitigation areas through conservation easements or other means may be necessary.

If you have any questions on the comments under "Alternatives Considered" or "New Ocean Disposal Sites," please contact Mr. Rick Vining with our Permit Coordination Team (401 Water Quality Certification) at (360) 407-6944. For questions related to the comments on "Spill Concerns," please call Mr. John Jenicek with our Spill Preparedness Prevention and Response Division at (503) 229-6541. For questions concerning the comments related to Shorelands or Wetlands, please call Mr. Perry Lund with our Shorelands and Environmental Assistance Program at (360) 407-7260.

Sincerely,

Rebecca J. Inman

Rebecca J. Inman
Environmental Coordination Section

RI
EIS #986952

cc: John Jenicek, Spills Portland Office
Perry Lund, SWRO
Sue Mauermann, SWRO
Rick Vining, SEAP
Abbe White, SWRO

Corps of Engineers Response

21. We are aware of the need to integrate dikes into the design of the wetlands. Our conceptual design features in Appendix G addressed this issue. More detailed design information will be forthcoming in the preconstruction engineering and design phase. Mitigation sites will either be obtained through fee title or else through long-term easements.

WASHINGTON STATE DEPARTMENT OF
Natural Resources

JENNIFER M. BELCHER
Commissioner of Public Lands

February 4, 1999

US Army Corps of Engineers, Portland District
CENWP-PE-E Attn: Steven J. Stevens
PO Box 2946
Portland, OR 97208-2946

Subject: Columbia and Lower Willamette Rivers Navigation Channel: Daft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement, DNR SEPA File # 14628.

Dear Mr. Stevens:

The Washington Department of Natural Resources (DNR) has reviewed the Daft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (DEIS) to improve deep draft navigation to the Columbia River region. In offering the following comments DNR wants to again recognize the importance of both navigational improvements and ecosystem restoration for the continuing prosperity of the Columbia River Basin as was noted in the Washington State agencies' joint comment letter. We also want to acknowledge the challenges posed by current environmental concerns to permitting of a major regional scale project and recognize the efforts of the Corps, EPA and the ports. DNR is committed to working with the agencies and interested parties to develop navigation improvements to the region in concert with ecosystem restoration.

1.

The Columbia River is a very valuable natural resource that provides a great array of functions and services to the people of the region. The past and proposed human uses of the watershed and aquatic resources landscapes will significantly influence the ecological functions of the Columbia River Basin as a whole and the services it can subsequently provide its residents. Managing the Columbia River estuary and the coastal zone in a sustainable manner, as demands for services increase, will require that governance institutes improved integration of management programs. Natural resource management decisions will need to be made more within the context of the hydrological, geomorphological, and biological processes that sustain all the services humans need or want from ecosystems, as well as in response to the physical state of populations and habitats. If we are to have a chance of recovering the abundant healthy and harvestable salmon populations that are an icon of our Northwest quality of life and sustaining other valuable renewable resources, such as sturgeon and crabs, then we will need to more fully coordinate large scale land use decisions, such as this project, with ecosystem protection and restoration efforts.

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1. Comments noted.

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Washington State is the owner and the Department of Natural Resources the manager of the submerged lands in the Washington portion of the project. This claim is further asserted in the Washington State Constitution, Article 17, Section 1. Management goals are provided in Washington State statutes by the Aquatic Lands Act (RCW 79.90.455). Please acknowledge this in the final environmental impact statement (FEIS).

2. As the proprietary trustee and manager for state-owned aquatic lands (SOAL), DNR approaches the question of whether proposed improvements in deep draft navigation capabilities to the Lower Columbia River region and any associated actions are appropriate uses of the affected submerged lands. Just as with any other aquatic land use proposal, DNR must determine whether or under what conditions a proposed use of SOAL will be in the best interests of the citizens of the state as defined by the Public Trust Doctrine, the Washington State Constitution, and the Aquatic Lands Act.

2. Comments noted.

The feasibility study and DEIS does not provide sufficient information on the implications of the alternatives to long-term ecosystem protection and restoration efforts for DNR, as a proprietary trustee, to defend the preferred alternative uses of SOAL as being in the best interests of the citizens of the state. The DNR will work with the affected agencies, project sponsors, and interested parties to resolve the issues we have briefly outlined below.

Summary of Issues

In reviewing the feasibility study and DEIS, the DNR has identified a substantial number of issues that fall into the following major categories:

The DEIS has not yet established a credible case for selection of a preferred alternative for either the deep draft navigation improvements or dredge disposal.

A cumulative impacts assessment of the existing and potential project alternatives needs to be broadened to define and characterize all significant potential stressors acting on the species and habitats of concern for the affected area.

3. Sediments management issues need to be viewed within a broader context of natural processes and the functions and services they provide. Sediments, like soil, water, and timber, are a valuable renewable natural resource in many respects.

3. Comments noted. See our responses to your specific comments.

In DNR's view, the DEIS gives incomplete consideration of the range of alternatives and the ecological and economic factors affecting the long-term project costs and benefits to the region.

More thorough and careful assessments need to be conducted relative to several species of special concern.

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The DEIS does not demonstrate that the Corps and EPA have evaluated whether the proposed actions are consistent with recommendations or actions of key agencies and programs working on Lower Columbia River region issues.

4.

Projects of regional significance may need to go well beyond current regulatory authorities for the state to be able to achieve salmon recovery goals and sustain healthy ecosystems.

4. Comments noted.

General Comments by Category

1. The study has not yet established a credible case for selection of a preferred alternative for either the deep draft navigation improvements or dredge disposal.

The overall relationships of each to the environment and economy of the region is not adequately characterized to serve as the basis for a sustainable decision. The narrow and conventional focus used for the feasibility study and environmental impact assessment is discouraging, given the present high level of concern for the status of numerous species of fish and wildlife, particularly sturgeon, salmonids, smelt, crab and other aquatic species, as well as other regional issues of environmental health and function.

Incomplete assessments do not adequately quantify either the impacts of the alternatives or the benefits of some mitigation and restoration components for some species of concern. For example, the economic and social analysis of the alternatives ignores the costs and benefits to the commercial and recreational fisheries even for recognized high value fisheries on sturgeon, crab, and salmon.

5.

The study has a number of incomplete treatments of the alternatives and all the associated expected resulting activities. For example, while the needs and economic benefits assessments indicate an expected several fold increase in vessel traffic with the project, no assessment is made as to the additional environmental impacts of such an increase. The assessment on the effect of vessel wakes on shoreline erosion is incomplete and misleading without consideration for the effects of increased and larger vessel traffic. Larval and juvenile fish stranding due to vessel wakes is a known concern that needs to be assessed for the projected traffic levels. Increased vessel traffic will also significantly increase the risks of oil spills and associated damages to natural resources along the river and coast. The increased vessel traffic will increase oil spill risks both due to greater risks of collisions and groundings in a much more crowded channel (the longest deep water channel in the country according to the study) and to associated activities such as fueling and fuel transfer. Finally, with respect to potential impacts to biota, the increased risks of introducing exotic species posed by increasing vessel traffic needs to be quantified and managed. Introductions of exotic species through bilge water transfers and other mechanisms is recognized as a substantial threat to aquatic ecosystems of the region.

5. The projections of traffic levels and export levels are assumed to occur with or without any channel improvement. The number of vessels expected to call on the river in the base condition does not represent an impact caused by any channel improvement alternative. The size of vessels in the future is also expected to be independent of any channel improvement activity. Currently, there are vessels moving on the river with design drafts greater than 40 feet, and that is expected to continue with or without a channel improvement. Any impacts related to the amount of cargo shipped out of the Columbia are expected to occur regardless of channel deepening.

In order for the number of vessels moving on the river to stay the same after a channel deepening has occurred, there would need to be additional exports of over two million tons in 2004 in response to a channel improvement. By 2014, the response would have to be over 2.7 million tons.

Also, with regard to concerns for accidents and oil spills, with a deeper channel it is likely that fewer vessels will be moving at the channel constraint. The analysis projects that fewer vessels will move at 43 feet in a 43-foot channel than will move at 40 feet in a 40-foot channel.

Additional information has been added to the final EIS concerning commercial fishing.

An assessment of the feasibility of navigation improvements is, therefore incomplete without a mechanism for putting these risks and management contingencies into perspective for the alternatives.

A number of the conclusions are not supported by scientific evidence, even within the document. Further quantification of the life history needs for species of concern and the potential for population level impacts to those species need to be more thoroughly evaluated before the higher impact alternatives are selected and implemented.

6. No apparent attempt was made to relate this activity to ongoing efforts on salmon recovery planning (eg. Relationship to Northwest Power Planning Council salmon management and recovery activities. Relationships to both the Lower Columbia River Regional response, and ongoing efforts to link transportation planning with land use decisions and salmon recovery under the Washington State salmon strategy).

The validity of some sections of the analysis have been called into question by flaws in processes for participation in development and review of work products. DNR is very concerned when representatives of other state agencies express dissatisfaction with such efforts; as the Aquatic Resources Program in particular relies to a large degree on the success of the lead state agency's protections of overall state interests as part of the agency efforts to achieve our environmental protection mandate. Given the concerns raised by agencies and other interested parties, we would like to see more thorough assessments of the changes in habitat and potential habitat areas and functions of the alternatives and peer review of them before the EIS is finalized. We would like to see some estuarine habitat assessment methods, currently being used for fish species elsewhere in the state, incorporated into the evaluations as a likely mechanism for better quantifying potential impacts and benefits to fish.

2. <u>The Cumulative impacts assessment needs to be broadened to consider all the stressors acting on the species and habitats of concern to assess the relative significance of the impacts of alternatives</u>.

The analysis should address the current status of each organism or habitat of special concern and how the stressors that are currently acting upon it limit population levels or the level of function the habitat is providing. Given the above status, an assessment needs to be made as to what is an acceptable level of additional impact or risk of impact.

7. The analysis needs to include considerations for increases in risks of oil spills, increased exposures of organisms to persistent contaminants, and introductions of exotic species. Management actions to mitigate adverse impacts should be included.

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6. All conclusions in the EIS are based on the best scientific information available for a given issue. As described in detail in the EIS, the project is not expected to have a significant impact on salmon populations in the river. Consequently, there would be no need to relate it to these programs for salmon recovery. Also, a thorough evaluation of cumulative impacts to both organisms of concern and their habitats have been provided in the EIS.

The Corps coordinated with both WDFW and ODFW to determine appropriate salmon restoration measures to be implemented under ecosystem restoration. We have prepared a Biological Assessment for salmonid species and are currently seeking concurrence from the NMFS through their Biological Opinion. The USFWS, in cooperation with WDFW, ODFW, and NMFS, has prepared a Coordination Act Report with specific recommendations on natural resources and project-related impacts.

7. See response #6. The size of the largest ships calling on the Columbia River is not expected to increase with a deeper channel. A 43-foot channel would allow the Panamax class ships currently calling on the river to more fully load, but it is not expected to attract many larger ships due to the draft limitation. Since the fleet is expected to be similar to today's, the risk of accidents and oil spills should be similar to today's.

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7. (con't) For example, oil spill risks to natural resources is a significant omission from the cumulative effects analysis as some additional impacts on natural resources will be unavoidable. Prevention and cleanup measures such as booming and skimming remain relatively ineffective in the flowing water environment of the river. Moreover the oil spill impacts in the lower river and estuary have been documented to be concentrated in the more quiescent shoreline and off channel areas that are the most productive habitats for a large number of species including salmonids and other federally and state listed species of concern.

8. The effects of alterations to river and estuary channel morphology on productivity of the lower river needs to be analyzed more closely. The shallow water and off channel habitat productivity is controlled by flows of water, sediment, detrital materials, nutrients, and woody debris moving downstream from the watershed. The transport and storage functions along the nearshore area will sustain this highly productive type of habitat over extended periods of time. Incising of the main river channel will tend to further concentrate of flows of water, sediment, detritus, debris, and nutrients in the main channel. This indicates alterations of functions of both deep and shallow habitats resulting from changes in sediment, detritus, and nutrient transport and cycling times.

8. Changes in salinity concentrations could be caused by increased salinity intrusion in a deeper channel and/or by changes in flow distribution caused by a deeper channel. The results of the salinity intrusion modeling (Appendix F) show insignificant changes in salinity concentrations in the areas outside the main channel. The plot of bottom isohalines (equal salinity concentration contours) in Appendix F, Figure 19 shows that the changes get smaller as the distance from the main channel increases. This result indicates that there would be very little hydraulic change away from the main channel.

9. The draft EIS has not adequately considered the implications of the magnitude of the historic losses of estuarine habitats and their value as critical habitats for salmonids and other wildlife. For salmonids, we would like a much more detailed analysis on the gains and losses in habitat areas and functions for the proposed actions before the DEIS is finalized and any structural improvemnt alternatives are implemented. In particular, the analysis needs to review in more detail the value of intertidal wetlands to juvenile chinook and chum salmon and to cutthroat trout. The importance of estuarine intertidal habitats and the scale of the historic losses of these habitats indicates that an aggressive estuarine restoration program will be required to recover chinook, chum and cutthroat populations. Further incremental impacts to salmonid population productivity curves - fry growth and survival rates- need to be addressed as a separate consideration from changes in production capacity. The benefits of providing additional production capacity by increasing habitat area or access to existing useable habitat does not necessarily substitute for productivity of existing habitats.

9. Cumulative losses of habitat were addressed in Section 6.12 of the report. The implication of these habitat losses, given their magnitude, are apparent for fish and wildlife resources. The DEIS addressed project-related impacts and initial ecosystem restoration projects, as measured against historical habitat losses. Another, more comprehensive ecosystem restoration study will be submitted for congressional authorization and appropriation in the 2001 budget. This follow-up study would further address restoration measures targeted at historic losses in habitats and fish and wildlife populations.

10. The cumulative impacts of current and proposed uses of the affected area should be considered on recovery potential needs to be considered. The loss of intertidal wetlands in the lower Columbia river has been recognized as a major factor for decline of Columbia River Basin salmon populations. Loss of these habitats has also been recognized as major factor in loss of overall ecosystem health and productivity. Returning large areas of the flood plain to natural structure and intertidal and sub-tidal hydrology would allow natural habitat forming processes to be restored. The functional value of the intertidal wetlands for salmonid production appears, from the literature, to be directly related to the proportion of dendritic channel edge that is readily accessible under various tidal and river stages.

10. A detailed discussion of the historic losses to salmonid habitat and impacts from the proposed project to salmonids is provided in both the EIS and Biological Assessment submitted to the NMFS under Endangered Species Act requirements. The proposed project is not expected to have significant, adverse impacts to salmonid species.

Accessibility in this case needs to be viewed in terms of the daily ability of early migrants to forage up into intertidal wetland areas with the flooding tides and retreat to the edge of larger channels on the ebb.

11. DNR will not support a premise that any affected lands, including the aquatic lands encumbered by the existing navigation channel, are not valuable assets for salmon recovery without substantial evidence and assurances that adequate substitutes have been committed to replace the restoration potential of those lands.

3. Sediments management issues need to be viewed within a broader context of natural processes and the functions and services they provide. Sediments, like soil, water, and timber are a valuable natural resource in many respects.

Rivers are flows of sediments (woody debris, detritus, and nutrients) as well as water that support the riverine, estuary, and coastal ecosystems.

DNR views withdrawals, diversions or other alterations of the sediments flows as separate environmental impacts that need to be addressed in environmental impact documents. We will support navigation projects that recognize the values of sediment flows and mitigate, to the greatest extent possible, the impacts to services provided by those sediments.

The study needs to address the cumulative impacts of the existing and proposed navigation improvements on sediment transport to the Washington coastal beaches. DNR would like to see further justification as to why use of dredge materials to restore the flow of sediments to the beaches is not considered as a legitimate internal project cost similar to in-river beach nourishment projects.

12. The state of Washington asserts ownership for both a substantial proportion of the sediments within the study area and those under consideration for potential disposal options. DNR requests that the ACOE add an explicit statement that DNR authorization must be obtained for any potential uses of these materials.

If dredging projects to deepen the channel proceed, DNR will need further assurances that contaminated sediments related risks to both the environment and to increased liability exposure for the state of Washington are avoided. DNR will need to review and approve of detailed plans of action in the design phase of the dredging projects.

Upland Disposal

13. As required by Title 79 RCW 79.90.150, all landowners, public, private, or project sponsor, need written authorization from Washington State Department of Natural Resources prior to any material being placed at an upland disposal site. Part of this authorization is a determination by

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11. The proposed project will not impact shallow water habitat in the lower Columbia River. As part of the Ecosystem Restoration portion of the project, it is proposed to breach several lower river dikes and recreate shallow water habitats. In addition, the disposal plan has eliminated most beach nourishment disposal sites, which will further increase availability of shallow and subtidal habitat.

12. See report sections 6.2.3.2 and 6.2.3.3 as well as Appendix F. The channel deepening could cause a minor concentration of flow in the main channel. However, the hydraulic impacts to estuary flows, and therefore sediment and debris distribution, would be minor because, 1) the very large total flow area in the estuary and 2) the estuary flows are controlled more by the ocean tides and than by the river channel. The hydraulic analyses of water surface elevations and salinity concentrations support the expectations of minor changes in the estuary. As shown in Figure 6.1, the deeper channel would cause insignificant changes in water surface elevations, especially in the estuary where there would be essentially no change. Since the water surface profiles and thus the energy gradients in the estuary are unchanged, the flow in the estuary channels should also be unchanged.

Disposal costs for ocean disposal as well as throughout the navigation channel are developed based on least cost, engineeringly sound, and environmentally acceptable criteria. We currently only have three beach nourishment sites included in the proposed action. We evaluated alternatives of direct placement of material onto Benson Beach, and it is not economically justified. We are able to place material on Benson Beach if a willing non-federal sponsor is identified.

13. Comment noted.

13. (con't) the department as to whether the material on the site is to be used for a public purpose. Another part is a materials removal agreement between the department and landowner. Anyone, public, private, or project sponsor, using material not designated for a public purpose or selling material owes a royalty to the state of Washington. This includes material used for a beneficial use as defined in Chapter 4 Section 4.3.6. Landowners will need to contact the department at least six months prior to the beginning of the project to obtain written authorization.

14. Washington Department of Natural Resources opposes using any upland or island site when riparian habitat will be removed in preparation of the site receiving material.

Shoreline Disposal

15. Washington Department of Natural Resources is opposed to material being placed on shoreline areas where uplands are created that the upland owner is able to claim as an addition to their ownership when in fact this is land still owned by the state of Washington.

In-Water Disposal

16. Washington Department of Natural Resources is opposed to any in-water disposal which will create or combine separate islands.

17. The department is also opposed to any material from the Willamette River or other potentially contaminated areas being placed at a Columbia River site, unless the material is determined to be suitable for unconfined disposal and any persistent or bioaccumulative contaminants are demonstrated to pose no risk to biota including important food web invertebrates. We are concerned that in-water dredge disposal of materials with low levels of persistent contaminants poses some risks that toxins may accumulate in depositional areas in concentrations sufficient to cause some damages to natural resources. We, therefore, also request that structural improvement alternatives include broad scale monitoring for persistent contaminants.

4. Inadequate consideration of the range of alternatives and of the ecological and economic factors affecting the long-term project costs and benefits to the region for each alternative.

18. Long-term viability of the 43 foot draft alternative to meet the world market needs of the Columbia River Basin Region. Demand for very deep draft facilities has increased elsewhere on the West Coast. At the same time there are reports of emerging vessel designs for larger but relatively shallow draft ships.

We would like to see more justification as to why the project proponents believe the deepening alternative and its associated impacts is the right investment strategy for world market conditions.

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14. Comment noted. However, it is impracticable to implement such a restriction. Upland and island sites targeted for disposal and that contain riparian habitat are historic or current dredged material disposal areas.

15. The only proposed shoreline disposal site on the Washington shore is as Skamokawa Park. Resolution of land ownership issues at shoreline disposal sites is a DNR responsibility.

16. In-water fills forming uplands that create or combine separate islands has been precluded by ESA Critical Habitat for Snake River Salmonids. None are proposed by this action.

17. Comments noted; sediment will be evaluated in accordance with the Dredged Material Evaluation Framework (DMEF) as developed in partnership with the DNR. Broad scale monitoring for persistent contaminants is beyond the scope of the DMEF, however is within the scope of other programs such as the NEP CR Estuary Management Plan which we support.

The FEIS has been revised to state that the Willamette River deepening will be delayed in order to allow coordination with the ODEQ investigations and remediation planning for Portland Harbor.

18. Our analysis was limited by statute to study depths no greater than 43 feet. There is a point at which continued deepening would not be justified, and it is something deeper than 43 feet.

19. We request that the feasibility of transporting materials to a lower river deep draft Port facility by bulk cargo vessel be analyzed.

20. Physical alterations to upstream mainstem dams and alterations to river flow regimes may be required to restore river ecosystem functions needed to achieve recovery of salmon populations. Modeling of potential sediment transport for various potential alterations and combinations needs to be conducted to test the feasibility and environmental impacts of navigation capacity alternatives under altered sediment loading regimes. The analysis should also consider the risks and consequences of natural catastrophic events that could change sediment loading or transport through the project area. Adaptive management strategies to respond to the potential range of sediments.

21. The effect of the vessel traffic levels on recreational uses of the river and the safety of users has not been adequately addressed. A several fold increase in deep draft vessel traffic may render some very popular recreational boating and beach sites along the river unsafe for public access.

5. <u>More thorough and careful assessments need to be conducted relative to several species of special concern.</u>

22. Impacts to White Sturgeon and habitats. More work is needed on each step of the mitigation sequencing to reduce the impacts to this valuable resource. Areas of concern include entrainment, direct impacts to prey species by dredging and disposal, alterations of functions of both deep and shallow habitats resulting from changes in sediment, detritus, and nutrient transport and cycling times due to further concentration of flow volumes in the main channel and additional exposures to toxicants from oil spills or other hazardous materials releases.

The status of and impacts to the Columbia River smelt and habitats. Our level of concern for potential dredging impacts to smelt has increased dramatically as a result of the recent unexplained substantial decline in run size. Areas of concern include entrainment, alterations of functions of both deep and shallow habitats resulting from changes in sediment, detritus, and nutrient transport and cycling times due to further concentration of flow volumes in the main channel and additional exposures to toxicants from oil spills or other hazardous materials releases.

Impacts to salmon. Areas of concern include direct impacts to prey species, alterations of functions of both deep and shallow habitats resulting from changes in sediment, detritus, and nutrient transport and cycling times due to further concentration of flow volumes in the main channel, additional exposures to toxicants from oil spill ' s or other hazardous materials releases, and cumulative losses of flood plain sites as potential restoration projects through disposal fills.

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19. The regional port analysis has been revised to reflect more accurate costs.

20. The dams in question provide minimal flow regulation for the mainstem Columbia River. Alterations in flow regimes, if those dams were ever drawn down, would have insignificant impacts on sediment discharged to the Pacific Ocean and on the maintenance-dredging forecast.

Any impacts from unpredictable, undefined catastrophic natural events would have to be addressed should they ever occur.

21. The project benefits are not based on, nor do we anticipate, an increase in vessel traffic due to a deeper channel. Increase in ship traffic is expected based on commodity projections with or without a deeper channel.

22. See our response #6 to the National Marine Fisheries Service letter.

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Impacts to Dungeness Crab. Areas of concern include entrainment and burying of juveniles and adults, and additional exposures to toxicants from oil spills or other hazardous materials releases.

Corophium spp. and other benthic invertebrates that are the base of the Lower Columbia River food web. Areas of concern include entrainment, frequent and sustained disruptions in deep benthic habitats structures and resulting functions, alterations of functions of both deep and shallow habitats resulting from changes in sediment, detritus, and nutrient transport and cycling times due to further concentration of flow volumes in the main channel, and additional exposures to toxicants from oil spills or other hazardous materials releases.

22. (con't)

Impacts to sandlance. Areas of concern include entrainment and burying of juveniles and adults, and additional exposures to toxicants from oil spills or other hazardous materials releases. We do not know of any assessments on this species in Washington State as to the potential for, or impacts of dredge disposal related to burying of juveniles and adults. As it is a common to abundant and important forage fish with a habit of burrowing in sandy marine substrates, we would like to see an assessment as to the potential impacts and any appropriate mitigation measures.

6. <u>The DEIS does not demonstrate that the Corps and EPA have evaluated whether the proposed actions are consistent with recommendations or actions of key agencies and programs working on Lower Columbia River region issues</u>.

The DEIS does not demonstrate that the Corps and EPA have evaluated whether the proposed actions are consistent with recommendations or actions of key agencies and programs, such as the National Marine Fisheries Service, the Lower Columbia River Estuary Program and the US Geological Survey/WA Department of Ecology/local government study of Southwest Washington Coastal Erosion.

DNR requests a more thorough detailed analysis as to relationships with other land use planning and decision-making fora to define and resolve areas of potential inconsistencies, conflicts, and opportunities prior to finalization of the EIS and selection of an alternative. Project lacks context relative to any aquatic ecosystem restoration planning. There are a number of unresolved inconsistencies with existing restoration, recovery and ecosystem planning efforts and activities. There are also gaps in information as to how the proposal relates to potential recovery actions.

23.

DNR also requests a more thorough detailed analysis as to relationships with other land use planning and decision-making fora to define and resolve areas of potential inconsistencies, conflicts, and opportunities prior to finalization of the EIS and selection of an alternative.

We are also seeing substantial inconsistences, at a statewide level, between assessments as to the risks that various in water activities, such as navigational improvements, maintenance

23. The final EIS will incorporate all relevant agency programs not included in the draft EIS. The Ecosystem Restoration plan was based upon input received from federal and state agencies.

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dredging, sediments disposal, Geoduck harvesting, gravel mining, and port improvements pose to salmonid life history needs in estuaries. DNR will need to see more thorough assessments of salmonid habitat functions to resolve these inconsistencies before we are comfortable with assertions that any large scale project has adequately addressed salmonid habitat protection and restoration needs for recovery efforts.

23. (con't)

DNR is concerned that there are not better linkages between this decision-making process and comprehensive planning and decision making processes that are responding to ESA, the Clean Water Act and salmon recovery effort needs in the Columbia River Basin. Our view is that ample guidance exists for assessing the outcomes of regional navigation and commerce capacity enhancement alternatives on ecosystems at the scale of the entire Columbia River Basin within a regional natural resource management framework that will serve to better coordinate navigation management decisions with other basin scale aquatic resource management arenas.

24. As you are aware, there are a number of recent developments on applications of sustainable ecosystem management principles. There are two types of sustainable ecosystem management principles; the more general principles for governance of sustainable ecosystems and scientific principles as a framework for implementation of ecosystem management. Attached is an example of ecosystem management principles that have been adopted through international agreements such as the Lisbon Accord on Sustainable Governance of Ocean Resources and the Rio Summit and Accords on the Environment. An example of best available scientific guidance is the attached copy of a July, 1998, staff report to the Northwest Power Planning Council, synthesizing the scientific literature on sustainable ecosystem management into a proposed scientific foundation as a regional framework for fish and wildlife restoration. We would like to discuss with the ACOE and the affected natural resource management agencies how those principles are or may be applied to management of navigation improvement decisions prior to finalization of the EIS and selection of an alternative.

7. <u>Coordination on projects of regional significance will need to go well beyond current regulatory authorities for the state to be able to achieve salmon recovery goals and sustain healthy ecosystems.</u>

25. The state salmon strategy relies to a large degree upon partnerships and voluntary efforts to achieve salmon recovery goals. For a project of this magnitude, DNR would prefer to see a larger scale cooperative estuarine ecosystem restoration initiative that would more fully coordinate between affected parties to avoid conflicts and capture opportunities. We request the Corps, EPA, and NMFS consider ways in which they may apply their authority under ESA, including Section 2 to promote recovery and sustainable ecosystem management to support the state salmon strategy efforts.

24. The Corps, in conjunction with the local sponsors, other federal agencies and state resource agencies held three ecosystem restoration meetings in early 1997 to address salmon recovery and restoration efforts for other natural resources. Normally, an ecosystem restoration study would require a specific authorization and appropriation from Congress. However, ecosystem restoration studies can be integrated into an ongoing authorized and funded feasibility study, as was done in this case, provided a local sponsor is identified and no increase in funding is required. We have incorporated a number of the suggestions derived from those meetings into an ecosystem restoration effort identified in Section 4.8 of the main report. A second effort, to expand the scope of ecosystem restoration efforts on the lower Columbia River has been initiated. This second effort was not accepted into the President's 2000 budget. The Corps will resubmit this new start General Investigation for lower Columbia River ecosystem restoration into its 2001 budget submittal. WDNR is invited to become a local, cost-sharing sponsor in the ecosystem restoration efforts along the lower Columbia River as are any other interested and/or eligible entities. Federal law requires local sponsorship for ecosystem restoration. Thus local participation is a requirement to further this effort and it provides an avenue for full participation in the development of restoration projects.

25. See response #24. The Corps is an active supporter of the salmon recovery efforts for the Columbia Basin and have been working with the resource agencies on several programs to help restore salmon runs. As far as the proposed project is concerned, several ecosystem restoration efforts are included. These efforts were planned and coordinated with an interagency task force that included representatives from the State of Washington, and will provide additional salmon habitat in the lower river.

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DNR as the aquatic land manager will continue to work with the Corps, EPA, and NMFS on innovative solutions to accelerate recovery efforts in cases like this where decision processes for development and recovery do not appear to be sufficiently coordinated to achieve a sustained level of environmental health.

25. (con't)

The question of whether some navigational alternatives are compatible with the scale of restoration necessary to achieve the goals of the Washington salmon recovery strategy and the Wild Salmonid Policy needs to be addressed. For example, we have insufficient information at this time to judge whether the proposed tidegate improvements are consistent with the scale of future recovery actions. Our preliminary assessment of the scale of recovery needs indicates that breaking of dikes to return substantial acreage to intertidal wetlands that are readily accessible to salmonid fry may be more appropriate. We feel it is premature to commit to an action that closes the door on any potential large scale estuarine habitat protection or restoration projects thereby constraining the state's options for responding to salmon ESA listings and for incorporation in the state salmon recovery strategy.

The department supports cost-effective and responsible use of the limited public natural resource management and salmon restoration dollars that are and will be available. Ecosystem processes and functions occur at multiple landscape scales. Habitats are supported by nested ecosystem processes. Restoration will be futile unless and until we adequately protect all functional values of existing habitats and areas useable for future recovery efforts. The costs and benefits of the alternatives and associated actions that could further expand intertidal and flood plain restoration should be assessed in detail.

DNR has offered the following concepts on estuary restoration and salmon recovery efforts and offers them again here for further discussions on management of the lower Columbia River region:

Salmon Restoration and Recovery Context

Our department is working to approach salmon restoration from a comprehensive and long-term sustainable ecosystem management perspective using landscape and watershed management tools.

26.

We view estuaries as a critical link in restoring both sustainable healthy watersheds and salmon, particularly chinook and chum populations. The some of the salient points our department is using to guide our decisions relative to estuary restoration are:

- Salmon are a key large scale nutrient transport vector that generally fuels watershed productivity.
- Estuaries are critical nutrient and materials sinks that help drive the coastal basin's productivity by capturing and repeatedly recycling nutrients and carbon.

26. Comments noted.

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26. (con't)

- The overall context for protection, remediation, and restoration actions in an estuary is provided by the river continuum concept, ecosystem management concepts, and sustainable watershed management principles.
- Restoration elsewhere in the watershed continuum will not substitute for the loss of the estuary "link".
- The historic condition of the estuary and the resource production the watershed sustained in that state serve as a template for restoration planning.
- Chinook and chum salmon and cutthroat trout can be used as a very effective indicators of watershed and estuary health. Chinook, chum and cutthroat generally fully utilize estuarine habitats including intertidal wetlands for extensive periods. The production capacity of a watershed for these three species is, therefore, strongly influenced by the areas and functions of the estuary and can be used as a performance measure for estuary function.
- While numerous uses of historic estuary habitats may be provided elsewhere in the watershed, critical intertidal juvenile salmonid rearing habitats can only be restored in the historic estuary.
- We feel that restoration of native habitats and the natural processes to sustain them needs to be considered a priority land use to facilitate the salmon recovery process.

Manage Habitats as Part of the State's Infrastructure

DNR has proposed that we treat habitat and ecosystem function like any other part of the state infrastructure.

Rephrasing the concept in development terms may help make the significance of the concept more apparent. Just as a city, port, or private party may see merit in development or redevelopment of assets along the waterfront, the DNR sees merit in protecting and developing the natural resource production base assets to achieve our mandate and to arrive at a solution that is again defensible as in the best interest of the citizens of the state as a whole. To reach a balance between navigation and commerce capabilities and natural resource production will
27. require some integration and agreements as to the various visions of desired future conditions of the landscape. To do that will require discussions of tradeoffs as to where land uses fit best on the landscape. There are areas where ecosystem function is critical and needs to be protected or restored as a necessary primary land use. Other land uses will need to be considered only as potential secondary uses. Location is everything for ecosystem functions just as it is for the navigation needs; and just as with transportation, well connected corridors are an essential attribute of the aquatic ecosystems of the river continuum.

27. Comments noted.

Production based renewable aquatic resource management

DNR has proposed a production-based focus for ecosystem protection and restoration where production goals for a species or suite of indicator species or species of interest would be used to

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as the basis for developing habitat investment strategies and objectives. The use of the historic land coverage patterns in conjunction with production capacity estimates is a powerful mechanism for scaling the area and functions of habitats needed for restoring ecosystem processes and patterns of sub-ecosystems; even if the scope of the restoration is only a fraction of the historic system. Since we do not have perfect knowledge of ecosystem processes historic landscape patterns may provide the best templates for making informed decisions on where and how much habitat setting ecosystem management goals.

27. (con't)

In considering healthy fish and wildlife populations as potential services the focus area provides, we suggest the following points of discussion:

- What are the defined levels services the local community and the citizens of Washington expect from the watershed and the focus area?
- What role can/should the river, the flood ways, and the flood plain play in the response to ESA listings and other conservation initiatives?
- What role can/should the estuary play in the Statewide Strategy to Recover Salmon?
- The community will need to redevelop renewable natural resource production capacity along with the other land uses to reduce the overall conflicts between competing aquatic land and flood plain uses within the lower river, estuary, coastal zone, and the region.
- Just as with any other redevelopment, location is key to ecosystem restoration.

Again, thank you for the opportunity to comment on this important issue. If you have any questions or if I can be of assistance to you, please call me at (360) 902-1146.

Sincerely,

William Graeber
NR Scientist III

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State of Washington
DEPARTMENT OF FISH AND WILDLIFE
Region 5 Office: 2108 Southeast Grand Boulevard - Vancouver, Washington 98661 - (360) 696-6211

January 25, 1999

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E ATTN: Steven J. Stevens
Post Office Box 2946
Portland, Oregon 97208-2946

Dear Mr. Stevens:

SUBJECT: Columbia and Lower Willamette Rivers Navigation Channel; Draft Integrated Feasibility Report For Channel Improvements and Environmental Impact Statement, Columbia River, Tributary to Pacific Ocean; River Mile 3 through 106.5, in Pacific, Wahkiakum, Cowlitz and Clark Counties, WRIA 24.0001 through 28.001

The Washington Department of Fish and Wildlife (WDFW) has reviewed the Draft Integrated Feasibility Report For Channel Improvements and Environmental Impact Study (DEIS) to improve the deep-draft transport of goods on the navigation channel and to improve ecosystem restoration for fish and wildlife habitats. The Columbia River supports significant commercial and recreational fisheries and provides important habitat for many wildlife species, including threatened and endangered species. Channel dredging activities have the potential to substantially alter the abundance and distribution of fish and wildlife resources along the lower Columbia River. We offer the following comments and recommendations:

Sturgeon:

1. White sturgeon, *Acipenser transmontanus,* is a native anadromous fish of the Pacific Northwest. Although they can complete their trajectory in fresh water, those populations with access to the Pacific Ocean freely migrate from Central California to southeast Alaska. There are only three river basins where spawning of white sturgeon has been confirmed: the Sacramento, Columbia, and Fraser. Production in the Sacramento has been hampered by dramatic irrigation withdrawals that have impacted spawning and recruitment. Fraser sturgeon have been over-fished for decades, which has led to a complete prohibition from harvest. The lower Columbia population is by far the strongest of the three and is currently considered healthy and building. Sport and commercial sturgeon fisheries in the lower Columbia are the largest respective fisheries in the basin. This extraordinary production and the economic benefits derived from sturgeon fishing in the lower Columbia could be compromised by some of the actions prescribed as part of the US Army corps of Engineers (USCOE) Channel Deepening project.

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1. We concur that the proposed project will likely cause some impacts to the sturgeon population and its habitat in the lower river. However, we disagree that these impacts will compromise the entire lower Columbia River population or its habitat. Dredging for the channel deepening project will occur in the same areas that are currently being dredged for the maintenance of the current existing channel. Consequently, it is unlikely that here will be any increase in impact with the channel deepening. Disposal impacts could increase on both individual fish and their food source by the use of the deeper in-water disposal sites. As agreed by your agency, these impacts will be further evaluated in a study that will be done during the next phase of the project.

Also see our response #6 to the National Marine Fisheries Service letter.

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Potential Impacts:

There are four potential impacts to white sturgeon from channel dredging and flowlane disposal of dredge spoils: 1) alteration of critical rearing habitats, especially nursery habitats for juveniles, 2) disruption of benthic invertebrate production- an essential forage base for sturgeon of all ages, 3) disturbance and reintroduction of contaminants into the food chain bound in river sediments, and 4) direct mortality of juvenile, subadult, and adult sturgeon from dredging operations. The following text provides a brief review of potential impacts from dredging operations.

Alteration of Critical Rearing Habitat:

1. (con't)

Most of the lower Columbia River from the estuary upstream to Bonneville Dam provides the critical rearing habitat necessary for survival and strong production of white sturgeon. Larval, young-of-year (YOY), and juvenile white sturgeon are ubiquitous in the lower Columbia River. Parsley et al (1993) found YOY white sturgeon in depths of 9-57 m at current velocities of 0.1-1.2mi/s. Most YOY and juvenile white sturgeon were captured in the thalweg and deeper holes of the lower Columbia river where dredging operations will be concentrated (McCabe and Tracy 1994, Parsley et al. 1993). Larval and YOY white sturgeon are intolerant to salinities >15 ppt (Brannon et al. 1985, McEnroe and Cech 1985) and are, therefore, restricted to the limited freshwater habitats affected by proposed dredging. Since it is unknown when white sturgeon develop the capability to osmoregulate in estuarine or marine environments, the range of age classes restricted to freshwater habitats that will be affected by dredging is unknown. The ultimate impact of channel dredging and flowlane disposal of spoils on sturgeon rearing habitat and eventual productivity is unclear. However, there is a potentially large impact given the dependence of these affected habitats.

Disruption of Benthic Invertebrate Production:

All age classes of white sturgeon, after the larval stage when yolk sacs are absorbed, subsist on benthic invertebrates. Benthic invertebrates, especially *Corophium* spp., are heavily utilized by white sturgeon. There is a critical dependence on benthic invertebrates by YOY and juvenile white sturgeon <725mm (McCabe et al. 1993). However, it is noted that benthic invertebrates are an important part of the diet of older and adult sturgeon as well. Although benthic invertebrate densities are relatively low in the deeper water reaches where YOY and juvenile white sturgeon are most often found and where dredging is proposed, high feeding efficiency of juvenile sturgeon may compensate and there is some other factor responsible for habitat preference by juvenile sturgeon (McCabe et al. 1993, McCabe and Tracy 1994). Without a behavioral response by juvenile sturgeon to disruption of the benthos, the impact of dredging may seriously compromise food availability.

1. (con't) Flowline disposal of dredge spoils also has a potential impact on benthic invertebrates in off-channel areas where invertebrate densities are higher. Subadult and adult white sturgeon make feeding forays into shallow water (Haynes and Gray 1981, Parsley et al. 1993) and could be adversely affected by flowlane disposal of spoils.

Contaminants:

2. A recent reconnaissance survey of contaminants in the lower Columbia River indicated relatively high concentrations of heavy metals, PCBS, organic pesticides and other polycyclic aromatic hydrocarbons, dioxins, furans, and radionuclides in lower Columbia River sediments (Tetra Tech 1993). Disturbance of contaminated sediments threatens the release of toxins in the food chain that can bioaccumulate in taxa at higher trophic levels (Landrum and Robbins 1990). White Sturgeon are particularly susceptible to negative effects of bioaccumulation of toxins due to their longevity, epibenthic feeding habits, high tophic level, and their relatively long freshwater residence (DeVore et al. In Press). Negative impacts include direct mortality, disease and other mechanisms of indirect mortality, and reproductive dysfunction. Doroshov (1990) states that white sturgeon tend to bioaccumulate toxins in ovarian tissue and speculates that this could tend to reduce reproductive potential. The net affect of bioaccumulation of toxins on sturgeon is reduced population productivity and increased human health risks.

Direct Mortality by Entrainment into Dredges:

3. There may also be direct mortality from dredging operations. White sturgeon mortalities have been observed as a result of dredging operations (Buell 1992). It appears that sturgeon are drawn to dredging operations when the benthos is disturbed and an olfactory plume attracts them to the dredge site. Direct mortality ensues when foraging sturgeon are entrained in the dredge. Unlike juvenile salmonids that are unlikely to be entrained in pipeline dredges because dredging operations typically occur at depths greater than where salmonid smolts migrate (USACE 1998), YOY juvenile white sturgeon are typically found in deeper channels and holes of the lower Columbia River (McCabe and Tracy 1994, Parsley et al. 1993). They are, therefore, more susceptible to entrainment and direct mortality during dredging operations.

Assessing Impacts to White Sturgeon

Determining Long Term Population Impacts:

4. The cumulative impact of channel dredging and in-water disposal of spoils to lower Columbia white sturgeon can be assessed by monitoring changes in the parameters that contribute to stock productivity. Although it may be difficult or impossible to differentiate sources of mortality to the population explicitly, the net impact can be discerned by noting significant changes in growth rate, condition factor (or relative weight), reproductive potential, mortality rates, and abundance relative to dredging. This effort would require a thorough stock assessment before and after dredging operations. Differential fishing-related mortality can be factored out by continuous harvest monitoring (already a state-mandated management activity). Changes in relative

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2. The Bi-State program conducted various studies during 4 years along the mainstem of the Columbia River from RM 148 to the mouth. Included in this was the evaluation of sediment quality in two sampling events in 1991 and 1993. The 1991 survey is known as the Reconnaissance Study and the 1993 is known as the Backwater Study. The 1991 study sampled 54 stations while the 1993 study sampled 15 stations. For all stations the depth of sediment sampled was less than 2 inches. In addition only two stations were actually located in the federal navigation channel, both were in the lower river in the estuary. Therefore it can be stated that the sediments collected and analyzed by the Bi-State Study are not representative of the material proposed to be dredged by the CRCD study.

In addition to sediment the Bi-State Study collected and analyzed various mammal, invertebrate, and fish species for contamination. Along with studies conducted on various avian species including eagles and osprey contamination and adverse impacts to the reproductive and development of various species have been documented. Suspected contaminants include DDT and its derivatives (DDE and DDD), PCBs, and dioxin/furans. While found in these animals during the Bi-State study they were found very infrequently in the sediments. Four Bi-State sediment samples exceeded screening levels listed in the DMEF for total DDT. These were the only exceedances. Sediments represented by the other 65 sediment samples would be deemed suitable for unconfined in-water disposal under the CWA and MPRSA. This lack of contaminant source for the higher trophic layers has left a question of origin for the contaminants found in the species tested. Dredging is therefore frequently questioned as being the source and various evaluation schemes are proposed beyond those adopted by the DMEF. However the Bi-State Study was not able to make any connection between sediment contamination or transfer of contamination from one trophic layer to higher trophic layers. Indeed the Bi-State Study found little evidence of sediment contamination in either its 1991 Reconnaissance Study or its 1993 Backwater Study.

Also see our response #7 to the National Marine Fisheries Service letter.

3. See our response #8 to the National Marine Fisheries Service letter.

4. We are planning to conduct studies on sturgeon and their habitat in the deep holes in the lower river. We will coordinate with you on your agency's interest in conducting these studies.

abundance, age structure, and total mortality can be estimated by conducting mark-capture experiments prior to and after dredging. Representative sampling of all age classes of the lower Columbia white sturgeon population during these stock assessments would provide the information necessary to estimate growth rate, condition factor, and reproductive potential. Population simulation modeling incorporates all estimated population dynamics parameters to discern the cumulative effect of changes at the population level.

Entrainment:

4. (con't)

Telemetry studies coupled with representative sampling of dredge spoils are recommended to monitor entrainment and direct mortality from dredging operations. Sturgeon captured and fitted with radio or sonic transmitters would be tracked to monitor changes in behavior and distribution during dredging. Young-of-year and juvenile sturgeon would also be injected with PIT tags. Representative sampling of dredge spoils by interrogating for PIT tags in conjunction with physical observations would be used to determine entrainment rates of tagged fish. Estimates of total entrainment would be calculated by estimating the proportion of spoils sampled for entrained fish. Estimates would be "truthed" by incorporating telemetry results in a probabilistic distribution model.

Agency Participation:

These activities would be conducted cooperatively by the Washington Department of Fish and Wildlife, the Oregon Department of Fish and Wildlife, and the National Marine Fisheries Service. These agencies have the expertise and equipment to conduct this work in a professional and cost effective manner.

Smelt:

Since 1993 smelt, *Thaleichthys pacificus,* have been low numbers in the Columbia River and tributaries and have become a species of concern and focus within WDFW. Adult smelt may enter the Columbia River and tributaries any time between mid-December and Mid-April of any year.

5.

Known spawning areas in the Columbia River include Clifton Chanel, between Eagle Cliff and Stella, and between the Kalama River and the Lewis River. Smelt also are known to spawn in the Grays River, Cowlitz River, Kalama River Lewis River, and the Sandy River. In recent years a substantial portion of the population has been found to spawn in the mainstem Columbia.

Spawning occurs primarily over a bed of fine pea-sized gravel or semi-sandy areas where the water flows at moderate velocities. The eggs attach to the course material and small sticks or debris form an anchorage for them. Eggs have been recovered in depths ranging from three (3) inches to over 20 feet. Normal hatching time is approximately 30 to 40 days.

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5. Comments noted. We feel that most of the impacts to smelt could be minimized by scheduling the dredging and disposal to avoid periods of peak migration. It is our understanding that your agency is conducting annual surveys of smelt in the lower Columbia River. This information would be valuable to our efforts to minimize impacts to smelt.

Also see our response #12 to the National Marine Fisheries Service letter.

The newly hatched larva are approximately four (4) millimeters in length and one (1) mm. in depth. Immediately upon hatching they are at the mercy of the currents and begin their migration to the ocean. Smelt larva can be found anywhere in the water column and from bank to bank.

5. (con't)

Preferred smelt spawning habitat may be reworked, removed, or altered by dredging, especially when dredging is substantial. This may further impact and already depressed population.

To protect smelt larva from entrainment WDFW strongly recommends that dredging in the Columbia below the mouth of the Lewis River, be limited to the use of a clamshell between January 1 and June 1 of any year. WDFW also recommends that USACOE add smelt to the list of Species of Concern, and the USACOE fund a adult spawning distribution or larval production/distribution sampling effort to detect changes in mainstem spawning distribution in mainstem Columbia before, during and after dredging.

Beach Nourishment:

Nearshore shallow water habitats along the Columbia River, adjacent sloughs provides a number of critical functions for young salmonids during their downstream migration. Two of the most important functions of these are food production and shelter from predators. Studies have shown that certain invertebrates found in shallow water are ideally suited as prey because of their visibility, size, and abundance. These crustaceans are found in greatest abundance on fine-grained sediments from wetted perimeter of the shoreline to approximately 15 feet of water.

6. Dredging and filling activities in shallow water, and beach nourishment activities within the migration corridor directly impact the production of these prey organisms by covering up their habitat with coarse Columbia River sand, significantly reducing productivity. WDFW suggests that the beach nourishment locations be reduced or the distance between each site be such that there is not an extended area that has been affected by disposal.

Additionally, the coarse grained, beaches created by beach nourishment create prime shipwash salmonid stranding areas. As vessel size increases, stranding will increase proportionally to the number of vessels and the number of stranding beaches created.

Marine Area Concerns:

In the marine area there are two concerns that we feel are not adequately addressed and mitigated in the DEIS: Deepening and incremental maintenance dredging of the estuarine portion of the project, and disposal of dredged material in the marine environment. We are specifically

7. concerned about the impacts to Dungeness crab from these activities, both because they are a very important animal, commercially and recreationally, and because they are an organism dependant upon habitats critical to many of the other productive species that would be negatively impacted by the same activities.

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6. Most historic beach nourishment sites have been eliminated from use. Only three sites are proposed for use in the proposed project, and then only for operation and maintenance. These sites are highly erosive and do not provide any significant amount of habitat.

The fleet projection (ship size) remains the same with or without implementation of the proposed project. The volume of ship traffic may actually decrease with project implementation as vessels can load to capacity. Consequently, given the limited number of beach nourishment sites and comparable ship traffic and size, salmonid stranding is considered negligible.

Dredging entrains and kills Dungeness crabs, which are likely found as far upstream as favorable salinity allows them to feed, rear, and migrate, potentially as far upstream as Grays Bay.

7. (con't)

Entrainment of these crabs during both construction and incremental maintenance of the constructed area needs to be mitigated, by utilizing avoidance measures and by using proven habitat enhancement to replace those crabs unavoidably entrained and killed. Fortunately for the Portland District, the Seattle District has dealt successfully with these issues in the 1989 Grays Harbor Navigation improvement Project EIS, and ongoing coordination and refinement of mitigation measures agreed to in this EIS have culminated in the September 1998 Revised Crab Mitigation Strategy Agreement (enclosed). This document, signed by all of the participating regulatory agencies and the Seattle District Engineer, outlines in detail the methods of avoiding, minimizing, calculating, and mitigating crab impacts. While timing and numbers of crabs in the Columbia estuary likely differ from those in Grays Harbor, investigations utilizing the protocol in the Strategy, coupled with existing data from past crab investigations in the Columbia, could easily be utilized to enumerate these differences and develop a successful Columbia River strategy. Most of the work has been done, so adoption of this strategy into the EIS should be simple and straightforward. To facilitate this, we recommend that the Portland district biological team work closely with Lauren Warner of the Seattle District, (206) 764-6578, who should be able to easily explain the Strategy and implications.

There are additional concerns with entrainment of Dungeness crab that need to be addressed. Avoidance of entrainment needs to be the first goal. Some sampling effort needs to be expanded to identify the extent of seasonal utilization of the estuary by crabs, so that dredging can be directed to areas of seasonal low abundance, as it is in Grays Harbor. Dredging should be concentrated during these times where practical. Also, entrainment of crabs is dramatically reduced by the use of a clamshell dredge, and this tool should be utilized to the greatest extent possible for construction and maintenance of the channel in estuarine areas where it is practical to do so.

Identification of suitable disposal sites for dredged material in the marine environment, especially in the context of coordinating disposal of dredged MCR sediments, has been the subject of considerable effort by the Corps, resource agencies, and fisherman's associations for several years now. It has also been the subject of a recent lawsuit. We were very disappointed, after all of this effort, to see the proposal in the DEIS for disposal of these sediments. This proposal does not reflect the agreements reached in the process so far. It purposefully proposes

8. placing coarse sediment in heavily fished areas, in productive areas of finer grain sediment, and in areas where it will never enter the littoral drift process. Moreover, it completely fails to recognize that beneficial uses for this sediment exist that are critical to developing long term solutions for management of erosion on the Washington Coast. But what is particularly confounding to us is the dismissal of the one idea that has come out of this process in a favorable light by all participants: Beneficial use for erosion control on Benson Beach. This is essentially another beach nourishment site. The deepening project is co-sponsored by the Corps and seven lower Columbia River ports, which are already sponsoring disposal and beneficial use in numerous upland and beach nourishment sites over 100 miles of the project. We see no reason

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7. The Portland District has funded both a 4-year entrainment study at the MCR as well as several year study of crab distribution and abundance in the estuary. Results of these studies indicated that crabs are not very abundant in the Columbia River estuary, primarily because of the large influence of freshwater. The only spot in the estuary that has a large abundance of crabs is Baker Bay, which has higher salinity than other areas in the estuary. Large numbers of 1 and 2 year old crabs are present in Baker Bay in the winter apparently rearing. Based on this information we no longer dredge the side channel projects in Baker Bay in the winter. The main navigation channel generally had low abundance of crabs except for the entrance channel in the early spring when young of the year crabs are settling out of the water column and can be very abundant. Dredging at the MCR normally does not occur until the peak of these crabs has past. Though entrainment of these crabs can be high additional tests have shown that they can survive dredging as well as conditions in the hopper. Portland District in conjunction with Seattle District has been working on the development of an excluder device that would attach to the draghead to reduce or eliminate entrainment of crabs. The excluder project is ongoing and if successful will greatly reduce entrainment impacts.

8. See response #100 to the Oregon Department of Fish and Wildlife letter. Additional information on Benson Beach has been added to Appendix A.

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that this sponsorship should not extend to dealing with disposal of construction and incremental maintenance of all the sediments proposed to be dredged by this project. Beneficial use at Benson Beach is one of the only ways that these sediments can be utilized in a manner consistent with all of the input received by the Corps.

8. (con't)

We realize that it is likely not feasible to dispose of all the sediment all of the time at Benson Beach, particularly when the maintenance of the MCR reach is added to the annual disposal requirement. A limited in-water disposal site near to the project area will likely be necessary. Fortunately, continued use of site E is agreeable to most of the coordinators of MCR disposal issues. We are in favor of the continued use of E to the maximum extent practical, tempered with timing restrictions to avoid the high concentrations of soft shelled crab observed in the area late in the summer. While we would prefer that use of Site E be curtailed after the end of July, to protect the high numbers of soft shelled crab that use the area after their summer molt, the agreements on timing and use of the site worked out with CRCFA are acceptable to WDFW, and should be incorporated into both the DEIS and MCR certification.

9. There are still concerns with burial of Dungeness crab that need to be addressed. The recent Corps study referenced in the DEIS is by no means complete or conclusive, and is replete with many shortcomings in experimental design, but preliminarily one thing is becoming clear: If a crab was buried up in the normal course of avoiding wave energy, currents, or predation; or to molt, shelter it's eggs if female, or simply to rest between feedings, and this crab is covered by disposed sediments, it most likely dies, as it is unable to dig out of these sediments. This is particularly a problem for soft shelled crabs, which when buried appear unable to escape as little as four inches of sediments, but is likely a contributor to mortality in any crab, as has been observed in other studies. We do not know how much of a crab's life is spent buried, however, this could easily be determined by observations of crabs in aquaria designed to emulate the natural environment, and would be a worthwhile pursuit in conjunction with the burial study. We do know now that disposal kills buried crabs, and that disposal in areas containing high concentrations of crabs, particularly soft crabs, needs to be avoided. Crabs that are not avoided and are killed need to be mitigated by replacement using shellplots as outlined in the Strategy. Monitoring of crab abundance and condition on the disposal site needs to be conducted to estimate mitigation requirements. The fishing industry has offered to assist with this monitoring, and their cooperation should be encouraged.

9. We recognize the limitations of the pilot study. Input on the need for additional crab and flatfish burial studies will come from the management and monitoring task force. The design of any additional studies will be coordinated with the task force. Impacts to resources have been minimized by reducing the size of the sites and locating them in areas that have acceptable impacts to the commercial fishery.

10. Disposal at Benson Beach, or any other upland or beach nourishment site, does have one drawback compared to in-water disposal, and that is the likelihood that all crabs entrained while dredging will be killed. This may be offset somewhat by the lack of crabs, or any other critical resources or habitats, on this rapidly eroding beach, but is still a concern. Again, avoidance by use of clamshell and timing needs to be employed, but there are other measures to reduce entrainment that are necessary to consider. First, direct pumpout of dredged material from the barge or hopper will prevent entrainment of more crabs that may be in a re-handling area. This is the method employed in Grays Harbor, and it could likely be successfully employed in sheltered areas adjacent to the North Jetty. Unlike other jetty systems, much of the North Jetty of the Columbia is located behind a natural headland. There are spruce trees that are actually trying to

10. The Benson Beach discussion has been added to Appendix A. Benson Beach would not be economical for the Corp to use as a disposal site. Further it would require a non-federal cost sharing partner that has not been identified. Use of Benson Beach would not preclude the need for an ocean disposal site. The opportunity for direct placement onto Benson Beach is available to any permit applicant under Section 404 of the Clean Water Act.

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grow on top of the jetty fairly near it's waterward end, something never seen on jetties elsewhere. Historically, vessels are reported to have successfully sought shelter from severe storms behind the jetty next to Cape Disappointment. Perhaps there is enough shelter here to allow the installation of a discharge line, possibly mounted on piling, with a flexible coupler that could withstand some wave energy when hooked up to the barge or dredge during most conditions encountered in the summer, when dredging is usually performed. A breakwater system may also merit consideration. If this proves impractical, such an installation could certainly be made to work behind the shelter of the A Jetty, although some dredging of an access and berthing area would be necessary, and the extra pumping distance would probably require a booster.

10. (con't)

In-water disposal in a re-handling site, such as the "dumping ground" site adjacent to the jetty that was recently authorized for disposal, may ultimately prove more practical, but also may be dangerous for crabs which may unavoidably enter the re-handling area, maybe in seasonal high abundance, especially if a suction type dredge is used to re-handle the material over or through the jetty. Crab entrainment may be minimized by the use of mechanical re-handling equipment, such as a dragline located in uplands on the north side of the jetty. This tool would also allow some entrained crabs to escape the re-handling area after disposal, and may ultimately, if practical, result in the least mortality and mitigation of any disposal method. If a suction type dredge proves the only feasible tool, and it appears that wave state may preclude the use of a standard floating pipeline dredge, it still may be possible to utilize this method by mounting a land-based plant in a caisson or other type of grated structure on the landward side of the jetty, to allow material to be re-handled through the jetty to reduce head while protecting the plant.

Another tool that is worth considering is the Punaise ("thumbtack") dredge. This could be installed in the "dumping ground" site and dredges could dispose material over it. Since the intake is several feet underneath the bed, entrained crabs may be able to escape the area, and be much less likely to find their way into dredged material, although this would need to be studied. Discharge would then occur at Benson Beach, probably through the jetty, which could be equipped with a gate or other passage to reduce discharge head. Whatever method is selected, some crabs unavoidably entrained would be killed, but since practical methods have been developed to mitigate these impacts, these crabs could be replaced without permanent harm to the resource.

As previously mentioned, coastal erosion is becoming a serious issue in Washington, and is currently the subject of a 5-year joint WDOE and USGS study. At the request of the Governor, an inter-agency task force was established to examine beneficial use of dredge spoils for several multi-million dollar erosion control projects for the City of Ocean Shores. During a recent public scoping meeting, considerable interest was expressed in sponsoring the use of Columbia River dredge spoils as a source for beneficial use in other areas of Southwest Washington.

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During the most recent meeting of the Investigation Team for the Ocean Shores Coastal Erosion Management EIS a presentation was made, by one of the coastal engineers from the Department of Ecology involved in the coastal erosion study, about results of modeling the North Coast drift cell, using the Unibest model from Delft Hydraulics. The results of modeling indicated that an average of approximately 220,000 cubic yards of sand needed to be added to this drift cell per year to keep the shoreline in position. The 20 million cubic yards of sand already on barges and transported to the ocean for disposal, as proposed in the DEIS, would be ideal for this purpose; theoretically providing nearly 100 years of protection. This sand could be disposed in the nearshore area with minimal impacts, as sediment analysis has indicated that areas near the Grays Harbor jetties are gravelly and not fine grained as they are near the Columbia, so are not as productive for crabs or crab fishermen. Beam trawling has confirmed the lack of crabs or other organisms in nearshore areas south of the South Jetty, and similar work north of the North Jetty could be conducted. Delivery to the beach could be accomplished by disposal in the very nearshore area, perhaps, in as little as 20 feet of water, by swinging the barge toward shore on a tow line, releasing the sediment just outside of the breakers. Some novel ideas, such as combining regular barging of wood chips from Grays Harbor to the Columbia with a backhaul of sand to the Grays Harbor area, were proposed at the Ocean Shores EIS Scoping meeting are definitely worth considering.

10. (con't)

Presently, all of the suitable material dredged in Grays Harbor is utilized for both nearshore and beach nourishment in Half Moon Bay, to protect Westport. The breach fill, constructed of sand that was mined in an emergency effort to re-construct the South Jetty to the mainland, will likely need augmentation in the near future. Interest has also been expressed in using sand to nourish Whitcomb Flats, a critical habitat area in the Harbor that is presently eroding. Finally, of course, there is the identified need for sand in Ocean Shores. There is not nearly enough sand dredged in Grays Harbor to meet even a few of these needs. Transport of Columbia river sand to Grays Harbor, for any of these purposes, should be considered. The Seattle District of the Corps, which is now obligated to nourish Half Moon Bay to prevent exposure of the recently constructed revetment protecting the Westport sewage treatment plant, should cooperate with the Portland District in actively seeking ways to facilitate this.

A final idea that merits consideration is disposal off of the highly erosive area of Washaway Beach, an option favored by fishermen and one sure to receive support from beleaguered North Cove property owners and their government representatives. Some of these options may require separate project sponsorship, but if practical means can be found to accomplish these and other beneficial uses, and if the benefits outweigh the costs of the erosion control projects, these ideas should be considered. The Corps is obligated to seek beneficial uses for dredged material first, and exhaust all of these uses before disposal is considered. Nowhere else in the country, other than the Pacific Northwest, is this valuable sand allowed to be wasted. It should not be done here, especially to the detriment of critical habitat and the resources supported by this habitat.

Blasting:

11. A Hydraulic Project Approval (HPA) will be required for all blasting in Washington waters. A plan must be in place to limit peak overpressure from blasting to 10 psi or less at distances of 30 to 50 meters, and a system for fish hazing prior to blasting.

Upland Disposal:

6.10. Mitigation

To economize on time, the Corps took some shortcuts in the HEP study that unfortunately made the HEP results unreliable. Because mitigation decisions cannot be made with the existing HEP results, the WDFW has identified two acceptable options that will prevent untimely delay and keep the planning process moving:

Option #1 Complete the HEP analysis. Collect data to represent all habitat types and re-analyze current and future conditions based on changes in individual habitat parameters. This can be completed during the preconstruction engineering and design (PED) phase of the project.

12.

Option #2 Without the ability to quantify impacts and mitigation, our only option is to identify a mitigation package that clearly mitigates and compensates for project impacts. Our intent is to minimize impacts and compensate for the remaining unmitigated impacts. The "full mitigation " plan described by the sites below, is recommended by WDFW, under this plan we would accept a mitigation proposal that includes **all** of the following sites or equivalent replacement sites that are acceptable to the HEP team:

- Martin Island
- Webb
- Woodland Bottoms
- Sauvie
- Burke Island
- Joslin

This mitigation package will help protect the public's natural resources for both Oregon and Washington along the lower Columbia River due to impacts from the Columbia River Channel Improvement Feasibility Study. Please see Appendix for more details.

WDFW recommends the Corps accept the Sponsor's Preferred Disposal Alternative, based on the reduction of upland disposal sites over the least cost alternative. Impacts to wetland, riparian and agriculture habitats will be reduced under this alternative. Martin Island is also eliminated from the list under the sponsor's preferred disposal alternative. WDFW would strongly like to see Martin Island removed from any future disposal actions. WDFW also supports a more balanced combination of mitigation sites between Oregon and Washington.

Corps of Engineers Response

11. Comment noted.

12. We plan to implement Option 1: Complete the HEP analysis by collecting data to represent all habitat types and reanalyze current and future conditions based on changes in individual habitat parameters. This re-analysis could be completed during the preconstruction, engineering and design (PED) phase of the project. Please see the addendum to the wildlife mitigation plan (Appendix G) for futher clarification.

13. The Peavy Oval wetland mitigation is another concern. Wetland conditions currently exist on the site, the exact acreage of palustrine emergent wetlands was not reported by the Corps. This site is targeted for a total of 43 acres of disposal for both government and sponsor disposal plans. In 1976 the ACOE permit 071-0YA-2-001543 recognized the 90-acre site as partially filled. The Shoreline Management Substantial Development permit application dated December 22, 1981 did not authorize further fill. The Corps permit work is complete according to permit number 071-0YA-2-004266 signed in March of 1982, however this permit also did not authorize the complete fill of this site, please see Attachment 1. This attachment shows the incomplete fill of two cross-sections on this 90 acre site. The WDFW concern is that agreement should not confirm a permanent right to fill wetlands on the Peavy Oval site, and we disagree with the Corp's proposal of no mitigation for disposal impacts on this site.

14. The addition of the ecosystem restoration planning for Shillapoo Lake, tide gate retrofits for salmonid passage, improved embayment circulation, and restoration of shallow water habitat sections in the DEIS confuse the issue of mitigation. These restoration efforts should be treated separately from the mitigation for the disposal impacts. As stated in USACOE document No. 1105-2-210, Water Resources Policies and Authorities Ecosystem Restoration in the Civil Works Program, "this circular applies to ecosystem restoration activities which extend beyond fish and wildlife mitigation being investigated as part of a feasibility study or as part of an operations and maintenance (O&M) activity."

5.3 Threatened and Endangered Species

15. The Corps does not consider state listed or WDFW Priority Habitats and Species (PHS) in its analysis of impacts of the channel deepening project. Also, threatened and endangered (T&E) plants were hardly considered in terms of impacts from this project. No survey of T&E was conducted on mitigation or disposal sites.

Conceptual Wildlife Mitigation Measures (Appendix G, Exhibit F)

16. The best wetland management practices are those that enhance the natural processes of the wetland ecosystem involved. One way to accomplish this is to maintain conditions as close as possible to the natural hydrology of the wetlands including hydrologic connections with adjacent rivers, lakes and estuaries (Mitsch et al. 1993).

Specific goals and objectives for wetland and riparian development should be established for each site. For most sites it is unclear which species will benefit from these mitigation actions.

17. Each mitigation site should include a description of site specific baseline data for vegetation, elevations and hydrology. All of the sites rely on natural regeneration for plantings of shrubs, emergent and herbaceous vegetation, this action could be acceptable if the historic plant species is known. Most likely these species will be exotics and will require management.

Corps of Engineers Response

13. Peavy Oval has been dropped from consideration as a disposal site.

14. The Corps has treated ecosystem restoration as a separable element, distinct from wildlife mitigation efforts, throughout the course of the study. To facilitate WDFW's understanding of this authority, we can incorporate into our FEIS text from the U.S. Army Corps of Engineers Civil Works Program, Engineering Circular 1105-2-210 on *Ecosystem Restoration in the Civil Works Program*, the statement that "this circular applies to ecosystem restoration activities which extend beyond fish and wildlife mitigation being investigated as part of a feasibility study or as part of an operations and maintenance (O&M) activity."

15. The Corps assessed wildlife habitats and impacts in the DEIS. There is no federal requirement for the Corps to address WDFW's PHS list. The proposed disposal sites typically focused on locations wherein the land had already been altered (agricultural and historic dredged material disposal). Exceptions were identified. The wildlife mitigation effort addresses project-related impacts and provides prescriptions to develop wildlife habitat. The mitigation effort should bode well for wildlife, including PHS. Threatened and endangered plants were considered in Section 6.7.2. A biological assessment for ESA-listed plants and animals was prepared and provided to the FWS for concurrence. This document will be included in the FEIS.

16. This concern will be addressed further in PED when mitigation actions and resource agency concerns are addressed in more detail. Please see the addendum to the wildlife mitigation plan (Appendix G) for further clarification.

17. This concern will be addressed further in PED when mitigation actions and resource agency concerns are addressed in more detail. Please see the addendum to the wildlife mitigation plan (Appendix G) for further clarification.

Corps of Engineers Response

For each site a reference wetland should be identified. This reference wetland is one that is sufficiently similar to the project site to be monitored in certain specific ways to serve as the basis for judging the degree and rate of achieving objectives (Homer and Sheldon 1998).

18.

Riparian habitat development should also include snag creation. According to the HEP analysis, snags in riparian areas were virtually non-existent. Snags that occur within riparian areas are particularly important to wildlife because many cavity-nesting species, such as the wood duck, osprey, and pileated woodpecker, preferentially breed close to streams and wetlands (Small 1982, Rodrick and Milner 199 1).

Operations and maintenance actions should be based on clear goal and objectives. Monitoring activities should include exotic species control, hydrology, vegetation and fish and wildlife. The control of exotic species is important for successful mitigation. Reed canary grass may significantly reduce the amount of cover and feeding habitat available for the larvae of native anurans (Adams 1994). A contingency plan must be set up to help monitor the success of each mitigation site over time.

18. These concerns will be addressed further in PED when mitigation actions and resource agency concerns are addressed in more detail. Please see the addendum to the wildlife mitigation plan (Appendix G) for further clarification.

On wetland mitigation projects that include development of a dike structures, we recommend that dikes be constructed at a gradual elevation rather than a 3:1 slope or greater (Klaus Richter communication). Do not over engineer wetland design with rectangular basins, rigid structures and channels, and regular morphology. Natural systems should be mimicked to accommodate biological systems (Brooks, 1989). The mitigation sites of Joslin and Woodland Bottoms both have levees construction designs that are straight lines. These sites should take advantage of natural topography, drainage patterns, etc.

19.

Design the wetland as an ecotone. Incorporate as much "edge" as possible, and design in conjunction with a buffer and the surrounding land and aquatic systems (Horner and Sheldon 1998). As pointed out in the Pond Breeding Amphibian model, habitat surrounding wetlands influences the quality of the wetland system in terms of providing adequate cover and breeding habitat for native amphibians, and forest/shrub provided optimal conditions (WDFW 1997).

19. See previous response. Property boundaries and infrastructure (e.g. roads) dictate levee alignment. Natural features will be integrated to the extent practicable.

Recommendations:

To protect fish and wildlife species and their habitat, WDFW recommends the following measures be incorporated into the final EIS to mitigate potential adverse impacts to fish and wildlife resources:

20.

1. Implement a sturgeon monitoring plan that assesses long term population impacts as discussed in "Assessing Impacts to White Sturgeon."

2. Reduce flowlane disposal from areas deeper than 10 meters to protect critical rearing habitat.

3. Conduct telemetry studies coupled with representative sampling of dredge spoils to monitor entrainment and direct mortality from dredging operations.

20. See our previous responses.

Corps of Engineers Response

20. (con't)

4. All toxic spoils should be removed from the system and not placed inwater and capped.

5. Conduct an adult smelt spawning distribution or larval production/distribution sampling effort to detect changes in spawning distribution in mainstem Columbia River before, during and after dredging.

6. Restrict dredging in the Columbia River downstream of the mouth of the Lewis River to the use of a clamshell between January I and June 1 of any year for the protection of smelt larva.

7. Implement a crab mitigation agreement that would avoid, minimize, calculate, and mitigate crab impacts. This agreement could be similar to the enclosed Grays Harbor Revised Crab Mitigation Strategy Agreement with the Seattle COE.

8. Develop a marine disposal plan that addresses coastal erosion issues.

9. Complete the analysis of mitigation for upland disposal or identify an acceptable upland disposal mitigation plan.

Thank you for the opportunity to provide these comments. Resolution of the resource issues associated with this project is very important to the public and to the Washington Department of Fish and Wildlife. We hope you find our comments helpful.

Sincerely,

Elyx Kane for

Lee Van Tussenbrook
Regional Director
Southwest Region

EK:LVT:KL:bt

cc: Curt Leigh, WDFW, Olympia
Lauri Vigue, WDFW, Olympia
John DeVore, WDFW, Vancouver
Bob Burkle, WDFW, Montesano
Ben Meyer, NMFS, Portland
Kathi Larson, USFWS, Portland
Rick Vining, DOE, Olympia
Dave Howard, DOE, Vancouver
Greg Robart, ODFW, Portland

APPENDIX - WILDLIFE MITIGATION

The comments contained in this Appendix are specific to the incomplete Habitat Evaluation Procedure (HEP) and to Appendix G of the draft EIS.

Section A: Habitat Evaluation Procedure of Disposal and Mitigation Sites

WDFW conducted a review of the future and current condition calculations for the Corps Habitat Evaluation Procedure (HEP) Analysis and we found two major concerns with the results. The Corps added additional habitat types after the data was collected; wetland farmed, riparian degraded, and riparian early successional. Current condition HSI's for these habitat types were not based on field data. The second problem involves determining future conditions. A future sensitivity analysis was performed to evaluate the Corps future condition predictions and compare it with how a HEP analysis should be correctly performed for future conditions.
As stated in the USFWS ESM 102, estimating HSI values for future years requires predictions of changes in the vegetative and physical variables of each cover type. The future sensitivity analysis predicts changes on field data habitat variables and then HSI's are recalculated, whereas the Corps predict changes on only HSI's. An example of this is described below for the mink on site W-82.0.

The technique for determining HSI values must be clearly described in a HEP study in order to establish credibility, optimize the usefulness of the analysis in decision making, provide a permanent record of the basis for a decision, and make future improvements in HSI model (USFWS ESM 102).

Predicting Future Conditions, using Mink Model W-82.0:
The table below lists the mink predicted future condition variables based on actual field data for baseline conditions or TY 0, all variables are in percentages.

	TY 0	TY 1	TY 5	TY 25	TY 50
V1	100	100	100	100	100
V2	42.1	42.1	45	50	50
V3	6.2	6.2	6.2	6.2	6.2
V4	0	0	0	0	0
V5	22.7	22.7	25	30	35

Corps of Engineers Response

Comments noted. We plan to complete the HEP analysis by collecting data to represent all habitat types and reanalyze current and future conditions based on changes in individual habitat parameters. This re-analysis would be completed during the preconstruction, engineering and design (PED) phase of the project. Please see the addendum to the wildlife mitigation plan (Appendix G) for futher clarification.

These changes were based on the Corps predicted land use (grazing) for this disposal site without the project through TY 50.

Assumptions listed in the table above were based on the following:

- V_1 - The percent of year with surface water present remained at 100% for TY 0 through TY 50.
- V_2 - The percent of tree canopy cover was adjusted individually over time to show successional changes. Tree cover will increase even with cattle present, conservative predictions were used.
- V_3 - The percent of shrub canopy cover remained the same through TY 50 due to the presence of cattle.
- V_4 - Canopy cover of emergent vegetation remained at 0 for TY 0 through TY 50, due to cattle presence.
- V_5 - The percent of canopy cover of trees and shrubs within 100 m of the wetland's edge the shrub cover may not increase due to cattle presence, but tree canopy will increase slightly even with cattle.

Formula: $\frac{\min(1.0; V_2 + V_3 + V_4) + V_5}{2}$

These variables are then converted to suitability index (SI) using suitability index curves in mink life requisite HSI model. The formula listed above converts the table into a final HSI's listed below:

	TY 0	TY 1	TY 5	TY 25	TY 50
V1	1	1	1	1	1
V2	.61	.61	.64	.7	.7
V3	.17	.17	.17	.17	.17
V4	0	0	0	0	0
V5	.37	.37	.4	.46	.52
Final HSI	.58	.58	.61	.67	.7

Narrative Description for Predicting future conditions, Mink model:
The predicted future habitat variable conditions were based on the following assumptions. The percent of tree canopy cover will increase even with cattle presence, maximum 50% at TY 25. The percent of canopy cover of trees and shrubs within 100 meters, the shrub canopy may remain the same but the tree canopy will increase, it was predicted to reach maximum canopy at 35% at TY 50. Overall HSI increased even with conservative adjustments to reflect succession of riparian habitat. The Corps predicted .22 HSI for TY 0 through TY 50. Our calculations found even with very modest adjustments, a large difference in HIS's over the 50-year period resulted. For our calculations we used the Corps actual field data and this HSI value is .58, not the Corps HSI of .22.

Based on the above findings, it appears that the Corps largely underestimated habitat variables on disposal sites. These findings have a major impact on how the total acreage of mitigation lands are calculated.

Section B: Habitat Evaluation Procedure, Team Coordination

- The HEP process lacked documentation. Meeting minutes were lacking for five dates (1/21/98, 6/17/98, 4/2/98, 9/5/97 and 6/13/97). Minutes of HEP team meetings were not included in the DEIS. These minutes provide documentation of decisions that were made by the HEP team.

- WDFW HEP Study Guidelines were not taken seriously in the HEP process. Several of our concerns were brought up early on in the process in a letter to Mr. Geoff Dorsey dated January 8, 1998. A response from the Corps H. Jones followed, "no formal commitment to this process was made by the interagency team". We would like to add no "formal decisions" were also made due to lack of documentation during the HEP team process.

- The HEP team was informed per November 24, 1998 meeting by Geoff Dorsey that the cover type for wetland farmed actually came from the agriculture field data collection. This is an example of the Corps making assumptions without approval of the HEP team.

- An explanation on how the riparian reference sites applies to the HEP process was lacking. The Appendix G Wildlife Mitigation report does not provide a description of how riparian reference sites were applied to this HEP analysis.

- Any changes in the HSI models should be documented in the 3.4 section of the Wildlife Mitigation report, and should have been discussed with the HEP team. In EDAW's data, the song sparrow model is lacking variable 4, song perch site availability. In the Cooper's hawk HSI model evergreen trees were deleted from the analysis, this was agreed upon in the HEP team, but it was not discussed in Section 3.4 of the mitigation report.

- The Canada geese model developed by the ACOE lacked professional consultation. HSI models should have scientific literature references to increase the credibility of the model.

- The Corps idea of a "HEP team process" consisted of overwhelming team members with large volumes of spreadsheets, with little discussions on how the actual data and results fits into project impacts and mitigation. If members were not exposed to the HEP process they could offer little feedback.

Section C: Specific Comments on Appendix G, Wildlife Mitigation

On Tables 57, 58, and 59, the Corps added all species together by total AAHU's. By lumping species AAHU's together this assumes equal value for all species, giving any state listed species or priority habitats and species (PHS) a disadvantage. This can also give the Corps more of an advantage, the more species in the study the more AAHU's.

Habitat model descriptions in Wildlife Mitigation Report shows incorrect HSI equations for pond-breeding amphibian, savannah sparrow and yellow warbler.

In Exhibit H, AAHU calculations, Burke Island is missing 6 acres of riparian and 35.6 acres of riparian associated habitat per existing conditions cover type map. Riparian early successional habitat should not remain as 121.9 acres for 50 years.

The Corps repeatedly ignored wetland concerns for Martin Island and Cottonwood Island. NWI maps show palustrine wetlands per USFWS National Wetland Inventory on Martin Island. Cottonwood Island also shows wetland marsh habitats per Bi-state Water Quality map 1991 ACOE. The cover type maps in the wildlife mitigation report do not show wetlands on these two sites. Per April 24, 1997 HEP team meeting minutes, "the wetland component of Martin Island is yet to be determined."

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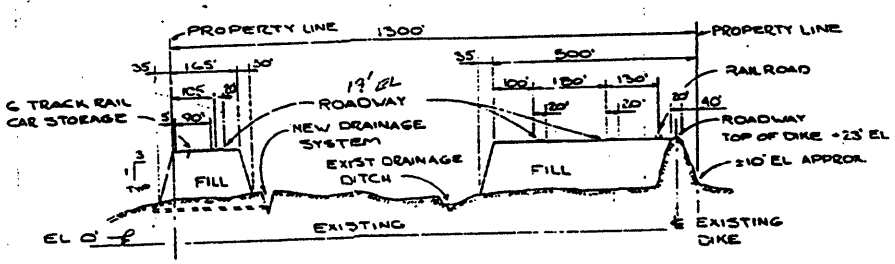
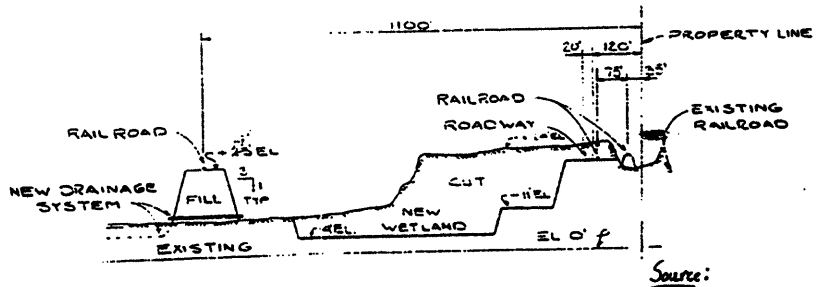


SECTION A-A

SCALE: HORIZ 1" = 200'
VERT 1" = 20'



SECTION B-B

SCALE: HORIZ 1" = 200'
VERT 1" = 20'

Source:
Letter to Martin Carty, Cowlitz Co. Dept. Comm. Devel. From R. Mack, WDOE. Re: Shoreline Conditional Use Permit. #3042-SB-61-0387. Dec 9, 1981

Attachment 1

STATE OF WASHINGTON
WASHINGTON STATE PARKS AND RECREATION COMMISSION
7150 Cleanwater Lane • P.O. Box 42650 • Olympia, Washington 98504-2650 • (360) 902-8500
FAX (360) 753-1594 • Internet Address: http://www.parks.wa.gov
TDD (Telecommunications Device for the Deaf): (360) 664-3133

January 25, 1999

Ms. Rebecca Inman, SEPA Coordinator
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7703

RE: Comments - Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement

Dear Ms. Inman:

Thank you for coordinating the state response to the U.S. Army Corps of Engineers (Corps) proposal to improve the Columbia River Channel for navigation purposes. State Parks has reviewed the document and provides the following comments:

Facility Impacts

Recently, much attention has been paid to the sand budget of Washington and Oregon, and the importance of Columbia River sediment to the littoral system that feeds our beaches. In order to benefit from the Corps' dredge disposal program, this sediment must be deposited in the nearshore environment. Past practices of the Corps involving deepwater disposal has removed millions of yards of material from the beaches. If material described in this document is continued to be disposed of in deeper water, the sand will not feed our beaches.

1. State Parks has tracked and commented on Corps dredging and dredge disposal for more than ten years. Over the past decade, staff has watched the ocean grab ever more pieces of land at Cape Disappointment without a major shift in dredged material disposal practices by the Corps. Over the last 40 years, Fort Canby has lost approximately 261 acres of land. Recently, the erosion escalated and has begun to threaten campgrounds as well as continuing to impact the jetty access road and parking area.

Parks would like to reinforce our position that the Corps dispose of as much sand as possible in disposal site "E". Parks is pleased that the Disposal Area B extension has been dropped from discussion. We are also supportive of the North Site disposal area, but are unsure how this disposal site will affect Peacock Spit. Because shoreline erosion at Fort Canby is greatest adjacent to the jetty, sand deposited in disposal site E would better abate the shoreline erosion adjacent to the jetty.

Also, the condition of the jetty has contributed to increased erosion adjacent to the jetty access road. If the jetty is kept in its current condition, it will exacerbate facility destruction, coastal erosion, and flooding

Corps of Engineers Response

1. Disposal on Benson Beach would require a non-federal cost sharing partner that has not been identified. Use of Benson Beach would not preclude the need for an ocean disposal site. A discussion on Benson Beach has been added to Appendix A. The opportunity for direct placement onto Benson Beach is available to any permit applicant under Section 404 of the Clean Water Act. We intend to use Expanded Site E to its fullest capacity. We are aware of the deterioration to the North Jetty and will dispose of material at the North Jetty site. The Portland District is actively evaluating the condition of the North Jetty.

along Peacock Spit. State Parks asks the Corps to evaluate the condition of the jetty and benefits of jetty maintenance to the navigation project and erosion abatement.

Channel Deepening Impacts

2. State Parks understands that scientists from the SW Coastal Erosion Study are concerned that deepening of the lower Columbia River channel will produce a deeper estuarine "sink" which will pull sand into the river mouth from the coastal littoral zone. If so, that long-term effect might cause loss of sand from the near shore and beaches along the Long Beach Peninsula, further accelerating erosion.

Impacts to Seashore Conservation Act

3. State Parks manages the Seashore Conservation Area (SCA) as defined in R.C.W. 43.51.650-685. The SCA stretches from Cape Disappointment to the Quinault Reservation. It provides recreation opportunities for visitors and citizens of the state of Washington. The legislature intended the SCA to remain in a natural state. It was also designed to serve as a public highway. Depletion of sand along the ocean beaches, and the threat this would incur on coastal communities, may eventually impact the SCA. As areas become erosional and individuals, communities and the state respond to the erosion, the potential exists for increased impacts to recreation and the SCA.

Also, according to RCW 43.51.685, "Sale of sand from accretions shall be made to supply the needs of cranberry growers for cranberry bogs in the vicinity and shall not be prohibited if found by the commission to be reasonable and not generally harmful or destructive to the character of the land." If sand dredged from the Columbia River is not placed into the littoral drift cell, and the beaches become erosional, allowing cranberry growers to take sand from the beaches may become "harmful to the character of the land."

Impacts to Coastal Communities

4. Washington State coastal communities have built their livelihoods around the beaches. Many communities rely heavily on tourism dollars. If the sand budget to these communities is allowed to diminish, it is possible that areas of the beach will be closed as erosion impacts the coast. If coastal erosion takes beach access away from these communities, the fiscal impact may be devastating. NOAA is in the process of developing a manual that quantifies lost recreational use when a beach is closed due to oil spills. Loss of recreational use of the beaches should also be factored into the Corps' calculation of project costs using a similar model.

If you have any questions or require clarification on any of these comments, please feel free to contact me at (360) 902-8633.

Sincerely,

Chris Regan, Environmental Specialist
Environmental Program

cc: Bob Burkle, Habitat Biologist, WDFW
Bill Graeber, Aquatic Lands, DNR
Carol Jolly, Executive Policy, Governor's Office

Corps of Engineers Response

2. The Corps is aware of the State of Washington concerns about shoreline erosion. Discussion of this issue and potential resolution is included in the final EIS.

3. See previous response.

4. See previous response.

CREST

COLUMBIA RIVER ESTUARY STUDY TASKFORCE

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Astoria, Oregon 97103
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January 29, 1999

District Engineer
U. S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

Colonel Robert T. Slusar:

Thank you for giving us the opportunity to respond to the draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel. We have reviewed this document and specifically studied issues that will impact the Columbia River estuary and the communities surrounding the estuary.

The proposal to deepen the navigation channel from 40 to 43 feet in the Columbia and Willamette Rivers, as outlined in the Draft EIS, will result in extreme environmental impacts. The proposed channel deepening provides no economic benefits for the communities surrounding the estuary and will especially affect those people in our area who depend on the natural resources of the estuary and ocean for employment.

1. Our findings from review of the Draft EIS show it to be lacking satisfactory analysis in several areas and insufficient data to support the major conclusions and recommendations of the document. The sponsors preferred alternative in the Draft EIS (deepening the channel to 43 feet) is the alternative with the greatest environmental impacts and the lowest benefit-to-cost ratio. In addition, the Draft EIS does not demonstrate how the proposed alternative avoids environmental impacts and the burden of proof has been inappropriately shifted to reviewers to demonstrate how the project proposed in the Draft EIS impacts the environment. The Draft EIS is notably unsatisfactory in analysis of alternative evaluation, ocean disposal, threatened and endangered species, economic evaluation, mitigation, and water quality.

Corps of Engineers Response

1. Comments noted.

2. Comments noted. See our responses to your specific comments below.

3. The LoadMax river stage reporting and forecasting system has provided safety and transportation benefits to Columbia River shipping for the past 15 years. LoadMax forecasts are provided by the Port of Portland as a navigation planning tool for use by the shipping industry. The LoadMax forecast is based on data collected at gauging stations at several locations between Astoria and Vancouver. The forecast is generated by the National Weather Service (NWS) Northwest River Forecast Center (NWRFC), a branch of the National Oceanic and Atmospheric Administration.

Continuous improvement of LoadMax is an important priority for the ports, river and bar pilots, the NWRFC, and steamship line customers that utilize the projected and real-time tide and river-stage information system. Over the last two years, and as part of a national modernization effort, the NWRFC has made significant improvements to its hydrologic modeling that underlie the LoadMax system. These include expansion of the geographic boundary of the Dynamic Wave Operations Model that is used to forecast river stage, updating the dynamic wave calculations, adding new channel cross sections and recalibrating the model with the benefit of the data from extreme high water conditions in 1996 and 1997.

At the same time, the NWRFC has implemented advanced technology in weather forecasting which is a key component of Columbia River flows. Several automatic adjustment procedures have also been installed to remove biases between predicted and actual tides and model biases at each forecast location. Taken together, these changes have enhanced the accuracy of the river forecasts under all flow conditions.

Also, the Port of Portland has installed technology at its river gauges to allow the pilots to call ahead from the vessel's bridge to obtain real-time river level information. The Port has also improved and automated the electronic delivery of the forecast data to the commercial users and research institutions that utilize the information on a regular basis. Currently, the real-time river level data collected from the Port's LoadMax gauges is reported on the NWRFC's web site at http://www.nwrfc.noaa.gov/data/streamflow/nwrfc/lc.html. Forecast information will be presented on the NWRFC's web site in the future. This improvement will provide a graphical representation of the forecasts, increase confidence level in the predictions, and provide public access to the data.

The uncertainties are due to the significant influences of Bonneville releases, tidal variations, and changes in the meteorological conditions that affect streamflow forecast. The NWRFC estimates that the current accuracy of the LoadMax forecast is 0.3 to 0.4 feet for the first 24 hours, increasing to 1.0 to 1.4 feet for the 6th day (the current forecast limit). These factors cannot be predicted or controlled far enough in advance to provide an extended forecast of greater utility to river users beyond the historical flow information already available through Corps and USGS sources.

The Columbia River Estuary Study Taskforce (CREST) and its jurisdictions are requesting the Army Corps of Engineers to reevaluate the proposed channel deepening alternative and address each of the following in detail in the Final EIS.

1. The Draft EIS does not adequately ***evaluate alternatives***. The only alternative receiving serious consideration is deepening the channel from the present 40 feet to 43 feet. The intent of an EIS required by the National Environmental Protection Act is to consider alternative
2. courses of action and to *demonstrate* that the proposed alternative minimizes environmental impacts and provides ways to mitigate unavoidable environmental impacts. The preferred alternative results in the greatest impact to the environment and results in the lowest benefit-to-cost ratio (DEIS 4-56). The non-structural alternative, the regional port concept, and beneficial uses of dredged material from the estuary are alternatives that could increase benefits and reduce environmental impacts. These alternatives were not seriously addressed in the Draft EIS and warrant further discussion.

   - The ***non-structural alternative*** using LOADMAX, an advanced river stage and tide forecasting system, to accurately forecast and schedule ship traffic based on river levels, was not seriously considered (DEIS 4-4, 4-5). There are few limitations with LOADMAX and the advanced river stage forecast system could be implemented for $500,000 with an annual cost of $100,000. This is substantially less expensive than the
3. $175 + million needed to deepen the channel to 43 feet. The non-structural alternative was not adequately evaluated and was not evaluated at all in combination with tiered or limited dredging (DEIS 4-4, 4-5). LOADMAX adds net benefits to any deepening alternative. LOADMAX will result in the least environmental impacts and has the greatest cost-to-benefit ratio (DEIS 4-56). LOADMAX would substantially improve grain shipment traffic conditions. This is a crucial alternative that needs to be reevaluated.

   - The ***regional ports*** concept was also not seriously evaluated. In particular, the concept of a regional port in Astoria or a topping-off port in Astoria did not receive serious attention
4. (DEIS 4-6, 4-7). After very little study, the Corps dismisses this alternative due to high costs and impacts to expanding port facilities in Youngs Bay. Using or expanding the existing facilities at Tongue Point was not evaluated at all. A regional port concept at Tongue Point in Astoria is being considered by the Port of Astoria and must be evaluated.

2. The Draft EIS proposes only one ***ocean disposal*** option of over 80 square miles, for 50-year designation, with no management requirements, weak monitoring, and no mitigation (DEIS Appendix H). This is unacceptable. The North Site totals 19,000 acres and the South Site totals 33,000 acres (DEIS, Exhibit D). As proposed, these sites are in conflict with
5. productive commercial fisheries and are not in compliance with the Coastal Zone Management Act or the Marine Protection, Research and Sanctuaries Act (Ocean Dumping Act). Ocean Disposal needs to be reevaluated to designate sites that will avoid impacts to ocean resources, avoid conflicts with commercial fisheries and navigation, and provide mitigation. In addition, the Battelle research which was conducted to justify ocean disposal, is "preliminary" and demonstrates the potential for significant crab mortality from thin layer ocean disposal. We disagree with the Corps conclusion that no significant impact to ocean

Corps of Engineers Response

3 (continued). However, maintaining safe underkeel clearance while maximizing draft requires knowledge and understanding of both water surface and riverbed conditions to predict the total depth of water available at any point in the navigation channel. The benefit of LoadMax as a navigation tool can still be enhanced if it provided controlling riverbed elevations along with the predicted river levels. Such data would provide the vessel operator with additional information to make a departure decision for a Columbia River transit, possibly allowing the ship to time a departure to avoid a shoal, load deeper and maintain safe underkeel clearance.

The port sponsors agree that bathymetric survey information should be presented with the LoadMax river forecast in a user-friendly manner. Such improvement will add to the safety of navigation and may assist in marginally increasing departure drafts in the Willamette and Columbia Rivers under certain conditions. The Corps has recently made its hyrdrographic surveys available in an electronic format at http://www.nwp.usace.army.mil/op/n/wh/). The port sponsors are eager to work with all the stakeholders on the design of such a new format for the forecasts.

However, even with the improvements envisioned by the Corps, the non-structural alternative described in the feasibility report does not provide sufficient potential for transportation benefits in order to be carried forward as an alternative to deepening the navigation channel. While factoring in riverbed information and improving the public presentation of LoadMax data would add to its usefulness to the marine industry, the resulting increases in both safety and maximum drafts are marginal, seasonal, and will not serve as an alternative to deepening the channel from the perspective of the deep-draft navigation users. However, they will certainly serve to maximize the benefits under any and all of the channel depths considered in this study.

This will be especially important to the container industry and its customers. Continuing the current operating practices in the proposed 43-foot channel would restrict container ships to a maximum draft of 39 feet (38 feet saltwater draft) at a time when the saltwater design drafts of newer container ships are moving toward 45 feet. A continually improved LoadMax system will afford transportation cost benefits even to these vessels from a 43-foot channel depth. With these technological improvements, the LoadMax system, among the most sophisticated of its kind in the world today, will continue to provide marine transportation benefits in the 21st century.

4. The regional port analysis has been revised to reflect additional information from the Port and more accurate costs. See Section 4.4.1 of the EIS. Additionally, there are several factors that make this analysis difficult. First, the most recent federal deep-draft navigation investment at Astoria has yet to produce any benefits. The Tongue Point project, which was planned by the State of Oregon to be an auto import center, has not had any deep draft traffic since completion in 1990; nor has there been commercial development associated with the federal and state investment in navigation improvements made at that time. This lack of commercial interest does not support the feasibility of development of a major deep draft port at Astoria.

Another factor is that container shipping has market requirements that do not fit with the concept of a topping-off facility. The idea that a container operator would make two stops on the Columbia in order to maximize cargo utilization is in conflict with the predominate concern by container carriers and shippers to meet schedules. An additional stop on the Columbia could be compared to the willingness of operators to incur delay due to tides. At this time, few operators are willing to delay for tide, and it is unlikely that many would be willing to incur a similar delay for a topping-off container facility.

crab and flatfish populations will occur from thin layer disposal. Additionally, there is nothing in the document that would require the Army Corps of Engineers to use thin layer disposal in managing the ocean disposal sites. There needs to be more than one option presented for ocean disposal which shows alternative dredged material amounts from each deepening alternative as required by the National Environmental Protection Act.

3. There are several ***threatened and endangered salmon species*** in the study area. There are also several species of concern. The proposed channel deepening project entails construction throughout the year, completely dismissing State and Federal in-water work timing
6. considerations that protect threatened and endangered salmon species under the Endangered Species Act (DEIS, Exhibit C, Recommendation 1). This is unacceptable. A time period for in water work should be developed that is specific to the Columbia River threatened and endangered species, smelt, and sturgeon, and habitat for these species.

4. There are no ***beneficial uses of dredged material*** from the estuary. The preferred disposal alternative drops disposal sites that require mitigation and uses sites near port owned lands in Vancouver, St. Helens, Kalama, and Longview which provide material for future commercial/industrial uses. There are similar beneficial uses for material near the mouth of the Columbia River yet none are included in the Draft EIS. Direct disposal on eroding beaches in Washington State also does not receive adequate analysis and consideration
7. although the economic benefits of this would be substantial. There is a proposed beneficial use at Millar/Pillar in the estuary. The purpose of this "beneficial use" site is to create shallow water estuary habitat (DEIS, 4-70). We question whether this is indeed a beneficial use as it is creating shallow water habitat for juvenile salmon adjacent to Miller Sand and Rice Island where avian predation on juvenile salmon in shallow water is already a large problem. In addition, mid water habitat is valuable for estuarine benthic populations and most mid-water habitat has been lost in the estuary due to dredging activities. Millar/Pillar should be removed as an ecosystem restoration site.

5. The ***economic evaluation*** used to justify the proposed deepening in the Draft EIS uses economic data that is outdated. Recent changes in shipping market conditions to larger deeper draft container ships are not considered. It is unlikely that even a 43 feet deep channel would allow modern container ships (requiring 50 feet draft) access to upriver ports. If the channel deepening project is for grain shipping only then the benefits derived from a
8. deeper channel could also be derived from using LOADMAX river forecasting and/or a regional port in Astoria. Yet, LOADMAX and regional port alternatives were not seriously evaluated. The difference in economic benefits and costs from the different alternatives presented in the Draft EIS is unclear. In addition, the economic impacts to natural resources and fisheries are not evaluated in the Draft EIS and deserve attention. An independent economic analysis of this Draft EIS is needed.

6. There is no ***mitigation*** planned for estuary or ocean impacts from dredged material disposal. Impacts from dredged material disposal in the estuary and for 80 square miles of the ocean
9. need to be mitigated. This includes the proposed "beneficial use" at Millar/Pillar. We question this site as a restoration or beneficial use site. If disposal takes place at Millar/Pillar, it should be mitigated.

Corps of Engineers Response

4 (continued). Given that the benefits attributable to container traffic are greater than the costs required to achieve the benefits, any alternative that does not benefit the container traffic is not going to be a net-benefit-maximizing alternative. In other words, even if a topping-off facility was beneficial to grain movements, the channel deepening would still be the recommended plan based on the strength of the container benefits.

A third complicating factor is that regional port options in the Astoria area generally rely on filling portions of the estuary. The Port of Astoria has prepared a preliminary cost estimate for a grain topping-off facility, which includes filling 375 acres of the estuary. To achieve this development in the estuary, the Port of Astoria would be required to obtain the necessary environmental clearances for the fill and related development before material could be utilized. Filling 375 acres of special aquatic sites, such as estuary areas, for upland port facility development would be inconsistent with 404(b)(1) guidelines that require the avoidance of filling to the extent possible. Based upon the effort expended to date on this channel improvement study, the conceptual estuarine fill at Astoria would require a 5 to 10 year effort to complete environmental and feasibility studies.

5. Thin-layer disposal is no longer being considered. Further workshop meetings have been conducted and the ocean disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information. The Corps and EPA gives special thanks to CREST, DLCS, ODFW, and CRCF in bringing the Ocean Dredged Material Working Group to consensus on the proposed ocean disposal sites.

6. Impacts to ESA-listed salmon are discussed in the EIS and Biological Assessment. The NMFS is preparing a biological opinion based upon the assessment. Construction timing is included in these documents. Also see our response #6 to the NMFS for smelt and sturgeon.

7. It is true that the preferred upland disposal sites include disposal on port-owned property. The Port of Vancouver is also paying millions of dollars in incremental costs to obtain this material. During the 5-year feasibility study, no requests came from the Port of Astoria for changes to the least cost plan.

We evaluated in-water fills in the estuary near Lois-Mott Islands and at the Miller-Pillar pile dikes. Both of these proposals have been met by major resistance and have been eliminated in the final EIS. A discussion on the options for using Benson Beach is given in Appendix A.

8. Not all container vessels in the future will be mega-ships, and not all container ports in the future will be mega-ports. Vessels in the mega-ship class exceeding 6,000 TEU capacity will indeed require channel and berth depths of 50 feet, but in the future most of the Pacific Northwest's container cargo will be carried on vessels smaller than this class of mega-ship. A March 1998 U.S. Department of Transportation study (*Impacts of Changes in Ship Design on Transportation Infrastructure and Operations)* projects only 11 percent of the Pacific Northwest's container tonnage will be carried on mega-ships with capacities of 6,000 TEUs or greater.

7. Significant ***water quality impacts from sediment contamination*** will occur from the channel deepening as proposed. Increases in turbidity are expected from all in water dredging and disposal. Lower levels of dissolved oxygen are expected to occur during all in water dredging and disposal. Sediment contamination especially in the Willamette River is also a
10. major concern. Contaminants will enter the water column from disturbing sediments from the proposed dredging and blasting which is required to deepen the Willamette River. The draft evaluation of Section 404 of the Clean Water Act is not effectively proven or referenced and does not adequately address turbidity increases, lower levels of dissolved oxygen, and contamination.

8. Impacts to ***commercially valuable and other important species*** are not addressed. We disagree with the conclusion that no significant impacts will occur to Dungeness crab and flatfish from ocean disposal. Long term mortality of white sturgeon from entrainment is not known. Entrainment and disposal in deep water areas may significantly impact this fishery.
11. The lack of research cited regarding impacts from dredging and disposal and the lack of baseline data referenced on biological resources of the estuary and nearshore ocean seriously undermine the Corps' continued assertion that there are minimal impacts to the coastal zone from the proposed channel deepening. In addition, the EIS does not adequately study or explain the potential of this project to impact fisheries nor does it take into account these impacts on the economy.

In summary, we feel that the United States Army Corps of Engineers has not at all justified their conclusion that "*adverse impacts on life stages of aquatic life and other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational, aesthetic, or economic values -would not occur*". Our review of the Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia & Lower Willamette River Federal Navigation Channel has lead us to conclude that substantial environmental impacts will result from the proposed project. The integrity of the estuarine and river ecosystem, the health of the people in the communities surrounding the river, and the economy of the rural communities surrounding the estuary are all likely to be impacted. We insist that the United States Army Corps of Engineers seriously address the concerns summarized in this letter and take measures to protect the natural resources, human populations, and economy of the communities along the Columbia River estuary.

Sincerely,

Kathy Taylor, Ph.D.
Executive Director

Corps of Engineers Response

8 (continued). Vessels in the post-panamax category (4,000-5,999 TEUs) will carry 30 percent of the tonnage, while panamax vessels and smaller (3,999 TEUs and smaller) will carry 59 percent of the cargo. Channel depth is just one factor carriers consider when looking for a hub port. In addition to a deep channel and harbor, carriers also look for ports with large consuming local populaces and access to north-south trades. Portland has a relatively small local populace, and poor access to north-south trade (i.e., South America). Moreover, Portland is sandwiched between established major ports with naturally deep harbors and large local populations. No matter how deep the channel is, Portland will never be more than a regional container port. Also, see response #2 to the Department of Interior letter regarding LoadMax. The regional port analysis has been revised to reflect more accurate costs.

9. See our response #5. Miller-Pillar has been removed.

10. The sediments to be dredged from the Columbia River have low percent fines and organic material due to the constant reworking of the sediments by the large flows in the Columbia River. Since the silts and clays are not deposited in the navigation channel or are soon removed by the process of winnowing and suspended transport, the material to be dredged is sand. Sand when released from the dredge settles very rapidly to the bottom and is not carried in suspension except under extreme flow conditions. The one exception to this in the mainstem Columbia River is the turning basin at Astoria that does consist of fine-grained material. Even dredging there, turbidity would be limited in area and transitory in nature.

The depletion of dissolved oxygen (DO) becomes a concern when sediment with a high organic content is resuspended into the water column in a confined area under low flow conditions. The organic material oxidizes stripping oxygen from the water thereby making it unavailable to aquatic organisms. None of these conditions exist in the Columbia River. Low organic content of the material to be dredged, high river flows, and large open nature of the river are not conditions which would lead to oxygen depletion of the water column.

The local sponsor has requested that dredging of the Willamette River be delayed as part of the initial channel deepening project. No further studies of Willamette River sediments are anticipated at this time. Further sediment quality evaluations will be required and conducted prior to any dredging activities.

11. Additional information has been added on commercial species and fisheries in the lower Columbia River. Impacts to Dungeness crab and juvenile flatfish have been reduced to the extent practicable by selecting the new deep water site. Long term mortality of white sturgeon would not be an issue since any entrained would likely be killed. Entrainment of sturgeon by hopper dredge is not believed to be significant based on studies done in 1998 in the Columbia River. Entrainment of sturgeon by pipeline dredging will likely be greater than hopper dredging if the dredging occurs in an area where sturgeon are known to be abundant. Dredging for the channel deepening project will be done in areas that are routinely dredged for the existing maintenance dredging program; consequently, it is unlikely that sturgeon are abundant in these areas. Disposal impacts to sturgeon in the deeper disposal areas in the lower river will be evaluated in a study to be done in the next phase of the proposed project. This information will be used to design the disposal operations to minimize impacts to the sturgeon populations. Additional information has been added to the EIS to document the level of impact to the resource and the fishery.

Cc:

Oregon:

Governor John Kitzhaber
Secretary of State Phil Keisling
Louise Soliday, Chair, Governor's Watershed Enhancement Board
Langdon Marsh, Director, Department of Environmental Quality
U.S. Senator Gordon Smith
U.S. Senator Ron Wyden
Representative David Wu
Senator Joan Dukes
Representative Jackie Taylor
Representative Tom Hartung
Representative Chris Beck
Representative Dan Gardner
Representative Roger Beyer, Chair, House Natural Resources Committee
Representative Jo Ann Bowman
Representative Randall Edwards
Representative Gary Hansen
Representative Deborah Kafoury
Representative Jane Lokan
Representative Kathy Lowe
Representative Jeff Merkley
Representative Ken Messerle, Co-Chair, Salmon and Stream Enhancement Committee
Representative John Minnis
Representative Bob Montgomery
Representative Dianne Rosenbaum
Senator Kate Brown
Senator Ginny Burdick
Senator Ted Ferriolo, Co-chair, Salmon and Stream Enhancement Committee
Senator Gary George, Member of Senate Natural Resources Committee and Chair of Land Use Subcommittee
Senator John Lim
Senator Randy Leonard
Senator Randy Miller
Senator Veral Tarno, Chair, Senate Natural Resources Committee on Salmon and Stream Enhancement
Senator Thomas Wilde

Washington:

Governor Gary Locke
Secretary of State Ralph Munro
Tom Fitzsimmons, Director, Washington Department of Ecology
Jennifer Belcher, Commissioner of Public Lands, Department of Natural Resources
U.S. Senator Slade Gorton
U.S. Senator Patty Murray
Representative Brian Baird
Senator Sid Snyder
Representative Mark Doumit
Senator Al Bauer
Senator Don Benton
Representative Marc Bolt
Representative Jim Buck, Chair, Natural Resource Committee
Representative Don Carlson
Representative Gary Chandler, Chair, House Agriculture and Ecology Committee
Representative Jim Dunn
Representative Brian Hatfield
Representative Kelli Linville, Member, House Agriculture and Ecology Committee
Representative Thomas Mielke
Representative Val Ogden
Senator Bob Oke, Chair, Senate Natural Resource and Parks Committee
Representative Linda Parlette, Vice Chair, House Agriculture and Ecology Committee
Representative John Pennington
Representative Debbie Regala, House Natural Resource Committee
Representative Mark Schoesler
Representative Bob Sump, Vice Chair, House Natural Resource Committee
Senator Joseph Zarelli

PORT OF ASTORIA

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(503) 325-4521 • FAX (503) 325-4525 • (800) 860-4093

February 5, 1999

District Engineer
U.S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

RE: Response to Draft EIS

Dear Colonel Robert T. Slusar:

The Port of Astoria has reviewed the draft EIS for issues we believe affect the Port District and community we represent. We take this opportunity to present our comments.

The Port supports the Columbia River Estuary Task Force's (CREST) letter in response to the Draft EIS Report. CREST has the scientific expertise to fully evaluate impacts of Columbia River channel deepening as presented in the EIS. We concur with their findings and expect the amended EIS will fully address the concerns outlined in this letter.

In addition, the Port is concerned that the Draft EIS does not thoroughly address or investigate "Regional Port Alternatives" to the channel-deepening project. Some of the critical areas that require further comprehensive study are:

1. Trends within the shipping industry indicate that port facilities should be developed to be accessible, and maintained, for deep-draft (minus 50 feet M.L.L.W.) vessel requirements.

   The Port foresees shipping companies are going to build ships that require ports to provide a depth of minus 50 feet. The EIS should explore and list current global transshipment trends and must present a discussion of how the needs of these deeper vessels will be met.

2. Regional and statewide benefits in developing a deep draft (minus 50 feet M.L.L.W.) port facility near Astoria to handle the shipping needs that are driving the current study and meet the future needs of deep-draft vessels.

   The Port of Astoria is considering multiple concepts and preliminary cost estimates for a regional deep-draft seaport near Astoria. We have adopted a resolution to promote further investigation of this facility. The EIS review of Astoria Single-Stop Port Alternatives needs further study.

Corps of Engineers Response

Comments noted. Please see our responses to the CREST letter. We have revised the regional port analysis in the EIS and Appendix C; the analysis addresses your nine critical areas and reflects more accurate costs.

3. Cargo transportation capacity by rail from Portland to Astoria to support a deep-draft port facility near Astoria.

   The Port of Astoria has contacted Portland & Western (PNWR) Railroad to determine the capacity of the rail system between Portland and Astoria for transporting cargo. PNWR believes that the line can be made operational to handle 584,000 TEU per year with maintenance repairs that would completed at no public cost over a period of nine years . These upgrades are critical to the planning for a deep-draft seaport near Astoria. The EIS needs to contact PNWR to gather accurate upgrade/repair costs. In addition, PNWR believes that truck cargo can be transferred to rail in Portland for movement to Astoria for significantly less than the $260 per container suggested within the EIS.

4. Transportation capabilities of Highway 30 to support a deep-draft port facility near Astoria.

   The Port of Astoria is investigating a deep-draft seaport concept that would utilize rail, river barge and highway systems for transport of cargo. Highway 30 is an integral component for intermodal transportation of cargo. We believe the COE should further study within the EIS all intermodal logistics as part of their review of Astoria port site options.

5. Availability of land for development of a port site near Astoria.

   A deep-draft seaport site concept that the Port of Astoria is investigating can be constructed east of Astoria between two existing islands utilizing dredge material. One port concept being investigated would develop approximately 400 acres at the proposed site with access to approximately 2000 additional acres. The present EIS report identifies the lack of available upland area for port development in the vicinity of the existing Port of Astoria. For this reason, the Port of Astoria envisions a port facility plan east of Astoria where land can be developed with rail and highway access direct to the site.

6. The COE conclusion that increased transportation costs for shipping cargo resulting from development of a deep-draft seaport near Astoria needs further study.

   The Port of Astoria believes that an independent economic study should be developed for cargo transportation costs for an Astoria port facility. The EIS provides data/statistics from reports that appear unrelated to regional port alternatives.

7. Port development costs near Astoria.

   The Port of Astoria believes that the cost of construction of a deep-draft seaport east of Astoria would be approximately $250 million. This could avoid the considerable new investments of an Oregon upper-river port facility currently under study with proposed costs of more than $600 million. For comparison, the EIS uses cost estimates for developing a port on Young's Bay adjacent to existing port facilities, which is obsolete and no longer under consideration by the Port of Astoria. We realize that this option would be costly and create traffic problems by forcing rail and trucks through the City of Astoria.

8. Infrastructure costs associated with constructing wheat top-off facilities and container terminal port facilities.

   The Port of Astoria believes the infrastructure costs associated with constructing facilities to transship and store cargo at a port facility near Astoria would be considerably less than suggested by the EIS. An updated, independent construction cost estimate should be developed based upon a site-specific facility plan for a deep-draft seaport near Astoria. utilizing public or private funds.

9. Economic impacts from depositing dredge material on the commercial shell fill grounds.

   The Port of Astoria maintains two marinas and port facilities that provide berthing space for commercial fishing vessels. The impact of the proposed dredge disposal sites annotated in the EIS will adversely effect these fisheries, processors and local, regional and state-wide businesses that support Port of Astoria operations. This must be considered within the EIS.

Summary:

The Port of Astoria believes the EIS should provide a more comprehensive investigation of the Regional Port Alternative. The EIS is mandated to thoroughly consider the items listed and include results in an amended EIS.

We continue to support the concept of dredging the river provided all other alternatives are compared for benefit, cost and environmental impact. It is our belief that a port facility for deep-draft vessels and for top-off activities can be cost effectively developed near Astoria.

Enclosed is a conceptual layout and preliminary cost estimate for options to develop a deep-draft seaport concept near Astoria.

If you have any questions, please contact the Port of Astoria.

Sincerely,

Glenn Taggart, President
Port of Astoria Commission

Enclosures: Port Resolution 99-03
Portland & Western Railroad Letter
CREST Letter
Peratrovich, Nottingham & Drage Proposal

Cc: Port Commissioners
Port of Portland
Port of Longview
Port of Kalama
Port of St. Helens
Port of Woodland
C.R.E.S.T.
Oregon:
Governor John Kitzhaber
Secretary of State Phil Keisling
Louise Soliday, Chair, Governor's Watershed Enhancement Board
Langdon Marsh, Director, Department of Environmental Quality
U.S. Senator Gordon Smith
U.S. Senator Ron Wyden
Representative David Wu
Senator Joan Dukes
Representative Elaine Hopson
Representative Jackie Taylor
Representative Tom Hartung
Representative Chris Beck
Representative Dan Gardner
Representative Roger Beyer, Chair, House Natural Resources Committee
Representative Jo Ann Bowman
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Representative Kathy Lowe
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Representative Ken Messerle, Co-Chair, Salmon and Stream Enhancement Committee
Representative John Minnis
Representative Bob Montgomery
Representative Dianne Rosenbaum
Senator Kate Brown
Senator Ginny Burdick
Senator Ted Ferriolo, Co-chair, Salmon and Stream Enhancement Committee.
Senator Gary George, Member of Senate Natural Resources Committee and Chair of Land Use Subcommittee
Senator John Lim
Senator Randy Leonard
Senator Randy Miller
Senator Veral Tamo, Chair, Senate Natural Resources Committee on Salmon and Stream Enhancement
Senator Thomas Wilde

Washington:

Governor Gary Locke
Secretary of State Ralph Munro
Tom Fitzsimmons, Director, Washington Department of Ecology
Jennifer Belcher, Commissioner of Public Lands, Dept. of Natural Resource
U.S. Senator Slade Gorton
U.S. Senator Patty Murray
Representative Brian Baird
Senator Sid Snyder
Representative Mark Doumit
Senator Al Bauer
Senator Don Benton
Representative Marc Bolt
Representative Jim Buck, Chair, Natural Resource Committee
Representative Don Carlson
Representative Gary Chandler, Chair, House Agriculture and Ecology Committee
Representative John Pennington
Representative Debbie Regala, House Natural Resource Committee
Representative Mark Schoesler
Representative Bob Sump, Vice Chair, House Natural Resource Committee
Senator Joseph Zarelli

RESOLUTION 99-03
In support of a
DEEP-DRAFT SEAPORT
AT ASTORIA
February 1, 1999

WHEREAS, the trend in transshipment of materials through west coast ports of the United States is
expected to continue to increase as Asia and other Pacific Rim/Far East countries develop their shipping and economic infrastructures; and

WHEREAS, shippers are expected to prefer seaports located close to the Pacific Ocean, adjacent to a minimum 50 foot draft channel with berths provided to the same depth to facilitate fast turnaround of
their vessels; and

WHEREAS, the trend in port development and expansion is expected to accommodate shipping companies planning and currently building vessels that will require a minimum 50 foot draft at mean low water; and

WHEREAS, shippers are currently forming alliances to provide operating efficiencies for these up-sized vessels; and

WHEREAS, it is in the economic interest of the State of Oregon to plan for a minimum 50 foot draft seaport if it is to remain competitive for this trade; and

WHEREAS, the current plan for Columbia River dredging will not meet the minimum 50 foot draft
channel needed by these large vessels to reach up-river ports, nor is it expected to in the foreseeable
future; and

WHEREAS, Astoria can achieve a minimum 50 foot draft channel, and is located near the ocean; and

WHEREAS, the community of Astoria and Clatsop County has for 150 years been an active center for transoceanic shipping; and

WHEREAS, the Port of Astoria's 1998 five year strategic plan calls for analyzing and implementing options for increased cargo handling for the region; and

WHEREAS, such activity would generate family wage jobs, create rail traffic, and keep Oregon in a competitive posture with other West Coast ports; and

WHEREAS, significant and unique opportunities now exist that appear to answer many political, environmental and economic hurdles to developing a minimum 50 foot draft seaport in Oregon;

THEREFORE BE IT RESOLVED, that the Port of Astoria, not wishing to forego a unique opportunity that would have long-ranging importance for this region and the State, hereby declares its intention to
pursue, on behalf of its constituent citizens, a needs assessment and feasibility study toward the construction of an international deep draft seaport to serve the State of Oregon and inland exporters, importers and consumers; and

BE IT FURTHER RESOLVED, this activity will take place through economic and political partnerships developed between the Port and other public and private entities as needed and desired.

R. I. Melbo, President & General Manager
S. C. Walsh-Enlos, Director of Marketing
R. K. Carskadon, Trainmaster - Director of Safety
R. D. Vincenz, Manager of Marketing

A. B. Carswell, Vice President-Operations
D. L. Sullivan, Maintenance of Way Manager
C. R. Gilbert, Manager of Engineering & Contracts
M. A. Barron, Personnel - Office Manager/Asst. to Pres. - GM

February 3, 1999

Mr. Glenn Taggart
Chairman, Port Commission
Port of Astoria
1 Portway
Astoria, Oregon 97103

Dear Mr. Taggart:

The purpose of this letter is to update you about restoration of railroad service to Tongue Point and Astoria and to briefly discuss railroad capacity issues in relation to water-borne commerce that might be handled via the Port of Astoria.

As I'm sure you are aware, the 1998 Transportation Equity Act for the 21st Century (TEA-21) earmarked federal funds to pay 80 per cent of an estimated $875,000 project to restore rail service to Astoria. The Oregon Department of Transportation is authorized to dispense these funds and Portland & Western Railroad has entered into an agreement with ODOT to prosecute the project through to completion.

1. Necessary preparatory engineering work is in the final stage and I anticipate rail service will be restored at least as far as Tongue Point not later than April 30th. Extending service from Tongue Point to the end of the line near the Port of Astoria's facility will require negotiation of an agreement with the City of Astoria and some rehabilitation of track, crossing warning devices, and bridges. The nature of this work is not arduous but to accommodate a proposed passenger trolley some improvements necessarily may exceed what would be required for just freight service. These issues need to be addressed with the City.

Portland & Western believes that the project contemplated by TEA-21 is adequate to not only reopen the line but to also support for two years an energetic level of traffic far beyond what is likely to occur. To quantify this, we believe when reopened the line could handle each day one round trip of a 5800-foot long unit container train that could accommodate 200 containers in each direction. Such trains would consist of 20 five-platform cars each capable of carrying 10 containers double stacked. Double-stack cars are state-of-the-art and populate the national rail system by the thousands. Just the operation of a single round trip between Portland and Astoria every 24 hours has the theoretical capacity to transport 146,000 containers over the course of a year.

In Year 3 and Year 4 we would propose a capital tie renewal program each year for 35 miles costing around $2.2 million in today's dollars. In Year 5 we would initiate replacement of 10

Corps of Engineers Response

1. Comments noted. All references to rail improvement costs have been removed from the EIS.

track miles of rail annually at an estimated cost of $200,000 per mile (today's dollars). To fully replace 70 miles of older and smaller rail would require seven years under this scenario and $14 million.

To summarize, capacity to handle 400 containers daily (200 each way) between Astoria and Portland will exist when we reopen the line this year. To maintain that capacity (and, at the same time, upgrade the rail line for more efficient service) will require, beginning in late 2001 or early 2002, investment of $2 to $2.5 million per year for nine years.

1. (con't)

If more than one round trip of a container train per day were required then sidings of sufficient length to permit large trains to pass one another would be necessary. These sidings would need to be approximately 6,400 feet in length and would cost about $1.5 million each to build. How many would be needed and where they would be located depend upon the density of traffic contemplated. Construction of two sidings, for example, would make feasible movement of two to four round trips daily. At four round trips daily the available capacity becomes almost staggering, 584,000 containers yearly (1,600 per day).

I'm told that in 1957 the U.S. Army Corps of Engineers estimated that upgrading the rail line to Astoria to accommodate significant rail tonnage would cost $50 million. This number, I understand, continues to surface in Corps' documents such as the Environmental Impact Statement prepared to justify deepening of the Columbia River shipping channel for larger vessels to reach Portland. Where the Corps obtained this estimate I don't know. I do know that since P&W acquired the Astoria line in 1997 the Corps has not contacted us for an update about the Astoria railroad.

If we spent the equivalent of 50 million 1987 dollars on the Astoria branch today we would have a railway equal to many of the core main lines in the U.S. accommodating 30 to 40 trains daily instead of four to six contemplated here. It would be far better than it needs to be.

The expenditure this year of $875,000 will provide Astoria with adequate capacity to receive and dispatch 400 containers per day. At 200 containers per train I would commit to you that Portland & Western's cost for moving them would not exceed $50 each, a figure that is substantially less than by highway. Beyond this initial expenditure of $700,000 in federal money (80 percent of $875,000) the private sector will fund future line improvements as traffic grows and public money will not be necessary. By contrast the Corps, I believe, had in mind the taxpayers furnishing the full $50 million for railroad improvements.

Yours truly,

Robert I. Melbo

Robert I. Melbo

PORT OF ASTORIA

1 Portway • Astoria, Oregon 97103

(503) 325-4521 • FAX (503) 325-4525 • (800) 860-4093

November 19,1998

Mrs. Laura Hicks
CENWP-PM-FP
US Army Corps of Engineers
Portland District
333 S.W. First Avenue
PO Box 2946
Portland, Oregon 97208-2946

Dear Ms. Hicks:

During the November 17, 1998 Port Commission Meeting the Port of Astoria Commission voted unanimously to urge the Corps of Engineers to extend the public comment period 60 days on the Dredge Spoil Disposal Plan associated with the Columbia River Channel Deepening Project. As a member of the Oregon and Washington Ports who sponsored the Feasibility Study, we believe additional time is required to receive public comment from the many concerned citizens living and working on the lower Columbia River.

The Port of Astoria Commission is also concerned about the proposed dredge material disposal sites and the adverse impact this will have on crab grounds. This area of the state has already received negative economic impacts with the loss of log exporting and the reduction in commercial fishing. It is imperative that any action taken to enhance commercial river traffic not be done at the expense of the remaining commercial fisherman by jeopardizing valuable fisheries.

In addition, we believe the dredge material removed from the lower river should be used in a positive way to benefit the lower river. With an extension of the comment period additional ideas can be solicited for beneficial use and placement of dredge material from the citizens of the port district.

Sincerely,

Glen Taggart
Chairman, Port of Astoria Commission

Corps of Engineers Response

Comments noted. Concerning ocean disposal, further workshop meetings have been conducted and the disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

To: Robert T. Slusar
U.S. Army Corps of Engineer District,Portland
Attn:CENWP-EC-E
P.O.Box 2946
Portland, Oregon 97208-2946

Feb. 3, 1999

From: William H. Rhodes
F/V Charleen

Re: Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (Columbia & Lower Willamette River Federal Navigation Channel)
Subject: Ocean site B & E.& Vessel Safety

Dear Colonel:

1. Fishing has been my career for my whole life. I'm a crab fisherman out of Chinook, Wa. In the summer of 1960 I began fishing and started crab fishing in the winter of 1968 with Howard Vinning of the F/V Thora S out of Westport, Wa.

I have attended several meetings with site selection workshops with Laura Hicks and the rest of your crew.

First I would like to address the safety issue of ocean site B and E expanded.. On Dec. 15,1998 I was fishing around Buoy 3 at the mouth of the Columbia River. At the time we Started fishing the swell was 11 to 12 feet and not much wind. I know the problem the Corp. has created between 3 and Buoy 1 the swell started to build and in matter of 1 hour we were forced to leave this area because of heavy surf and swell. In the Corps. words a high energy wave area. (extremely high energy that destroys boats and peoples lives)

2. Ladies and Gentlemen of Corp. if it wasn't for our U.S. Coast Guard we would have lost several boats. Cape Disappointment launched their helicopters with landing lights on and marked where the breakers were in the channel. I made a call on Channel 16 that is recorded thanking them for their help.

On Jan 19.1999 the same thing happened to me again sir in daylight so I could see how to get in. And again sir in a heavy swell this bar changes again. I think the time has come sir to stop all dumping in site B and E.

The meetings that I attended were a waste of my time with your people and my intelligence. Again the Corp. demonstrates their ability to do what they want without reguard for the fishing industry and vessel safety.

Your people don't understand the value of the crab fishing industry at the mouth of the Columbia River. You have totally disreguarded all course of action outlined by CRCFA and the fisherman involved.

Corps of Engineers Response

1. Comments noted.

2. Comments noted. Past disposal has resulted in adverse wave conditions near the entrance channel. This was a major concern during the site selection process and in preparing the disposal site management plans. The depth of disposal would be restricted to limit wave height increase to 10 percent or less at the sites. More information is located in Appendix H, Exhibits B and H.

Subject con't: Ocean Site B & E

2. (con't) Vessel safety and crew safety are a priority to myself and families involved. You have created a very hazardous bar and spit at the mouth of the Columbia River. I was hoping that we could resolve this matter before someone looses their lives in this area. Before site B is deactivated we would like you to deal with the high-energy wave problem you have created in this area.

3. The Corp. has done more environmental damage to the mouth of the Columbia River then any other group in the history of the United States. The Corp. has solely destroyed the salmon industry as it was known in the early 1930's for not having the foresight to put fish ladders in Grand Coulee Dam. These spawning grounds were the most fertile in the Columbia River system and were totally ignored. I don't want the same thing to happen to our crab grounds in ocean.

CRCFA have also tried in good faith to establish credible ways to dispose of dredge spoils. We have asked the Corp. to take dredge spoils five miles further west of ocean site B to least :Impact the crab fishery. We would like candidate site 8 used for disposal.

If you want to continue in the past practices of the Corp. the fisherman will have no course but to ask for mitigation for the loss of crab habitat and wages.

Sir if you were told that your services were no longer needed and ordered to leave without pay or any other compensation what would you do sir? This is the situation that you are placing the crab fisherman in.

I would hope that you would read this letter because I've had two close encounters this year with ocean site B & E with high-energy waves in excess of 25FT. I would hope that you would consider my opinions in this matter.

Sincerely,
William H Rhodes

William H. Rhodes
F/V Charleen
P.O. Box 2215
Gearhart, Or. 97138
503-717-1068

Corps of Engineers Response

3. Further workshop meetings have been conducted and the ocean disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

WAHKIAKUM PORT DISTRICT NO. 2
SKAMOKAWA VISTA PARK

13 Vista Park Road/P.O. Box 220
Skamokawa, WA 98647
(360) 795-8605 • Fax (360) 795-8611

4 February 1999

District Engineer
U. S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

Colonel Robert T. Slusar:

Thank you for giving us the opportunity to respond to the draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel. The Port has reviewed this document and specifically studied issues that will impact the Columbia River estuary and the communities that make up the Port District.

The proposal to deepen the navigation channel from 40 to 43 feet in the Columbia and Willamette Rivers, as outlined in the Draft EIS, will result in extreme environmental impacts. The proposed channel deepening provides no economic benefits for the Port and communities surrounding the estuary and will especially affect those people in our area who depend on the natural resources of the estuary and ocean for employment.

Our findings from review of the Draft EIS show it to be lacking satisfactory analysis in several areas and insufficient data to support the major conclusions and recommendations of the document. The sponsors preferred alternative in the Draft EIS (deepening the channel to 43 feet) is the alternative with the greatest environmental impacts and the lowest benefit-to-cost ratio. In addition, the Draft EIS does not demonstrate how the proposed alternative avoids environmental impacts and the burden of proof has been inappropriately shifted to reviewers to demonstrate how the project proposed in the Draft EIS impacts the environment. The Draft EIS is notably unsatisfactory in analysis of alternative evaluation, ocean disposal threatened and endangered species, economic evaluation, mitigation, and water quality.

PRINTED ON RECYCLED PAPER

Corps of Engineers Response

Comments noted. Your comments reflect those provided in the Columbia River Estuary Study Taskforce (CREST) letter dated January 29, 1999. Please see our responses to the CREST letter.

The Port of Wahkiakum No. 2 is requesting the Army Corps of Engineers to reevaluate the proposed channel deepening alternative and address each of the following in detail in the Final EIS.

1. The Draft EIS does not adequately ***evaluate alternatives***. The only alternative receiving serious consideration is deepening the channel from the present 40 feet to 43 feet. The intent of an EIS required by the National Environmental Protection Act is to consider alternative courses of action and to *demonstrate* that the proposed alternative minimizes environmental impacts and provides ways to mitigate unavoidable environmental impacts. The preferred alternative results in the greatest impact to the environment and results in the lowest benefit-to-cost ratio (DEIS 4-56). The non-structural alternative, the regional port concept, and beneficial uses of dredged material from the estuary are alternatives that could increase benefits and reduce environmental impacts. These alternatives were not seriously addressed in the Draft EIS and warrant further discussion.

   - The ***non-structural alternative*** using LOADMAX, an advanced river stage and tide forecasting system, to accurately forecast and schedule ship traffic based on river levels, was not seriously considered (DEIS 4-4, 4-5). There are few limitations with LOADMAX and the advanced river stage forecast system could be implemented for $500,000 with an annual cost of $100,000. This is substantially less expensive than the $175 + million needed to deepen the channel to 43 feet. The non-structural alternative was not adequately evaluated and was not evaluated at all in combination with tiered or limited dredging (DEIS 4-4, 4-5). LOADMAX adds net benefits to any deepening alternative. LOADMAX will result in the least environmental impacts and has the greatest cost-to-benefit ratio (DEIS 4-56). LOADMAX would substantially improve grain shipment traffic conditions. This is a crucial alternative that needs to be reevaluated.

   - The ***regional ports*** concept was also not seriously evaluated. In particular, the concept of a regional port in Astoria or a topping-off port in Astoria did not receive serious attention (DEIS 4-6, 4-7). After very little study, the Corps dismisses this alternative due to high costs and impacts to expanding port facilities in Youngs Bay, and increased costs of barging goods to Astoria. There was no discussion of the cost savings to ships not having to travel up river, reduced construction and maintenance dredging costs and associated environmental cost savings. Using or expanding the existing facilities with dredged material at Tongue Point was not evaluated at all. An added benefit of considering dredged material disposal in the Tongue Point area includes less reliance on Rice Island as a disposal site, at least for the short term This would permit additional time to study the Caspian Tem problem and create a real solution. A regional port concept at Tongue Point in Astoria is being considered by the Port of Astoria and must be evaluated.

2. The Draft EIS proposes only one ***ocean disposal*** option of over 80 square miles, for 50-year designation, with no management requirements, weak monitoring, and no mitigation (DEIS Appendix H). This is unacceptable. The North Site totals 19,000 acres and the South Site totals 33,000 acres (DEIS, Exhibit D). As proposed, these sites are in conflict with productive commercial fisheries and are not in compliance with the Coastal Zone Management Act or the Marine Protection, Research and Sanctuaries Act (Ocean Dumping Act). Ocean Disposal needs to be reevaluated to designate sites that will avoid impacts to ocean resources, avoid conflicts with commercial fisheries and navigation, and provide mitigation. In addition, the Battelle research, which was conducted to justify ocean disposal is "preliminary" and demonstrates the potential for significant crab mortality from thin layer ocean disposal. We disagree with the Corps conclusion that no significant impact to ocean crab and flatfish populations will occur from thin layer disposal. Additionally, there is nothing in the document that would require the Army Corps of Engineers to use thin layer disposal in managing the ocean disposal sites. There needs to be more than one option presented for ocean disposal which shows alternative dredged material amounts from each deepening alternative as required by the National Environmental Protection Act.

3. There are several ***threatened and endangered salmon species*** in the study area. There are also several species of concern. The proposed channel deepening project entails construction throughout the year, completely dismissing State and Federal in-water work timing considerations that protect threatened and endangered salmon species under the Endangered Species Act (DEIS, Exhibit C, Recommendation 1). This is unacceptable. A time period for in water work should be developed that is specific to the Columbia River threatened and endangered species, smelt, and sturgeon, and habitat for these species.

4. There are no ***beneficial uses of dredged material*** from the estuary. The preferred disposal alternative drops disposal sites that require mitigation and uses sites near port owned lands in Vancouver, St. Helens, Kalama, and Longview which provide material for future commercial/industrial uses. There are similar beneficial uses for material near the mouth of the Columbia River yet none are included in the Draft EIS. Direct disposal on eroding beaches in Washington State also does not receive adequate analysis and consideration although the economic benefits of this would be substantial. There is a proposed beneficial use at Millar/Pillar in the estuary. The purpose of this "beneficial use" site is to create shallow water estuary habitat (DEIS, 4-70). We question whether this is indeed a beneficial use as it is creating shallow water habitat for juvenile salmon adjacent to Miller Sand and Rice Island where avian predation on juvenile salmon in shallow water is already a large problem. In addition, mid water habitat is valuable for estuarine benthic populations and most mid-water habitat has been lost in the estuary due to dredging activities. Millar/Pillar should be removed as an ecosystem restoration site. Site W-33.4 should be used as a beneficial use disposal site. The site provides the same beneficial use as the sponsor approved beneficial use sites located nearer the urban areas. It provides a cost saving site versus site O-34. Site 33.4 is located closer to the shipping channel thus reduced pumping costs. Dredged materials will be permanently removed from the river system versus site O-34 dredged material eroding and filling in mid and shallow water habitat.

5. The ***economic evaluation*** used to justify the proposed deepening in the Draft EIS uses economic data that is out dated. Recent changes in shipping market conditions to larger deeper draft container ships are not considered. It is unlikely that even a 43 feet deep channel would allow modem container ships (requiring 50 feet draft) access to upriver ports. If the channel deepening project is for grain shipping only then the benefits derived from a deeper channel could also be derived from using LOADMAX river forecasting and/or a regional port in Astoria. Yet, LOADMAX and regional port alternatives were not seriously evaluated. The difference in economic benefits and costs from the different alternatives presented in the Draft EIS is unclear. In addition, the economic impacts to natural resources and fisheries are not evaluated in the Draft EIS and deserve attention. An independent economic analysis of this Draft EIS is needed.

6. There is no ***mitigation*** planned for estuary or ocean impacts from dredged material disposal. Impacts from dredged material disposal in the estuary and for 80 square miles of the ocean need to be mitigated. This includes the proposed "beneficial use" at Millar/Pillar. We question this site as a restoration or beneficial use site. If disposal takes place at Millar/Pillar, it should be mitigated. Mitigation should be considered in areas where former beach nourishment sites are being abandoned. The list includes Port Westward, Puget Island, and Skamokawa. These people are losing waterfront property each year. The Corps should offer an expedited permitting system to assist the property owners as they work to protect what they have left.

7. Significant ***water quality impacts from sediment contamination*** will occur from the channel deepening as proposed. Increases in turbidity are expected from all in water dredging and disposal. Lower levels of dissolved oxygen are expected to occur during all in water dredging and disposal. Sediment contamination especially in the Willamette River is also a major concern. Contaminants will enter the water column from disturbing sediments from the proposed dredging and blasting which is required to deepen the Willamette River. The draft evaluation of Section 404 of the Clean Water Act is not effectively proven or referenced and does not adequately address turbidity increases, lower levels of dissolved oxygen, and contamination.

8. Impacts to ***commercially valuable and other important species*** are not addressed. We disagree with the conclusion that no significant impacts will occur to Dungeness crab and flatfish from ocean disposal. Long term mortality of white sturgeon from entrainment is not known. Entrainment and disposal in deep water areas may significantly impact this fishery. The lack of research cited regarding impacts from dredging and disposal and the lack of baseline data referenced on biological resources of the estuary and nearshore ocean seriously undermine the Corps continued assertion that there are minimal impacts to the coastal zone from the proposed channel deepening. In addition, the EIS does not adequately study or explain the potential of this project to impact fisheries nor does it take into account these impacts on the economy.

In summary, we feel that the United States Army Corps of Engineers has not at all justified their conclusion that *"adverse impacts on life stages of aquatic life and other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational, aesthetic, or economic values would not occur"*. Our review of the Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia & Lower Willamette River Federal Navigation Channel has lead us to conclude that substantial environmental impacts will result from the proposed project. The integrity of the estuarine and river ecosystem, the health of the people in the communities surrounding the river, and the economy of the rural communities surrounding the estuary are all likely to be impacted. We insist that the United States Army Corps of Engineers seriously address the concerns summarized in this letter and take measures to protect the natural resources, human populations, and economy of the communities along the Columbia River estuary.

Sincerely,

Kyle Gribskov, Vice Chair
Port Commission

cc: Senator Sid Synder
Representative Mark Doumit
Representative Brian Hatfield
Governor Gary Locke
Senator Patty Murray
Senator Slade Gorton

Commissioners
FRANK UNFRED
chairman
PAUL C. POLILLO
secretary
JIM STIEBRITZ

PORT OF ILWACO

P.O. Box 307
Ilwaco, Washington
98624

BOB ROBINSON
manager
Area Code 360
Phone 642-3143
FAX 642-3148

District Engineers
U S Army Corp of Engineers
CENWP-EC-E Attn: Steven Stevens
PO Box 2946
Portland, Oregon 97208-2946

February 5, 1999

Dear Sirs:

The Port of Ilwaco was formed to assist in the development of an economy here at the mouth of the Columbia River and to make the effort needed to sustain existing and create additional family wage jobs. This Columbia and Lower Willamette River Federal Navigation Channel project does not contribute to that endeavor, but in fact, is detrimental to our cause. Thus our comments:

1. Commercial fishing of Crab, Salmon, Sturgeon, and bottom fish with small privately owned vessels, the majority of which is performed during less than ideal weather conditions, is the root of our year-round economy. Ocean disposal has adversely impacted the ability to navigate with small vessels near the river mouth due to the resultant shoaling, and has also created a certain fear factor since thorough understanding of the "tendency to break" requires multiple exposures during various tide conditions.

2. We disagree with the Corps ability to conclude that no significant impact will occur from thin layer disposal due to the preliminary nature of research. Thin layer disposal may create vast areas of suspended dredged material for extended periods of time affecting Salmon and other migratory fish runs. The year around construction proposed by the Corp increases this probability and violates State and Federal law developed to protect endangered species.

Corps of Engineers Response

1. Comments noted. Past disposal has resulted in adverse wave conditions near the entrance channel. This was a major concern during the site selection process and in preparing the disposal site management plans. The depth of disposal would be restricted to limit wave height increase to 10 percent or less at the sites. More information is located in Appendix H, Exhibits B and H.

2. Thin layer disposal is no longer being considered.

3. The regional port concept needs to be studied in much more detail. A channel depth of 43' may not ultimately be adequate and utilizing the financial resources to develop a port at the river mouth as well as upgrading the shallow draft and land based transportation elements could prove to be the most beneficial, long term plan.

Some factors relating to the regional port concept vs. a channel depth of 43' that we think you should consider or reconsider are:

- The blasting that is required and the contamination that exists in the Willamette.
- The potential reduction in circulation to adjacent bays and estuaries along the river due to the increased channelization.
- The existing need to upgrade the deteriorating roads to the coast.
- The immediate impact on the numbers of family wage jobs at the coast.
- The ability to reactivate the railroad.
- The ability to reduce the odds of massive spills inland that would contaminate many more miles of riverbank.
- The reduced need to maintenance dredge the river.

Thank you, for the opportunity to contribute and we will continue to insist that you treat the mouth of the Columbia as the **gateway to the Northwest** and not the back door.

Sincerely,

Bob Robinson

Bob Robinson
Port Manager
On behalf of the Port of Ilwaco Commissioners

Corps of Engineers Response

3. Additional information has been added to the EIS concerning the regional port alternative. Also see our response #4 to the Columbia River Estuary Study Taskforce (CREST) letter dated January 29, 1999.

SALMON FOR ALL

January 29, 1999

District Engineer
U. S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

Colonel Robert T. Slusar:

Thank you for giving us the opportunity to respond to the draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel. We have reviewed this document and specifically studied issues that will impact the Columbia River estuary and the communities surrounding the estuary.

The proposal to deepen the navigation channel from 40 to 43 feet in the Columbia and Willamette Rivers, as outlined in the Draft EIS, will result in extreme environmental impacts. The proposed channel deepening provides no economic benefits for the communities surrounding the estuary and will especially affect those people in our area who depend on the natural resources of the estuary and ocean for employment.

Our findings from review of the Draft EIS show it to be lacking satisfactory analysis in several areas and insufficient data to support the major conclusions and recommendations of the document. The sponsors preferred alternative in the Draft EIS (deepening the channel to 43 feet) is the alternative with the greatest environmental impacts and the lowest benefit-to-cost ratio. In addition, the Draft EIS does not demonstrate how the proposed alternative avoids environmental impacts and the burden of proof has been inappropriately shifted to reviewers to demonstrate how the project proposed in the Draft EIS impacts the environment. The Draft EIS is notably unsatisfactory in analysis of alternative evaluation, ocean disposal, threatened and endangered species, economic evaluation, mitigation, and water quality.

The Columbia River Estuary Study Taskforce (CREST) and its jurisdictions are requesting the Army Corps of Engineers to reevaluate the proposed channel deepening alternative and address each of the following in detail in the Final EIS.

No. 1 Sixth Street • P.O. Box 56 • Astoria, Oregon 97103 • (503) 325-3831 • FAX (503) 325-2725

Corps of Engineers Response

Your comments reflect those provided in the Columbia River Estuary Study Taskforce (CREST) letter dated January 29, 1999. Please see our responses to the CREST letter.

1. **This project should include economic benefits for the entire lower Columbia River region either through economic development funds or opportunities created by the dredging. This project does neither.**

2. The Draft EIS does not adequately ***evaluate alternatives.*** The only alternative receiving serious consideration is deepening the channel from the present 40 feet to 43 feet. The intent of an EIS required by the National Environmental Protection Act is to consider alternative courses of action and to *demonstrate* that the proposed alternative minimizes environmental impacts and provides ways to mitigate unavoidable environmental impacts. The preferred alternative results in the greatest impact to the environment and results in the lowest benefit - to-cost ratio (DEIS 4-56). The non-structural alternative, the regional port concept, and beneficial uses of dredged material from the estuary are alternatives that could increase benefits and reduce environmental impacts. These alternatives were not seriously addressed in the Draft EIS and warrant further discussion.

   - The ***non-structural alternative*** using LOADMAX, an advanced river stage and tide forecasting system, to accurately forecast and schedule ship traffic based on river levels, was not seriously considered (DEIS 4-4, 4-5). There are few limitations with LOADMAX and the advanced river stage forecast system could be implemented for $500,000 with an annual cost of $100,000. This is substantially less expensive than the $175 + million needed to deepen the channel to 43 feet. The non-structural alternative was not adequately evaluated and was not evaluated at all in combination with tiered or limited dredging (DEIS 4-4, 4-5). LOADMAX adds net benefits to any deepening alternative. LOADMAX will result in the least environmental impacts and has the greatest cost-to-benefit ratio (DEIS 4-56). LOADMAX would substantially improve grain shipment traffic conditions. This is a crucial alternative that needs to be reevaluated.

   - The ***regional ports*** concept was also not seriously evaluated. In particular, the concept of a regional port in Astoria or a topping-off port in Astoria did not receive serious attention (DEIS 4-6, 4-7). After very little study, the Corps dismisses this alternative due to high costs and impacts to expanding port facilities in Youngs Bay. Using or expanding the existing facilities at Tongue Point was not evaluated at all. A regional port concept at Tongue Point in Astoria is being considered by the Port of Astoria and must be evaluated.

3. The Draft EIS proposes only one ***ocean disposal*** option of over 80 square miles, for 50-year designation, with no management requirements, weak monitoring, and no mitigation (DEIS Appendix H). This is unacceptable. The North Site totals 19,000 acres and the South Site totals 33,000 acres (DEIS, Exhibit D). As proposed, these sites are in conflict with productive commercial fisheries and are not in compliance with the Coastal Zone Management Act or the Marine Protection, Research and Sanctuaries Act (Ocean Dumping Act). Ocean Disposal needs to be reevaluated to designate sites that will avoid impacts to ocean resources, avoid conflicts with commercial fisheries and navigation, and provide mitigation. In addition, the Battelle research, which was conducted to justify ocean disposal, is "preliminary" and demonstrates the potential for significant crab mortality from thin layer ocean disposal. We disagree with the Corps conclusion that no significant impact to ocean

crab and flatfish populations will occur from thin layer disposal. Additionally, there is nothing in the document that would require the Army Corps of Engineers to use thin layer disposal in managing the ocean disposal sites. There needs to be more than one option presented for ocean disposal which shows alternative dredged material amounts from each deepening alternative as required by the National Environmental Protection Act.

4. There are several ***threatened and endangered salmon species*** in the study area. There are also several species of concern. The proposed channel deepening project entails construction throughout the year, completely dismissing State and Federal in-water work timing considerations that protect threatened and endangered salmon species under the Endangered Species Act (DEIS, Exhibit C, Recommendation 1). This is unacceptable. A time period for in water work should be developed that is specific to the Columbia River threatened and endangered species, smelt, and sturgeon, and habitat for these species.

5. There are no ***beneficial uses of dredged material*** from the estuary. The preferred disposal alternative drops disposal sites that require mitigation and uses sites near port owned lands in Vancouver, St. Helens, Kalama, and Longview which provide material for future commercial/industrial uses. There are similar beneficial uses for material near the mouth of the Columbia River yet none are included in the Draft EIS. Direct disposal on eroding beaches in Washington State also does not receive adequate analysis and consideration although the economic benefits of this would be substantial. There is a proposed beneficial use at Millar/Pillar in the estuary. The purpose of this "beneficial use" site is to create shallow water estuary habitat (DEIS, 4-70). We question whether this is indeed a beneficial use as it is creating shallow water habitat for juvenile salmon adjacent to Miller Sand and Rice Island where avian predation on juvenile salmon in shallow water is already a large problem. In addition, mid water habitat is valuable for estuarine benthic populations and most mid-water habitat has been lost in the estuary due to dredging activities. Millar/Pillar should be removed as an ecosystem restoration site.

6. The ***economic evaluation*** used to justify the proposed deepening in the Draft EIS uses economic data that is outdated. Recent changes in shipping market conditions to larger deeper draft container ships are not considered. It is unlikely that even a 43 feet deep channel would allow modem container ships (requiring 50 feet draft) access to upriver ports. If the channel deepening project is for grain shipping only then the benefits derived from a deeper channel could also be derived from using LOADMAX river forecasting and/or a regional port in Astoria. Yet, LOADMAX and regional port alternatives were not seriously evaluated. The difference in economic benefits and costs from the different alternatives presented in the Draft EIS is unclear. In addition, the economic impacts to natural resources and fisheries are not evaluated in the Draft EIS and deserve attention. An independent economic analysis of this Draft EIS is needed.

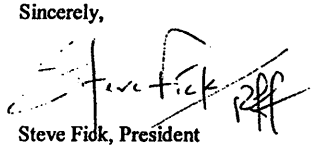
7. There is no ***mitigation*** planned for estuary or ocean impacts from dredged material disposal. Impacts from dredged material disposal in the estuary and for 80 square miles of the ocean need to be mitigated. This includes the proposed "beneficial use" at Millar/Pillar. We question this site as a restoration or beneficial use site. If disposal takes place at Millar/Pillar, it should be mitigated.

8. Significant ***water quality impacts from sediment contamination*** will occur from the channel deepening as proposed. Increases in turbidity are expected from all in water dredging and disposal. Lower levels of dissolved oxygen are expected to occur during all in water dredging and disposal. Sediment contamination especially in the Willamette River is also a major concern. Contaminants will enter the water column from disturbing sediments from the proposed dredging and blasting which is required to deepen the Willamette River. The draft evaluation of Section 404 of the Clean Water Act is not effectively proven or referenced and does not adequately address turbidity increases, lower levels of dissolved oxygen, and contamination.

9. Impacts to ***commercially valuable and other important species*** are not addressed. We disagree with the conclusion that no significant impacts will occur to Dungeness crab and flatfish from ocean disposal. Long term mortality of white sturgeon from entrainment is not known. Entrainment and disposal in deep water areas may significantly impact this fishery. The lack of research cited regarding impacts from dredging and disposal and the lack of baseline data referenced on biological resources of the estuary and nearshore ocean seriously undermine the Corps' continued assertion that there are minimal impacts to the coastal zone from the proposed channel deepening. In addition, the EIS does not adequately study or explain the potential of this project to impact fisheries nor does it take into account these impacts on the economy.

In summary, we feel that the United States Army Corps of Engineers has not at all justified their conclusion that "*adverse impacts on life stages of aquatic life and other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational, aesthetic, or economic values would not occur*". Our review of the Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia & Lower Willamette River Federal Navigation Channel has lead us to conclude that substantial environmental impacts will result from the proposed project. The integrity of the estuarine and river ecosystem, the health of the people in the communities surrounding the river, and the economy of the rural communities surrounding the estuary are all likely to be impacted. We insist that the United States Army Corps of Engineers seriously address the concerns summarized in this letter and take measures to protect the natural resources, human populations, and economy of the communities along the Columbia River estuary.

Sincerely,



Steve Fick, President
Salmon for All

Cc: attached

Governor John Kitzhaber
254 State Capitol
Salem, OR 97310

Senator Joan Dukes
S318 State Capitol
Salem, OR 97310-1347

Representative Jackie Taylor
1324 Miller Lane
Astoria, OR 97103

Senator Ron Wyden
500 NE Multnomah Street, Suite 320
Portland, OR 97232

Representative David Wu
625 SW 10th Avenue, Box 182A
Portland, OR 97205

Representative
Mark Doumit
PO Box 40600
Olympia, WA 98504-4060

Senator Patty Murray
915 2nd Avenue
Seattle, WA 98104

February 2, 1999

District Engineer
U. S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

Colonel Robert T. Slusar:

The following are my comments concerning the Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel, dated October, 1998. As a life long, 62 year resident along the lower Columbia, with much of that time spent on and around this great river of ours, I became immediately interested and concerned when I learned of the possibility of deepening the ship channel to Portland. During the past three years I have attended many of the Corps sponsored Roundtable and special meetings on the subject, held in Portland and Astoria. At many of these meetings I was encouraged to learn that deepening the channel by three feet was not the only possibility, that there were several other options being considered as well. It appeared there was a chance that further damage to the natural river could be at least partially averted. I discussed and supported the more "environmentally friendly" options which I was led to believe were on the table as viable possibilities. At later meetings and after reading the five volume above mentioned document, I am both shocked and disappointed to find that very little study has been done on other options. It is as if the three foot deepening was the only real option from the outset.

1. I feel strongly this report needs further input, study and consideration in all areas that would be directly or indirectly affected by the project. Obviously the Corps of Engineers must comply with all environmental regulations, but, according to extensive research performed by the Columbia River Estuary Study Task Force, and from my own observations, this has not been done. This is of very great concern to myself, and many other residents and businesses located on the lower river.

If this project is going to be decided strictly on it's economic benefits to the country, then all potential contributors and participants in the area, especially the lower river, must be included in the planning stages. The final decision must have a positive effect on this entire region and not pose serious risk of environmental and economic disaster. As it stands now, I do not see any direct benefits for the lower river in the proposal.

As per my participation in the many meetings on this subject, and after having read the lengthy feasibility report and environmental impact statement, the following considerations outline my ongoing concern regarding information not included, or not adequately included in the long-awaited document. **Please address these concerns in your amended study.**

Corps of Engineers Response

1. Comments noted. See our responses to your specific comments below.

1. **REGIONAL PORT**
Option is not pursued.

- Astoria is the only true deep water port in Oregon
- No realistic consideration of railroad shipping to Astoria
- Channel will be obsolete with deeper draft ships (45'-55') in the near future
- No mention of cost of turn around time in operating ships the 100 miles from Astoria to Portland
- Top loading, container loading capabilities at Port in Astoria not explored

2. **LOAD MAX**
Non-structural alternative needs to be thoroughly investigated.

2.

- Upgrading of existing river stage forecasting system to determine depths from tidal action and river flows
- Latest electronic, computer and communication equipment located in many critical locations along the ship channel not included

3. **BIOLOGICAL IMPACT**
Inadequate research concerning vital fish (salmon) feeding areas and aquatic life in fresh to salt water changing estuary

- Deepening the channel creates more shallow and deep water areas and less mid-water areas, effecting the marine life food chain
- The conclusion "no appreciable change" is simply not true
- Smolting time is critical for anadromous fish

3.

4. **DREDGE DISPOSAL**
Dredging disposal much larger problem than study indicates.

- Removes wetland and negatively impacts the natural estuary
- Creates non-natural bird nesting & roosting areas. Promotes predation of migrating salmon fingerlings. No mention of tern problem and probable increase in predation.
- Blowing sand impacts not addressed

4.

5. **OCEAN DISPOSAL**
Potentially disastrous proposed disposal sites off mouth of river lacks local participation.

- Damage to spawning and larvae crab beds in 75 square mile area
- No mitigation for reduced fishing

5.

- Federal and State standards not followed
- Undesirable and unrealistic 50 year plan
- Creates dangerous shallows

Corps of Engineers Response

2. See our responses #3 and #4 to the CREST letter regarding Loadmax and revisions to the regional port analysis.

3. See our response #11 to the CREST letter.

4. Impacts to wetlands have been minimized to the extent possible. The disposal plan has been revised; about 20 acres of wetlands would now be impacted. Full mitigation of impacts is planned, and wetland habitat development will be an emphasis of mitigation actions recommended by the interagency team participating in the mitigation planning effort. The Shillapoo Lake restoration action also would restore about 1,250 acres of valuable wetland and riparian habitat along the Columbia River near Vancouver. The Miller-Pillar ecosystem restoration action (pile dike field) is no longer included in the proposed action because of concerns with avian predation on juvenile salmonids. The impacts of airborne particles could be evaluated on a site-by-site basis and stabilization measures implemented as needed.

5. See our response #5 to the CREST letter.

6. **SALMON, STURGEON & SMELT STOCKS**
Not enough information about past, present, and possible future damage.

6.

- Not given any serious consideration
- No mention of damage and destruction of commercial fishing areas
- No suggestion of mitigation for damage and reduced fishing

7. **ENVIRONMENTAL IMPACTS**
Not properly addressed.

7.

- NEPA, Clean Water Act, ESA and Federal Regulations
- CZMA and State regulations
- Proposed year around dredging impacts

7. **CONTAMINANTS**
Potential serious harm caused by disturbing river is neglected in this study.

8.

- Pesticides, metals, PCB'S, PAH'S, and even radioactivity in the sediment
- Lack of cooperation with or use of Bi-State and LCREP studies
- Blasting hard bottom needed at some points, is not addressed
- Super Fund status of Portland Harbor and lower Willamette River. The contamination of the Portland harbor creates two separate projects not included in EIS
- "No significant impact" is not substantiated

9. **ECONOMIC IMPACT**

9.

- Report does not compare more cost effective alternatives to the Corps preferred dredging project
- Grossly inadequate considerations of lower Columbia River region.

10. **SHORELINE EROSION**
Ship wake damage not addressed

10.

- "To remain near current levels" not realistic
- More ships, more wakes - larger ships, larger wakes
- Consideration and mitigation of resulting damage to local property owners is completely absent.

11. **AESTHETICS**

11.

- Study does not truthfully reflect the changed river landscape this project would create
- A certain negative effect on present and future generations
- As with dam building on upper river this will further degrade the natural lower river

Corps of Engineers Response

6. See our response #11 to the CREST letter. Impacts to ESA-listed salmon are discussed in the EIS and Biological Assessment. The NMFS is preparing a biological opinion based upon the assessment.

7. Section 7.4 of the EIS specifically discusses the compliance of the proposed project with the various environmental laws.

8. See our response #10 to the CREST letter.

9. Alternatives were described and compared in Section 4 of the EIS, including an economic comparison.

10. Sections 5.1.5.3, 6.2.2, and 6.2.3.1 discuss ship wake size and frequency, and ship wake caused erosion.

11. There may be a visual impact from use of new disposal sites. They would look similar to the barren sandy beaches common in the area.

In conclusion, the Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel does not adequately address the many problems created by the 3 foot deepening proposal. I seriously question this proposal on behalf of the substantial environmental impacts that are certain to result. We cannot endure another huge economic blow to our lower river economy. It is clear this is another river use that will benefit others at the expense of lower river families and their communities.

12. This study must be re-evaluated. A true picture must be presented, and further studies must include alternative methods involving the river as a whole such as regional ports as well as the non-structural options.

Respectfully Submitted,

Jon Westerholm

Jon Westerholm
93978 Jackson Road
Astoria, Or 97103
Member: Salmon for All
Columbia River Fishermen's Protective Union

Cc: Govenor John Kitzhaber
Representative Mark Doumit
Representative David Wu
Senator Ron Wyden
Representative Joan Dukes
Representative Jackie Taylor
Kathy Taylor - CREST
Brent Davies - Sea Resources

Corps of Engineers Response

12. Comments noted.

CITY OF ASTORIA
OFFICE OF THE CITY MANAGER

February 1, 1999

District Engineer
U. S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

RE: Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel

Colonel Robert T. Slusar:

City of Astoria staff and staff of the Columbia River Estuary Study Taskforce have reviewed the draft Environmental Impact Statement (EIS) referenced above and have specifically studied issues that will impact the Columbia River estuary, the City of Astoria, and other communities surrounding the estuary.

Deepening the navigation channel from 40 to 43 feet in the Columbia and Willamette Rivers, as outlined in the Draft EIS, will result in extreme environmental impacts and will provide no economic benefits for Astoria or any other community on the estuary. The proposed channel deepening will especially affect the many families in our area who depend on the natural resources of the estuary and ocean for employment.

The Draft EIS is clearly lacking satisfactory data and analysis to support the major conclusions and recommendations of the document. The sponsors preferred alternative in the Draft EIS (deepening the channel to 43 feet) is the alternative with the greatest environmental impacts and the lowest cost-to-benefit ratio. In addition, the Draft EIS does not demonstrate how the proposed alternative avoids environmental impacts and the burden of proof has been inappropriately shifted to reviewers to demonstrate how the project proposed in the Draft EIS impacts the environment. The Draft EIS is notably unsatisfactory in analysis of alternative evaluation, ocean disposal, threatened and endangered species, economic evaluation, mitigation, and water quality.

CITY HALL - 1095 DUANE STREET - ASTORIA, OREGON 97103 - (503) 325-5821 - FAX (503) 325-2017
Founded 1811

Corps of Engineers Response

Your comments reflect those provided in the Columbia River Estuary Study Taskforce (CREST) letter dated January 29, 1999. Please see our responses to the CREST letter.

Based upon our review, we specifically request that the Army Corps of Engineers reevaluate the proposed channel deepening alternative and address each of the following in detail in the Final EIS.

- The Draft EIS does not adequately ***evaluate alternatives.*** The only alternative receiving serious consideration is deepening the channel from the present 40 feet to 43 feet. The intent of an EIS required by the National Environmental Protection Act is to consider alternative courses of action and to ***demonstrate*** that the proposed alternative minimizes environmental impacts and provides ways to mitigate unavoidable environmental impacts. The preferred alternative results in the greatest impact to the environment and results in the lowest cost-to-benefit ratio. The non-structural alternative, the regional port concept, and beneficial uses of dredged material from the estuary are alternatives that could increase benefits and reduce environmental impacts. These alternatives were not seriously addressed in the Draft EIS and must be analyzed in detail.

- The ***non-structural alternative*** using LOADMAX, an advanced river stage and tide forecasting system, to accurately forecast and schedule ship traffic based on river levels, was not seriously considered. There are few limitations with LOADMAX and the advanced river stage forecast system could be implemented for $500,000 with an annual cost of $100,000. This is substantially less expensive than the $175 + million needed to deepen the channel to 43 feet. The non-structural alternative was not adequately evaluated and was not evaluated at all in combination with tiered or limited dredging. LOADMAX adds net benefits to any deepening alternative. LOADMAX will result in the least environmental impacts and has the greatest cost-to-benefit ratio. LOADMAX would substantially improve grain shipment traffic conditions. This is a crucial alternative that needs to be reevaluated.

- The ***regional ports*** concept was also not seriously evaluated. In particular, the concept of a regional port in Astoria or a topping-off port in Astoria did not receive serious attention. After very little study, the Corps dismisses this alternative due to high costs and impacts to expanding port facilities in Youngs Bay. Using or expanding the existing facilities at Tongue Point was not evaluated at all. A regional port concept at Tongue Point in Astoria is being considered by the Port of Astoria and must be evaluated.

- The Draft EIS proposes only one ***ocean disposal*** option of over 80 square miles, for 50-year designation, with no management requirements, no monitoring, and no mitigation. This is unacceptable. The North Site totals 19,000 acres and the South Site totals 33,000 acres. As proposed, these sites are in conflict with productive commercial fisheries and are not in compliance with the Coastal Zone Management Act or the Marine Protection, Research and Sanctuaries Act (Ocean Dumping Act). Ocean Disposal needs to be reevaluated to designate sites that will avoid impacts to ocean resources, avoid conflicts with commercial fisheries and navigation, and provide mitigation. In addition, the Battelle research, which was conducted to justify ocean disposal, is "preliminary" and demonstrates the potential for significant crab mortality from thin layer ocean disposal. We disagree with the Corps conclusion that no significant impact to ocean crab and flatfish populations will occur from thin layer disposal. Additionally, there is nothing in the document that would require the Army Corps of Engineers to use thin layer disposal in managing the ocean disposal sites. There needs to be more than one option presented for ocean disposal which shows alternative dredged material amounts from each deepening alternative as required by the National Environmental Protection Act.

- There are several ***threatened and endangered salmon species*** in the study area. There are also several species of concern. The proposed channel deepening project entails construction throughout the year, completely dismissing State and Federal in-water work timing considerations that protect threatened and endangered salmon species under the Endangered Species Act. This is unacceptable. A time period for in water work should be developed that is specific to the Columbia River threatened and endangered species, smelt, and sturgeon, and habitat for these species.

- There are no ***beneficial uses of dredged material*** from the estuary. The preferred disposal alternative drops disposal sites that require mitigation and uses sites near port owned lands in Vancouver, St. Helens, Kalama, and Longview which provide material for future commercial/industrial uses. There are similar beneficial uses for material near the mouth of the Columbia River yet none are included in the Draft EIS. Direct disposal on eroding beaches in Washington State also does not receive adequate analysis and consideration although the economic benefits of this would be substantial. There is a proposed beneficial use at Miller/Pillar in the estuary. The purpose of this "beneficial use" site is to create shallow water estuary habitat. We question whether this is indeed a beneficial use as it is creating shallow water habitat for juvenile salmon adjacent to Miller Sand and Rice Island where avian predation on juvenile salmon in shallow water is already a large problem. In addition, mid water habitat

is valuable for estuarine benthic populations and most mid-water habitat has been lost in the estuary due to dredging activities. Millar/Pillar should be removed as a restoration site.

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- Significant ***water quality impacts from sediment contamination*** will occur from the channel deepening as proposed. Increases in turbidity are expected from all in water dredging and disposal. Lower levels of dissolved oxygen are expected to occur during all in water dredging and disposal. Sediment contamination especially in the Willamette River is also a major concern. Contaminants will enter the water column from disturbing sediments from the proposed dredging and blasting which is required to deepen the Willamette River. The draft evaluation of Section 404 of the Clean Water Act is not effectively proven or referenced and does not adequately address turbidity increases, lower levels of dissolved oxygen, and sediment contamination.

- Impacts to ***commercially valuable and other important species*** are not addressed. We disagree with the conclusion that no significant impacts will occur to Dungeness crab and flatfish from ocean disposal. Long term mortality of white sturgeon from entrainment is not known. Entrainment and disposal in deep water areas may significantly impact this fishery. The lack of research cited regarding

impacts from Dredging and disposal and the lack of baseline data referenced on biological resources of the estuary and nearshore ocean seriously undermine the Corps continued assertion that there are minimal impacts to the coastal zone from the proposed channel deepening. In addition, the EIS does not adequately study or explain the potential of this project to impact fisheries nor does it take into account these impacts on the economy.

In summary, the City of Astoria believes that the United States Army Corps of Engineers has not justified their conclusion that "*adverse impacts on life stages of aquatic life and other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational, aesthetic, or economic values would not occur*". Our review of the Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia & Lower Willamette River Federal Navigation Channel leads us to conclude that substantial environmental impacts will result from the proposed project. The integrity of the estuarine and river ecosystem, the health of the people in Astoria and surrounding river communities, and the economy of the rural communities on the estuary are all likely to be severely impacted. The United States Army Corps of Engineers must do a more serious and detailed assessment. It is absolutely critical to lower river interests that the concerns summarized in this letter be addressed and that adequate measures be taken to protect the natural resources, human populations, and economy of the communities along the Columbia River estuary.

Sincerely,

THE CITY OF ASTORIA

Willis L. Van Dusen
Mayor

Douglas C. Thompson
Ward 3 Councilor

Bob Hellman
Ward 1 Councilor

Tom Potter
Ward 4 Councilor

Donald B. Morden
Ward 2 Councilor

Cc:

Oregon:

Governor John Kitzhaber
Secretary of State Phil Keisling
Louise Soliday, Chair, Governor's Watershed Enhancement Board
Langdon Marsh, Director, Department of Environmental Quality
U.S. Senator Gordon Smith
U.S. Senator Ron Wyden
Representative David Wu
Senator Joan Dukes
Representative Jackie Taylor
Representative Tom Hartung
Representative Chris Beck
Representative Dan Gardner
Representative Roger Boyer, Chair, House Natural Resources Committee
Representative Jo Ann Bowman
Representative Randall Edwards
Representative Gary Hansen
Representative Deborah Kafoury
Representative Jane Lokan
Representative Kathy Lowe
Representative Jeff Merkley
Representative Ken Messerle, Co-Chair, Salmon and Stream Enhancement Committee
Representative John Minnis
Representative Bob Montgomery
Representative Dianne Rosenbaum
Senator Kate Brown
Senator Ginny Burdick
Senator Ted Ferriolo, Co-chair, Salmon and Stream Enhancement Committee
Senator Gary George, Member of Senate Natural Resources Committee and Chair of Land Use Subcommittee
Senator John Lim
Senator Randy Leonard
Senator Randy Miller
Senator Veral Tarno, Chair, Senate Natural Resources Committee on Salmon and Stream Enhancement
Senator Thomas Wilde

Washington:

Governor Gary Locke
Secretary of State Ralph Munro
Tom Fitzsimmons, Director, Washington Department of Ecology
Jennifer Belcher, Commissioner of Public Lands, Department of Natural Resources
U.S. Senator Slade Gorton
U.S. Senator Patty Murray
Representative Brian Baird
Senator Sid Snyder
Representative Mark Doumit
Senator Al Bauer
Senator Don Benton
Representative Marc Bolt
Representative Tim Buck, Chair, Natural Resource Committee
Representative Don Carlson
Representative Gary Chandler, Chair, House Agriculture and Ecology Committee
Representative Tim Dunn
Representative Brian Hatfield
Representative Kelli Linville, Member, House Agriculture and Ecology Committee
Representative Thomas Mielke
Representative Val Ogden
Senator Bob Oke, Chair, Senate Natural Resource and Parks Committee
Representative Linda Parlette, Vice Chair, House Agriculture and Ecology Committee
Representative John Pennington
Representative Debbie Regala, House Natural Resource Committee
Representative Mark Schoesler
Representative Bob Sump, Vice Chair, House Natural Resource Committee
Senator Joseph Zarelli

CLEAN WATER
FOGH
FRIENDS OF GRAYS HARBOR
HEALTHY ESTUARY

U S Army Corps of Engineers
Portland District
Colonel Slusar
P.O. Box 2946
Portland, Oregon

Re: Columbia Channel Deepening Project.

Dear Sir,

Friends of Grays Harbor (FOGH) is a community organization dedicated to enhancing and conserving natural resource based economies on the SW Washington coast. We thank the Corps for the opportunity to comment on the Columbia River Deep Draft Project.

1. Grays Harbor (GH) has had many dredging projects since the turn of the last century and each time a little habitat is lost. It also, like the Columbia River, has served as a major shipping point and provided economic benefits to the entire Northwest region. Dredging and maintenance dredging take their toll on our natural environment far beyond that which is recorded. With this in mind we would like to share with you our concerns with this project. As presently proposed we find this project:

2. 1) The project violates many current environmental laws such as: The Clean Water Act, The Ocean Dumping Act, National Environmental Protection Act, The Coastal Zone Management Act and the Endangered Species Act to name a few. These laws were written to protect that which is irreplaceable by definition.

3. 2) One very disturbing fact is that the Columbia River Estuary Taskforce has identified areas in the Columbia upriver stem as being polluted enough to be considered for an EPA Superfund designation. Presently these industrial wastes are tied up in the sediment but will be released to contaminate the entire lower Columbia system if dredged.

4. 3) On the habitat side of the project there are serious concerns for crab and fish. The amount and location of project and maintenance dredge spoils will have a long term negative impact on ocean resources. Just the crab and fish losses to entrainment of sediment will be troubling by themselves.

4) Where the long term disposal sites of spoils are proposed is even worse. This unique nursery habitat is the underpinning of ocean resources for the whole region. This rich

PO Box 1512 Westport, Washington, 98595-1512 Foghorn: (360) 648-2254
E-mail: olearycrk@aol.com URL: http://www.techline.com/~broyster/fogh

Corps of Engineers Response

1. Comments noted.

2. Section 7.4 of the EIS specifically discusses the compliance of the proposed project with the various environmental laws.

3. See our response #10 to the CREST letter. The sponsor has requested that dredging of the Willamette River be delayed.

4. Further workshop meetings have been conducted and the ocean disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

shallow marine ecozone can't be recreated, mitigated for or purchased at any price. There is only so much of it and when it's gone our heritage will disappear with it.

In conclusion we would strongly suggest that the Corps of Engineers reconsider this project as proposed and develop a plan that works with the natural environment and not against the interests of present and future citizens.

Sincerely,
Brady Engvall Chair: Friends of Grays Harbor
Brady Engvall - 1-31-99
cc: Washington Governor Gary Locke
Dave Palmer Chair: Chehalis River Council
Dale Beasley President: CRCFA

ASTORIA MARINE CONSTRUCTION CO.

MARINEWAYS
BUILDING-REPAIR
403 S.W. Front St.
ASTORIA, OR 97103
Phone 325-4121

January 29, 1999

U.S. Army Corp of Engineers

ATTN: Steven Stevens

RE: Draft Intergrated Feasibility Report for Channel Improvement

I am the manager of a small shipyard located on the Lewis and Clark River in the Astoria area. This yard has been operating since 1924. Employment has been up and down through the many years, however we have maintained an average of 16 family wage jobs the last 20 years.

Our customers consist of the many fishing boats that work the eastern Pacific of which the local crab and trawl fleet are part of.

Although we are in favor of channel dredging for commerce and safety. We would hope that every effort to protect and not sour the offshore fishing ground is considered, as any damage to the grounds that effects the fishing fleet will eventually effect us.

We would hope that if this project is done (channel deepening), that all aspects of dumping spoils be considered and done right.

Thank you for hearing my comments.

Sincerely,

ASTORIA MARINE CONSTRUCTION CO.

Donald F. Fastabend, President

Corps of Engineers Response

Comments noted. Further workshop meetings have been conducted and the ocean disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

ENGLUND MARINE SUPPLY CO. INC.

FOOT OF 15TH STREET P.O. BOX 296 ASTORIA, OREGON 97103 503/325-4341 FAX 503/325-6421

February 2, 1999

JON A. ENGLUND
PRESIDENT

District Engineer
U.S. Army Corps of Engineers
CENWP-EC-E Attn: Steve Stevens
P.O. Box 2946
Portland, OR 97208-2946

Our company is extremely concerned with the proposed channel deepening in the Columbia and Willamette Rivers. There are too many unanswered questions regarding environmental and economic impacts to our local area. We cannot afford to lose any more commercial or sport fisheries due to the lack of proper research.

We encourage the Corps to explore every alternative regarding disposal dump sites. Also, the idea of a regional port at Tongue Point in Astoria should be taken under serious condiseration.

Thank you for hearing our comments.

Sincerely,

Kurt Englund, Manager
ENGLUND MARINE SUPPLY CO., INC.

Corps of Engineers Response

Comments noted. Further workshop meetings have been conducted and the ocean disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

Also, additional information has been included in the EIS on the regional port alternative.

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NORTHERN OYSTER COMPANY P.O. Box 365 Ocean Park, WA 98640 206/665-4886

January 15, 1999

Mr. Steve Stevens
U.S. Army
Corps of Engineers
PO Box 2946
Portland OR 97208

Subject: Comments on final draft dredge disposal areas for Lower Columbia River maintenance and and channel deepening project.

Dear Mr. Stevens:

I have been involved in this Corps process since it opened for public input in 1996. At that time I was President of the Columbia River Crab Fishermen's Association based in Ilwaco, Washington. After resigning that position in 1997 our board requested that I continue because of my several years involvement with the Corps on the disposal issues.

In initial meetings with the Corps I asked if conclusions reached toward building a final document were going to be based on factual information, or if this exercise was simply to satisfy the process required by law. I was emphatically assured by the Corps representatives that science and facts would determine finding leading to a final decision. In many of our primary areas of concern this has not happened. As originally feared, satisfying process has been the primary driver toward a predetermined outcome for this project.

1. The prior 1980's impact statement prepared for the present dumping areas was one of the worst cases of Tinker Toy engineering that I have read. The Corps expanded the old sites to fit their agenda with little or no regard for extreme safety problems caused to all classes of shipping, the destruction of fishing grounds and a large negative economic impact to general fisheries. The Dungeness Crab fleet bore the majority of this impact.

The final page of this prior impact statement, signed by the Corps person in charge, states that based upon the Corps finding no adverse impacts of expanding those sites would occur. After the grounding of the log ship Green Cedar and its' subsequent scraping, the suspected drowning(s) at the sites, the extreme safety problems created and the miles of soured fishing grounds, we were hoping the Corps approach had changed In this case, this has not happened.

It took several meetings to convince the Corps that their failed policy of expanding existing sites for their future needs was illogical and dangerous. These sessions brought about a reluctant admission from the Corps that cost of transporting disposal was the main driver in site selection, not environmental or safety concerns. Surprisingly, the EPA representative **was** supportive of the Corps position during these discussions. Other representatives, the U.S.C.G. Bar Pilots, Western Boat Owners Assoc., charter boat reps and our own organization **were not**.

Continued - Page two

Corps of Engineers Response

1. Comments noted.

January 15, 1999

Mr. Steve Stevens
U.S. Army
Corps of Engineers

The present "process" is flawed, in that it is questionably, not a document based on substantial fact. Unfortunately, the Corps is having some of the same creditability lapses they had in the previous E.I.S. To date, the Corps' process has:

I. Withheld information

A. on the documents legal requirements.
B. the true span of the proposal
1. it started as a temporary 5 year project, became a 10 year proposal, evolved in the final draft into a 50 year plan which was a complete shock to the committee

2. II. Misrepresented crab information

A. manipulated incomplete preliminary mortality work to justify decision making
B. used a laboratory tank study to duplicate ocean conditions on dumping without any follow up
C. used only the information that would support their position (and even that back-fired) from the study.

III. Refused professional assistance in obtaining documentation

A. C.R.C.F.A. crab information
1. area population and pot mortality
2. other

IV. Set up study committees on research projects then unilaterally excluded crab representatives without notice.

V. Refused to explore preferred alternatives

A. direct or re-pumped disposal on Benson Beach, WA.
1. claimed it was outside Corps jurisdiction, etc. (this was the one choice all entities except the Corps preferred)
B. others

VI. Used unsubstantiated claims to base findings upon

A. Corps and private dredges are capable of thin disposal dumping
B. crab mortalities will be minor in disposal area
C. economic impact will be minor on crab industry
D. Etc., etc. etc.

Continued - Page 3

Corps of Engineers Response

2. The Corps and EPA disagree with your assertions outlined in items I to VII. We have made every attempt to conduct an open, comprehensive evaluation, including participation and information provided by CRCFA and other commercial crabbers.

Concerning ocean disposal, further workshop meetings have been conducted and the disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

The Ocean Disposal Working Group has evaluated all options identified at this point. Some of these options, such as Benson Beach, will be evaluated through other programs. Additional information concerning Benson Beach has been added to Appendix A.

January 15, 1999

Mr. Steve Stevens
U.S. Army
Corps of Engineers

Corps of Engineers Response

VII. Used incompatible information for justification

A. Gulf Coast inshore dumping study - with author presentation

1. totally unrelated to Columbia situation

2. (con't)

In summary, the Corps has acted as predicted. They made a decision in the beginning and set up their facts along the "process" to justify it.

The proposed offshore dump site will basically destroy any opportunity for Crab harvest during the summer season because of dredge traffic across the ground. The Corps has not provided accurate information on true crab mortalities associated with dredge deposits or their effect on other aspects of the fishery. The Corps chosen site has no support from fishing interest because of the huge impact on prime grounds and nursery areas.

There is no questions that the Port of Portland is calling the shots with the Corps. There also is no question that as future ships get deeper that this is a wasteful temporary fix. Finally, there also is no question that the Columbia area crab and fishing interest are being set up to be sacrificed in the "process". This existing document, as it pertains to offshore dumping impacts, absolutely does not satisfy the true criteria demanded by law to allow the Corps to proceed.

Respectfully,

Richard N. Sheldon

Richard N. Sheldon
Past President C.R.C.F.A.

RNS/j

SEA RESOURCES, INC.
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A Non-Profit Corporation
Dedicated To Youth

(360) 777-8229

District Engineer
US Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
PO Box 2946
Portland, OR 97208-2946

February 2, 1999

Dear Sir:

This letter is in response to the *integrated Feasibility Report for Channel Improvements and Environmental Impact Statement Columbia and Lower Willamette River Federal Navigation Channel.* Sea Resources has reviewed the report, and we that a number of environmental and economic impacts to the Lower Columbia-Pacific region were not addressed.

1. The proposed channel deepening in the Columbia and Willamette Rivers from 40 to 43 feet will have serious, direct impacts on the ecology of the estuary and ocean environments. These impacts will have profound, negative impacts on the surrounding human population. We found the Draft EIS to be incomplete, and we are requesting that the Army Corps of Engineers reevaluate the project. The areas that we found to be deficient include the analysis of the alternatives, ocean disposal, threatened and endangered species, economic evaluation, mitigation, and water quality. Specifically, we are requesting a thorough analysis of the following issues in the Final EIS:

1. The Draft EIS evaluates deepening the channel from 40 to 43 feet as the only feasible option and does not adequately address the alternatives. The LOADMAX alternative is the most cost effective option and has the least environmental impacts. LOADMAX should be carefully evaluated in the Final EIS, which should include an evaluation of LOADMAX in combination with tiered or limited dredging. Another option that the Draft EIS did not thoroughly cover is the plan for a regional port currently being considered by the Port of Astoria. This option also needs to be addressed in the final EIS.

2. The Corps must reevaluate the proposal to have a single ocean disposal site of more than 80 square miles for 50 years. As proposed in the Draft EIS, this disposal option requires no mitigation, fails to require adequate monitoring of the project, and lacks management requirements. The Corps indicates that no impacts to benthic organisms will occur. This statement is inaccurate, and further analysis should be completed before making such claims. The proposed ocean disposal sites will have a direct impact on ocean resources and, therefore, on commercial fisheries. The

Corps of Engineers Response

1. Comments noted.

2. See response #3 to the CREST letter concerning LoadMax.

3. Concerning ocean disposal, further workshop meetings have been conducted and the disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

lives of local families will be devastated, affecting our entire community, if the Corps proceeds with this plan as proposed.

3. The proposed channel deepening permits construction throughout the year in an area inhabited by several threatened and endangered salmonids. State and Federal law outlines specific "in-water" work windows that protect these species under the Endangered Species Act. Millions of dollars are currently being spent on salmon
4. recovery efforts in this region. Channel deepening construction during certain times of the year will potentially negate much of the salmon recovery work being done throughout the Columbia River Basin. A specific time for "in-water" work should be established for all Corps projects that takes into consideration salmonids, sturgeon, smelt, and the habitat required for the survival of these species.

4. The Draft EIS fails to thoroughly address beneficial uses of dredged material. There are many options for beneficial uses of the material not discussed in the report, such as disposal on eroding Washington Beaches. The proposed "beneficial use" at the Millar/Pillar site to create a shallow estuary habitat for juvenile salmon habitat is a
5. highly inappropriate location for such a "restoration" project. The Millar/Pillar site is next to Miller Sand and Rice Island where more than 20,000 fish-eating birds currently reside (a residual problem from past channel dredging). Creating juvenile salmon habitat in such close proximity to an abnormally large amount of predators is clearly unwise. Any juveniles occupying the habitat created here would be easy prey for these birds.

5. An independent economic analysis of the report should be done, because the economic evaluation used in the Draft EIS is entirely inadequate and outdated. The shipping market is not static. Modern ships require a 50 feet draft and the proposed
6. channel deepening extends to 43 feet, making the channel inaccessible to these ships. It is difficult to discern the difference between economic benefits and costs from the different alternatives as described in the Draft EIS. The Draft EIS does not evaluate the economic impacts to natural resources and fisheries and should be evaluated in detail in the final EIS.

6. The Draft EIS proposes no mitigation for either estuary or ocean impacts. A project of such magnitude accompanied by these serious, long-term impacts needs to be
7. mitigated. Disposal at the Millar/Pillar site is in no way beneficial, and if disposal takes place at this site, it too should be mitigated.

7. The evaluation of impacts on water quality included in the Draft EIS is insufficient and inadequately referenced, Sediment contamination from the channel deepening
8. project will significantly impact water quality. The proposed project will result in serious changes in increases in turbidity, lower dissolved oxygen levels, and increased levels of sediment contamination.

Corps of Engineers Response

4. See response #6 to the CREST letter.

5. Miller-Pillar has been removed from consideration.

6. See response #8 to the CREST letter.

7. See response #9 to the CREST letter.

8. See response #10 to the CREST letter.

8. Commercially valuable and other important species will be impacted, yet they are not evaluated in this report. The Draft EIS indicates that ocean disposal will have no
9. significant impact on Dungeness crab and flatfish populations. Fisheries representatives and scientists strongly disagree with this statement The final EIS should evaluate these impacts at length and include the long-term mortality of white sturgeon from entrainment.

Significant, negative environmental impacts will occur if the project is carried out as outlined in the Draft EIS. These impacts will have far-reaching economic and social effects. We urge the US Army Corps of Engineers to take these comments into serious consideration in the final EIS of the channel deepening project.

Sincerely,

Brent Davies

Brent Davies
Executive Director

Cc: Governor Gary Locke, Washington
Governor John Kitzhaber, Oregon
Congressman Brian Baird, Washington
Congressman David Wu, Oregon
Senator Patty Muray, Washington
Senator Slade Gorton, Washington
Senator Ron Wyden, Oregon
Senator Gordon Smith, Oregon
State Senator Sid Snyder, Washington
State Representative Marc Doumit, Washington
State Representative Brian Hatfield, Washington
Pacific County Department of Community Planning
CREST

Corps of Engineers Response

9. See response #11 to the CREST letter.

Columbia River Fishermen's Protective Union
322 TENTH STREET ASTORIA, OREGON 97103 503/325-2702

February 3, 1999

District Engineer
U.S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

RE: Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel

Colonel Robert T. Slusar:

On behalf of the membership of the Columbia Fishermen's Protective Union, we oppose the above referenced proposal as written. After reviewing the Columbia River Estuary Task Force analysis of this study, we are seriously concerned about the conclusions made in your study, as well as the lack of supporting data, and the conspicuous absence of alternatives to the 3-foot deepening proposal. We support CREST's findings and expect an amended EIS to fully address all the issues detailed in their report.

The Columbia Fishermen's Protective Union has seen many, many changes in the Columbia River over the past century. We have a unique vantage point as both a steward and, albeit minimized, user group of our great river. Our lower river economy has suffered great losses in the name of growth in the upriver communities. In your proposal we are presented with more economic loss, environmental degradation, and possible health risks.

We are appalled by the undue risk and uncertainty that this proposal suggests, particularly to our once great salmon runs. We demand that you assess the EIS and entire proposal

which should include alternatives such as the non-structural and regional ports concept

Respectfully submitted,

Jack Marincovich

Jack Marincovich, Executive Director
Columbia River Fishermen's Protective Union

Corps of Engineers Response

Comments noted. See our responses to the CREST letter.

PACIFIC COUNTY COMMISSIONERS

Commissioners

Jon Kaino, Jr.
District #1

Norman "Bud" Cuffel
District #2

Pat Hamilton
District #3

PACIFIC COUNTY COURTHOUSE
National Historic Site

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Commissioners Office - 1216 W. Robert Bush Drive
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Peninsula Area (360) 642-9337
Naselle (360) 484-7136 Ext 337
North Cove Area (360) 268-0891 Ext 337
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TDD (360) 875-9400

February 1, 1999

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E
ATTN: Steven J. Stevens
P.O. Box 2946
Portland, Oregon 97208-2946

RE: Pacific County Comments on the Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (DEIS)

Dear Mr. Stevens:

Thank you for the opportunity to comment on the Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (DEIS). We appreciate the additional time that was offered to review the lengthy material.

1. Pacific County would like to go on record as officially opposing both the proposal to deepen the existing Columbia River shipping channel from 40' to 43' and the proposal to expand the ocean disposal site(s) for the disposal of dredge material taken from the channel deepening and the continual channel maintenance programs.

We strongly believe that the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency (EPA) and all of the cooperating entities on this project have failed to comply with the requirements of the National Environmental Protection Act, the Clean Water Act, the Endangered Species Act, the Coastal Zone Management Act, the Marine Protection Research and Sanctuaries Act and all State and local regulations, including the

Corps of Engineers Response

1. Comments noted.

Corps of Engineers Response

Pacific County Shoreline Master Program, regarding shoreline and coastal protection during the preparation of the Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (DEIS).

1. (con't)

Based on our analysis of the Draft Integrated Feasibility Report for Channel Improvements and the Environmental Impact Statement (DEIS), we believe the following areas of concern need to be addressed before a decision can and should be made on this project.

2. First, the analysis fails to adequately address serious environmental and economic impacts of the channel deepening or the proposed off-shore dumping, both of which have serious implications for not only this County, but for the entire coastal region of Southwest Washington and Northwest Oregon. Many of our residents rely on the Columbia River Estuary and the Pacific Ocean for their way of life. Commercial fisherman and commercial crabbers need these areas unadulterated to continue to fish and crab in order to provide fresh crab, shellfish and many species of fish to most of the western United States. The report references a "National Economic Benefit" as being the driving force behind the need to deepen the shipping channel. The report fails to address the national economic impact that may result from the destruction of our prime fishery.

2. Concerning ocean disposal, further workshop meetings have been conducted and the disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

3. Second, the document fails to adequately address other, more feasible alternatives to both the channel deepening and the off-shore ocean disposal of the dredge material. It is interesting to note that most, if not all, of the alternatives briefly mentioned are immediately discounted due to potential environmental impacts or enormous costs. Yet, the proposal under consideration has failed to adequately address the severe economic and environmental implications for a region dependent upon the Columbia River Estuary and the ocean for their livelihoods. We believe that these environmental and economic impacts outweigh the purported "National Economic Benefits" being touted within this document. Clearly, those who benefit from the deeper shipping channel and easily accessible dumping grounds are those who make their living shipping or handling grain, those upriver Ports who benefit from increased ship traffic, or the U.S. Corp of Engineers charged with maintaining the shipping channel. Finally, in terms of cost/benefits analysis or environmental impacts, the chosen alternative has the greatest cost to realized benefit while also having the greatest environmental impact. Clearly, from our standpoint, we are not the beneficiaries of the purported "National Economic Benefits" touted in this report; rather, the residents of Pacific County would be the recipients of the environmental and economic destruction caused by the channel deepening and expanded ocean dumping.

3. Comments noted.

4. Third, the various Federal regulations governing this review require the proponents of this project, specifically the U.S. Army Corps of Engineers and EPA, to evaluate the environmental impacts of implementing their major programs and actions through the EIS process. The intent of the Environmental Impact Statement (EIS) process is to identify and consider alternative course of action and demonstrate that the proposed

4. Comment noted.

Corps of Engineers Response

4. (con't) action minimizes impacts and provides ways to mitigate environmental impacts. The feasibility report, and the DEIS, both fail to adequately address, or even thoroughly discount, other, less obtrusive alternatives including one non-structural alternative such as upgrading the existing river forecasting system. The report is several hundred, if not thousands of pages long, yet devotes only a limited amount of space to other alternative with higher cost/benefit ratios and less environmental impacts.

5. Fourth, the report fails to thoroughly explore the option of upgrading the existing LOADMAX system, a potential non-structural alternative to deepening the channel. The approximate costs of upgrading the river forecasting system, $500,000 to implement with annual costs of $100,000, is less than 1/10 of one (1) percent of the overall projected cost for dredging the new channel without the huge environmental expense. It would appear that since shippers are already using larger vessels requiring channels in excess of 43', this would buy additional time to meet the immediate demands of the already existing, larger vessels, while actually completing a sound economic and environmental analysis of deepening the Columbia River Channel to any depth.

Fifth, the feasibility report and the DEIS fail to thoroughly address the potential for the development of a regional port system at Astoria as a topping off facility for the larger draft ships. The development of a regional port system at Astoria appears to have a greater cost/benefit ratio and less environmental impact than the preferred alternative. A regional port at Astoria would provide an economic boost to a depressed region reeling from declines in the fishing and timber industries as well as the continual migration of industrial development overseas. It appears that the development of a regional port system at Astoria would reduce the need to deepen the channel and expand the ocean disposal site. Bulk materials could either be trucked, shipped by rail or barged to Astoria and then transferred into the large bulk carriers. Improvements to the infrastructure is already needed and eventually will be built. Why not accelerate the process of installing the necessary infrastructure on land, i.e., more rail lines, improved highway system, improved/expanded port system, etc., when the Corp and the upriver ports already realize that the 43' depth is outdated and inadequate to service future shipping needs. It is unfortunate that the sponsors of the Integrated Feasibility Report and DEIS failed to thoroughly analysis this alternative. However, given that the upriver ports are primary cosponsors and a large part of the U.S. Army Corp of Engineer's mission is maintenance of navigational channels, the lack of regional port analysis is not surprising.

5. See our response #3 and #4 to the CREST letter regarding Loadmax and the regional port analysis.

6. Sixth, the report and DEIS fail to adequately address the enormous environmental impacts of the proposed ocean disposal site(s). This plan literally sets up the decimation of over 80 square miles of prime, productive fish and crab habitat with no management requirements, no monitoring requirements, no specific dumping strategies and no mitigation for over 50 years. It is ludicrous to believe that the U.S. Army Corps of Engineers, of which whose mission is to also regulate and protect "waters of the United States", would propose to destroy such a large, productive area based entirely on inconclusive, subjective and non-proven evidence. Where is the "Peer Review" for this

6. See our previous response #2.

Corps of Engineers Response

proposal? Our County, as well as the other coastal communities and counties in Southwest Washington, have been battling both State and Federal agencies over coastal erosion projects for several years and are continually faced with this same demand. Where is the peer review for your project? In this specific case, we believe that the proposal to dump literally hundreds of millions of cubic yards over 52,000 acres, unmanaged, ummonitored and unmitigated, for a period lasting at least 50 years, and an
6. (con't) action which holds the potential to destroy extremely productive crab and fisheries habitat, deserves to be studied and scrutinized through a "peer review" process. The proposal outlined in the Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (DEIS), is relying on a one time, highly subjective, highly inconclusive and highly contentious study, performed in a laboratory setting to establish that there will be minimal impacts to crabs in the areas selected for dredge material disposal. Isn't it obvious to the Corp, or to the other proponents of this project, that the lack of analysis on this specific issue is setting up this project for litigation from impacted and/or concerned groups.

Seventh, the project fails to recognize the requirements of ocean disposal established by the Coastal Zone Management Act, the Marine Protection, Research and Sanctuaries Act or local regulations governing ocean disposal. Our local Shoreline Master Program was adopted by the County and the State of Washington under the auspices of the Shorelines Management Act and the Coastal Zone Management Act. The Pacific County Shoreline Master Program puts the preservation of natural resources over the disposal of dredge material in the Columbia River Estuary and the Pacific Ocean. Ocean disposal of this magnitude requires more in-depth analysis of the alternatives and potential impacts. Thin layer disposal has been discussed as one way to manage the material and the need to have such large disposal areas. If thin layer disposal over such a broad area is proposed, then
7. why is it not clearly outlined in the document as the prefer-red method for disposal management? Why hasn't thin layer disposal been tested and researched in the same ocean environment as that in which it is being proposed for disposal? Cost can't be an issue given the huge costs associated with this project. Past dumping practices in established and managed sites have proven that the Corp record of dredge material disposal as well as material management is not adequate to ensure there is no impact. Experience with the other dredge disposal sites would indicate that assumptions about currents, material dispersal, mounding, wave amplification and impacts to both crabs and fish prior to material placement did not hold true after material placement. Pacific County completely disagrees with the assertion that this form of dredge material disposal will not have any impact, or even a minimal impact, on the crab and/or fishery resource.

7. See our previous response #2. Thin layer disposal is no longer being considered.

Eighth, the Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (DEIS) proposes to construct the channel improvements throughout the year with little regard for State and Federal requirements protecting
8. threatened and endangered salmon, steelhead and other species in the Columbia River. This complete disregard of these protection standards is contradictory to the Endangered Species Act and flies in the face of State and Local development regulations where we

8. See response #6 to the CREST letter.

Corps of Engineers Response

constantly battle with private entities wishing to disregard ESA requirements. Actions by the Corp establishes an unwanted precedence for other similar activities and impacts to species protected under the ESA.

9. Ninth, the project includes no mitigation for the impacts to the Columbia River estuary or to the ocean environment from the channel construction or the dredge material disposal. Your agency is the same agency that routinely requests everybody else, including all the federal, state and local governmental agencies, to mitigate for impacts to both freshwater and estuarine wetland impacts. Mitigation requirements enforced by the U.S. Army Corps of Engineers have, in Pacific County, ranged from a modest mitigation ratio of 0.5/1.0 (1/2 square foot of mitigation, i.e., wetland creation, for each 1 square foot of wetland impact) to a whopping 14.0/1.0 (14 square feet of mitigation, i.e., wetland creation, for each 1 square foot of wetland impact) for freshwater and estuarine wetland fills/impacts. It would seem reasonable to the residents of our County, that given the valuable nature of the estuarine and ocean environments and the fact that we are being asked to bear an unfair share of the negative environmental impacts, the mitigation ratios should be on the upper end of the scale if not even higher. Mitigation is also not a new concept for the U.S. Army Corp of Engineers, as the Seattle District is involved with crab mitigation in the Grays Harbor navigational project. Finally, all mitigation proposals need to be reviewed and agreed to up front by all impacted parties before any action can be taken on this project proposal.

9. See response #9 to the CREST letter.

10. Tenth, the feasibility report and DEIS fails to adequately address beneficial use of the dredged material being removed from both the channel deepening component and the routine channel maintenance component. As the Corp of Engineer's is aware, the Columbia River system feeds both Washington and Oregon beaches. Mismanagement of the Columbia River by all entities has resulted in areas of serious erosion, especially around or adjacent to, existing U.S. Army Corp of Engineers navigational structures or projects. Benson Beach, directly north of the North Jetty, has been experiencing accelerated erosion for the past two years. Westport, on the south side of Grays Harbor, experienced a breach in their jetty several years ago. Ocean Shores, on the north side of Grays Harbor, is experiencing serious erosion directly north of their deteriorating jetty. The erosion at North Cove, while historical in nature, has accelerated in the last few years due to poor dredging practices by the Corp and a shift in the primary channel.

The Corp has a unique opportunity to actively partner with local communities and State agencies in addressing these serious threats of erosion along the coastline. Benson Beach would be a prime candidate for beach nourishment. It is directly adjacent to the jetty thereby reducing transport costs. It is highly visible as Fort Canby is one of the most popular State Parks in the State of Washington. It would be a positive public relations opportunity for the Corp demonstrating its willingness to participate in solving a regional problem. Replenishing the sand on this beach would also keep a majority of the material within the Littoral Drift System thereby feeding the rest of the Washington coastline north to Point Grenville. Beneficial use of this material is a concept mandated to the

10. See response #7 to the CREST letter.

Corps of Engineers Response

Corp. This does not include only allowing upstream users, i.e., the Port of Portland's expansion using dredged materials, the benefits of access to this material. Nor does it allow for the continual wasting of this precious resource by careless ocean dumping.

10. (con't) Beach nourishment is not a new concept for the U.S. Army Corp of Engineers. The Seattle District is involved with beach nourishment at Westport as a means to solve their erosion problem. The Portland District routinely places material in upland locations upriver. Finally, placement of this material at Benson Beach is agreeable by almost all parties of interest in this project and would appear to eliminate most of the contention surrounding the disposal site selection process.

As a final note, it is unfortunate that the process has gotten this far without a more concrete project with fewer unresolved issues, less contention, less environmental impact, more mitigation and a better understanding by the project proponents of the true issues surrounding this matter. Pacific County is adamantly opposed to this Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement for the reasons outlined above and because of the unwillingness of the Corp, short of threats of legal action by impacted parties such as the crabbers or other environmental groups, to do what is actually beneficial, not only for this region, but for the entire western United States.

11. Again, Pacific County appreciates the opportunity to comment on this proposal and request that this proposal be delayed until all Federal, State and Local regulations governing this type of project are complied with and other alternatives are analyzed in a fair and equitable manner.

Sincerely,

Jon C. Kaino, Jr.

Jon C. Kaino, Jr., Chairman

Pat Hamilton

Pat Hamilton, Commissioner

Bud Cuffel

Bud Cuffel, Commissioner

11. Comment noted.

CC: CREST
Attn: Kathy Taylor, Director
750 Commercial, Room 205
Astoria, OR 97103

Oregon State
Department of Land Conservation and Development
Richard Benner, Director
1175 Court Street
Salem, OR 97310-0590

Oregon State
Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390

Washington State Department of Ecology
Permit Coordination Team
P.O. Box 47703
Olympia, WA 98504-7703

Washington State Department of Fish and Wildlife
48 Devonshire Road
Montesano, WA 98563

CRCFA
Dale Beasley
P.O. Box 461
Ilwaco, WA 98624

Washington State Senator Sid Snyder
303 Legislative Building
Olympia, WA 98504-0482

Washington State Representative Mark Doumit
309 John L. O'Brien Building
Olympia, WA 98504-0600

Washington State Representative Brian Hatfield
317 John L. O'Brien Building
Olympia, WA 98504-0600

February 3, 1999

District Engineer
U. S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

Colonel Robert T. Slusar:

Thank you for giving us the opportunity to respond to the draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel. We have reviewed this document and specifically studied issues that will impact the Columbia River estuary and the communities surrounding the estuary.

The proposal to deepen the navigation channel from 40 to 43 feet in the Columbia and Willamette Rivers, as outlined in the Draft EIS, will provide no economic benefits for the communities surrounding the estuary and result in extreme environmental impacts. The proposed channel deepening will especially affect those people in our area who depend on the natural resources of the estuary and ocean for employment.

Our findings from review of the Draft EIS show it to be lacking satisfactory analysis in several areas. The Draft EIS provides insufficient data and analysis to support the major conclusions and recommendations of the document. The sponsors preferred alternative in the Draft EIS (deepening the channel to 43 feet) is the alternative with the greatest environmental impacts and the lowest benefit-to-cost ratio. In addition, the Draft EIS does not demonstrate how the proposed alternative avoids environmental impacts and the burden of proof has been inappropriately shifted to reviewers to demonstrate how the project proposed in the Draft EIS impacts the environment. The Draft EIS is notably unsatisfactory in analysis of alternative evaluation, ocean disposal, threatened and endangered species, economic evaluation, mitigation, and water quality.

We, the Clatsop County Board of Commissioners, are requesting the Army Corps of Engineers to reevaluate the proposed channel deepening alternative and address each of the following in detail in the Final EIS.

1. The Draft EIS does not adequately ***evaluate alternatives.*** The only alternative receiving serious consideration is deepening the channel from the present 40 feet to 43 feet. The intent of an EIS required by the National Environmental Protection Act is to consider alternative courses of action and to *demonstrate* that the proposed alternative minimizes environmental

Clatsop County

County Courthouse
749 Commercial Street
Post Office Box 179
Astoria, Oregon 97103

Board of
County Commissioners

Phone (503) 325-1000
Fax (503) 325-8325

Corps of Engineers Response

Your comments reflect those provided in the Columbia River Estuary Study Taskforce (CREST) letter dated January 29, 1999. Please see our responses to the CREST letter.

impacts and provides ways to mitigate unavoidable environmental impacts. The preferred alternative results in the greatest impact to the environment and results in the lowest benefit-to-cost ratio. The non-structural alternative, the regional port concept, and beneficial uses of dredged material from the estuary are alternatives that could increase benefits and reduce environmental impacts. These alternatives were not seriously addressed in the Draft EIS and warrant further discussion.

- The ***non-structural alternative*** using LOADMAX, an advanced river stage and tide forecasting system, to accurately forecast and schedule ship traffic based on river levels, was not seriously considered. There are few limitations with LOADMAX and the advanced river stage forecast system could be implemented for $500,000 with an annual cost of $100,000. This is substantially less expensive than the $175 + million needed to deepen the channel to 43 feet. The non-structural alternative was not adequately evaluated and was not evaluated at all in combination with tiered or limited dredging. LOADMAX adds net benefits to any deepening alternative. LOADMAX will result in the least environmental impacts and has the greatest benefit-to-cost ratio. LOADMAX would substantially improve grain shipment traffic conditions. This is a crucial alternative that needs to be reevaluated.

- The ***regional ports*** concept was also not seriously evaluated. In particular, the concept of a regional port in Astoria or a topping-off port in Astoria did not receive serious attention. After very little study, the Corps dismisses this alternative due to high costs and impacts to expanding port facilities in Youngs Bay. Using or expanding the existing facilities at Tongue Point was not evaluated at all. A regional port concept at Tongue Point in Astoria is being considered by the Port of Astoria and must be evaluated.

2. The Draft EIS proposes only one ***ocean disposal*** option of over 80 square miles, for 50-year designation, with no management requirements, no monitoring, and no mitigation. This is unacceptable. The North Site totals 19,000 acres and the South Site totals 33,000 acres. As proposed, these sites are in conflict with productive commercial fisheries and are not in compliance with the Coastal Zone Management Act or the Marine Protection, Research and Sanctuaries Act (Ocean Dumping Act). Ocean Disposal needs to be reevaluated to designate sites that will avoid impacts to ocean resources, avoid conflicts with commercial fisheries and navigation, and provide mitigation. In addition, the Battelle research, which was conducted to justify ocean disposal, is "preliminary" and demonstrates the potential for significant crab mortality from thin layer ocean disposal. We disagree with the Corps conclusion that no significant impact to ocean crab and flatfish populations will occur from thin layer disposal. Additionally, there is nothing in the document that would require the Army Corps of Engineers to use thin layer disposal in managing the ocean disposal sites. There needs to be more than one option presented for ocean disposal which shows alternative dredged material amounts from each deepening alternative as required by the National Environmental Protection Act.

3. There are several ***threatened and endangered salmon species*** in the study area. There are also several species of concern. The proposed channel deepening project entails construction throughout the year, completely dismissing State and Federal in-water work timing considerations that protect threatened and endangered salmon species under the Endangered Species Act. This is unacceptable. A time period for inwater work should be developed that is specific to the Columbia River threatened and endangered species, smelt, and sturgeon, and habitat for these species.

4. There are no ***beneficial uses of dredged material*** from the estuary. The preferred disposal alternative drops disposal sites that require mitigation and uses sites near port owned lands in Vancouver, St. Helens, Kalama, and Longview which provide material for future commercial/industrial uses. There are similar beneficial uses for material near the mouth of the Columbia River yet none are included in the Draft EIS. Direct disposal on eroding beaches in Washington State also does not receive adequate analysis and consideration although the economic benefits of this would be substantial. There is a proposed beneficial use at Miller/Pillar in the estuary. The purpose of this "beneficial use" site is to create shallow water estuary habitat. We question whether this is indeed a beneficial use as it is creating shallow water habitat for juvenile salmon adjacent to Miller Sand and Rice Island where avian predation on juvenile salmon in shallow water is already a large problem. In addition, mid water habitat is valuable for estuarine benthic populations and most mid-water habitat has been lost in the estuary due to dredging activities. Miller/Pillar should be removed as a restoration site.

5. The ***economic evaluation*** used to justify the proposed deepening in the Draft EIS uses economic data that is outdated. Recent changes in shipping market conditions to larger deeper draft container ships are not considered. It is unlikely that even a 43 feet deep channel would allow modem container ships (requiring 50 feet draft) access to upriver ports. If the channel deepening project is for grain shipping only than the benefits derived from a deeper channel could also be derived from using LOADMAX river forecasting and/or a regional port in Astoria. The difference in economic benefits and costs from the different alternatives presented in the Draft EIS is unclear. In addition, the economic impacts to natural resources and fisheries are not evaluated in the Draft EIS and deserve attention. An independent economic analysis of this Draft EIS is needed.

6. There is no ***mitigation*** planned for estuary or ocean impacts from dredged material disposal. Impacts from dredged material disposal in the estuary and for 80 square miles of the ocean need to be mitigated. This includes the proposed "beneficial use" at Miller/Pillar. We question this site as a restoration or beneficial use site. If disposal takes place at Miller/Pillar, it should be mitigated.

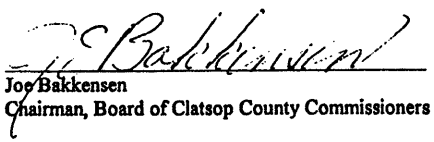
7. Significant ***water quality impacts from sediment contamination*** will occur from the channel deepening as proposed. Increases in turbidity are expected from all in water dredging and disposal. Lower levels of dissolved oxygen are expected to occur during all in water dredging and disposal. Sediment contamination especially in the Willamette River is also a major concern. Contaminants will enter the water column from disturbing sediments from the proposed dredging and blasting which is required to deepen the Willamette River. The draft evaluation of Section 404 of the Clean Water Act is not effectively proven or referenced and

does not adequately address turbidity increases, lower levels of dissolved oxygen, and sediment contamination.

8. Impacts to ***commercially valuable and other important species*** are not addressed. We disagree with the conclusion that no significant impacts will occur to Dungeness crab and flatfish from ocean disposal. Long ten-n mortality of white sturgeon from entrainment is not known. Entrainment and disposal in deep water areas may significantly impact this fishery. The lack of research cited regarding impacts from dredging and disposal and the lack of baseline data referenced on biological resources of the estuary and nearshore ocean seriously undermine the Corps' continued assertion that there are minimal impacts to the coastal zone from the proposed channel deepening. In addition, the EIS does not adequately study or explain the potential of this project to impact fisheries nor does it take into account these impacts on the economy.

In summary, we feel that the United States Army Corps of Engineers has not at all justified their conclusion that "*adverse impacts on life stages of aquatic life and other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational, aesthetic, or economic values would not occur*". Our review of the Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia & Lower Willamette River Federal Navigation Channel has lead us to conclude that substantial environmental impacts will result from the proposed project. The integrity of the estuarine and river ecosystem, the health of the people in the communities surrounding the river, and the economy of the rural communities surrounding the estuary are all likely to be impacted. We insist that the United States Army Corps of Engineers seriously address, at a minimum, the concerns summarized in this letter and take measures to protect the natural resources, human populations, and economy of the communities along the Columbia River estuary.

Sincerely,



Joe Bakkensen
Chairman, Board of Clatsop County Commissioners

1 February 1999

U.S. Army Corps of Engineers District, Portland
Attn: CENWP-EC-E
P.O.Box 2946
Portland OR 97208-2946

Dear sir,

1. I am writing to comment on the Environmental Impact Statement (EIS), Dredged Material Study and Feasibility Study for the Channel Deepening Project on the Columbia River. I found these documents have serious ommissions of information, unevenly apply generally known information about dredging impacts, and ignore or mis-apply both impacts and benefits in reaching the conclusions of no significant impacts by this project to hydrology, biology, ecosystem integrity and regional economics. These elements have been left out, or mis-assessed yet by law you have to assess them. In addition, the economic evaluation must be done by a competent entity that is independent of the Army Corps of Engineers (ACE) as these documents show a profound bias towards a predetermined goal instead of a carefully weighed and open decision-making process.

Specifically:

2. • Economic evaluation of alternatives in dredging (various depths, more accurate river depth estimating software for shipping) is limited to and aimed at one option, dredging to 43' while all others are dismissed without serious consideration. One option, the introduction and use of LOADMAX, would immediately relieve much of the river system's immediate problems and would defer any need for additional dredging for some period of time, and is cost effective. Yet only dredging to 43'is evaluated. All alternatives must be evaluated properly, with tiered dredging, with benefical uses of sand, and with economic impacts on lower river communities included.

3. • Biological and -ecological impacts of dredging and disposing of dredged materials is incompletely addressed. In some areas the EIS contradicts itself. It also repeatedly ignores a wide body of published literature in incorrectly claiming no benthic impacts to river and ocean disposal sites or dredging operations. It fails to comply with an important body of laws, which by law, ACE is subject to. This body includes National Environmental Protection Act (NEPA), Clean Water Act (CWA), Coastal Zone Management Act (CZMA), Endangered Species Act (ESA), and Marine Reserve and Protection Act (MRPA). ACE is not above or outside these important federal laws. ACE shifted the burden of proof of assessment within the EIS process to public reviewers, yet claims the conclusions are valid. This invalidates the EIS process and renders all conclusions in this document suspect. The burden of proof of no impact rests with ACE, not with the public. Unsubstantiated claims of no impact under CWA, ESA, and other

Corps of Engineers Respnse

1. Comments noted.

2. See response #3 to the CREST letter concerning LoadMax.

3. All conclusions in the EIS are based on the best scientific information available for a given issue. Section 7.4 of the EIS specifically discusses the compliance of the proposed project with the various environmental laws.

federal, state and local laws are not valid as they exist in the present documents.

4. • Adjacent ecological and physical impacts to lower river habitats and waterways by channel deepening, and related economic impacts to riverside communities are ignored. The claim that only tides move sediment, when a dozen ships a day create significant wakes in the river is patently untrue. Mitigtions that are proposed for some ecological impacts are so trivial as to be worthless, and show a curious public lands / private lands bias: Only some public sites will be compensated. Riverside communities are expected themselves to pick up the ongoing costs of beach and anchorage losses, side channel sedimentation and other erosive and accretive changes brought about through river dredging and shipping. Offsite physical, biological and economic impacts cannot be ignored.

5. • Monitoring at all levels is inadequate: of dredging operations, for contaminants in dredged materials, of biological and physical impacts where disposed of in river or in ocean. Any actions of this magnitude require extensive monitoring to insure that impacts do not exceed expectations, and to insure that unforseen impacts are caught quickly before irreversible damage occurs. The EIS should propose monitoring of all impacts, and evaluate all dredging operations in this river system as a collective whole instead in bits and pieces.

6. • Contaminants in sediments: Radioactivity, chlorinated aromatic hydrocarbons, heavy metals and other elements and compounds reside in river sediments at biologically important or critical levels for human health. Moving these materials to extensive ocean disposal sites, to shallow water sites and in some cases to beaches without ongoing monitoring is at best careless. Compounds that have been buried for decades may become biologically active when returned to benthic surfaces. Despite no standards for many compounds, continued poor breeding successes for aquatic mammals and raptors along the mainstem of the Columbia River indicates that there are serious problems with chlorinate aromatic hydrocarbons right now. The EIS should address the issue of biological activation through material disposal in benthically active sites and ensure that these materials are sequestered from biologically active sites like shallow river bottoms, seafloors and ocean beaches.

• Separating Willamette River Superfund issues from the main body of the Columbia River is physically and biologically impossible - any actions on the Willamette will have impacts on the Columbia River as these rivers are part of the same drainage system.

7. • Ocean disposal of materials: the EIS claims that there will not be impacts to benthic organisms. This claim is contrary to a large and growing body of information about massive impacts from all types of dumping in all depths of water, as well as a realization that shallow and deep benthic habitats have high biological diversity. This EIS does not propose any restrictions

Corps of Engineers Response

4. We disagree. The EIS assesses all relevant issues and potential impacts from the proposed action and alternatives.

5. A management and monitoring program has been developed and is discussed in the EIS and Appendix H, Exhibit H.

6. See response #10 to the CREST letter concerning sediment contamination.

7. See response #5 to the CREST letter.

or detail any preferred methods of dumping in ocean sites, so we have no idea what kinds of dumping will actually be used - point, line, thin layer, or what. ACE has made verbal promises to coastal and river communities and economic interests that they will not have to deliver on, because these promises are not in this document. In the past decade ACE has created navigable hazards for both large and small vessels around the entrance to the Columbia River through
7. (con't) careless dumping on points. Risk assessment of marine casualty is ignored in the EIS. Disposal options are ignored, contradicted, or ommited. The EIS says in one section that it is economically unfeasible to haul material to one particular site, and then in another says it can economically moveup to 3000 cubic yards of material (by hopper barge) 41 miles for disposal. Beneficial disposal options and commercial fishing industry preferences are ignored in the EIS. These options need to be examined in a valid manner.

8. • Emergency needs: The Pacific Northwest is geologically active. In 1980 a volcanic eruption closed down shippping by bulk freighter for some weeks as Cowlitz River dumped ash into the Columbia's main channel. This document does not address contingency sites or emergencies.

9. • Alternatives to present shipping, road and rail infrastructure: Shipping vessels will continue to increase draft and tonnage as long as it is economically viable for them to do so. There are limits to dredge spoils dumping within the Columbia River system that will be invoked at some depth – 41', 43', 50' - which will limit this river's usefulness as a bulk cargo port regardless of where that port is located if it is upriver. It is not too soon to begin to rethink port locations and draft depths and begin the process of shifting some port activities closer to the coast. Highways and rail lines already run to Astoria, Oregon, and the highway will be expanded to four lanes regardless of what the ports do or do not do with dredging in this decade. Thoughtful long term planning is conspicously absent or discounted in the present EIS.

Thank you for the opportunity to repond to these documents. I hope that the outcome is a more responsible and accurate Environmental Impact Statement and appended reports that truly serve the future needs of this region.

Sincerely,

Kathleen Sayce
P.O.Box 91
Nahcotta W A 98637-0091
360-665-5292

Corps of Engineers Response

8. Any impacts from unpredictable, undefined catastrophic natural events would need to be addressed as an emergency action should they ever occur.

9. See our response #8 to the CREST letter.

GRAYS RIVER GRANGE
P. O. Box 124
Grays River, Washington 98621
(360) 465-2205

January 31, 1999

U. S. Corps of Engineers, Portland Dist.
CENWP-PE-P
P. O. Box 2946
Portlland, Oregon 97208-2946

attn: Mr. Steven J. Stevens

Gentlemen:

The Grays River Grange wishes to register its response regarding the "Integrated Feasibillity Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel." Grays River Grange **does not support** the present plan for deepening the Columbia River shipping channel to 43-feet. We believe that alternatives, particularly that of a regional port facility located near the mouth of the river, would better serve the needs of all.

Grays River Grange, located in Wahkiakum County in the State of Washington along the Columbia River, has long been a supporter of farming, small business, community services as well as the rights of individual lproperty owners. The Grange is one of the oldest organizations located throughout the United States to support the needs of local communities.

1. We feel you are going to face a lengthy fight and face many lawsuits before a final decision is made to construct the proposed 43-foot channel to Portland. We believe that community exporters including grain exporters, will be better served by deepening the Columbia River mouth to serve larger draft ships. We also believe the present 50-foot draught ships, already too large for the proposed channel, willl be even larger in the near future.

There has been a long-standing economic downturn in the area particularly in regard to fisheries (both commercial and recreational) and timber. This has resulted in economic programs designed to mitigate situations which have been helpful in the short term but have not been helpful in the long run. We feel a marine terminal located in the Astoria area would stimulate the overall economy and benefit the greater good. Further, if the Columbia River is to maintain its position as a major import and export thorough fare,

Corps of Engineers Response

1. Comments noted.

major shipping facilities must be closer to the ocean. Authorization to dredge a short channel would be much easier to obtain.

We believe those areas of the study concerning the environment, spoils disposal and transportation costs are flawed. For example, we suspect your freight cost estimates from Portland to Astoria are short haul rates. In reality, grain, via train rates from Shelby, Montana, to Portland should be quoted from Shelby to Astoria and assure a viable railroad to Astoria. Container rates via truck from Eugene or other distant places to Astoria should be deducted from container rates from those terminals to Portland. Containers from other areas would travel to Astoria via other routes, i.e. Oregon Highway 26 or 30. We realize that both the highways and rails would have to be upgraded. This will happen as a matter of course as the need for such upgrades exist at this time. From a standpoint of national interest, regional issues, traffic congestion, both in shipping and facillities, creating a regional port makes sense.

2. In conclusion, as a community service organization, Grays River Grange is concerned and sympathetic to the concerns of gill-netters, crab fishermen, and owners of waterfront property. We feel that whatever proposal is chosen, their interests should be protected. Deepening the channel to a depth that would be obsolete in a short time as previous channel deepening projects have proved to be serves no one.

If the Corps of Engineers truly wishes to help the communities it serves, consideration should also be given to opening the many rivers and bay outlets which are currently -clogged with silt. These silted outlets cause flooding and extreme hardships to businesses and individuals. One only has to read the newspaper to sense the extent of the problem. The Army Corps of Engineers should work to benefit the communities along the entire lower river. The deepening project, as proposed, will benefit the only large inland ports at the expense of the lower Columbia River region.

Thank you for reading our concerns.

Sincerely,

Steve Puddicombe

Steve Puddicombe, Master
Grays River Grange

/eg

cc: The Daily News, Longview, Washington
The Daily Astorian, Astoria, Oregon
The Wahkiakum Eagle, Cathlamet, Washington
The Chinook Observer, Long Beach, Washington
Upper Grays River Flood Control District
Wahkiakum County Board of Commissioners

Wahkiakum County Conservation District
U. S. Senator Slade Gorton
U. S. Senator Patty Murray
U. S. Representative Brian Baird

Corps of Engineers Response

2. Comments noted. The regional port analysis has been revised to reflect additional information and more accurate costs.

Office Location:
957 Steamboat Slough Rd.
Skamokawa, Washington
(360) 795-8240
FAX (360) 795-8242

Mailing Address:
P.O. Box 67
Cathlamet, WA 98612

Wahkiakum County Conservation District

February 2, 1999

District Engineer
U.S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

Colonel Robert T Slusar:

The Wahkiakum Conservation District Would like to take this opportunity to let you know that the Staff and Board of Supervisors Support the Columbia River Estuary Study Taskforce on the Environmental Impact Statement. The draft to District Engineer at the U.S. Army Corps of Engineers on 1/27/99 Regarding; Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel. Attached is a copy of the draft.

Sincerely,

Joe Florek jr.

Joe Florek, Jr.
Chairman

Enc.

RR

CONSERVATION - DEVELOPMENT - SELF-GOVERNMENT

Corps of Engineers Response

Comment noted. Please see our responses to the CREST letter.

DRAFT 1/27/99

District Engineer
U. S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

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5. The ***economic evaluation*** used to justify the proposed deepening in the Draft EIS uses economic data that is out dated. Recent changes in shipping market conditions to larger deeper draft container ships are not considered. It is unlikely that even a 43 feet deep channel would allow modem container ships (requiring 50 feet draft) access to upriver ports. If the channel deepening project is for grain shipping only than the benefits derived from a deeper channel could also be derived from using LOADMAX river forecasting and/or a regional port in Astoria. The difference in economic benefits and costs from the different alternatives presented in the Draft EIS is unclear. In addition, the economic impacts to natural resources and fisheries are not evaluated in the Draft EIS and deserve attention. An independent economic analysis of this Draft EIS is needed.

6. There is no ***mitigation*** planned for estuary or ocean impacts from dredged material disposal. Impacts from dredged material disposal in the estuary and for 80 square miles of the ocean need to be mitigated. This includes the proposed "beneficial use" at Millar/Pillar. We question this site as a restoration or beneficial use site. If disposal takes place at Millar/Pillar, it should be mitigated.

7. Significant ***water quality impacts from sediment contamination*** will occur from the channel deepening as proposed. Increases in turbidity are expected from all in water dredging and disposal. Lower levels of dissolved oxygen are expected to occur during all in water dredging and disposal. Sediment contamination especially in the Willamette River is also a major concern. Contaminants will enter the water column from disturbing sediments from the proposed dredging and blasting which is required to deepen the Willamette River. The draft evaluation of Section 404 of the Clean Water Act is not effectively proven or referenced and does not adequately address turbidity increases, lower levels of dissolved oxygen, and sediment contamination.

8. Impacts to ***commercially valuable and other important species*** are not addressed. We disagree with the conclusion that no significant impacts will occur to Dungeness crab and flatfish from ocean disposal. Long term mortality of white sturgeon from entrainment is not known. Entrainment and disposal in deep water areas may significantly impact this fishery. The lack of research cited regarding impacts from dredging and disposal and the lack of baseline data referenced on biological resources of the estuary and nearshore ocean seriously undermine the Corps continued assertion that there are minimal impacts to the coastal zone from the proposed channel deepening. In addition, the EIS does not adequately study or explain the potential of this project to impact fisheries nor does it take into account these impacts on the economy.

In summary, we feel that the United States Army Corps of Engineers has not at all justified their conclusion that "*adverse impacts on life stages of aquatic life and other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational, aesthetic, or economic values would not occur*". Our review of the Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia & Lower Willamette River Federal Navigation Channel has lead us to conclude that substantial environmental impacts will result from the proposed project. The integrity of the estuarine and river ecosystems the health of the people in the communities surrounding the river, and the economy of the rural communities surrounding the estuary are all likely to be impacted. We insist that the United States Army Corps of Engineers seriously address the concerns summarized in this letter and take measures to protect the natural resources, human populations, and economy of the communities along the Columbia River estuary.

POB 72
Ilwaco, WA 98624
February 4,1998

District Engineer
U.S. Army Corps of Engineers District, Portland
Attn: CENWP-EC-E
PO Box 2946
Portland, OR 97208-2946

To whom it may concern:

The idea of dredging the Columbia another 3 feet in order to allow even bigger ships to move over 100 miles inland seems unwise and impractical for a number of reasons.Creating deep water ports closer to the ocean would involve fewer risks. I've heard that in order to gain the additional 3 feet part of the river will not only be dredged but blasted-solid rock will have to be removed.

Finding a location for disposal of dredging spoils will not be easy. I've heard that dumping them near the North Jetty of the Columbia on Benson Beach is a possibility. Who will test for the inevitable toxic materials that are in the sediments at the bottom of the river? Who will assure public safety in this process? Will the State of Washington's most popular state park have potentially toxic wastes on its most heavily used beach? I'm thinking of dioxin from the paper mill residues in the Columbia and Willamette Rivers, PCBs, heavy metals, and possibly radioactive silts.

If these materials are dumped at sea, I've heard they will possibly be dropped on critical habitat for crab and other fisheries.

This project will benefit no community down river from Portland, but these smaller, less politically powerful communities will bear the risks and possible injuries of a massive, tax-payer funded project.

Why not leave well enough alone? This is a boondoggle in the making.

Sincerely,
Victoria Stoppiello
Victoria Stoppiello

Corps of Engineers Response

Comments noted. See response # 5 and #10 to the CREST letter.

2707 24th Avenue N.E.
Olympia, WA 981506
December 6, 1998

U.S. Army Corps of Engineers
Portland District
CENWP-PE-E
P.O. Box 2946
Portland OR 97208-2946

Attention: Steven J. Stevens

Gentlemen:

This letter is written in response to the proposed deepening of the Columbia River channel. I have proposed a couple of questions from the perspective of parties who may have interests in the effects of this proposed deepening of the channel.

Question 1: What does the Corps say about people's lands?

First, let us look at the Columbia River as a river highway located on the end of the shortest route to the Orient. This means that the most economically feasible route to transport grain and other bulk commodities to the Orient is through Columbia River ports.

According to one Port of Portland official, Columbia River ports are the second largest combination of grain exporting facilities in the world. Mississippi River ports export more grain, but the Columbia River offers a considerably shorter route to an expanding and ever-increasing market for food: the Orient. Therefore, deepening of the Columbia River is about the export of grain. It is not about container shipping. It is not about providing jobs for American longshoremen or seamen. It is about guaranteeing maximum profits for American agribusiness interests. It is about the taking of a public resource for private profit.

The Corps can only and will only address the so-called "national economic benefits" to deepening the channel. It can only build up a prima facia case to present to the public for deepening the channel.

We are not talking about facile immediate benefits to deepening the Columbia River. We are talking about the survival of the Pacific salmon. We are talking about corporate taking of a public resource. We are talking about using foreign flag vessels which do not employ U.S. labor. We are talking about the loss of habitat for species in the food chain. The deepening of the Columbia River channel is about these issues in addition to all the economic issues mentioned in this letter.

So the Corps does not speak to that which all the people of the U.S. hold in common. A natural protein source which will suffer from the impact due to dredging. Nor does the Corps address the signed treaties with sovereign Native American nations as to their need for salmon. Nor does the Corps address the need of non-Native American

Corps of Engineers Response

Comments noted. The report and EIS evaluate all relevant factors related to the alternatives considered, including potential impacts to anadromous fish. Any final decision will be made based on consideration of these factors.

fishermen and users of the river. Instead, the Corps presents a plan to be executed for the benefit of corporate agribusiness interest.

I realize the Corp's job is to execute, and discharge the laws of the land under the direction of the Commander-in-Chief, so it is impossible for the Corps to comment upon the wisdom of projects it is assigned to undertake. To that end the Corps is to be commended for its extensive comment meetings and periods. It is to be hoped the comments made during these meetings will have some impact on the outcome of the river for users other treat corporate interests.

Question 2: What do port representatives say about deepening the river channel?

With the effervescence of commercial boosterism, the ports tout the notion that increased commerce with the Orient will be a boon to the job market. They point to the increased employment opportunities for the transportation, storage, and loading of the grain onto enormous new ships.

Let us look at job creation. Railroad, barge, and longshoring of bulk cargoes is and always has been a low job producing system. The reason for bulk shipment of commodities such as grain is efficiency and is less labor intensive than break bulk and container shipment.

As of now, Peavey Grain Terminal in Kalama uses non-union labor to load the vessels and breakaway pilots to pilot ships in and out of the river. No union person wants to support this kind of job loss yet. The Port of Kalama taxed the union people to bring non-union jobs to their community.

What all ports want is to fill the existing vessels to full and downloaded conditions. These are non-union, flag of convenience carriers. The ports want that extra tonnage because it means extra fees for the ports. What do the people get out of it? They get to pay for "Port improvements" so that Archer-Daniels-Midland can send its produce on flag-of-convenience ships through the Port of Longview.

In all of this boosterism, I hear the prima facia case for deepening the channel, but not one word do I hear for the salmon, for Native and non-Native American fishermen, and the people who live along the river, and who have lived there for more generations than there have been ports in some cases on the river.

The ports and port commissioners are supposed to be the citizen's elected officials, not sweetheart deal-makers for non-union anti-labor American collective farmers.

In the midst of all this glib boosterism we are hearing the same glib argument about economic benefit to the Pacific Northwest that we have heard for the damming of the Columbia River. We have lost much more than we have gained as a nation, and will lose just much more from the further industrialization of the Columbia River.

It is time for the people who make their lives along the river to receive a user fees in the form of a tonnage tax on every ton of grain crossing the port docks for restoration as follows:

1. The complete restoration of the Lower Columbia River salmon runs.
2. The protection of shoreline property.
3. The protection of wetland and wetland habitat.

In conclusion, I realize we cannot stop progress. However, I believe progress should pay for itself in the form of payment of fees that are set sufficiently high to protect and restore the environment affected by ships navigating Columbia River waters.

Sincerely,

Harvey Williamson

Harvey Williamson

2707 24th Avenue N.E.
Olympia, WA 981506
December 6, 1998

U.S. Army Corps of Engineers
Portland District
CENWP-PE-E
P.O. Box 2946
Portland OR 97208-2946

Attention: Steven J. Stevens

Gentlemen:

1. I have lived in Southwest Washington almost all my life; first, while growing up in Longview, and now, as an adult, in Olympia. As a child taking family outings, I enjoyed playing on the shores of the Columbia River. It was great fun to see the ships come by, wonder where they had been and where they were going next. And it was fun to play in the waves the ships cast on the sandy shores.

Since growing up, the ships have grown much bigger. And faster. And the waves are bigger, too. But the beaches are becoming smaller. For example, about 25 years ago when I first met my mother-in-law, it was possible to walk from one end of her property to the other on the sand next to the water's edge. Since then, most of her beach has washed away. She has rip-rapped her shoreline in an attempt to stabilize her property, but fast-moving ships throw such a high wave that many of the boulders have become dislodged. Some large trees that once held the soil fast have been washed over by the huge waves, further weakening the shoreline.

2. It is not right that some big, powerful entity can come along and do damage to property without making compensation. Other property owners along the river surely are having their land taken, and without compensation. Either the ships should be limited as to their size and speed, or property owners should be amply compensated for the loss of their property. Not only is the quantity of my mother-in-law's property reduced, but the character has been changed as well. No longer is there a sandy beach for the enjoyment of her grandchildren, friends, and passers-by who have long been welcome to use her property, but a rocky barricade faces them instead. So, of course, the desirability and value of her property has been negatively impacted.

While there are other issues and values I could point out (detrimental effects on marine plants and animals, for example), I focus on the economic value of property because, unfortunately, that is the *only* consistent measure of value on our society. And, ultimately, it is the only way property owners can be compensated for the damage caused to their land. If the Corps of Engineers must deepen the channel so that private businesses can profit, these private businesses must compensate private property owners for the damage done by their profit-gaining activities. A substantial award must be made to property owners who face no option other than watch their property diminish in value, character, and quantity.

Corps of Engineers Response

1. Comments noted.

2. The number and size of vessels projected to call on the river in the future is expected to be independent of any channel improvement alternative. Currently, there are vessels moving on the river with design drafts greater than 40 feet, and this is expected to continue with or without the proposed channel improvement. Sandy beaches are easily eroded and the deeper channel should not cause a measurable increase in erosion. This issue is addressed in sections 5.1.5.3 and 6.2.3.1 of the EIS.

Let me also suggest that if some sort of structure could be built to protect the shoreline when the channel was deepened, that would be preferable. Until such a structure could be put into place, the only protection for property owners is the economic one: compensation for damage.

3. I appreciate the opportunity to comment. I hope that sufficient weight will be given to the comments of us "little people" when we have not the organizational structure nor the economic weight of those in power, who can maybe pay a little overtime to send many voices to speak on behalf of the companies which employ them.

Sincerely,

Barbara Williamson

Barbara Williamson

Corps of Engineers Response

3. Comments noted.

Date: January 11, 1999

To: Army Corp of Engineers

From: Daniel Oja, Commercial Fisherman

Subject: Navigation Hazards created by Army Corp of Engineer

Re: Dumping of Dredge Spoils

1. I've written this letter out of concern for the safety of fishermen while navigating the Columbia River Bar. I've noticed that it is no longer safe in the channel. The "humps" or dump sites created by the Corp of Engineers now cause the waves to break over the top of buoy number three and ricochet into the channel. We are no longer safe "just being in the channel". The waves also break on the inside of the channel between numbers six and eight buoys. When you enter the channel, you can not even use the ship ranges on Cape Disappointment. Where do we go now? Your dump sites are getting more dangerous every year to our boats and lives. The fishermen are aware of the dangers created by your agency, but this hazard will eventually kill some unsuspecting boaters. We have made your agency aware of these problems, but you have chosen to ignore us. Your boats are here only in the summer when monitoring the river and ocean bottoms. I suggest you come in the winter and try ... only then will you notice the impact of your dump sites. The weather is very severe in winter, but we **must** fish in these conditions, and it does no good for you to show during fair weather and then insist that the dump sites have "little or no impact on navigation".

2. The Corp of Engineer has a big ocean to dispose of the dredge spoils, but the agency continues to dump on prime crab fishing grounds. Even worse, the agency intends to expand these dump sites along the Long Beach Peninsula and around the mouth of the Columbia River, despite the fact that the commercial fishermen have vigorously opposed this decision. The Corp has continually ignored all suggestions and has refused to consider the impact of their decisions on the people living near the mouth of the Columbia River. We are disappointed by the Corps continued refusal to cooperate with the communities that they impact, however, it is not surprising given the past history that we have personally experienced with the Corp of Engineers.

Daniel E. Oja

cc. Senator Patty Murray
Senator Slade Gorton

Corps of Engineers Response

1. Comments noted. Past disposal has resulted in adverse wave conditions near the entrance channel. This was a major concern during the site selection process and in preparing the disposal site management plans. The depth of disposal would be restricted to limit wave height increase to 10 percent or less at the sites. More information is located in Appendix H, Exhibits B and H.

2. Further workshop meetings have been conducted and the ocean disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

Stevens, Steven J NWP
From: Robinl013@aol.com
Sent: Wednesday, January 27, 1999 4:30 PM
To: steven.j.stevens@usace.army.mil
Subject: (no subject)

Date: January 27, 1999

US Army Corps of Engineers
Portland District
CENWP-PEEATTN
Steven J. Stevens
P.O. BOX 2946
Portland, Ore.
97208-2946

Dear Steven,

We own nearly three hundred feet of Columbia river frontage, that is east of Cathlamet, Wa. On behalf of my wife and myself, as well as every property owner, and every outdoor enthusiast (which constitutes for nearly every person between Hood River, Ore., and Astoria, Ore.), the proposed US ARMY CORPS of Engineers Draft Integrated Feasibility Report for Channel Improvements (from here on called USACEngDIFRFCI), is environmentally unsafe and unnecessary. Since we have owned our property for over ten years, we have witnessed a steady increase of river related recreation on the lower Columbia River. If the USACEEngDIFRFCI was
1. approved, and deepening the river channel by an additional 3-4 feet was executed, the local population between Portland and Astoria would be faced with an environmental disaster, thanks to government and industry greed. Dredging nearly four hundred million cubic yards of Hanfords reservations' heavy metal and radioactivity particles laying in the sand at the bottom of the lower Columbia River and dispersing the dredged material along adjacent wetlands, farmlands, nearby public parks and private property shorelines, would be a huge mistake for the environment. In todays world, the emphasis is on cleaning up the planet, from decades of industrial neglect and an uncaring U.S. Gov;t.

The westcoast is surrounded by deep water ports in ; Seattle and Tacoma, Wa., Vancouver, B.C., San Francisco and Long Beach, Ca. One would assume that the surrounding Portland economy would continue to carry on and prosper just fine without accepting deep drafted hulls. This proposal would financially benefit such a small percentage of our population. Can't the Corps. of Engrs. show a little compassion for our local environmet, and our health?! In reviewing the USACEngDIFRFCI proposal, it appears that the project would be indirectly funded by taxpayers money. The funding would be made possible through a congressional appropriation. It seems so ironic that taxpaying citizens would be paying for this ridiculous project, that would ultimately have
2. such a devastating impact on human health, as well as our fragile environment. Probably the most immediate impact this project would have on Columbia River shorelines is ; increased erosion on river banks. Further property damage would result due to Larger, deep drafted vessels producing much larger and more destructive wakes than in the past and present. Virtually all property along the Columbia River would experience severe erosion like never before. River banks and wetland vegetation would be eroded at a faster rate than ever before, due to larger, deep drafted ships trekking between Astoria and Portland, Ore. An unprecedented and continual dredging operation would have to be implemented to maintain a deeper channel depth. Larger deep draft hulled vessels would produce much larger and more destructive wakes than in the past, and present.

Corps of Engineers Response

1. Comments noted.

2. If it were more economical for Columbia River exports to be exported through San Francisco, Seattle, or other ports, then goods would not be exported using the Columbia.

The number and size of vessels projected to call on the river in the future is expected to be independent of any channel improvement alternative. Currently, there are vessels moving on the river with design drafts greater than 40 feet, and this is expected to continue with or without the proposed channel improvement. Sandy beaches are easily eroded and the deeper channel should not cause a measurable increase in erosion. This issue is addressed in sections 5.1.5.3 and 6.2.3.1 of the EIS.

3. In the proposed project, the Corps. of Engrs. states that there would be an ecosystem restoration for fish and wildlife habitats. If the river floor (which consists of fifty plus years of radioactive, dioxin, and heavy metal deposits from upriver hanford, pulp mills, and industry) is stirred up by means of a deeper dredging operation, how could any ecosystem survive? In summary, an effective solution could be established. Local state and federal Governmental agencies could implement rules and regulations that focus on benefitting the beautiful Columbia River, and not turn their backs to this proposal. All Northwest ports (including California) should form an alliance. The alliance would establish what vessel sizes can enter into which port, in relation to how the specific type of vessel affects surrounding environments. There is approximately three weeks remaining to voice concerns from the public. Please take the time to contact local state governmental agencies, and the US Army Corps of Engineers representatives, before it's too late!

Thank You,

Brian Utley
P.O. BOX 641
Cathlamet, Wa.
98612
email: robinl013@aol.com

Corps of Engineers Response

3. Comments noted.

John L Carter, M.D.
40820 McKenzie Highway
Springfield, Oregon 97478
Tel. (541) 746-2285
Fax: (541) 746-8593

District Engineer
U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

Attn: Col. Robert T. Slusar

Dear Col. Slusar:

My family are landholders in the Astoria-Warrenton area in Clatsop County and citizens of the State of Oregon. Others of our family have interests in the oyster-farming industry in Willapa Bay, Washington. Consequently, we are interested and concerned stakeholders with regard the consequences, as well as the stated benefits, to accrue as a result of the proposed dredging of the Columbia River channel. At this point, after reviewing what material has been made available, i.e., the "Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement: Columbia and Lower Willamette River Federal Navigation Channel", we have strong concerns that the potential adverse consequences associated with the dredging project have neither been entirely and clearly defined nor substantially and objectively addressed. Further, it appears that alternatives to the proposed dredging have been poorly addressed and evaluated. Beyond these concerns, it seems clear that the motive forces which have generated the proposed dredging project in the first place do not reflect the combined interests of the regions and communities of the lower Columbia River and adjacent coastal areas.

There appears to be an overbalanced response on the part of the USACE to eastern Oregon, Washington, Idaho interests to provide high cost access to Portland port facilities in spite of the strong potential for better, more long term deep water port facilities which could be developed in the Astoria-Warrenton area with quick access to and from the Pacific Ocean. It appears also that input from people, agencies, and other interests in the lower Columbia River regions has not been respectfully and carefully attended to by USACE and, in fact, has been otherwise ignored and/or dismissed over the nine years since the initial USACE Reconnaissance Study was started in December, 1989, until public comment was finally solicited in October, 1998. I have strong concerns that input solicited by the USACE at this late date will be given lip service only in the face of a "done deal" and the dredging project will progress unchanged even though it may in many ways be counter-productive to not only the lower Columbia region and the States of

Corps of Engineers Response

Comments noted. See our responses to the CREST letter. Additional information has been included in the final EIS on the regional port alternative. The number and size of vessels projected to call on the river in the future is expected to be independent of any channel improvement alternative. Currently, there are vessels moving on the river with design drafts greater than 40 feet, and this is expected to continue with or without the proposed channel improvement. Sandy beaches are easily eroded and the deeper channel should not cause a measurable increase in erosion. This issue is addressed in sections 5.1.5.3 and 6.2.3.1 of the EIS. All conclusions in the EIS are based on the best scientific information available for a given issue.

Oregon and Washington to do so, but also even the eastern areas of these States and Idaho as well in the long run.

The development of deep water port facilities in the Astoria-Warrenton area which already has natural deep water areas to accommodate all shipping needs with little modification makes infinitely better sense than blasting, pounding pilings, backfilling and dredging a 42 foot channel to Portland which, I am told, will not accommodate the newer 50 foot draft container ships which would replace the aging ships currently in use. What then? Is it back to the old partial fill in Portland and top-off somewhere else routine until the channel is deepened again to accept the 50 foot draft ships? The Feasibility Report does not address these questions.

It is my understanding that better rail and highway access to the Astoria-Warrenton area is already in the planning stage and that plans are in process to rehabilitate the current rail line to Astoria. How much better an investment of public dollars can there be than in developing the natural resources already present in the Astoria-Warrenton area at the site of the potential world-class regional port with high probability of a long term future and access to all inland and world markets? On the other hand, what can be a worse investment than sinking millions upon millions of public dollars to serve the narrow short-run interests of a few into shoring up what amounts to an interim port looking at long term obsolescence in Portland which can never be a world class regional port no matter how much money, time, and effort is poured into it unless the polar ice-caps melt rather soon? I do not see any part of the Feasibility Report that comes anywhere close to addressing these questions.

Many people, I am sure, will address concerns about ship wake damage to shores, estuaries, natural deeps and shallows; about where dredged material will be dumped and the effect on fish and wildlife, plant life, fishing, crabbing, water quality, radioactive (especially from Hanford) and other toxic (such as heavy metals from Albany area) sediments, water turbidity, changes in nutrients and oxygen content, pH, sediment plumes, sedimentation rates, mounding, infill in natural deeps and holes, swamps, marshes, inlets, bays; changes in current and hydraulics. None of these things are dealt with well in an objective scientific manner in the Feasibility Report. For example: How will wave action be effected in the off-shore dumping areas and nearby? Will coastal currents be changed? How will sediment effect Willapa Bay and the Oyster industry? How will the ocean beaches and clam beds be effected? Will kids on Long Beach be playing with radioactive sand?

My concerns are those above plus others. How will the regional communities be effected? It appears that crab, sturgeon, bottom fish, shrimp, oysters, clams and the people who for many decades have depended upon these fisheries will be adversely impacted by the huge dumping of dredged materials. It is hard to fathom the costs to these people as well as to the ambience of the whole region. With salmon stocks dwindling and many salmonids being listed as endangered yet another major environmental trauma such as the proposed dredging does not make good sense. This is especially true when it is a sure bet that court actions will probably at least hold up the proposal to dredge for a long term and cost tons of money in litigation expense. Does no one care about this? If litigation does happen, as it likely will, what will happen to the potential development of other, possibly more favorable, alternatives than the dredging project to solve shipping problems without compromising of the way of life of most of the people in the entire lower Columbia region? Since a large amount of time, money, and energy has been sunk into the study and development of the channel deepening project over the past nine years I think that the best thing to do at this point would be to listen to and evaluate the concerns that I and others are expressing, re-evaluate the content of the Feasibility Study in light of these things, and do a thorough job of re-evaluation of the alternatives of (1) no action (2) non-structural upgrade of existing river stage forecasting system (3) development of regional ports to locate deep-draft facilities closer to the mouth of the Columbia River, especially the Astoria-Warrenton area. Once that is done I think that it will be obvious that any of the above alternatives is more cost effective; more beneficial to the lower Columbia region and the States of Oregon and Washington and Idaho; less traumatic to the environment; in fact, more beneficial to the morale and economic well-being of all people involved. Most of the USACE studies are valuable and should be used, not to start the dredging project as outlined, but as a benchmark in establishing cost/benefit ratios of the other alternatives to facilitate their rapid development, assessment, and implementation of the best of the three.

Sincerely,

John L. Carter, M.D.

cc: CREST

Clatsop County Board of Commissioners

Senator Ron Wyden

Senator Gordon Smith

February 3, 1999

District Engineer
U.S. Army Corps of Engineers, Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

Dear Sir:

The Columbia River shipping channel at present is maintained at a depth of 40 feet upriver to Portland. The channel itself is 600 feet in width for most of the 115 mile distance from the river's mouth to the head of navigation in the Willamette. Should the channel be deepened by 3 feet to a depth of 43 feet, a simple calculation indicates that for every river mile where dredging is necessary to accomplish this, the volume of water in the main shipping channel will be increased by over 218 acre-feet.

Logic would indicate that for the volume of water in the shipping channel to be increased by a substantial margin during the deepening process, a corresponding volume of water must be drained away from the margins of the river. Thus it becomes clear that in the Columbia River estuary, where much of the river is characterized by shallow channels, sloughs, grassy islands colloquially termed "prairies," shoals, sand bars, partially submerged lands and marshes, all within the inter-tidal zone, for every river mile dredged by an additional three feet:

- over 218 acres of tidelands will be drained by a depth of one foot;
- approximately 145-1/2 acres of tideland will drained by one-and-one-half feet;
- nearly 72-3/4 acres will be drained by three feet.

Since it is precisely those margins of the estuarine environment which are among the most productive life-zones of the Columbia River, containing as they do critical habitat for a remarkable variety of organisms, on this basis alone, without reference to the numerous other issues involved, it is astounding that the Corps of Engineers could possibly conclude that the proposed channel-deepening project would result in "no significant environmental impact." Think again.

I strongly urge you to reevaluate your findings.

Sincerely,

Hobe Kytr

Hobe Kytr
5253 Ash Street
Astoria, OR 97103

cc: C.R.E.S.T.

Corps of Engineers Response

Comments noted.

Arno Michaelis
5161 Birch St.
Astoria, OR 97103

Feb. 3, 1999

District Engineer
U S Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P O Box 2946
Portland, OR 97208-2946

Dear Sir,

My official public comment is (and the meaning of is; is, this is it!), do not dredge until we have investigated the alternatives. I believe that your intent was to dredge before you did the Feasibility Study. You spent $6,000,000+ of our money on a study with a foregone conclusion. Not nice! I ask you to listen to the people who pay for all this in more ways than one.

Please take heed of the CREST study and consider seriously, alternatives to a 43 foot channel; such as, LOADMAX and a deep-water port east of Tongue Point.

Thank you for your consideration,

Arno Michaelis

Corps of Engineers Response

Comments noted. See our responses to the CREST letter.

3 Feb. 1999

District Engineer
U.S. Army Corps of Engineers District, Portland
Attn.: CENWP-EC-E
PO Box 2946
Portland, OR 97208

Re: Draft EIS on Columbia River Channel Deepening Proposal

I am writing as a concerned citizen to comment on the DRAFT EIS issued by the Corps of Engineers on the proposed Columbia River channel deepening. Here are my concerns with this document:

Overall, the Draft EIS fails to address the impact the proposed deepening will have on water quality, commercial fisheries, cultural resources, and the fragile environment of the lower Columbia River estuary. A large unanswered concern is the resuspension and/or deposition on beaches of toxic wastes (including radionuclides from Hanford reach and heavy-metal toxins originating in the Willamette River). These materials would be in direct contact with humans (if used as proposed for beach mitigation), and will in any case enter the food chain of the lower River. This is a very common concern among citizens of the lower River. The EIS must address the safety of dredged material, particularly the existence of radionuclides and toxins.

In proposing new ocean dumping grounds for dredged material, the Draft EIS does not consider the impact on areas currently in use by commercial fishermen nor the drastic impact on Dungeness crab habitat. Fisheries are part of our culture as well as economy; it is short-sighted to propose ruining productive crab grounds instead of exploring other sites for dumping.

The impact on air and water qualities from additional ship traffic is also a concern, as is the increased hazard of marine oil spills.

Finally, the proposed channel deepening will have a definite impact on cultural resources, including the built and natural environments on both sides of the lower River, through erosion, loss of wildlife habitat, relocation of dredged materials, and an open in-water dredge period that ignores protection for migrating fish.

In all, the DRAFT EIS is an unconvincing document that serves to raise serious concerns about the long-term wisdom of deepening the channel. An *independent* economic analysis of the commercial importance of the proposed channel is needed, and should also look further ahead to the need for 50-foot draft ships. I strongly urge the Corps to balance a realistic look at the economic alternatives with a long-range, HARD look at the environmental effects of this proposal. Thank you for the opportunity to comment.

Anne Witty

Anne Witty
1573 Grand Ave., Astoria, OR 97103

Corps of Engineers Response

Comments noted. See our responses to the CREST letter.

PACIFIC FISHERY MANAGEMENT COUNCIL
2130 SW Fifth Avenue, Suite 224
Portland, Oregon 97201

Telephone: (503) 326-6352

CHAIRMAN
Jerry Mallet

EXECUTIVE DIRECTOR
Lawrence D. Six

February 4, 1999

Mr. Steven J. Stevens
U.S. Army Corps of Engineers
Portland District, CENWP-PE-E
PO Box 2946
Portland, OR 97208-2946

Dear Mr. Stevens:

We wish to comment on the *Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (DEIS) (Columbia and Lower Willamette River Navigation Channel).*

1. We have serious concerns about the location of the north and south disposal sites and the impact of dredged material disposal on the Dungeness crab resource and fish species managed by the Pacific Fishery Management Council (Council). The mouth of the Columbia River is an extremely productive area not only for crab, but also for salmon, groundfish species including flatfish, and numerous other species.

The Council was created by the Magnuson Fishery Conservation and Management Act in 1976 with the primary role of developing, monitoring, and revising fishery management plans for fisheries conducted within federal waters off Washington, Oregon, and California. Subsequent congressional amendments in 1986, 1990, and in 1996 added emphasis to the Council's role in fishery habitat protection. Amendments in 1996 directed the National Marine Fisheries Service (NMFS), as well as the regional fishery management councils, to make recommendations regarding federal or state agency activities that may affect the essential fish habitat (EFH) of a fishery under its authority. The Magnuson-Stevens Fishery Conservation and Management Act's amendments also mandate that threats to EFH be identified, and conservation and enhancement measures be described that minimize those adverse impacts. The proposed disposal sites are located within EFH for salmon and groundfish as identified by the Council in fishery management plan amendments. The groundfish plan amendment has been adopted by the Council and submitted to the Secretary of Commerce for approval. The salmon plan amendment will be adopted by the Council in March 1999. We expect these amendments to be approved.

The ocean disposal alternative in the DEIS proposes to utilize two ocean sites (north and south) encompassing 81.3 square miles. Over 50 years, these sites would receive over 225 million cubic yards of material from the maintenance dredging at the mouth of the Columbia River, and if approved, the maintenance and construction of the 43-foot channel deepening project.

Corps of Engineers Response

1. Comments noted. The North and South sites have been eliminated. The current proposed sites have been agreed upon by the Ocean Disposal Working Group, and have been reduced in size and located further offhsore to minimize impacts to the fishing industry and EFH. A discussion of EFH as it relates to offshore disposal has been added to the final EIS and Appendix H.

Regarding the impact of disposal in the north and south sites, the DEIS states:

> No significant impact on other known uses of the ocean such as commercial and recreational fishing or navigation; actual or anticipated exploitation of living marine resources; actual or anticipated exploitation of nonliving resources, including sand and gravel or other mineral deposits, oil and gas explorations, or structural development, and scientific research are anticipated (DEIS Exhibit D, page 3).

The DEIS also states:

2.

> The proposed sites are located in the nearshore area and many pelagic organisms occur in the water column over these sites. These include zooplankton (copepods, euphausids, pteropods, and chaetognaths) and meroplankton (fish, crab, and other invertebrate larvae). The organisms generally display seasonal changes in abundance since they are present over most of the coast, those from the mouth of the Columbia River are not critical to the overall coastal population. Based on evidence from previous zooplankton and larval fish studies, it appears there will be no impacts to organisms in the water column (Sullivan and Hancock*) (DEIS page 6-23).
>
> (*Note: The above reference does not appear in the literature cited section of the DEIS.)

We believe the DEIS does not provide enough biological information on the disposal area to make the statements referenced above (DEIS Exhibit D, pate 3; DEIS page 6-23), especially given the volume of material proposed for ocean disposal. Our concerns include:

1. Based on existing ecological information, there is reason to believe that ocean disposal off the mouth of the Columbia River will be in conflict with fisheries resources and the fishing industry, and have an adverse impact on EFH.

2. The area defined as the mud hole off Washington state has been described as a unique marine habitat with high biological productivity. This area is within the north site and should be avoided. In addition, the mouth of the Columbia River is a unique marine habitat, being an extremely productive flatfish nursery area.

3.

3. The DEIS states on page 12, Appendix H, Volume 1, that from July 1997 through August 1998 the U.S. Army Corps of Engineers (Corps) convened a series of workshops, which included fishing groups and natural resource agencies, to identify new offshore disposal options (e.g., management of erosion along the Washington coast, including Benson Beach) for the Columbia River navigation projects. However, according to the Washington Department of Fish and Wildlife and Oregon Department of Fish and Wildlife (ODFW), agreements reached in that process to date are not reflected in the DEIS. It is also our understanding that the Corps is obligated to seek beneficial uses for dredged material first, and exhaust all of those uses before disposal is considered. We encourage the Corps to continue to work on reducing impacts to fisheries resources by exploring dredge disposal site alternatives such as beach renourishment.

4.

4. Disposal of dredged material will alter the benthic-epibenthic community structure by changing sediment characteristics. This will affect benthic prey organisms and the fish and crab that depend on them. Further analysis is also requested to validate the statement "Since (meroplankton and zooplankton) are present over most of the West

5.

Corps of Engineers Response

2. See response #1.

3. Concur with comment.

4. Concur. The EIS has been revised to better reflect the process that was used in site evaluation and selection. The results of the working group and the information provided by the group has been incorporated into the final EIS. The Corps does have the requirement to identify beneficial uses of dredged material; however, the beneficial use should be evaluated for cost effectiveness. We do have the ability to provide beneficial uses that are more costly to the federal government if a non-federal cost-sharing partner is identified.

5. Concur. Localized impacts will occur to ocean resources by the placement of dredged material. These impacts however, are not likely to affect coast-wide resources. The deep-water site has been selected to avoid local populations of limited distributions.

5. (con't) Coast, those from the mouth of the Columbia River are not critical to the overall coastal population." Coastal distribution of a species does not preclude the destruction of a local population from having an impact on the population as a whole. Source populations for the species potentially impacted by the dredging process should be investigated and identified. In addition, river mouths, mixing zones, and estuaries are thought to be areas of especially high biological productivity. Hence, meroplankton and zooplankton populations distributed along the West Coast may not make equal contributions to productivity, biodiversity, or the maintenance of ecological processes.

6. 5. The Corps discusses the thin layer dredge spoil disposal method as an option. The Corps assumes that impacts from this method would reduce impacts to crab resources (i.e., fewer burial moralities). However, no field testing has been conducted off the mouth of the Columbia River to determine if dredges are capable of delivering the disposal material with such precision that the resulting dump mound is below the lethal limit for crabs. According to ODFW, "Given the lack of supporting evidence for appropriate management of thin layer disposal off Oregon, the lack of a specific management plan, the expected impacts of dredge material disposal on marine habitats, marine resources and economic potentials, plus the huge areal extent of the north and south sites, ODFW is convinced that thin-layer disposal methods are not compatible with the marine environment off Oregon and should not be employed by the Corps."

7. 6. We are concerned with the deepening and incremental maintenance dredging of the estuarine portion of the project. Dredging activities kill Dungeness crab which can be found in estuarine areas. We recommend the Corps Portland district office develop a strategy similar to the one developed for Grays Harbor, Washington which outlines in detail the methods for avoiding, minimizing, calculating, and mitigating crab impacts.

8. The Council has not developed a formal position with regard to the proposed channel deepening project. We realize that dredging and disposal of dredge spoils are a necessary part of keeping the Columbia River a functioning economic arterial; however, the Council opposes the north and south disposal site based on the following:

1. Unprecedented size of the proposed ocean disposal sites.

2. The known resources that will be impacted (crab, juvenile flatfish. etc. Note: the importance of Dungeness crab larval stages, particularly megalopae, as forage for many groundfish species as well as chinook and coho salmon is well documented).

3. Impacts to the crab fishery. (Note: Although the Council does not directly manage the crab fishery, most crab fishermen also participate in Council-managed fisheries, and any impact to the crab fishery will have implications in other fisheries.)

4. Uncertainties about impacts of thin-layer disposal.

In addition, we request that, before the deepening project proceeds further, any ocean disposal alternative be revised to include sufficient biological information on the impact of dredge material on fish and shellfish resources and their EFH. This information should also be collected for ocean disposal activities of ongoing dredge disposal activities at the mouth of the Columbia River. Once those impacts have been more fully identified and evaluated, appropriate steps can be explored with input from resource agencies and the fishing industry

Corps of Engineers Response

6. Thin-layer disposal is no longer being considered.

7. Impacts to the resources have been minimized by reducing the size of the sites and locating them in areas that have acceptable impacts to the commercial fishery. There is no measurable increase in dredging of the MCR project; consequently, entrainment will not be increased.

8. The North and South disposal sites have been eliminated. Thin layer disposal is no longer being considered. We disagree and believe that there is sufficient data to characterize the offshore area biologically. This information combined with the overlay information used in the workshop site evaluation process, aided the selection of suitable sites. We have agreed to conduct pre- and post-construction assessment surveys.

to minimize impacts and mitigate unavoidable impacts from ocean disposal activities. Also, we recommend that any future consideration of ocean disposal include a comprehensive monitoring plan. This should be accomplished in cooperation with the fishing industry.

We look forward to working with you in this important process. Please feel free to contact the Council staff at (503) 326-6352.

Sincerely,

Jerry Mallet

Jerry Mallet
Chairman

SHP:klr

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COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION
729 N.E. Oregon, Suite 200, Portland, Oregon 97232
Telephone (503) 238-0667
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February 5, 1999

General Robert Griffin
Northwestern Division
Corps of Engineers
12565 West Center Road
Omaha, Nebraska 68144-3869

Colonel Robert T. Slusar
Portland District
Corps of Engineers
P.O. Box 2946
Portland, Oregon 97208

Dear General Griffin and Colonel Slusar:

The Columbia River Inter-Tribal Fish Commission (CRITFC), at the direction of the Confederated Tribes and Bands of the Yakama Indian Nation (YIN), the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Confederated Tribes of the Warm Springs Reservation of Oregon and the Nez Perce Tribe, has reviewed the Corps of Engineers' draft environmental impact statement entitled, "*Integrated Feasibility Report for Channel Improvements*" (DEIS). We have prepared the following comments.

General Comments

1. CRITFC has serious concerns that the DEIS failed to consider the cumulative impacts [1] resulting from implementation of the preferred alternative -- the least-cost alternative of dredging and disposal of 19.1 million cubic yards of bottom sediment from the lower Willamette and Columbia Rivers to increase the navigation channel from 40 to 43 feet. The DEIS failed to adequately analyze the impact of the proposed alternative on treaty reserved resources including but not limited to Pacific salmon, sturgeon and steelhead and Pacific lamprey. For example, the DEIS fails to discuss or analyze the impacts of the proposed action if John Day and the Lower Snake

[1] The Council of Environmental Quality defines "cumulative impacts" as the impact to the environment which results from the incremental impact of this action when added to other past, present and reasonably foreseeable future actions regardless of what agency, federal or non-federal or person undertakes such actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. The DEIS failed to consider the impact of the preferred alternative to the existing degraded lower river and estuarine habitat for anadromous fish and for other river operations and conditions other than those reasonable and prudent alternatives in the NMFS 1995-1998 FCRPS Biological Opinion for Snake River Salmon and the NMFS 1998 FCRPS Biological Opinion for Columbia River Steelhead. The DEIS failed to consider the impacts of the preferred alternative on salmon recovery measures in the NWPPC Fish and Wildlife Program and in the CRITFC tribes' *Spirit of the Salmon* restoration plan.

Corps of Engineers Response

1. Additional information has been added to the EIS on pacific lamprey and sturgeon. The other treaty reserve species you mention have been addressed in the EIS.

1. (con't) dams are removed in the future. The DEIS fails to include any analysis of the synergistic impacts of the proposed alternative with other river operations other than the current operations, and fails to examine significant changes projected for the Willamette and Columbia River hydrographs as a result of global warming. In addition, the DEIS failed to adequately address the importance of protecting and improving the estuary. Given how so many have sought to minimize the responsibility of the FCRPS for salmon mortality by pointing fingers at potential mortality stemming from problems in the estuary and the ocean, it is somewhat ironic that activities that will adversely affect salmon migration and feeding areas in the estuary would be termed "insignificant."2

2. At no point during the development of this DEIS did the Corps or other federal government agencies provide a consultation for the CRITFC tribes. In fact, we could not find any mention of the impact of the preferred alternative on treaty resources anywhere in the DEIS, including the appendices. This includes consultation on the USFWS' Coordination Act Report on the DEIS alternatives. This failure to address tribal concerns must be rectified if the NEPA process for this proposed action proceeds.

3. Nowhere in the DEIS is there an analysis or discussion of providing alternative transportation for commodities, such as rail, to other well established ports such as Seattle or San Francisco. This failure exists despite the fact that most of the present agricultural and commodity transport from transporting commodities by rail or truck to Astoria or even Longview was not well developed, because the capital and operations and maintenance costs of the dredging were not included in the overall costs of shipping commodities to and from Portland, thereby precluding reasonable comparison.

4. The DEIS failed to consider the possibility that currently depressed Asian and other world markets may never rebound to levels analyzed in the DEIS. If the proposed alternative is implemented, water quality of these rivers would surely erode. The synergistic impacts of supertanker oil spills and bilge releases3 into the Columbia and Willamette River and their impacts on the ecological food chain and critical anadromous fish habitat were not included in the DEIS analyses. The proposed designation of the Lower Willamette River as a superfund site was not mentioned in the DEIS, nor was the designation considered in analyses of DEIS alternatives. We understand that the Corps owns property on the Willamette River that is under consideration as a superfund site,4 but the Corps remains non-committal regarding cleaning up this site. While the

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2 Due to the importance of the estuary in the salmon lifecycle, it is essential that any Corps activity in the estuary improve, not degrade, salmon survival.

3 The problem of exotic species being introduced into American harbors is significant, extensive, and costly. On Feb. 4, 1999, the Clinton Administration announced its proposal to almost double spending to address this problem. Scientists estimate that this problem costs the nation approximately $123 billion each year (Oregonian, 2/4/99 at A6). Without question, the Corps' environmental and economic analyses must thoroughly address the hazards from and prevention of introduction of exotic species resulting from releases of bilge water.

4 Due to the problems that are unique to the Willamette that have yet to be addressed, it is important that any dredging activities proposed for the Willamette be dealt with in a separate and subsequent analysis. These issues cannot be

Corps of Engineers Response

1 (continued). Historically, navigation channel maintenance dredging has not been sensitive to variations in flow hydrographs. Consequently, potential changes to flow hydrographs due to global warming are not expected to change the 20-year dredging forecast.

The proposed project is not expected to have significant, adverse impacts on salmon migration and rearing as discussed in the EIS and Biological Assessment.

2. Your agency has been on the mailing list for all coordination efforts for this project. The USFWS also coordinated its Coordination Act Report with your organization.

3. If it were more economical for Columbia River exports to be exported through San Francisco or Seattle, then goods would not be exported via the Columbia River.

4. The general consensus among major entities such as the World Bank, the International Monetary Fund, and the United States Department of Agriculture, is that the Asian economies have reached the trough of their downturn, and that those economies (along with the associated trade) are rebounding. The crisis has resulted in a short-term reduction in Columbia River exports, but the crisis does not represent a fundamental change in Asian economies that would result in a long-term decline or even stagnation of exports. Indeed, most forecasts call for Asian recovery to be well underway by 2001, and the first year that a deepened channel would be available is 2004. We have added this information to the EIS and Economic Appendix.

The potential listing of the Portland Harbor section of the Willamette River is a recent event and is discussed in the final report. The property owned by the Corps in the Willamette River, the US Moorings, is not a part of the CRCD study area. The Corps has requested of DEQ that the US Moorings be added to the States voluntary clean-up program and is awaiting their action on this request. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging and disposal activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

5. DEIS states that the proposed action will likely entrain toxic sediments, such as DDT, PCBs and heavy metals in the rivers, the overall conclusion of the Corps is that the proposed action will, "...provide ecosystem restoration for fish and wildlife habitats." Entraining toxins, such as DDT PCBs, and heavy metals, onto clay sediments, which stay suspended and easily bond with organic tissue (e.g., fish), is hardly likely to "provide ecosystem restoration."

6. The impact of the DEIS alternatives on the life histories of salmon was not considered in the DEIS, and the DEIS and the Coordination Act Report only provide the most cursory discussion of the impacts. Species listed and proposed for listing under the Endangered Species Act include Lower Columbia chum and Willamette spring chinook. The impact from the preferred alternative on critical spawning and rearing habitat for these stocks and other listed and non-listed stocks was not adequately developed in the EIS. These serious deficiencies were noted by the Columbia River Estuary Studies Team (CREST) in recent public hearings in Astoria.

7. The DEIS states that the impacts of in-water disposal of dredge spoils on shallow bays that are vital juvenile rearing and adult holding habitat, "... could have a long term impact on species utilizing these shallow water areas." Yet, the DEIS preferred alternative fails to include this conclusion and instead states that no adverse impacts to fish and wildlife are expected from implementing the preferred alternative.

8. The DEIS failed to consider the effects of potential improvements to LOADMAX, an existing system that allows for increased shipping opportunities by forecasting river levels and tidal shifts. Contrary to the DEIS perspective, CRITFC believes that it is unlikely to improve the 5-day river forecast because of the forecast uncertainty surrounding Bonneville Dam releases, which control about 85% of the mainstem Lower Columbia flows. However, it is possible to make a 30-45 day guidance forecast, based on the CWS model runs issued by the Corps Reservoir Control Center and NWRFC, which may be beneficial to the shipping schedulers. It does not appear that the Corps considered this possibility.

9. The DEIS preferred alternative, creating a deeper, wider channel would lead to more ship traffic, more wave action, and more bank erosion. Widening the channel could shrink shallow-water habitat. Sub-marine slopes that would need to have an increased angle of inclination for a deeper channel would be more unstable, and hence, more maintenance dredging would be required than with the present channel conditions. The Corps 0 & M budget continues to shrink (Corps NWD Water Management Chief Bill Branch, 1999 pers. comm.) creating problems maintaining the existing channel, thus, the 43 foot channel may not be able to be maintained, certainly not at taxpayer expense.

10. The DEIS failed to examine the impacts on anadromous fish from creation of additional predatory avian habitat. For example, the creation of Rice Island in the Lower Columbia from dredge spoils has created an entire colony of Caspian terns that are consuming thousands if not millions of listed

adequately addressed in this EIS process.

Corps of Engineers Response

5. See response #4.

6. A discussion of expected impacts to listed stocks of salmonids was provided in the EIS and Biological Assessment provided to the NMFS. The proposed project is not expected to have significant, adverse impacts to listed stocks of salmonids.

7. There will be no disposal in shallow bays that are vital juvenile rearing habitat. Adult salmon do not hold in shallow bays.

8. See response # 2 to the US Department of Interior letter concerning LoadMax. Additional information on LoadMax has been included in the EIS.

9. Sections 4.4.3.2 and 6.2.3.1 of the report discuss these concerns.

10. These impacts are addressed in the EIS and Biological Assessment. No additional habitat for avian predators, such as Caspian terns, double-crested cormorants and/or glaucous-winged/western gull hybrids would be created by implementation of the proposed project. Disposal options in the Columbia River estuary, where avian predation on juvenile salmonids has been identified as a problem, would use existing disposal sites, Rice Island and Miller Sands Spit, where avian predators currently nest. No new disposal sites would be created. Habitat management actions are being implemented in 1999 to manage Caspian terns. Long-term management actions for these avian species are under consideration by the Caspian Tern Working Group, an interagency team.

and non-listed salmon smolts. 5

11. The DEIS trivializes the potential effects of underwater blasting on critical habitat and anadromous fish that are present all year in the proposed dredging area. The DEIS fails to adequately estimate the amount of submarine basalt to be blasted because of inadequate surveying.

12. The no-action alternative, maintaining the 40 foot navigation channel, continues to cause degradation of critical anadromous fish habitat. Given the value and precarious state of Columbia Basin anadromous fish, to provide a full range of alternatives for analysis that is required by NEPA, the Corps should provide an analysis of a no-dredging alternative.

13. In some ways, we are surprised that this dredging proposal is even being made. While navigation interests have prospered through the dredging and general "taming" of the Columbia River, the salmon, and the tribes that depend upon them, have suffered greatly. Many runs of salmon have been listed as threatened or endangered. Other runs have been extirpated. The tribes' treaty secured right to take fish has been constrained by the federal government's asserted need to minimize salmon mortality, yet here the federal government proposes an action that will harm salmon. The Corps anticipates significant disturbance of both river bottom and river during periods when salmon and other species are either residing or migrating. Placement of dredge spoils will cause further extensive disturbance. The extent of the potential impacts that could result from the proposed dredging is enormous. Yet to rebuild the runs, it is essential that salmon survival increase. It is likely that the sacrifices of the tribes and other fishers will be nullified, not to mention other salmon protection measures, if this dredging proposal is allowed to proceed.6

Specific Comments

Lower Columbia Channel Improvements DEIS, Appendices A-H

Appendix A, Chapter 4—Columbia River State Forecasting Analysis

14. Sec. 4.1 (Introduction):

The first paragraph presumes a deeper channel is preferred, without offering any alternatives.

Sec. 4.2 (Background)

The second paragraph ignores operational change made by the NWS-NWRFC over a year ago,

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5 The Portland District, Corps of Engineers has estimated that ESA listed salmon stocks suffered between 6%-25% mortality from avian predators originating on Rice Island (Public Notice Number CENWP-EC-E-98-08 Caspian Tern Relocation, Columbia River, Clatsop County, OR; October 29, 1998).

6 The Corps must also be mindful of impacts to other aquatic species, including those that support fishers in other parts of the river and estuary. Navigation interests should not be allowed to further enrich themselves at the expense of these fishers, either.

Corps of Engineers Response

11. The blasting plan was developed in conjunction with the state and federal resource agencies. The 10 psi requirement was developed by NMFS and agreed to by the Corps. All blasting will be done during the approved in-water work period, which is a time when fish numbers are low. The blasting plan will also include measures to scare fish away prior to the blast.

12. The no action alternative is the base condition or existing condition. All economic and environmental evaluations are compared to existing conditions. The base condition was reviewed and further defined in the recently completed Columbia and Lower Willamette Dredged Material Management Plan/SEIS, June 1998. Modification of that base condition, such as no dredging, would require congressional revision of the navigation authority for the Columbia and Lower Willamette River project. This is not considered a reasonable alternative.

13. See previous responses #6 and #7 concerning salmon impacts from the proposed project.

14. See previous response #8.

where the twice-a-day stage forecast (e.g., 3-day forecast released by 7:30 AM and the 6-day forecast released by 1:30 PM) was replaced by the 1:30 PM six-day forecast.

Sec. 4.3 (Forecast System Limitations)

Whether the NWRFC was consulted for this analysis was not mentioned. The DEIS suggested that the study was incomplete, but we believe this is erroneous.

The third paragraph lists four limitations in the current river stage forecasting system. The Corp's Portland District's analysis indicates a lack of understanding of the DWOPER computer model used by the NWRFC to help generate harbor stage forecasts for points inclusive of Portland to Astoria.

14. (con't)

Specific points:

1. Accuracy of the Forecast. No attempt was made to list or understand the limitations. Major controlling factors: diurnal tidal cycle, Bonneville Dam releases and mainstem Willamette flow (40% regulated by 13 Corps projects). Minor controlling factor: local "side" flows from the Lewis, Cowlitz, and Clackamas Rivers. Furthermore, a skilled, but subjective, blending of the current observed stages with forecast stages is applied by the NWRFC forecaster before the forecast is released. Otherwise, unchecked model results may go out to the Corps and Port of Portland (PoP).

   Diurnal tide forecasts are obtained from official NOAA- National Ocean Service Tide Prediction Tables. These tables may go out to one year in the future.

   Schedulers electronically release the outflow release schedule for BON to NWRFC forecasters. The NWRFC uses the 7 am 3-day BON release schedule when modeling the Willamette River, in coordination with the COE-RCC, and the 1 pm 6-day release schedule for running the DWOPER harbor forecast program. The two release schedules often vary widely. Schedule differences of 5000 to 30,000 cfs are common, due to changes in power marketing. Represent ~85% of the mainstem flow on the Columbia.7

   The mainstem Willamette flows are 40% controlled by regulatory operations of the COE-RCC and 60% influenced by rapidly developing weather systems- with significant impacts at times. Willamette represents about 10% of the mainstem flow on the Columbia. The Lewis, Cowlitz, and Clackamas flows represent about 5% of the mainstem flow on the Columbia.

Appendix A, Chapter 4—Columbia River Stage Forecasting Analysis

Sec. 4.3 (Forecast System Limitations)

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7 One alternative that the Corps should consider would be to see whether management of Bonneville Dam could be used to maintain downstream water levels to alleviate the perceived need to dredge between Portland and Longview.

14. (con't) 2. Inadequate Forecast Span. Since the Bonneville Dam releases control about 85% of the total volume of the lower mainstem Columbia, it is very difficult to have a reliable release schedule that goes very far into the future, given all the uncertainties and the dynamic, rapid changes associated with power marketing. Relatively good accuracy of 1-2 days into the future is the best that can be achieved given present restrictions. Thus, the greatly improved forecast system that supports the benefits of the preferred alternative is highly unlikely and the benefits will not materialize.

Appendix A, Chapter 6—Geotechnical Information

15. Sec. 2 (Methodology), b (Coordination):
No coordination was attempted with CRITFC or any Columbia Basin tribes.

Sec. 4 (Rock Areas and Quantities), d (Slaughters Bar):
From Col. R. Mile 63 to 67, near Longview, blasting is proposed to remove any in-place rock.

Sec. 4 (Rock Areas and Quantities), f (Morgan Bar):
Near Col. R. Mile 101 to 101, blasting is proposed to remove suspected in-place rocks.

Sec. 4 (Rock Areas and Quantities), g (Willamette River):
From Willamette R. Mile 4 to 71/2, blasting is proposed to remove suspected in-place rocks.

Sec. 6 (Blasting Information), a (General):
Although blasting did occur in the channel during the 1960's and 1970's, the COE did not keep any records so as to evaluate the geophysical character of the remaining rocks in the channel.

Sec. 6 (Blasting Information), b (Rock Requiring Blasting)

In addition to the above mentioned blasting sites, the DEIS preferred alternative requires blasting at Wauna Bar, Stella Fisher Bar, and Warrior Rock. The Corps admits that they do not know the character of the rock (i.e, is the basalt fractured or massive). This is an important point because massive basaltic rock will require a substantial amount of explosive compared to fractured rock. Hence, the DEIS may easily underestimate the amount of explosives needed. Comprehensive geophysical surveying would be needed to determine the character of the proposed rock to be blasted. The DEIS fails to include the study.

Sec. 6 (Blasting Information), d (Mitigation of Blasting Effects on Fish)

16. The DEIS states that blast effects will be 10 psi or less, with little substantiation. If the composition of the rock material is denser than that surveyed, many more blasts will be required that will potentially harass or injure anadromous fish. The DEIS fails to include a blasting

Corps of Engineers Response

15. Comments noted. Your agency has been on the mailing list for all coordination efforts for this project. The USFWS also coordinated its Coordination Act Report with your organization. Surveying the rock to be blasted will be performed during the next phase of design (PED).

16. See previous response #11.

schedule, thus, whole migrations of anadromous fish could be at risk from this activity.

Appendix H, Volume I Columbia River Ocean Dredge Disposal Sites

17. A significant concern is the timing of the dredging and proposed disposal in the ocean and estuary on migrating anadromous fish. Because of safety concerns, it appears the best time of year to dredge is limited from May to October, with most of the work performed after July 1st, with 50 – 60 days, 24 hour a day operations (p. 13). On p. A-18, a diagram showing the periods of migrating adults clearly illustrates that summer-time dredging will have enormous impact on the adult salmon.

Exhibit C Fish and Wildlife Coordination Act Report and Impacts of the Proposed Columbia River Channel Deepening Project on Fish and Wildlife Resources

18. Page 20. There will likely be significant changes to the freshwater and saltwater interface if the preferred alternative is implemented, especially in low flow periods, changed river operations and if weather patterns change as a result of global warming. The DEIS failed to examine these possibilities. The result would be increased movement of the saltwater plume up the river. This will change the temperature and trophic structure of the river. Primary production areas now available for millions of juvenile salmon will be changed, forcing juvenile and adult salmon to change physiological transformations between saltwater and fresh water and cause added impacts to the existing degraded conditions (Sherwood et al. 1990; Bottom and Jones 1990). The constant impacts to estuary trophic structures from maintenance dredging has not been considered in the DEIS. Dredging is counter to the normative river paradigm expressed by the Independent Scientific Group (Williams et al. 1996).

Conclusion

19. The DEIS appears flawed with respect to considering a full range of alternatives as required by NEPA, including an adequate cumulative effects analysis. Another significant problem is the lack of integration of the alternatives with other significant actions occurring in the basin. These include but are not limited to, hydro-system operations, anadromous fish restoration plans and tribal and international treaties. The preferred alternative in the DEIS will likely cause direct, indirect, and cumulative impacts on treaty reserved resources. Although we do not support any dredging, if the Corps is to continue with considering additional dredging in the lower Columbia River, we strongly recommend that a full scoping for a new DEIS be initiated with full tribal consultation from the onset of scoping.

Corps of Engineers Response

17. Construction timing considerations are included in the Biological Assessment sent to the NMFS. The NMFS is preparing a Biological Opinion based upon the assessment.

18. We disagree. The results of the salinity intrusion analysis indicate very little change in the freshwater/saltwater interface. See Section 6.2.3.3 in the EIS and Appendix F for more information.

19. Relevant state and federal fish and wildlife programs have been considered in evaluating the proposed action. The effects of deepening on all Columbia and lower Willamette River resources are addressed in the EIS. Formal scoping of this feasibility study/EIS was initiated in 1996 with a scoping notice. This notice, as well as copies of the draft report were addressed to all Columbia Treaty Tribes.

We appreciate the opportunity to provide DEIS comments. Should you have questions regarding these comments, please contact Robert Heinith at (503) 238-0667.

Sincerely,

Ted Strong
Executive Director

References

Bottom, D.L. and K.K. Jones. 1990. Species composition, distribution, and invertebrate prey assemblages in the Columbia River estuary. P. 243-270. In: M.V. Angel and R.L. Smith [ed]. Columbia River:estuarine system. Progress in Oceanography. 25(1-4).

Sherwood, C.R., D.A. Jay, R.B.Harvey, P. Hamilton and C.A. Simenstad. 1990. Historical changes in the Columbia River estuary. In: M.V. Angel and R.L. Smith [ed]. Columbia River:estuarine system. Progress in Oceanography. 25(1-4).

Williams, R. and eleven co-authors. 1996. *Return to the River:* Restoration of salmonid fishes in the Columbia River ecosystem. Northwest Power Planning Council. Portland, Oregon.

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LOWER COLUMBIA RIVER ESTUARY PROGRAM

WORKING FOR SOLUTIONS

January 26, 1999

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E ATTN: Steven J. Stevens
P.O. Box 2946
Portland, Oregon 97208-2946

Dear Mr. Stevens:

Thank you for the opportunity to review the draft Environmental Impact Study (EIS) for the proposed deepening the Columbia and Willamette River channel from 40 to 43 feet. The Lower Columbia River Estuary Program (Estuary Program) is a joint venture between the states of Oregon and Washington and the Environmental Protection Agency to prepare a Comprehensive Conservation and Management Plan (Management Plan) for the lower Columbia River and Estuary. The programmatic direction for the Estuary Program comes from a 31 member Management Committee, representing the range of interests and groups involved in activities that utilize and impact the river. The Management Committee benefits from the participation of the Corps as one of the federal agencies represented on the Committee.

1. The mission of the Estuary Program is "*to preserve* **and** *enhance* **the** *water quality of* **the** *estuary to support its biological and human communities*". The Policy and Management Committee have identified seven priority issues that reflect the problems in the river. These are summarized in Chapter 4 of the draft Management Plan. The plan goes on to identify 43 specific actions to help remedy the problems (Chapter 6). Of particular concern is the loss and modification of habitat, including wetlands, in the lower river and estuary. Several actions call for multiple partners to work to achieve a net gain in habitat in the lower river and estuary. Also of concern is the quality of water and sediment. As you know, toxic contaminants have been found in both sediment and fish tissue.

There are comments throughout the draft Management Plan which have some bearing on the channel deepening project. Attached to this letter is a copy of the current draft of the plan. Of the 43 actions in this draft, several relate to natural resources likely to be affected by the deepening project. There are nine actions relating to habitat protection and enhancement that deal directly with issues common to the Estuary Program plan and the channel deepening. Those are action numbers 1 through 6, 12, 21, and 29. Actions number 3 and 12 seem the most on point. I am attaching the pertinent nine actions.

2. The Estuary Program requests that you evaluate the draft EIS for consistency with the Estuary Program actions as they relate to the deepening plan. We ask that you include in this analysis how the deepening project will be consistent with and further the objectives of the Management Plan. We invite you to present a summary of your evaluation to the Management Committee at one of its upcoming meetings. I will be happy to arrange that meeting with you.

Thank you for the opportunity to comment and for your attention to these comments. We look forward to discussing this with you soon.

Sincerely,

Debrah Marriott

Debrah Richard Marriott
Director, Lower Columbia River Estuary Program

811 SW Sixth Avenue Portland, Oregon 97204 • Phone: 503-229-6066 Fax: 503-229-5214
E-mail: chamness.jeanne@deq.state.or.us

Corps of Engineers Response

1. Comments noted. Any actions related to channel deepening and disposal of sediments would necessarily consider water quality impacts and impacts to important resources such as wetlands and riparian habitat. Based on sediment testing results, sediments which may be affected by deepening the navigation channel would be suitable for unconfined in-water disposal. The possible exception to this involves some segments of the Willamette River adjacent to the existing 40-foot channel. Various management options, including avoidance of these areas, could be employed. However, the prudent measure at this point is to wait until DEQ completes the Willamette River sediment management plan before proceeding with any action. As described by the habitat screening process in Chapter 4 of the EIS, with few exceptions the most important habitat would be avoided by the proposed action. Also, the ecosystem restoration component of this action would restore about 1,500 acres of riparian, wetland and general wildlife habitat to the lower Columbia River ecosystem.

2. We have reviewed the Draft Management Plan and will continue to coordinate with your office in an effort to be consistent with the plan. Further, we will continue to seek contributing partners in achieving the objectives of the plan.

The Estuary Program Role:

CONSULT — CONVENE — COORDINATE

PRELIMINARY COST ESTIMATES: Non Estuary Program staffing costs need to be determined. Staff would be for program development, criteria selection, supervision of the assessment process, and development of appropriate protection and restoration techniques.
Other Costs: Riparian survey $1,000 to $15,000 per mile; habitat assessment $150.00 per mile; mapping costs are undetermined at this time.

FUNDING SOURCE: Funding sources for non Estuary Program staff need to be determined.

REGULATIONS REQUIRED: This action will require legislation to designate habitats not to be altered.

ENVIRONMENTAL AGENCY ACTIVITIES:

AGENCY	EXISTING ACTIVITIES	PROPOSED ACTIVITIES
Oregon Department of Environmental Quality (DEQ)	Maintains Oil Spill inventory. Mapped critical resources including habitat and prioritized for protection from spills	
US Environmental Protection Agency (EPA)		
Washington Department of Ecology (Ecology)	Provides grants and technical assistance to implement the Salmon Recovery Act, the Steelhead Recovery Pilot Program, and the Watershed Management Act. Mapped sensitive resources for oil spill protection purposes.	Identify critical habitat issues and propose project to resolve them.

EPA information is being compiled for the final plan. Tribes and additional federal and state agencies will be included in the implementation strategy being developed in July, 1999.

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Habitat and Land Use

1. ACTION: Inventory and prioritize habitat types and attributes needing protection and conservation. Identify habitats and environmentally sensitive lands that should not be altered.[1]

ENVIRONMENTAL SIGNIFICANCE: *Well over 50% of the important fish and wildlife habitat in the lower river basin has been lost as a result of human activities. What is left needs to be identified, characterized and protected if ecosystem functions are to be maintained and if healthy populations of native species are to be sustained. Completing an inventory of habitat types is the first step in a comprehensive effort to institutionalize the protection of important habitats in the lower river. It will result in a greatly improved knowledge base and provide a method to assess habitat health.*

PRIORITY ISSUE(S) ADDRESSED: *Habitat Loss and Modification, Institutional Constraints.*

HOW:

- Research and assess habitat types important to sensitive, threatened, and endangered species, and other populations at risk, and identify factors which limit their proper functioning. Habitat types may include: tidal wetlands, riparian habitats, habitat corridors, and deep water and nearshore environments.
- Develop appropriate criteria and prioritize habitat types to be protected and restored.
- Map existing habitats and identify priority habitats.
- Identify possible protection and restoration projects and designate habitats that should not be altered.
- Reach agreement on appropriate protection and restoration techniques and guidelines.
- Identify indicator species closely associated with particular habitat types, and monitor these species to evaluate the health and proper functioning of their habitats.

ENVIRONMENTAL MEASUREMENT: By 2005, specific habitats and environmentally sensitive lands have been protected.

ACTION MEASUREMENT: By 2001, existing habitat is mapped and a process and schedule is in place to prioritize habitats for protection, restoration and conservation. By 2003, indicator species are identified, a criteria for prioritizing and protecting habitat is in place, and a monitoring plan is in place.

WHERE: Study area.

WHO: The Estuary Program coordinates with appropriate federal, state, and local governments and entities, and private landowners. Build on work completed by the Oregon Biodiversity Project and other existing inventories.

[1] Actions number 1-6 are somewhat cumulative. The assessment required in this action must be completed before components of subsequent actions can be implemented.

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WHERE: Primarily in the study area but up river as necessary.

WHO: The Estuary Program coordinates with appropriate federal, state, and local governments and entities, and private landowners.
The Estuary Program Role:

PRELIMINARY COST ESTIMATES: Non Estuary Program staffing costs need to be determined. After assessment, staff would develop a plan for acquisition and maintenance of biological reserves, and incentives for private landowners to protect wetland and riparian areas.
Other Costs: Wetland restoration $50.00 to $95,000 per acre; wetland rental $63.00 to $121.00 per acre per year; pasture and grazing land purchase $75.00 to $4,000 per acre.

FUNDING SOURCE: Funding sources for non Estuary Program staff need to be determined.

REGULATIONS REQUIRED: Rules and legislation may be needed to ensure appropriate habitat protection and enhancement and to modify rules, laws, and ordinances to encourage environmentally sensitive development.

ENVIRONMENTAL AGENCY ACTIVITIES:

AGENCY	EXISTING ACTIVITIES	PROPOSED ACTIVITIES
Oregon Department of Environmental Quality (DEQ)		
US Environmental Protection Agency (EPA)		
Washington Department of Ecology (Ecology)	Provides grants and technical assistance to implement the Salmon Recovery Act, the Steelhead Recovery Pilot Program, and the Watershed Management Act.	

EPA information is being compiled for the final plan. Tribes and additional federal and state agencies will be included in the implementation strategy being developed in July, 1999.

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2. ACTION: Protect, conserve and enhance identified habitats, particularly wetlands, on the mainstem of the lower Columbia River.

ENVIRONMENTAL SIGNIFICANCE: *The limited amount of habitat left on the mainstem of the Columbia River must be protected and enhanced to halt further deterioration and to maintain the possibility of preserving the ecosystem. Protection and restoration will begin by institutionalizing habitat protection and providing incentives and tools for landowners and government bodies to act. Currently there are 64,200 acres of protected wetland habitat in the study area. The Oregon Wetlands Plan[2] has identified an additional 10,000 acres of wetland habitat that should be protected.*

PRIORITY ISSUE(S) ADDRESSED: *Habitat Loss and Modification, Institutional Constraints, Public Awareness and Stewardship.*

HOW:

- Acquire and manage important wetland habitats and environmentally sensitive lands using the information developed in the habitat assessment in perpetuity.
- Establish and maintain additional biological preserves in perpetuity.
- Where designated lands are already publicly owned, implement management practices that will ensure these lands are allowed to function naturally.
- Eliminate provisions in existing local, state or federal rules that inhibit habitat restoration or enhancement by private landowners.
- Provide incentives (start up grants, tax breaks, etc.) and technical assistance to encourage local landowners, businesses, corporations and trustee agencies to improve and protect wetland and riparian areas. Include incentives for using best management practices (BMPs) to demonstrate appropriate techniques.
- Reclaim habitat by selectively using tools such as seasonally managing or breaching dikes, augmenting inadequate stream flows, decompacting wetland soil, lowering surface elevations of mainstream reservoirs, modifying dam operations, re-establishing sustained peak flows, installing fish-friendly tide gates, not disposing of dredge sediment in streams, restoring riparian floodplain connections, and removing or modifying structures that prevent natural flows.
- Support research on techniques for cost effective re-vegetation of areas such as dredge spoil islands.

ENVIRONMENTAL MEASUREMENT: By 2010, 10,000 additional acres of habitat are permanently enhanced, protected or reclaimed.

ACTION MEASUREMENT: By 2005, a strategy with appropriate standards to protect and acquire habitats is established; incentives, including the US Department of Agriculture Conservation Reserve and Enhancement Program, is in place; by 2005, provisions of rules, laws and ordinances that discourage environmentally sensitive development or allow loss of habitat have been identified; by 2008, rules, laws and ordinances have been modified to encourage environmentally sensitive development and to protect habitat.

[2]The recommendation for 10,000 acres is contained in "Oregon Wetlands Plan", prepared by the Oregon Department of Fish and Wildlife and the Oregon Wetland Joint Venture, which included parties in the states of Oregon and Washington.

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riparian, and aquatic standards, and agree on the consistent applications of standards, including mitigation standards where impacts are unavoidable.
Other costs: Unit costs of protection standards: Fencing $1.00 to $4.00 per foot; tree planting $100.00 to $500.00 per acre; riparian area lease/rental rates $63.00 to $121.00 per acre per year; pasture and grazing land purchase $75.00 to $4,000 per acre.

FUNDING SOURCE: Estuary Program staff and projects will come from base funds and a $50,000 EPA Grant (received in 1998-1999). Funding sources for non Estuary Program staff need to be determined.

REGULATIONS REQUIRED: This action would require legislation to establish standards.

ENVIRONMENTAL AGENCY ACTIVITIES:

AGENCY	EXISTING ACTIVITIES	PROPOSED ACTIVITIES
Oregon Department of Environmental Quality (DEQ)		Wetland Water Quality Standards may be revised in the next triennial standards review
US Environmental Protection Agency (EPA)		
Washington Department of Ecology (Ecology)		

EPA information is being compiled for the final plan. Tribes and additional federal and state agencies will be included in the implementation strategy being developed in July, 1999.

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3. ACTION: Adopt and implement consistent wetland, riparian, and aquatic habitat protection standards that result in an increase in quality and quantity of habitat.

ENVIRONMENTAL SIGNIFICANCE: *Currently the application of wetland, riparian, and aquatic protection standards tends to vary between jurisdictions. If the ecosystem is to be effectively protected and enhanced, consistent standards throughout the study area are needed to ensure that balanced decisions can be made and to prevent future losses. Consistent standards will ensure that the habitat protection process is institutionalized throughout the study area, and that protection and mitigation efforts are maintained into the future.*

PRIORITY ISSUE(S) ADDRESSED: *Habitat Loss and Modification, Institutional Constraints.*

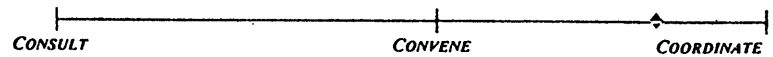
HOW:
- Assess current habitat protection standards and implementation.
- Adopt habitat protection protocols, including standards for monitoring mitigation projects.
  - ✓ Assess the potential impacts of proposed development. Identify cumulative impacts and habitat attributes that might be lost. Present alternatives that minimize impacts.
  - ✓ The preferred alternative will have no adverse impacts.
  - ✓ If impacts are unavoidable, mitigation shall take one of five forms in order of preference:
    - a) Restoration: returning a damaged habitat as close as possible to its condition prior to damage;
    - b) Enhancement: making changes or improvements to habitat to replace functions or values lost or damaged;
    - c) Preservation: protecting habitat in adjacent areas that is equivalent to the area damaged and that might otherwise be subject to unregulated activity;
    - d) Creation: converting a non-functioning habitat area into one having all of the physical and biological characteristics of the area lost or damaged;
    - e) Cash mitigation: providing cash compensation for lost habitat.

ENVIRONMENTAL MEASUREMENT: Development activity does not adversely affect or disturb existing habitat, or impacts are fully mitigated.

ACTION MEASUREMENT: All jurisdictions in the study area adopt consistent protection standards by 2007.

WHERE: Study area.

WHO: The Estuary Program works with federal and state natural resource agencies to develop the standards, implement adoption procedures and coordinate technical assistance.
The Estuary Program Role:



PRELIMINARY COST ESTIMATES: Estuary Program costs: FY1998: $25,000 to assess current standards and their implementation; Year 1 Implementation (1999): $25,000 to complete assessment and make recommendations and 0.05 FTE ($4,000) for oversight; Year 2: 0.05 FTE ($4,000) to coordinate the development of consistent standards. Non Estuary Program staffing costs need to be determined. Staff would review and facilitate agency adoption of wetland.

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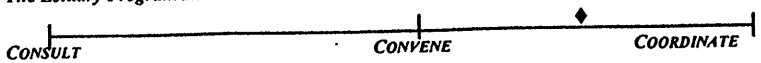
The Estuary Program Role:



PRELIMINARY COST ESTIMATES: Estuary Program costs: 0.25 FTE ($20,000) annually for coordination. Non Estuary Program staffing costs need to be determined. Staff would identify areas for protection and restoration, and develop preservation and restoration techniques. Other Costs: Unit costs for riparian protection/restoration: Fencing $1.00 to $4.00 per foot; tree planting $100.00 to $500.00 per acre; dike removal $2.50 to $3.50 per foot; riparian area lease/rental rates $63.00 to $121.00 per acre per year; pasture and grazing land purchase $75.00 to $4,000 per acre.

FUNDING SOURCE: Estuary Program base funds will support Estuary Program staff. Funding sources for non Estuary Program staff need to be determined.

REGULATIONS REQUIRED: Regulations may be needed to ensure adequate and appropriate buffer areas are maintained and restored.

ENVIRONMENTAL AGENCY ACTIVITIES:

AGENCY	EXISTING ACTIVITIES	PROPOSED ACTIVITIES
Oregon Department of Environmental Quality (DEQ)	Developing TMDLs for temperature that will include recommendations for shading.	
US Environmental Protection Agency (EPA)		
Washington Department of Ecology (Ecology)		

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EPA information is being compiled for the final plan. Tribes and additional federal and state agencies will be included in the implementation strategy being developed in July, 1999.

4. **ACTION:** Preserve and/or restore buffer areas in appropriate locations along tributaries and the mainstem to a condition that is adequate to maintain a healthy, functioning riparian zone for the lower river and estuary.

ENVIRONMENTAL SIGNIFICANCE: *Healthy riparian buffer zones are important for many reasons. They protect the spawning and rearing habitat critical to recover and sustain salmonids and other native threatened and endangered species of fish and wildlife. They reduce sediment intrusion and excessive runoff from human activities, such as development, construction, forestry, ranching, agriculture, farming and road building practices. Healthy riparian buffers also provide shade to maintain stream temperature, habitat and food sources for fish and wildlife, woody debris for streams and pollution attenuation. Additionally, they store water during high flows. To maintain these functions, it is critically important to identify key habitat for protection, and provide incentives and guidance to landowners and government bodies.*

PRIORITY ISSUE(S) ADDRESSED: *Habitat Loss and Modification, Institutional Constraints, Public Awareness and Stewardship.*

HOW:

- Using the information developed during the habitat assessment (Action #1), identify possible buffer areas for protection and restoration. Characteristics such as slope, ground cover and soil type should be addressed.
- Identify urban and rural techniques for restoration and preservation. Develop new techniques, such as 'daylighting' urban streams (opening up streams that have been submerged in conduits); exploring dike removal and alternatives to dewatering wetlands; and discouraging the use of riprap.
- Acquire and manage key riparian areas and open space preserves for permanent protection.
- Where designated lands identified in the habitat assessment are already publicly owned, implement management practices that ensure those lands function naturally.
- Provide incentives such as start up grants, tax breaks, density bonuses and fewer inspections, and technical assistance to encourage local landowners, businesses, corporations, and trustee agencies to undertake riparian area improvements and protection measures.
- Establish a vegetation protection program that includes planting and fencing. Provide acquisition, operations and maintenance monies for planting or re-planting native species along tributaries. Encourage volunteer efforts.

ENVIRONMENTAL MEASUREMENT: Streams meet water quality standards. Indices and measurements are established by 2002 to evaluate habitat and riparian corridors.

ACTION MEASUREMENT: Specific areas and miles for buffer restoration have been identified by 2005 and a plan for preservation and restoration is in place.

WHERE: Study area.

WHO: The Estuary Program coordinates with the appropriate federal, state, and local governments and agencies, watershed councils, and private landowners.

REGULATIONS REQUIRED: None.

ENVIRONMENTAL AGENCY ACTIVITIES:

AGENCY	EXISTING ACTIVITIES	PROPOSED ACTIVITIES
Oregon Department of Environmental Quality (DEQ)		
US Environmental Protection Agency (EPA)		
Washington Department of Ecology (Ecology)		

EPA information is being compiled for the final plan. Tribes and additional federal and state agencies will be included in the implementation strategy being developed in July, 1999.

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5. ACTION: Restore 3000 acres of tidal wetlands along the lower 46 river miles to return tidal wetlands to 50% of the 1948 level.

ENVIRONMENTAL SIGNIFICANCE: *Tidal wetlands are one of the most critical habitats of the estuary, providing nursery and feeding grounds for numerous species including threatened and endangered ones (steelhead, chinook salmon, bald eagles, etc.). Much of this key habitat has been lost through the actions of humans. Restoring lost tidal wetlands is a key to the health of the ecosystem of the lower river. Restoring 3000 acres will ensure that significant progress is made toward returning the lower river, specifically the estuary itself, to a more natural condition. Restoring this critical habitat will be top priority in our habitat protection efforts.*

PRIORITY ISSUE(S) ADDRESSED: *Habitat Loss and Modification, Institutional Constraints, Public Awareness and Stewardship.*

HOW:

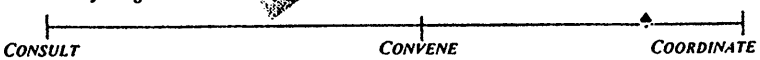
- Using the information developed during the habitat assessment, identify specific tidal wetlands areas that could be restored.
- Acquire, where possible, identified wetland areas and manage them to restore their natural functioning.
- Work with land owners and local diking districts to undertake tidal wetland improvement projects on private lands. These efforts could include removing tide gates or replacing tide gates with ones that allow greater water exchange, and breaching dikes.

ENVIRONMENTAL MEASUREMENT: 1500 acres are restored by 2010; 3000 are restored by 2020.

ACTION MEASUREMENT:

WHERE: The lower 46 miles of the study area.

WHO: The Estuary Program coordinates with federal, state, and local governments and agencies, and private landowners.
The Estuary Program Role:



PRELIMINARY COST ESTIMATES: Estuary Program costs: 0.25 FTE (Biologist) ($20,000) annually for oversight. Staffing costs for other agencies need to be determined. Staff would identify potential locations for tidal wetland restoration.
Other Costs: Unit costs for tidal wetland restoration: Dike removal $2.50 to $3.50 per foot; culvert replacement $80,000 to $243,000 "project cost" to re-establish fish passage; pasture and grazing land purchase $75.00 to $4,000 per acre; tidal fresh water wetland restoration $43,000 to $78,000 per acre; salt marsh restoration $18,000 to $49,000 per acre.

FUNDING SOURCE: Estuary Program base funds will support Estuary Program staff. Funding sources for non Estuary Program staff need to be determined. Potential Source: National Coastal Wetland Conservation grants for Restoration and Acquisition in partner with US Fish and Wildlife Service.

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REGULATIONS REQUIRED: None.

ENVIRONMENTAL AGENCY ACTIVITIES:

AGENCY	EXISTING ACTIVITIES	PROPOSED ACTIVITIES
Oregon Department of Environmental Quality (DEQ)		
US Environmental Protection Agency (EPA)		
Washington Department of Ecology (Ecology)		

EPA information is being compiled for the final plan. Tribes and additional federal and state agencies will be included in the implementation strategy being developed in July, 1999.

DRAFT

5. ACTION: Restore 3000 acres of tidal wetlands along the lower 46 river miles to return tidal wetlands to 50% of the 1948 level.

ENVIRONMENTAL SIGNIFICANCE: *Tidal wetlands are one of the most critical habitats of the estuary, providing nursery and feeding grounds for numerous species including threatened and endangered ones (steelhead, chinook salmon, bald eagles, etc.). Much of this key habitat has been lost through the actions of humans. Restoring lost tidal wetlands is a key to the health of the ecosystem of the lower river. Restoring 3000 acres will ensure that significant progress is made toward returning the lower river, specifically the estuary itself, to a more natural condition. Restoring this critical habitat will be top priority in our habitat protection efforts.*

PRIORITY ISSUE(S) ADDRESSED: *Habitat Loss and Modification, Institutional Constraints, Public Awareness and Stewardship.*

HOW:

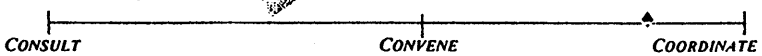
- Using the information developed during the habitat assessment, identify specific tidal wetlands areas that could be restored.
- Acquire, where possible, identified wetland areas and manage them to restore their natural functioning.
- Work with land owners and local diking districts to undertake tidal wetland improvement projects on private lands. These efforts could include removing tide gates or replacing tide gates with ones that allow greater water exchange, and breaching dikes.

ENVIRONMENTAL MEASUREMENT: 1500 acres are restored by 2010; 3000 are restored by 2020.

ACTION MEASUREMENT:

WHERE: The lower 46 miles of the study area.

WHO: The Estuary Program coordinates with federal, state, and local governments and agencies, and private landowners.
The Estuary Program Role:



PRELIMINARY COST ESTIMATES: Estuary Program costs: 0.25 FTE (Biologist) ($20,000) annually for oversight. Staffing costs for other agencies need to be determined. Staff would identify potential locations for tidal wetland restoration.
Other Costs: Unit costs for tidal wetland restoration: Dike removal $2.50 to $3.50 per foot; culvert replacement $80,000 to $243,000 "project cost" to re-establish fish passage; pasture and grazing land purchase $75.00 to $4,000 per acre; tidal fresh water wetland restoration $43,000 to $78,000 per acre; salt marsh restoration $18,000 to $49,000 per acre.

FUNDING SOURCE: Estuary Program base funds will support Estuary Program staff. Funding sources for non Estuary Program staff need to be determined. Potential Source: National Coastal Wetland Conservation grants for Restoration and Acquisition in partner with US Fish and Wildlife Service.

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ENVIRONMENTAL AGENCY ACTIVITIES:

AGENCY	EXISTING ACTIVITIES	PROPOSED ACTIVITIES
Oregon Department of Environmental Quality (DEQ)		
US Environmental Protection Agency (EPA)		
Washington Department of Ecology (Ecology)		

EPA information is being compiled for the final plan. Tribes and additional federal and state agencies will be included in the implementation strategy being developed in July, 1999.

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6. ACTION: Monitor the effectiveness of habitat protection, restoration and mitigation projects.

ENVIRONMENTAL SIGNIFICANCE: *Currently there is no consistent oversight of habitat protection, restoration and mitigation projects. These projects must be maintained and evaluated if they are to be successful over the long run.*

PRIORITY ISSUE(S) ADDRESSED: *Habitat Loss and Modification, Institutional Constraints.*

HOW:

- Establish a team responsible for ensuring that habitat projects are monitored for effectiveness and adequately maintained for long-term viability.
- Develop criteria (including indicator species and best assessment tools) for evaluating the effectiveness of habitat protection, restoration and mitigation projects.
- Where mitigation has been required, establish a team to work with regulatory agencies to ensure that any failed projects are corrected. At a minimum require developers using mitigation to provide financial security for a prescribed period of time to ensure successful operation and long-term maintenance of their mitigation.
- Link habitat monitoring to the Estuary Program long-term monitoring plan.

ENVIRONMENTAL MEASUREMENT: By the year 2007, mitigation for developments is required and habitat protection and restoration goals are fully met.

ACTION MEASUREMENT: After the mitigation program is in place, the team will be established in 2001.

WHERE: Study area.

WHO: The Estuary Program convenes a group of qualified individuals who could monitor habitat projects to ensure their proper functioning over time.
The Estuary Program Role:

PRELIMINARY COST ESTIMATES: Estuary Program costs: 0.25 FTE (Biologist) ($20,000) annually for oversight.

FUNDING SOURCE: Estuary Program base funds.

REGULATIONS REQUIRED: None.

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ENVIRONMENTAL AGENCY ACTIVITIES:

AGENCY	EXISTING ACTIVITIES	PROPOSED ACTIVITIES
Oregon Department of Environmental Quality (DEQ)		
US Environmental Protection Agency (EPA)		
Washington Department Of Ecology (Ecology)		

EPA information is being compiled for the final plan. Tribes and additional federal and state agencies will be included in the implementation strategy being developed in July, 1999.

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12. ACTION: Ensure that human-caused changes in the river morphology and sediment distribution within the river channel and estuary are managed so that native and desired species are not harmed.

ENVIRONMENTAL SIGNIFICANCE: *Human caused changes in the river morphology and sediment distribution within the river channel and estuary can harm populations of native and desired species. River morphology includes its physical structure, banks, channel, and channel bottom. Identifying these changes, monitoring impacts, and advocating for the interests of the species will help ensure that changes will not harm the species.*

PRIORITY ISSUE(S) ADDRESSED: *Habitat Loss and Modification, Institutional Constraints.*

HOW:

- Identify proposed and current activities that will cause significant changes in Columbia River morphology and sediment distribution within the river channel and estuary.
- Coordinate with other agencies and governments to ensure compliance with existing goals, rules, and regulations.
- In conjunction with the long-term monitoring plan, monitor the impacts of changes in the river's morphology and sediment distribution on native and desired species.

ENVIRONMENTAL MEASUREMENT: Native and desired species associated with the Columbia River and estuary are not harmed by changes to river morphology and sediment distribution.

ACTION MEASUREMENT:

WHERE: Study area.

WHO: The Estuary Program, state, federal, and local agencies, and industry.
The Estuary Program Role:

PRELIMINARY COST ESTIMATES: Estuary Program costs: 0.25 FTE ($20,000) annually to coordinate.

FUNDING SOURCE: Estuary Program base funds.

REGULATIONS REQUIRED: None.

DRAFT

PRELIMINARY COST ESTIMATES: Estuary Program costs: 0.10 FTE ($8,000) annually for assistance; $700,000 for one time Internet service.

FUNDING SOURCE: Funding for the Internet service would be sought from a corporation or foundation grant. Estuary Program base funds for staff support.

REGULATIONS REQUIRED: None.

ENVIRONMENTAL AGENCY ACTIVITIES:

AGENCY	EXISTING ACTIVITIES	PROPOSED ACTIVITIES
Oregon Department of Environmental Quality (DEQ)		
US Environmental Protection Agency (EPA)		
Washington Department of Ecology (Ecology)		

EPA information is being compiled for the final plan. Tribes and additional federal and state agencies will be included in the implementation strategy being developed in July, 1999.

DRAFT

21. ACTION: Improve coordination among government agencies.

ENVIRONMENTAL SIGNIFICANCE: *Currently, over 160 parties have some jurisdiction or interest in management of the lower Columbia River, which creates significant challenges to effective management. One of the difficulties in managing a complex system like the Columbia River is the lack of information about which agencies are involved in a given issue. Identifying agencies and contact points within agencies provides interested entities with valuable information that can reduce confusion and loss of time. Improving intergovernmental coordination and responsiveness will facilitate the dissemination of information to interested parties in a timely manner, ultimately improving resource protection of the lower river and estuary.*

PRIORITY ISSUE(S) ADDRESSED: *Institutional Constraints, Public Awareness and Stewardship.*

HOW:

- Federal, state, local, and tribal leaders will direct coordination, collaboration, and a unified approach to species recovery and natural resource protection of the lower river and estuary.
- Convene agency leaders and/or technical staff teams regularly to focus on the lower river and estuary.
- Provide mechanisms for information flow and exchange among agencies and to the public.
- Develop and maintain a catalog of permit-issuing agencies to enable project proponents and other interested parties to contact agencies with permit-reviewing responsibility. Develop a list of other permits (federal, state, regional, or local) required for the activity in question. Make the list available at the local permitting agency. Create and maintain a system that identifies a point of contact in agencies involved in natural resource management.
- Develop and maintain processes that encourage and rely on local jurisdictions as the first contact for any developments that are planned. Assure that information about other agencies of interest is provided in written and electronic form to developers and interested parties.
- Develop a clearinghouse for information about the river and the federal, state and local regulatory review processes.
- Provide Internet hardware and software in every municipality for local government officials in the study area. Maintain a website that links data about the river, provides updates on laws, rules, etc., and provides technical assistance and information.

ENVIRONMENTAL MEASUREMENT:

ACTION MEASUREMENT: The initial forum was convened January 1999. Create and maintain a catalog of agencies and contact points for use by developers, agencies and interest groups by 2002. The clearinghouse will be in place by 2002. Internet access will be provided by 2002.

WHERE: Study area.

WHO: The Estuary Program.
The Estuary Program Role:

DRAFT

PRELIMINARY COST ESTIMATES: Estuary Program costs: Year 1 and 2: $200,000 for the study; Year 3: 0.05 FTE ($4,000) to support the development of standards.

FUNDING SOURCE: Estuary Program Base funds and grant monies will be used for the fish consumption survey. Continued efforts and funds from the federal government will be used to address standards.

REGULATIONS REQUIRED: This action would require state rules or legislation if standards are to be adopted.

ENVIRONMENTAL AGENCY ACTIVITIES:

AGENCY	EXISTING ACTIVITIES	PROPOSED ACTIVITIES
Oregon Department of Environmental Quality (DEQ)	Maintains an ambient water quality monitoring network with 1 site on the Columbia, 37 sites in the Willamette Basin, and 1 site each on the Sandy, Clatskanie, Klaskanine, Youngs, and Lewis & Clark rivers. Sites are monitored six times or 12 twelve times per year and analyzed annually for trends and water quality standard exeedances. Nutrients, Bacteria and other conventional pollutants are monitored. Ten random sites per year will be monitored in lower Columbia ESU for fish, macroinvertebrates, water quality, and habitat as part of the Oregon Plan long-term monitoring. Special studies involving toxics, mixing zone studies, and TMDL assessments are conducted. Current work includes mercury assessments on the Willamette, a Willamette harbor toxics study, TMDLs are scheduled for the lower Columbia and tributaries.	(see #23 regarding standards development)
US Environmental Protection Agency (EPA)		
Washington Department of Ecology (Ecology)	Developing freshwater sediment standards.	

EPA information is being compiled for the final plan. Tribes and additional federal and state agencies will be included in the implementation strategy being developed in July, 1999.

Conventional and Toxic Pollutants

29. ACTION: Monitor and evaluate potential effects of pollutants on human health and wildlife.

ENVIRONMENTAL SIGNIFICANCE: *At present, it is often difficult to relate measured levels of contaminants in sediments to environmental impacts and health effects. The lack of agreement on protocols at both the national and regional level hinders the effective collection, interpretation and sharing of data. Likewise for fish and wildlife, there are still many compounds for which the toxic effects are unknown. More research is needed to understand these complex relationships. Monitoring and evaluating potential effects of pollutants will help provide a better understanding of the impacts.*

PRIORITY ISSUE(S) ADDRESSED: *Toxic Contaminants, Public Awareness and Stewardship, Institutional Constraints.*

HOW:

- Conduct a comprehensive survey of fish and shellfish consumption for the lower Columbia and Willamette rivers, Multnomah Channel and Columbia Slough. Health risk evaluations should be based on the results of this survey, and should focus on both cancer and non-cancer endpoints, including the endocrine, immune, and reproductive systems and developmental processes. Ensure that the public, specifically those groups or individuals facing the highest risk, is informed of the findings and understands the potential risks.
- Actively promote fish consumption safety programs.
- Continue regional and national scientific efforts to develop, test and implement protocols for evaluating and monitoring sediment, water and tissue samples.
- Develop and adopt reference levels or standards for trace metals, PAHs, dioxins, furans, pesticides, radionuclides, and tributyltin in sediments, fish and wildlife.
- Implement the long-term monitoring plan to help develop the data needed to evaluate program effectiveness.
- Continue scientific studies into the effects on aquatic life of toxic contaminants in sediments to ensure that all toxic contaminants of concern are addressed. Use the results to develop standards specific to regional or local areas.

ENVIRONMENTAL MEASUREMENT: Human and wildlife health is not impaired by pollutants.

ACTION MEASUREMENT: By the year 2020, standards for concentrations of toxic contaminants in sediments and fish tissue are developed and adopted. Agreements between monitoring agencies are in place.

WHERE: Study area.

WHO: Scientific community, health agencies, and federal and state environmental agencies. The Estuary Program provides funding for the fish consumption survey and coordinates its implementation.

The Estuary Program Role:

CONSULT — *CONVENE* — *COORDINATE*

C·R·C·F·A

COLUMBIA RIVER
CRAB FISHERMAN'S ASSOC.

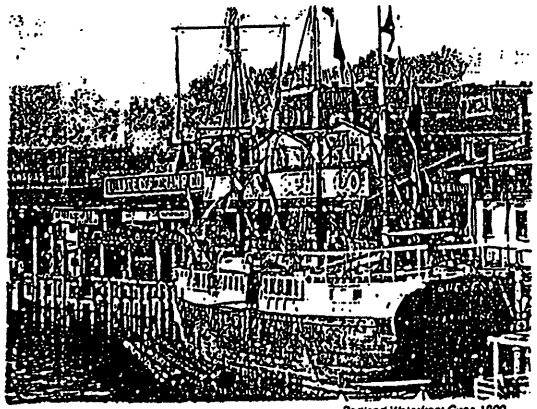
RESPONSE

TO

US Army Corps
of Engineers®
Portland District

Draft
Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement

Columbia & Lower Willamette River Federal Navigation Channel



Portland Waterfront Circa 1900
Photo Courtesy of Port of Portland

October 1998

2/5/99

Steve Stevens,

CRCFA questions the inclusion of Ocean Disposal in the Draft Integrated Feasibility Report for Channel Improvements & Environmental Impact Statement: Columbia & Lower Willamette River Federal Navigation Channel since Ocean Disposal was not mentioned in the Public Notices nor addressed as an EIS in the Report.

CRCFA requests a specific listing of all changes (additions or deletions) made to the Draft Report other than the addition of Public & Agency comments.

Thank you,
Dale Beasley, CRCFA

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U S Army Corps of Engineers
Portland District
CENWP-PE-E Attn: Steve Stevens
Colonel Slusar
P.O. Box 2946
Portland, Oregon 97208

5 February 1999

Colonel Slusar:

RE: Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement Columbia & Lower Willamette River Federal Navigation Channel - October, 1998

This review is prepared by CRCFA on behalf of:
Columbia River Crab Fisherman's Association (CRCFA)
Pacific Coast Federation of Fishermen's Associations (PCFFA)
Institute for Fisheries Resources (IFR)
Coast Alliance

The Columbia River Crab Fisherman's Association represents fishermen from Washington, Oregon, California, and Canada related to dredge disposal at the MCR. Many of these fishermen are displaced salmon fishermen. We represent the last small boat, commercial fishery capable of supporting coastal communities. The very lives and livelihoods of our fishermen are directly affected by Corps and EPA actions. **One of the greatest long-term threats to viability of our Nations' fisheries is the decline in the quantity and quality of our marine habitat.**

CRCFA would like to safeguard the entire Columbia River, but the job is so monumental we will restrict our comments to ocean disposal.

The Columbia River is the single largest influence outside of man on the entire Northeast Pacific. It sends more freshwater and nutrients into the ocean than all other streams and rivers from Cape Flattery to San Francisco combined. As such, we should all strive to be watchful environmental steward's of this magnificent river. Incremental degradation has caused the salmon's dramatic decline, which should serve as a warning for continued degradation of our environment. Today the fish and fishermen are facing extinction together. We must not destroy what we treasure most.

CRCFA has been part of the Corps' workgroup looking at options for ocean disposal for two years. Information needed to make informed decisions related to ocean dumping is inadequate to move ahead with the extensive North/South disposal sites at the MCR. This last year of the site selection process was one of diminished opportunity to openly discuss site options and information requirements. Ongoing meetings were denied and North/South site selection was done by the Corps and EPA without presentation, consideration, or review by the workgroup.

Corps of Engineers Response

Your comments on the draft EIS have been thoroughly reviewed. As a result of the numerous comments received on the proposed sites, the North and South sites have been eliminated. The final EIS and Appendix H, *Columbia River Ocean Dredged Material Disposal Sites*, have been revised to address the changes agreed to by the Ocean Disposal Working Group. We have agreed to convene a task force to provide input for site management and monitoring. We appreciate all of the time and effort that you have put into aiding the Ocean Disposal Working Group to come up with the currently proposed sites. The Corps, EPA, and the Ocean Disposal Working Group agreed that the current deep water site and management of Expanded Site E would minimize the impacts to crabs and the crab fishery to the extent practicable.

The Corps' current proposal to cap 75 square miles of productive crab habitat is a breach of obligation to stewardship of our environment, it allows unacceptable adverse impacts, resulting in irreparable harm to coastal communities; destruction of **unique and irreplaceable fishing grounds;** increased risk of marine casualty as many small vessels are forced to more distant grounds in mid-winter, and an undermining local economies. The laws, if followed, are in place to prevent wholesale alteration of our marine ecosystems.

Common sense dictates minimization of affected areas and avoidance of fishing areas. Yet, if heeded, it is the solution to resolve the problem of designating ocean disposal sites:

1) spend the resources necessary to adequately and precisely identify and quantify the impacts of dredge material disposal on crabs or
2) simply avoid fishing areas

As a 50 year plan, the DEIS on ocean disposal is INADEQUATE and does not address the following needs and concerns:

- Baseline data on Dungeness crab and other marine resources
- Identification of rearing, nursery, or spawning grounds for crab
- Thresholds need to be set by the state resource managing agencies
- Monitoring pre, during, and post disposal (short & long-term) of physical & biological impacts
- Mitigation (dredging & disposal)
- Unique marine habitats require a 2nm Buffer Zone
- Food-web dynamics and functional relationship requirements and response to changes in species composition
- Compliance analysis of federal, state, and local laws – consideration of upcoming changes
- Thin-layer – at sea analysis at the MCR
- RFA (Regulatory Flexibility Analysis)-economic data on effects to coastal communities
- Navigation safety
- Beneficial uses need full consideration and cost analysis (cost and savings) monitory, environmental, physical
- Sediment fate analysis – scientific determination
- Risk assessment of marine casualty (ships, tug & barge, commercial & recreational fishing vessels)
- Future regional growth demands need to be considered
- Comprehensive studies not completed
- Workgroup analysis was not given full disclosure, nor adequate data
- Research not completed
- Alternatives including realistic cost estimates must be determined to allow for informed appropriations decisions. The risks associated with wholesale habitat alteration needs to be considered.
- Astoria as a topping-off port consideration
- Agency and public concerns must be incorporated into the body of the EIS and not summarily dismissed at the end as in the recent DMMP

- Sediment grain size analysis - introduction of 2 to 3 times larger grain size into the nearshore marine ecosystem
- Aesthetic values
- Wave analysis associated with site E and Peacock Spit incomplete
- Site E & North Jetty site capacities must be considered
- Catastrophic natural / or man-made disaster emergency needs
- Hanford's leaching of radioactive materials
- Bioaccumulation of known existing contaminants and inadequate testing of undisturbed sediments that will be displaced in the deepening process
- Caspian tern situation and its impact on salmon needs thorough review
- Exotic species and development of a plan to address not only the species that have been introduced, but criteria set to control ship's ballast water must be initiated

The final EIS document should fully comply with EO 11514 and focus on real environmental issues and alternatives. **Insufficient information is available to make informed decisions regarding ocean disposal over 75 square miles of productive marine habitat.** The experimental shift from pinpoint to broad-based disposal is unproven. Unproven methods should not risk our nation's marine resources. The precedent that this will set for the rest of the nation is of grave concern.

NEPA regulations state that procedures are designed to ensure that high-quality, verifiable and complete information on environmental consequences relative to significant issues is available to public officials and private citizens before decisions are made , and before issuing the final EIS on selection of disposal sites. It is incumbent upon the corps and EPA to gather the necessary verifiable information to make informed decisions before issuing the final EIS on site selection.

The '98 DEIS does address navigational safety (mounding & wave intensification), but specific navigational safeguards in the DEIS need attention. The shallow water dumping, especially in site E (and not exclusive to site E) must have guarantees that depths of deposition will not interfere with navigation in the area of direct deposition or beyond. Acceptable limits must be established and regular bathymetric monitoring to prevent navigational hazards like at sites A & B. The monitoring associated with sites A & B was inadequate and must be changed. Monitoring must be established based on quantities of material disposal. Monitoring such as occurred at site E in the summer of 1998 was not adequate to prevent a mound that exceeded the 10% limit. However, it is recognized that the actions taken after the mound was detected helped prevent additional mounding. Hoping for dispersal in-between dredge seasons will not prevent mounding.

Section 2.3.5.2. Safe **wave analysis** is inadequate in that it does not extend beyond the edge of the main shipping channel and only concerns itself with large ship traffic. Wave data and bar closure must extend to other shipping interest. **Risk assessment** of tug and barge, especially petroleum barges can not continue to be overlooked. A petroleum barge grounded on Peacock Spit would be total disaster to the natural resources at MCR. Over the last few years near miss accidents have been a near annual event. Even this winter a tug and petroleum barge were detached off our coast. Dredge disposal sites A,B,& E have increased wave intensification in areas of historic small vessel navigation routes, cause increased risk of marine casualty, and excessive loss of fishing time to the crab fishing fleet. The level of risk for safe navigation has been increased

dramatically by disposal mounds. Safe wave condition defined as waves less than 10 feet should be associated to mounded conditions with sites A,B, E & Peacock Spit which is dramatically affected by Corps induced wave intensification of up to 1.7 times over 1985 levels. Five known lives have been lost associated with these mounds: F/V Sally Jane sunk; two dead, New Janet Ann sunk; three dead, plus many near death misses. The increased death potential must be recognized and corrected.

The **dedesignation of site B** must first deal with the wave intensification problem. The responsibility and liability will not go away until the height of the mound is lowered to a point that wave intensification is no longer a serious problem, that may cause marine casualties, oil spill, or increased erosion on Benson Beach. These mounds increase vessel traffic in the main ship channel reducing overall safety.

Section 4.5.1.3. to prevent **interference with crab fishing operations** is inadequate. The proposed North disposal site interference is magnified by **new state law** which restricts all crab fishing to inside 4 miles off the Washington coast after July 1 of each year until the end of the season, September 15. Are fishermen expected to pick up their gear and go home? If the Corps is persistent in using the North site, **compensatory mitigation** is a must. Sterilization of the fishing grounds will adversely affect the fisherman's incomes throughout the year.

Section 4.5.1.3. and ***Section 6.8.1.*** under **Socio-Economic Impacts** are inadequate in its description of monitoring procedures and navigational safeguards to prevent mounding. Past methodology at sites A,B, & F, including the experience at expanded site E in the summer of 1998 have not prevented mounding. Current and future disposal sites need serious attention and alteration of past procedures to insure navigational safety outside the main shipping channel. Use of quantities dumped, not time, must become the standard for review.

In the '98 DEIS on ocean disposal, the Corps has swung the pendulum from one extreme position (excessive mounding) to the complete other extreme (excessive marine habitat alteration and sterilization of commercial crab grounds). Seventy-five square miles of adverse habitat alteration is totally unacceptable and must be modified. Limited ocean disposal of upriver sediments may become an acceptable practice to accommodate upriver economic benefits if those benefits are not at the expense of excessive environmental losses at MCR. **The crab grounds at MCR are unique and irreplaceable.** Crab fishing occurs in mid-winter in an area of the world known as "Graveyard of the Pacific." Loss of these fishing grounds through sterilization by ocean disposal will dramatically increase the RISK of marine casualty. These crab grounds are so valuable as to be measured in increased mortality to the fishermen. This is not safeguarding the health of the ocean mariner. See ZCFF **(Zone of Crab Fishing Feasibility)** map enclosed. A full 75% of the crabbers income comes from the ZCFF. Not only are the north-south sites biological integrity a prime concern, site E raises concerns for impaired ecosystem dysfunction resulting from over-deposition at and beyond the site. This site and others may seriously impact crab migration routes into and out of the river. Disposal timing at these sites may become important and needs investigation as to the bisection of ecological integrity.

Section 4.4.3.2. states, " the average annual maintenance dredging of years 21-50 of the project can not be forecast with any degree of certainty." This is a valid exposure that emphasizes the need not to attempt to project excessive time periods into the future. Present shipping demands

for deeper channels will undoubtedly continue to escalate, placing more demands on ocean dumping.

The EIS on ocean disposal is unfortunately confusing and inadequate in its presentation of "valid" information to support experimental broad-based ocean disposal of dredged sediments over an area of 75 square miles of productive crab habitat. This **excessive habitat alteration is highly controversial.**
Section 4.4.3.8. of the sponsor's preferred disposal alternatives, bullet #3 states, " enhance feasibility by avoiding controversial sites." Sponsors are willing to incur some additional project cost to satisfy the above local guidelines. This draft is inadequate in not exploring fully this avenue to reduce controversy in the ocean disposal site selection. This action to reduce competing uses will greatly enhance the probability for success of the over all project. The Corps and EPA could have reasonably anticipated extreme controversy by selecting sites that effect 75 square miles of productive marine habitat especially with the resulting actions pursued to protect the 1997 expansion at site B. Alternatives to this controversy will be explored later.

CRCFA and agencies have requested **field investigations of thin-layer disposal practices** in areas off the Columbia River. Expanded site F could have been used for testing as early as mid-1997. Studies were promised and never produced ('97 EA). Adverse impacts are not just limited to direct crab mortality, but must include impacts to the ecosystem that supports a healthy and economically viable crab resource. Without this critical information this project has no basis for moving ahead. The Corps' definition of thin-layer must be redefined. The present definition of 12" causes high mortality to most marine ecosystems. Thin-layer, must find a depth the marine environment can deal with, probably measured in a very few millimeters.

The potential marine habitat loss is too great a loss for this nation to assume. Thirty years ago when ocean salmon fishermen were being severely curtailed the West Coast Troller's Association requested the managing agencies to look at ***preserving salmon habitat as the critical key to fish survival.*** In the past, dam construction and forest practices were allowed to progress unabated since mitigation appeared easy. Abusive hatchery practices allowed continued environmental degradation, eventually causing the extinction of the ocean salmon troll fleet in the state of Washington. Elimination of 75 square miles of productive crab fishing grounds is a large cumulative step that will contribute to the extinction of the crab habitat. Essential Fish (Crab) Habitat must be preserved. Today our nation, and especially the northwest states of Washington and Oregon are spending 400 millions dollars annually for salmon restoration. This nation can not afford to continually ignore important environmental lessons of the past. **Burial of 75 square miles of productive marine habitat is unconscionable.** CRCFA will continue to aggressively protect the marine environment and pursue all avenues available to minimize adverse impacts to the crab fishery.

CRCFA challenges the 1998 draft decision by the Corps / EPA to vastly expand two ocean disposal sites for dredge spoils Sites North & South off the MCR in areas where Dungeness crab and Dungeness crab fishing abound. The Corps made this decision **without acquiring adequate data** and even attempting to determine how their plan to dump dredged sediment in these areas will affect Dungeness crab populations, and without fully considering all reasonable alternatives to these disposal sites.

Section 4.5.1.2. is woefully inadequate in its statement on ocean disposal, **"impacts are not expected to be significant."** This statement must be scientifically supported or removed from the document. Deposition of 230,000,000 cy of sediments in rearing, spawning, and nursery areas of Dungeness crab is a highly substantial negative invasion of this productive marine environment. This invasion can not be dismissed with cursory subjective judgements of the Corps without reasonable substantiation of fact. Many commentors, as far back as the 1983 EIS on ocean dumping have stated that information on Dungeness crab is inadequate and that field investigations are necessary to make relevant conclusions (see attached letters in appendix for more recent requests). Statements of this nature must be removed from the draft EIS. *Section 4.5.1.2.and Section 6.6.1.3.* make similar statements, "Since they **[crab] are present over most of the coast, those from MCR are not critical to the overall coastal population,"** Non-critical analysis and blanket statements of this nature, which mean relatively nothing cause continual habitat destruction. This type of subjective judgement is totally inadequate and has no place in an EIS document, and must be removed. Statements of this nature are meant to mislead and do nothing but confuse the general public as to the true nature of the relevant facts, which are not presented.

Section 4.5.1.2. Corps analysis as to impacts on Dungeness crab is inadequate in its statement, " **None of these species will be impacted by the use of the proposed ocean sites."** This statement is untrue and must be removed from the draft. See Armstrong declaration from recent federal court case, Civil Case Number C98-0359D. Adverse impacts to species (not just Dungeness crab must be fully considered and quantified. **Life history needs and areas of use by crab especially breeding, spawning, rearing, and nursery areas must be addressed prior to any new ocean disposal.** Current crab information is limited to 6 ¼ " legal male crab, a very small section of the overall MCR crab population. Population dynamics associated with segregation of the sexes, YOY, and juveniles is largely unknown at MCR. Ecosystem requirements for sustained maintenance of the species including food, shelter, and reproductive requirements are unknown.
Section 5.2.4.7. indicates little is known about the interaction of **predator-prey relationships.** Example, the amphipod, Corophuim salmonis is a prey species that is nocturnal, migrating into the water column at night and burrowing back into the sediments during the day. What other daily habits of prey could effect most epibenthic populations? Without the facts, area of habitat alteration must be kept to a minimum to reduce adverse impacts to the marine ecosystem as a whole.

Section 4.5.1.3. and Section 6.8.1. associated with Corps avoidance of high income producing areas are inadequate. Table 4-9 is inadequate in its portrait of economic impacts to local crab fishing communities. The Corps has repeatedly ignored crab fisherman reports that ocean disposal of dredged sediments sterilizes the crab grounds for commercial purposes over extended periods of time. CRCFA has repeatedly expressed this concern for nearly 10 years.(Sheldon '92 letter) The Corps needs to seriously address commercial sterilization of crab grounds before massive destruction of fishing areas occurs. Refusal of the Corps to investigate through baseline studies on Dungeness crab population dynamics and follow up monitoring pre and post disposal is not acceptable. Loss of the crab grounds in the ZCF will increase the risk of mortality to the fishing fleet as a whole. In the conclusions the statement, " Ocean disposal, these impacts are not expected to be significant," must be removed from the EIS, for the reasons just sighted.

Based on the findings of a single 1978 laboratory study investigating the ability of adult hard-shell crabs to dig out of various depths of deposited sand, (Chang and Levings), the agencies proposed a mitigation measure in the '97 EA, which they claimed would "lessen and avoid if possible, negative impacts on fauna." Dredged material would be deposited at the new expanded sites by the "thin-layer disposal" method. According to the '97 EA, this method would release the dredged spoils over a large area and attempt to keep 90 percent of any mound thickness to 10 centimeters or less. Since the '97 EA on ocean disposal the Corps has realized that under current disposal methods, 10cm of deposition is impossible. **No ocean analysis of actual deposition depths has been accomplished.** This analysis has to include all the size dumping devices which are now available for ocean disposal and all size and configured dumps available over the life of the project, 50 years. Theoretical computer generated models indicate hopper dredge disposal of thirty or more centimeters from three thousand yard dumps. These models as well as this current draft EIS dated October 1998, does not account for modernization of dumping capacity over the next fifty years. The most modem hopper dredges in the world are now completed in the Netherlands with hopper capacity of 10,000 cubic yards. Barge capacity will not remain static, as demands on volumes increase, economic efficiency will drive disposal just as surely as a 43 foot channel will not suffice for the coming 50 years. Many ports around our nation and the Northwest currently have depths of 55 feet or more. To remain competitive the Columbia will continue to need deepening. This draft is inadequate in its analysis of disposal footprints over the life of the project and must be corrected. No ocean field verification of computer modeling is offered in this DEIS. Computer modeling is helpful but field tests are necessary.

Recently the Corps has attempted to study the effects of disposal on soft-shelled Dungeness crab. The study was to be done at Scripps Oceanographic Institute in Southern California. This study was to be designed and reviewed by selected members of the Corps' Ocean disposal work group, including a number of participating fishermen. This design phase became greatly abbreviated and half the design team was arbitrarily removed by the Corps. Design requirements were omitted. A draft design was to be written up and circulated to the group for review prior to commencement of the tests. Preliminary tests were to be conducted and reviewed for test modification prior to actual testing. This did not happen. Objectivity was lost. Scripps institute did not use soft-shelled crab at all, yet the conclusions were broadly applied to all crab. Crabs during a large portion of the dredging season are in the molt or soft-shelled condition.

The Corps must recognized the Scripps hard-shell study would not answer questions related to potential mortality of crabs in the molten and soft-shelled state therefore, commissioned Battelle Northwest to look as burial effects on soft-shelled crab. Battelle did a preliminary pilot study, which resulted in high rates of crab mortality. The Battelle preliminary study should have come back to the Original design group for review and modification for further design testing that would more closely replicate ocean conditions at the Mouth of the Columbia River. The test should have investigated a full range of conditions to alleviate as many uncertainties as possible. At this time that has not been accomplished. The preliminary test does however, find burial dead loss to dungeness crab about to enter the fishery as high as 80%. This draft EIS also failed to adequately acknowledge that crabs that were buried in at the time of deposition stayed buried and suffered near 100% mortality. Details of CRCFA suggestions that need consideration to the preliminary Battelle crab study are on page 11. CRCFA was not allowed to communicate these suggestions in the design phase of the soft-shelled crab study through selective omission by the Corps.

Section 6.6.1.3. The Corps' unsubstantiated conclusion that, "most crabs.....tested moved into the water column, consequently, the impacts to these organism is expected to be minimal." Must be removed from this EIS because the Corps fails to expose high rates of mortality in over 100 mm crabs that recently molted and buried crabs a common occurrence in the ocean had even higher mortality rates. High rates of mortality would not lend well for broad based disposal options. Selective omission seems to be a continual problem associated with study analysis. Further, in ***Section 6.8.1***. the Corps' statement "that most of the crabs can survive disposal up to 10 inches (the maximum depth expected during any single disposal event)", must also be removed for the reasons sighted above. This is strictly a subjective conclusion based on selective omission of fact to make a point needed to support broad based disposal. Additional information is also inadequate in this draft to support a 10" maximum dump depth. ***Section 6.2.3.4.*** is inadequate in its assessment of hopper dumps of over 3000 cy. The 6000 cy is discussed but no burial depths associated with these volumes. No Corps or EPA field studies have verified dump depths and no consideration was given to increased hopper capacities being used in the future (refer to increased hopper capacities elsewhere in this document). Conclusions without all the relevant facts being presented (table of Battelle study selectively omitted) are an attempt to defeat the NEPA process of informed decision making. As of this writing a final version of the preliminary Battelle study is available and does not change the prior comments of CRCFA.

CRCFA, numerous state agency officials, and others voiced strong opposition to the expansion of sites B. USFW, ODLCD, ODFW, PFMC, WDFW, WDOE, WFWC, ODCC, ODEQ. These comments reflect a broad consensus that the expanded sites would cover areas that are particularly productive for Dungeness crab, that very little scientific study of the effects of dredged material disposal on crabs had been done, and that until more was known, such a broad expansion of the disposal sites should not be implemented. This opposition of a broad area was for eight square miles of very productive ocean environment, not 75 square miles as presently proposed. Despite this opposition, and lack of information, the Corps and the EPA expanded the sites. On 4 December 1997 the Corps announced its intention to use expanded site B during the 1998 dredge season despite its statement in the '97 EA that biological monitoring would be conducted before any dredged material was deposited in the '97 expansion of site B. CRCFA again requested of the Corps, please reconsider its position related to dumping in expanded site B. We reminded the Corps that the crab fishing fleet relied heavily on this area for a large portion of its annual crab production. That the area was the most productive area at MCR. The Corps refusal to reconsider their position on burial of prime crab grounds prompted a successful legal action to enforce the public's interest and protection of the marine environment by Earth Justice on behalf of the fishermen whose livelihoods depends upon quality and quantity of productive crab habitat. As a result of that suit, site B is no longer an option for ocean disposal. With the introduction of this draft EIS on ocean disposal, lessons of the past should guide us into the future. Quantity and Quality of the marine habitat is extremely important to maintaining the last viable small vessel ocean fishery capable of sustaining healthy coastal communities. This has be the guiding principle in establishing any ocean disposal site.

Life Cycle and habitat of the Dungeness Crab (Armstrong, and LaRiviere)
The Dungeness crab is the most valuable commercial species in both the states of Oregon and Washington. Millions of dollars worth of crab are harvested near the MCR each year, contributing tens of millions of dollars to the local economy. Dungeness crab lives primarily on

sandy and silty bottoms from the intertidal zone to depths of more than 600 feet.

Sexual reproduction in Dungeness crab be 'ns in April or May, when the female crabs molt. The hard-shelled male crab fertilizes the molten female in the gelatinous stage in a very short 24 hour window. The male often remains to guard the female until her shell has hardened sufficiently to fend for herself The female can retain the males sperm for up to six months. The female crab broods the eggs on her abdomen for 60-90 days with peak egg release in late January or February (LaRiviere, WDFW, 1998) Crab eggs are bright orange in early December and turn brown with black spot after fertilization by the female some weeks before release.

Dungeness crabs begin life in the water column as larvae transported primarily by ocean currents. After approximately three months they reach about seven millimeters in size and settle out of the water column onto the ocean or estuary bottom. **Survival rates are significantly higher for those that settle out on bottoms that contain woody debris, shells, eelgrass, or other detritus that offers shelter from predators, rather than on clean sandy sterile bottoms.** It should be here noted that the DEIS contains information about increased volumes of debris and marine growth in the north dump site area and that the DEIS is inadequate in its acknowledgement of the value of the debris to juvenile crab increased survival.

Throughout its life, as a crab grows, it continually outgrows and sheds its shell, in a process called "molting." For the first 24-48 hours after molting, the crab is extremely vulnerable. Its gelatinous shell has no rigidity. At this time in the crabs life cycle it is extremely susceptible to mortality. During this time, the crab remains sedentary, does not eat, **and often burrows into the bottom to protect itself.** After this initial period, it begins to feed again, and over the course of the next several months, its shell gradually hardens. The gelatinous shell condition is a prime concern of CRCFA, and untested by the Corps & EPA. The crab's habit of burying-in at time of molt is of extreme importance for consideration in connection to broad base disposal.

After initially settling to the bottom, crabs attain maturity after approximately ten to eleven molts over the course of two to three years. Male crab mature sexually prior to entering the fishery. This is unique to Dungeness crab, in that this has helped prevent the species from over harvested by the fishing industry. Mature adult crabs usually only molt once a year, males from mid-summer to early autumn and females in late spring or early summer. Mating occurs during a short 24-hour window of opportunity immediately following the female's molt, while her shell is still extremely soft. The hard-shelled male generally guards the soft-shelled female that he has just fertilized.

Dungeness crab population dynamics are largely unknown in the Pacific Ocean around the MCR. Information gathered from fishermen, by the Corps related to crab was restricted to legal male crab over 6 1/4inches in length during the crab season. Areas of juvenile and female populations are largely unknown at this time. Juvenile crab are known to congregate in huge numbers for protection. Ocean disposal on these pods of small crab could be devastating to the resource. In addition to the fine organic sediment that supports a rich food supply for the Dungeness crab, the bottom needs to be littered with larger debris, which offers shelter and protection to juvenile crabs.

Crab abundance, particularly of soft-shell crabs, increases markedly nearshore in and around expanded site E in late summer. In August and September in expanded site E and surrounding waters fishermen report catching 30 to 40 crabs per pot, mostly soft-shells, after leaving their pots

in for just a few hours.

Effects of dumping dredge spoils on crabs and crab habitat (Armstrong)
Dr. David Armstrong, an expert in the physiology and ecology of the Dungeness crab, has enumerated the many adverse effects that dredged material disposal in areas where crabs live is likely to have on this species. These adverse effects include:

1) **Mortality through direct burial:** Deposited sand can be too deep for a crab to escape and accordingly can smother and kill the crab. Although one frequently cited laboratory study (Chang and Levings, 1978) found that adult hard-shell crabs could escape from 10 centimeters or less of sediment, those results may not hold true even for adult hard-shell crabs in the wild. Moreover, Chang and Levings did not study molting, soft-shell, or juvenile crabs, which would be significantly more vulnerable to suffocation even from thinner layers of sediment. These tests did not examine other unacceptable adverse impacts to crab; effects of disposal on food web dynamics, habitat, life-cycle needs and behavior.

2) **Impaired respiration:** Sediment deposited on top of a crab or suspended near the bottom will settle into the gill chamber and may clog respiratory surfaces. Juvenile and soft-shell crabs would be especially vulnerable to such impacts because of the juveniles' higher metabolism rates and the soft-shells' extremely fragile gills and gill-rakers.

3) **Burial of food and protective habitat:** Deposition of sediment could kill or render inaccessible the benthic organisms and other high food web that form the main part of the crabs' diet and bury surface debris that provides important shelter from predators, especially for juvenile crabs.

4) **Impaired reproductive activity:** Male and female crabs have a 24-hour window of opportunity for mating each year immediately following the female's molt and rely on chemical cues to pair off during this time. Disposal could directly perturb the chemosensory location and behavioral communication between the sexes and thus impair reproduction. Over much of the year the sexes are found at distinct areas in the ocean, often separated. Large fragmented, sterile areas could interrupt successful mating.

The Corps and EPA have relied on studies with significant limitations. Siting results of Chang and Levings (1978) which did not accurately replicate conditions in the field, Durkin and Lipovsky 1977) no findings at all on impacts of dredging on crabs, Scripps (1998) which was to study molting crab, but did not, and Battelle (1998) which considered their test results preliminary, **must account for the limitations and treat conclusions as preliminary and tentative only.** According to Dr Armstrong, dredge material disposal is likely to have numerous adverse effects on crab. The impacts are not considered or explained in the DEIS in connection with designation of ocean disposal sites off the MCR. In addition to impacts, consideration of the portion of the local crab populations affected were not considered. . No studies have yet been done on molting crabs which are very likely to be suffocated by even thinner deposition of sediment. Furthermore, even to the extent that deposited sediment is thin enough to allow crabs to escape, they are likely to suffer indirect effects from gill-clogging, burial of food supply and protective habitat and impairment of mating. In sum, disposal of dredged material in areas of

Dungeness crab habitat "is likely to have numerous adverse effects on this species." Additional stress on the species will occur from over crowding surrounding habitat which is most assuredly fully utilized.

The findings of Chang and Levings notwithstanding, deposition of just 10 centimeters of sediment may, in fact, be directly lethal even for adult hard-shell crabs in the wild.

Many of Dr. Armstrong's remarks related to the Chang and Levings study and Dungeness crab habit can be applied to the Corps's current crab burial studies. Battelle's own preliminary report, Quote... "These tests should be considered preliminary for a variety of reasons:

- The sample size is relatively small
- The test tanks were relatively small
- Opaque tank walls and turbidity created by sand prohibited direct observation of crab behavior during dumps
- Type of sand, white, dry quartz sand was likely to have affected test results (hour glass type sand was used)
- Sand remained relatively fluid after a test dump and could easily be penetrated
- All crab that remained buried under accumulated sand were found dea

The preliminary Battelle soft-shelled study and Scripps hard-shell study can not be used to support unrestrained ocean disposal for the following reasons:

- The prime concern was not studied; gelatinous soft-shelled crab
- It is the nature of crab to bury in at the time of molt
- All crab, except one, buried in the bottom sediment at the time of disposal and died
- Larval stage crab just settling to the bottom was not considered
- Small juveniles tend to hide under debris & was not studied
- Temperatures should replicate sea bottom temperature at the sites
- No ocean field testing has been done to determine the % of crabs buried in at any one time
- Effects to egg bearing females were not tested
- Time and conditions was not allowed for crab to bury in all tests
- Many crab were tested while extremely agitated
- Effects of ocean bottom pressures were not considered
- Characteristics of the sand used was not representative of MCR sediments
- The clumping nature of the MCR sand was not studied
- Wet sand should be tested
- The mineralogy of the sand was not studied, magnetic sands have higher specific gravity and would be expected to increase rates of deposition
- Grain size and shape was different and would affect accumulation rates
- Actual bottom sediments are more compact than test tank sediments (harder for buried crab to dig out)
- Mortality effects of accumulative dumps needs additional analysis
- Effects of bright lights in Scripps study may affect agitation leading to increased survival
- Scripps crab study used hard-shelled crab & is not applicable to soft-shelled crab
- Selective omission of Battelle mortality tables defeats the NEPA informed decision making process
- The sites selected required an <u>acceptable levels of crab mortality</u> to move ahead

- No acceptable mortality thresholds for crab were ever established by agencies responsible for management of the crab, as done else where in the Northwest at Grays Harbor.

Observations related to crab at active ocean disposal areas find the sites are void of commercial concentrations of Dungeness crab, as reported repeatedly by numerous fishermen. Ocean disposal adversely alters productive crab habitat. That ocean disposal of dredge spoils alters the marine environment to the point of becoming a waste land. Recovery of this waste land for commercial purposes does not happen in 6 –12 months as the Corps purports in Hancock's, summary of benthic data (page9) "Recovery from disposal impacts for benthic invertebrates and Dungeness crabappears to begin after disposal and often exhibits higher densities within a year". His comments must be removed if not specifically cited (raw data source and page #).

In the winter of '97-'98 CRCFA again reaffirmed its assertion that recovery is much slower than the Corps would erroneously lead everyone to believe. CRAB gear was purposely fished over the top the ocean disposal site B, on top of Corps disposal activity in the summer of '97. Of the eight pots fished across the 6 – 8 months old spoils, 5 were lost to burial by soft bottom . Crab production out of the remaining pots was commercially non- existent. Lost pots, lost production, and lost time was the only result of that actual ocean test on current dredge spoils deposited in the ocean envirom-nent. Again in the winter of '98 – '99 CRCFA fished crab gear over the disposal area 19 months after the last spoils were deposited at the '92 expanded site B with the same result, No commercial quantities of crab (see Greenfield letter in Appendix). The area around site B is still highly productive and supports a large fishing effort. Over the years this is all fishermen have ever found.

At the recent public hearing held on 5 November 1998 in Astoria, Oregon, Jim Nichols, a fifty year crab fisherman out of the Columbia River gave the supreme example of excessive dumping in the open ocean. In 1956 the Corps dumped 14,000,000 cy of material on the crab grounds that Mr. Nichols traditionally fished. The resulting commercial crab production from that area was so poor it forced Mr. Nichols to move away and find another port to fish from for the next several years. The Corps' current EIS ocean disposal options is asking fishermen to quit fishing, abandon their homes and life time communities to which they contribute greatly. We as a nation, should question this option very seriously. Is this nation ready to abandon a large section of commercial crab grounds unnecessarily. Alternatives will be discussed later in this document.

STANDARD OF REVIEW

NEPA requires federal agencies to prepare an Environmental Impact Statement ("EIS") on any major federal action significantly affecting the quality of the human environment. An EIS is a "detailed statement" addressing "the environmental impact of the proposed action," any unavoidable adverse environmental effects, alternatives to the proposed action, consideration of short-term local uses and long-term productivity, and any irreversible and irretrievable commitments of resource.

The Ninth Circuit has repeatedly held that:
an EIS must be prepared if substantial questions are raised as to whether a project may cause significant degradation of some human environmental factor. To trigger this requirement individuals need not show that significant effects will in fact occur, raising substantial questions whether a project may have a significant effect is sufficient.

Moreover, it is "crucial" that the agency "'supply a convincing statement of reasons why potential effects are insignificant'" and its failure to do so renders a FONSI or EIS unreasonable.

Available evidence and comments by the relevant state and federal agencies, research scientist, and experienced crab fishermen indicate that dumping at North/South disposal sites of the MCR can be expected to have many significant adverse effects on Dungeness crab and the ecosystem. As detailed by Dr. Armstrong, dredged material disposal in areas where crabs live "is likely to have numerous adverse effects on this species," ranging from direct mortality through suffocation and impaired respiration to destruction of food supply and habitat. These concerns about the impact of disposal on Dungeness crab were expressed by every state and federal agency that commented on in the '97 expansion of site B and remain relevant. Moreover, the crabbers who have seen these impacts first hand, report that the area within the old '93 boundaries of site B, where the Corps has already dumped dredged material, is now "virtually void of crabs." As early as '92, CRCFA sent letters warning of sterilization of the fishing grounds by ocean disposal (Sheldon letter '92).

Even putting this evidence aside, one need not look beyond the Corps' own NEPA documentation to see that there are, at a minimum, "substantial questions" as to whether disposal of dredge spoils in North/South sites may cause significant degradation of the Dungeness crab resource. Yet the Corps has failed to acknowledge the existence of many of these potential effects and failed to supply a convincing statement of reasons as to why they are insignificant.

In the '83 EIS, the defendants frankly acknowledged that they had no idea what impact dredged material disposal would have on crabs. "the impacts of dumping on larval crabs are unknown". Fourteen years later, the '97 EA offered no additional evidence to warrant a change in that assessment. Indeed, the discussion of crab impacts in the '97 EA was largely cribbed from the '83 EIS. The only two studies cited in the '97 EA in connection with Dungeness crab were the exact same studies cited in the '83 EIS.. While the '83 EIS admitted that based on these studies the "effects of disposal on shellfish, particularly Dungeness crabs, are unclear, the '97 EA changed that sentence to read, "direct burial effects on shellfish, particularly Dungeness crabs, has been evaluated,".

In fact, neither study provides a basis for the Corps and EPA FONSI in '97. Durkin and Lipovsky ('77) drew no conclusions whatsoever about the effects of dredged material disposal on crabs. This study was based on field research at ocean sites off the mouth of the Columbia River and purported to examine changes occurring in finfish and shellfish communities as a result of dredged material disposal. Although the study found significantly more Dungeness crabs--including numerous juvenile crabs-at site B than at other sites south of the entrance channel, it's conclusions concerned finfish only. The other study cited, Chang and Levings ('78), found that adult hard-shell crabs could escape burial by up to 10 centimeters of sediments in the laboratory, but this study had numerous limitations that render its conclusions questionable, including the fact that it made no findings as to juvenile or soft-shell crabs. The Corps interpretation of more recent laboratory crab studies by Scripps Institute and Battelle Northwest would lead uninformed investigators to a subjective opinion that most crabs in the ocean survive burial. Most is a very subjective word and is not defined in the DEIS. The Scripps study was on hard shelled crab because the Corps did not do its homework and find a way to deliver crabs ready to molt to Scripps. The Battelle Northwest preliminary investigation found mortality rates as high as 80%. CRCFA would challenge the Corps' subjective opinion that most crabs survive and further request that further independent scientific review not directed, orchestrated, and filtered by the Corps be obtained before the future of the crab resource at MCR is put at risk.

Thus, the '98 DEIS on ocean disposal, the '97 EA, '93 EA, and the '83 EIS before it - cite no field studies investigating the effects of disposal on crabs, no studies of any kind investigating impacts on crab habitat and food supply via burial and/or changes in sediment texture, no studies on burial of woody debris and other detritus which supply protective cover, and no studies of any kind investigating effects on larval, or molt-stage soft-shell crab, egg-bearing female crabs, and interference with other reproductive functions. Indeed, the only thing that changed between the '83 EIS and the '98 DEIS was the amount of area that would be effected by the dumping.

In '83, it was the small size of the total crab fishing area affected by the disposal site designation (the corps estimated it was only 5 percent)[1] that provided the rationale for going forward with site designation despite the substantial and acknowledged scientific uncertainty about the effect that dumping would have on Dungeness crabs. Instead, it simply cribs the '83 EIS's discussion of crab impacts almost word for word, and glosses over the acknowledged uncertainty about the impact of dumping on crabs with the blithe and unsubstantiated assertion that "disposal at current rates have been occurring in the MCR offshore area for nearly 50 years and overall crab abundance at MCR remains high. This indicates that disposal impacts have not been significant." Without any historical or current population studies it is impossible to assert significance or insignificance of disposal impacts If the Corps is referring to commercial harvest rates of Dungeness crab in relation to historical information the Corps has not accounted for how this production has been maintained. The amount and size of vessels, gear, extreme weather, and area fished has greatly expanded over the years. In relation to the effort expended today the crab resource has shown extreme adverse effects, some most assuredly related to dredging operations.

As the above discussion shows, there can be no question that in '97, when the Corps and EPA proposed to expand site B to cover 8 square miles of prime Dungeness crab habitat despite objections from the crab fishermen and relevant state agencies, without a single study having been conducted on the effects of dumping on juvenile, larval or soft-shell crabs, "substantial questions" were raised as to whether that action would have significant environmental effects. In the face of these substantial questions, the Corps and the EPA failed to supply a convincing statement of reasons why the potential effects would be insignificant.

Then as now, there are certainly "substantial questions" with respect to thin-layer disposal. See Armstrong Discussion and letters from state agencies. The method is entirely experimental and untested with respect to Dungeness crab. The studies that forms the basis for the Corps' theory that crabs will not be harmed by disposal of thirty or more-centimeter layer of sand is questionable and has no basis in fact. The preliminary study done by Battelle Northwest may indicate that juvenile crab and sub-legal crab have different habits related to self-burial (needs further investigation) and that mortality rates of larger crabs are higher. This may also be related to the fact that the larger molt crabs are weaker as growth within the shell is expanded with increasing size. For better understanding this and other investigations need to be conducted, many questions about mortality by burial currently are left unanswered. The current studies by Scripps and Battelle fail to acknowledge the very important fact that **crabs that are buried in at the time of disposal remain buried and die.** This selective omission of fact consideration, must be corrected and acknowledged as extremely important. Field studies must be conducted to establish rates of burial associated with the marine environment. These and other defects in the analysis leave the conclusions that the corps has attempted to draw from the studies suspect and ineffective for relative ocean comparison. Peer review by the independent scientific community

also needs to be done to add credence to the studies.

As Dr. Armstrong details in his discussion, areas of study had many limitations and its conclusions are not reliable, even for adult hard-shell crabs let alone soft-shelled and molting crab. Furthermore, the Corps cited studies evaluating the ability of juvenile or soft-shell crabs to survive burial, even though their ability to dig out of a layer of sand is likely to be significantly less than that of adult hard-shell crabs rest solely on their subjective interpretation that most crabs in the water column survive burial. This subjective interpretation did not mention that crabs that were buried in prior to test dumping failed to survive. No field ocean investigations have been done to establish normal habits which include burial for substantial amounts of time. Nor did they cite studies evaluating adverse impacts to food supply or habitat. (Armstrong)

The Documents that were Prepared are Inadequate

The '98 ocean disposal EIS documents prepared in connection with the expansion decision fail to meet the full disclosure and informed decision making requirements of NEPA in at least the following ways:

1) fail to adequately discuss and disclose impacts of the proposed action on Dungeness crab,
2) fail to fully examine all viable alternatives;
3) fail to gather obtainable information,
4) fail to disclose how the site management plan would avoid fishing areas and preserve marine habitat,
5) fail to keep the size of the sites small as required by MRPSA,
6) fail to conduct a qualitative and quantitative assessment of potential effects on the marine environment and commercial fishing,
7) fail to consider that in the State of Washington after July I of each year it is illegal for fishermen to fish outside of 4 miles from shore and the current proposed north dump site is the only place they have to fish,
8) fail to provide full disclosure to the site selection workgroup
9) This document failed to recognize Pacific County Shoreline Master Program goals and provisions for meeting permit requirements,
10) compensation is not provided to mitigate adverse effects of ocean dumping (in fact this document does not indicate any adverse affects form ocean disposal at all),
11) The Ocean Dumping Act imposes an affirmative duty on the Corps & EPA to demonstrate that the statute's standards and criteria have been fully met. They may not simply wait for stakeholders and agencies to prove that their actions will cause adverse effects. Rather, the burden is on the government to determine what impacts will occur.

Environmental Laws

The twin aims of NEPA are to:

- Ensure that the agency, in reaching a decision, will have available and carefully consider detailed information concerning the significant environmental impacts of the proposed action,
- Guarantee that relevant information will be made available to a larger audience that may also play a role in both the decision making process and the implementation of the decision.

In order to accomplish these aims, the agency must provide a **"full and fair discussion of significant environmental impacts,"** which "shall be supported by evidence that the agency has made the necessary environmental analysis." "Accurate scientific analysis is essential to

implementing NEPA" 40 CFR 1500.1(b). Prior to release of the '98 DEIS the Corps never made it known that 50 year disposal options were necessary or that 230,000,000 million cubic yards of capacity would be needed for disposal. The largest requirements purported by the Corps at the workgroup meetings was 20 years and 100,000,000 million cubic yards. Had this expanded option been presented additional candidate sites would most assuredly been presented and looked at in an entirely different manner by the entire workgroup. Hopper sizes of over 3000cy were not discussed. Cost-benefit analysis of individual sites were not discussed. Site matrix analysis was not considered until the eleventh-hour and never in conjunction with candidate site-selection. Matrix analysis and the overlay process on completed overlays should have been analyzed in evaluating each individual candidate area before the area was given candidate status. Methods of accurately controlling burial depths were not analyzed. The soft-shelled study design was not openly discussed. Major stakeholders were removed from participating in design of the soft-shelled study by arbitrary & capricious action. Local economic losses were not studied. Final rule for site selection was never considered because more requirements would have to be met. No RFA has been considered in this process and final rule purposefully avoided. EO 12898 was summarily dismissed without adequate analysis or explanation. Large sites totaling 75 square miles were never contemplated by the site selection work group. Information requested was often not delivered. The Corps' library was never mentioned as a source of information. The repeated selective omission and unsubstantiated broad-brushed conclusions are in the opinion of CRCFA an ineffectual presentation of the facts, **and brings into question the entire EIS process.**

Thus, a NEPA analysis on the designation or expansion of an ocean disposal site must evaluate the ODA criteria. Additionally, conclusions must be explained and supported by reference to scientific studies or other relevant information. "A conclusory statement unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind not only fails to crystallize issues, but affords no basis for a comparison of the problems involved with the proposed project and the difficulties involved in the alternatives." Violation of NEPA occurred where FONSI, EA, and draft EIS failed to discuss any studies concerning potential effects of dumped sediment on marine ecosystem at ocean dump site. In recent field testing in the '90's only one sample of past disposal sites could be found out of the last 5 years testing.

The use of averages distorts the available information. This definitely must be addressed. A good example is the Corps sediment data in and around dump site B. The difference in sediment grain size (Corps data) between '92 and '96 shows that some coarse grain sediment placed in dump site B migrated to the SSW and covered and bisected finer grained sediments lowering biologic productivity in an area 6 to 8 times the size of the dump site.The Corps used the average of sediment size over the '92-'96 time frame in the '98 DEIS. Direction of transport, coverage area, and dissection of the sediments are distorted and not displayed. This is inconsistent with the NEPA process by keeping vital information from the public and agencies so that adequate responses are unable to be made, Other averages that need exposure and correction are the current information, sediment grain size and characterization including mineralogy. A large portion of the proposed dump sites has no grain size analysis readily apparent to the public, especially lacking in the overlays. Other information has been watered down including the wave amplification data presented in the draft. The 1.7 amplification has been removed and only 1.5 appears in the draft. This equates to a 12% reduction in wave height intensification information , a serious selective omission that compromises the integrity of the information presented and

understates the seriousness of the navigation hazard presented by disposal at dump-site B.

Additionally, CRCFA believes wave intensification analysis at site A should be re-evaluated as it appears to be considerably lower than actual field observation indicate. Sites A & B have claimed a number of lives and property and responsible actions must to taken to lessen their continued death potential. Further analysis in this area is warranted so that future sites will never present similar navigational hazards. Lessons learned in the past must be applied to expanded site E and surrounding areas, full responsibility for safe navigation must be guaranteed. Wave intensification patterns in the area south and west of buoy #3 appear greater than north and east of the buoy, further investigation may need attention in these areas also. Wave analysis over the extended area beyond expanded site E across Peacock Spit in areas out to 15 fathoms and 2 miles to the north have not been accomplished as agreed upon by the Corp. Without this baseline wave analysis (and on going analysis, at least on an annual basis, more frequently if conditions warrant), evaluation of expanded E as a viable disposal option is inadequate to guarantee continued safe navigation. Site E mounding could adversely impact historical navigation routes and cause additional crowding in the main shipping channel and further continue to reduce fishing time for the local crab fleet as site B continues to do. Wave intensification modeling displays wave amplification beyond the site in the direction of wave advancement. This model should be re-evaluated. In actual ocean conditions wave intensification begins in advance of the mound or shallow area. Wave break on top of sites A & B as well as in advance of the shallow hook area outside buoy #3. Modeling results do not show this.

Where there are no scientific studies, or those that exist are inadequate to support a conclusion about the nature or extent of potential environmental effects, agencies must disclose and address the existence of scientific uncertainty regarding the environmental effects of a proposed action. 40 CFR 1502.22. "When uncertainty exists, it must be exposed. "Conclusory statements which do not refer to scientific or objective data supporting them" are insufficient to satisfy NEPA. Here, the '98 DEIS, the '97 EA, '93 EA, as well as the '83 EIS to which it tiered, fails to discuss and disclose the significant impacts that dredged material disposal is likely to have on Dungeness crabs in expanded sites North and South of MCR, and specifically fails to acknowledge the considerable scientific uncertainty surrounding such impacts.

Based on what is known about the physiology and ecology of the Dungeness crab, dredged material disposal on areas where crab are living can be expected to have numerous adverse effects, including mortality through direct burial, impaired respiration, burial of food and protective habitat, and impaired reproductive activity. Additionally, most of these effects would be exacerbated for juvenile and soft-shell crabs. Despite the acknowledged importance of the Dungeness crab fishery in the vicinity of sites North and South of MCR, and the recognition that disposal of dredged material there "will have both direct and indirect effects on crabs," the corps failed to discuss any of these likely impacts, except direct burial. And that discussion was cursory at best. The only studies cited that actually examined any effects of dredged material disposal on crabs was Chang and Levings,, Scripps hard-shell and a preliminary pilot study by Battelle. The EIS made no acknowledgement of these studies substantial limitations. Since CRCFA was excluded from the design and interaction necessary the corps and EPA were unaware of CRCFA ocean disposal research finding 100% mortality of Dungeness crab within 1500 feet of the dredge spoils disposal activity near expanded site E. (See Section 6.3 discussion) It is certain that testing in the ocean will be more revealing of actual mortality rates than those

found in the laboratory. (Gray letter)

Concerns about the impact of dumping on Dungeness crabs were raised by every government agency that commented on the proposed expansion in '97. The Oregon Department of Fish and Wildlife objected that "no compelling evidence for the conclusion that thin-layer disposal will not result in biological impacts has been presented," and noted that "there remains a substantial degree of uncertainty as to the risk to crabs from disposal at expanded areas and the significance of that risk". The Oregon Department of Land Conservation and Development, in a strongly worded letter, initially withheld CZMA certification, expressing grave concerns about the impacts of thin-layer disposal on crabs:

> DLCD cannot conclude from the information provided by the CE to date that impacts to crabs, benthic habitat, and crab fishing operations resulting from disposal at site B will be minimal. . . . The EA does not explain whether the 10 cm. threshold applies to both adult crabs and soft-shell juveniles. The EA also does not evaluate the potential effects of substrate changes (i.e., sediment type and average grain size) on crabs and benthic communities. Without more specific evidence to the contrary, the state must conclude that disposal in the near-shore portion of site B has the potential to directly impact an economically important species and the habitat on which the species depends.

In a subsequent letter, the Department issued the CZMA certification, but for one year only. The certification was accompanied by the "strong recommendation" that the Corps avoid disposal at site B if at all possible.

This was not the first time the Corps and EPA had been criticized for inadequately evaluating the potential adverse impacts to crabs from disposal of dredged material in areas of prime Dungeness crab habitat off the mouth of the Columbia River. Comments submitted to the draft EIS in 1983 by the National Marine Fisheries Service ("NMFS") expressed concern about the potential adverse biological impacts of dumping at the proposed sites and stated the agency's belief that the EIS had failed to substantiate its conclusions that such impacts are nonexistent or minor:

> We question whether benthic populations will continue to replenish themselves at the sites on a regular basis, particularly at Sites A, B, and F. If material is deposited at these three sites on a regular basis (during the dredging season) and the material is not transported out of the areas, one could assume that recurring populations of benthic organisms would be smothered. Population losses, mounding effects, and sediment texture changes could combine to prevent recolonization at some point in time, at which time aquatic food chains in the area could be affected.

NMFS concluded that "the DEIS provides little basis for some of the conclusions put forth regarding the potential adverse environmental impacts of long-term dredged material disposal at the chosen sites." The U.S. Department of the Interior similarly warned: "The limited biological data available is not sufficient to support the conclusion that 20 years of dredging has caused only minor and reversible effects and did not even give a clear picture of what was happening at the time of the study."

Despite this chorus of voices raising concerns about the impacts of disposal on Dungeness crab, the '98 EIS failed to even acknowledge the scientific uncertainty surrounding this issue, asserting instead that no significant impact on crabs is "evident." This blatant failure to disclose and address the obvious risk and uncertainty surrounding the impact of dredged material disposal on crabs renders this current EIS patently inadequate. Moreover, this document failures to even

acknowledge the fact that the thin-layer disposal method is experimental and largely untested, especially in the ocean environment Here, the corps' failure to adequately disclose and address the potential environmental impacts of the proposed north – south sites and the scientific uncertainty regarding those impacts violates the purpose of ensuring informed government decision making, but also defeats the public participation process. (See CRCFA test results of Site E dumping where near 100% crab mortality occurred). Recent NMFS benthic and sediment studies of MCR ('92,'93,'94,'95,&'96) have a singular lack of samples at sites A,B,E,&F. Valuable opportunity for studying re-colonization over time is forever gone.

Further ***Section 6.6.1.3***. the statement, "The proposed ocean sites are located in areas that have generally lower densities and numbers of species of benthic infauna," is inadequate. See Hinton & Emmett '94. What factual data is the Corps using to draw this conclusion. Please include raw reference data, name of the study, and page number. According to NMFS study it appears that both the North & South sites have one of the highest numbers of infauna at MCR, refer to '92 NMFS study sample sites 10, 15, and 51. These large sampling were larval clams, potential future food source for crab and ocean disposal most assuredly would cause mortality to the larval.

Section 6.4.3. the Corps statement, "disposal in the proposed ocean sites is not expected to have a significant impact on the existing bottoms sediments." is inadequate and needs to be removed from the draft, (Hancock). Recognize as grain size increases dramatic decreases biologic productivity occur.

Section 5.2.4.7. The Corps needs to expose information at their disposal, "benthic invertebrate productivity is higher in areas of finer grained sediment than in coarse grained areas (McCabe, '96). The north site has grain sizes of 0.11mm the average upriver grain size that could be dumped in the North site has average grain sizes 200%-300% larger, see table in draft on grain sizes and recalculate according to averages weighted by volume. Also refer to Technical Report D-77-30. Insitu sediments at the North-South sites are more homogenous as opposed to barged in upriver sediments which have a much broader range of sizes. The individual grains in the beach sediments are rounded while those of upriver are more angular and irregular. Additionally, explanation and extent of the unique area known as the "Mudhole" must be expanded to include the area known to fishermen as the "Seaview Mudhole." This area comes in shallow in the area of North Head and may extends up to mid-Long Beach. See Corps overlay data of '77 sediment textures. This information is old and needs to be updated, but at least gives relevant information as to area that needs investigation. The "Seaview Mudhole" extends well into the Corps present proposed North disposal site option. This unique area needs to have at least a two mile buffer zone to protect it from predominant North current. This current flows to the south the majority of the year (300 days or more) which will deliver coarse grained sediment and reduce productivity of the fine grained sediment deposited by natural means at the edge of the tidal interface zone.

Estimates of how much sediment will be transported to the ocean may be unrealistic. It is proposed to close the current dump site at RM33.4 and use in lane disposal at this point. This means that additional upriver, large grained sediment will be taken out of beneficial use at the Skamokawa Vista Park and transported to the ocean, from how far up river this will happen is not clear in this document. This must be delineated to accurately determine over all volumes the may end up in the ocean. Current uses of sand at Skamokawa include a tourist attraction, filter bed sand for Astoria municipal water supply, fill material, and cement sand for many cement companies. The disposal site at RM33.4 should be reconsidered as a beneficial use site. Additional costs to down river communities are again assigned by removal of the shoreside site at

RM33.4.
Section 6.4.1. the Corps claims all sediments beaded for the ocean are clean sands, there is no need for testing, and will have no significant impact to the ocean is inadequate. Testing will be required. Analysis of sediments at site B indicate high concentrations of oils & grease. These carcinogens are known to cause high rates of mortality to YOY crabs, 1ppm kills half the YOY contacted. It can be assumed that dredge disposal concentrated these [lethal hydrocarbons. See Sea Grant circular. Oil and grease concentrations must be considered in any new ocean disposal site. There are contaminants in sediments in the river. Levels in themselves may not trigger newer, lowered standards but bioaccumulation has occurred in river species that may be consumed on a regular basis. No mention with concerns of radioactivity, even though the Columbia is known as the most radiated river in the world.
Section 5.1.7.3.says the lower Columbia River below Astoria Bridge regularly exceeds screening levels for metals, chlorinated hydrocarbons, volatile solids, pesticides, polychlorophenols and polynuclear aromatic hydrocarbons. Considering these accumulated irregularities some testing must be preformed to prevent bioaccumulation in the marine ecosystem. Without testing carcinogenic accumulations can occur undetected. Certainly a coverage area as large as 75 Square miles warrants at least a cursory testing.
Section 6.3 needs to be clarified in its assessment of water quality. "No significant....or suspended solids release is expected. CRCFA research in the vicinity of expanded site E, in the summer of '98, found off -site movement and accumulations of sediments in excess of 12" per day up to 1500' beyond the edge of the site boundary. Crab pots were buried to the point of losing them, further it should be noted that 100% mortality of crabs in the pots occurred in this 1500' area. This mortality of Dungeness crab from burial of dredge spoils substantially beyond the site boundaries is in need of assessment and must be addressed. -site migration of suspended solids may become an issue and needs further investigation.

The '98 DEIS is inadequate in its selective omission of mitigation for New disposal options near the MCR. ***Section 6.10 and Table 6-1*** , mitigation requirements are inadequate relative to ocean requirements. The NO mitigation required is based on the erroneous assumption, with no factual basis, that impacts to crab is insignificant. The effect of loss of use of 75 square miles of productive marine habitat for 50 years could cost the local economies up to $500,000,000 not adjusted for inflation, at the present value of $15.00 to $20.00 per crab to the local economy, assuming a 25% loss of productive fishing grounds. The displaced crab will reduce overall capacity of the surrounding habitat which is already utilized to capacity. This full utilization of capacity is evident on large resource years when the meat count never reaches normalcy, resulting in severe resource declines the following year. The current DEIS fails to disclose other adverse environmental impacts to the life cycle of Dungeness crab and is inadequate in this regard. . Those losses and others include: burial of established and mature food source, burial of debris which provides shelter from prey for YOY and small juvenile crab, added stress to surrounding habitat through displacement, potential effects to egg-bearing females, impaired sexual function, burial of spawning, rearing and nursery areas, decreased productivity through dramatic increase in sediment grain sizes, and overall stress placed on the species from disposal.
Section 6.11 admits adverse impacts to the marine resources but the assessment is inadequate, since nothing is quantified. The overall assessment and for mitigation must be based on the overall assessment of the proposed disposal of dredged material and of the alternatives to the proposed ocean disposal must be based on the effects on esthetic, recreational, and economic values, including enhancement of these values, when applicable. Whenever possible, results

should be expressed quantitatively, such as percentage of a resource lost, deduction in a use days of a recreational area, dollars lost in commercial fisheries profits, or profits of other commercial enterprises. A HEP team must be assembled to consider adequate necessities associated with any NEW ocean disposal sites. This HEP team must consider all cumulative effects, including, but not limited to, dredging entrainment losses. These losses must be exposed so that the public can adequately respond to the problem. It should also be explained why entrainment losses are so much greater at Grays Harbor than the Columbia on the same dredges.

Mitigation should extend to the erosion problem at Fort Canby State Park. ***Section 4.4.3.6.*** is inadequate in its presentation of beneficial use sites at Pacific Ocean beach sites, especially on the Washington shoreline. Local sponsors should not be need for beneficial beach nourishment. Severe erosion at Fort Canby is direct result of Corps historic activities and must be addressed for mitigation purposes:

- failure to maintain jetty lengths
- disruption of normal ocean circulation patterns adjacent to North Jetty
- increased wave intensification at dredge disposal sites B & E causing excessive erosion at the park
- failure to identify sand transportation analysis local to the park
- failure to examinee effects of artificial submarine canyon dredged to 55 feet
- failure to expose sediment supply reductions up river
- failure to expose dam construction sediment entrapment
- failure to expose pile jetty construction which entombed large sediment supplies in bays
- failure to expose dredging permits to depths of 80 feet near Portland
- failure to expose and other parameters which may exacerbate erosion at the park

There are viable ocean disposal alternatives

Informed and meaningful consideration of alternatives" is an "integral part" of the statutory scheme. Thus, an EIS must look at "every reasonable alternative in a fair and full manner. In the '98 DEIS, the Corps and the EPA considered some alternatives. Many alternatives were simply not considered or summarily dismissed by the '98 DEIS. These include:

1. Sites beyond the self-imposed "zone of siting feasibility"
2. Direct beach disposal - Benson Beach
3. Disposal of barged material to erosion hot spots on Washington/Oregon Coast
4. Use of sidecast technology (mm thick)
5. Relic beach sands deposits on the edge of the continental shelf (500-600')
6. Dredging and disposal by the "sidecasting" method, including sidecasting out of the hopper dredge and/or barge at remote sites
7. Punaise technology
8. Beneficial use in development of artificial sport fishing reef(s), Candidate site 8-rejected by capricious and arbitrary action, unsupported by scientific fact.
9. Astoria Canyon option needs thorough investigation
10. White or near white holes in the composite overlays need review.

Summary rejection of viable offshore sites, including Astoria Canyon and CRCFA's proposed site through invocation of an arbitrary and capricious has excluded reasonable alternatives that had met the requirements of the proposed action. Sand in the littoral drift maybe a desired result (and may be attainable) of disposal but is not a legal requirement like avoiding fishing areas.

Dr. Vladimir Shepsis, an expert in coastal engineering including dredged material disposal, demonstrates in his analysis that disposal at both Astoria Canyon and CRCFA's proposed site are viable alternatives that should be further evaluated by the Corps and EPA.

Section 5.1.1.1. calls the shale area, a unique area. This assertion is inadequate since, no definite identification of its existence or reliable boundaries are included in the '98 DEIS. The Corps' discussion or lack there of presents no characteristic or biota at the site and is void of any other relevant information. Further it should be noted that the majority of sediment transport in the area of site 8 is to the SSW, not north the direction of the "shale area". No reasonable attempt to find what natural resources commonly frequent the "shale area" were undertaken by the Corps. No biologic assessment, no boundary definition, no current study, no sediment transport study, no reasonable information at all, just arbitrary rejection of site 8. Site 8 is the only ocean site that has no known opposition from any user of the ocean. Additionally, it was suggested to the Corps that Candidate site 8 could be slightly enlarged and moved to the south to further insure no degradation of the "shale area". It should also be pointed out that the "shale area" referred to in this response to the '98 DEIS is not confused with the SHALE PILE that is SSW of Tillamook Head. Some confusion may already exist in the '98 DEIS document and process. The DEIS claims there is no bedrock outcrops north of Tillamook Head to be worried about concerning possible disposal options, something here in inadequate and needs addressing.

Direct Beach Nourishment Alternative

For years, the State of Washington has expressed concern to the Corps about severe erosion occurring on the beaches north of the Columbia River, and has urged the Corps to evaluate the possibility of disposing of materials dredged from the mouth of the Columbia River directly on those beaches to help counteract erosion. In 1998 the Corps deposited about 3.5 mcy of dredge spoils in site E, directly offshore of Fort Canby State Park. This massive quantity of sediment placed on the door step of Benson Beach has not abated that erosion. The area appears to be eroding at a faster rate than in the past few years. Near shore dumping is not solving the erosion problem and the primary dune is now gone. This has not been recognized or dealt with in the '98 DEIS. It should be further noted that transport of sediments deposited by current disposal methods remain where deposited with some shift offshore. For years CRCFA warned the Corps that sites A,F, &B were not dispersing as the Corps stated they would. Most ocean deposition by artificial means (dredges) tend to remain in the immediate vicinity of deposition. Old site E seems to be an exception to this rule. Site A (70') is a near shore site that mounded and did not contribute significantly to the littoral drift system. Past experience strongly indicates the majority of sediments will stay put. Further, the Corps' own coal study indicates strongly that the zone of interaction between the shore and the outer limits of potential for sediment to interact is 40 feet.

Through a study of grain size analysis and mineralogic composition of the Long Beach Peninsula including statistical analysis of sediment standard deviations including sediment transport as far north as Wash-a-way Beach and further analysis of areas of erosion and deposition offshore of the peninsula for 25 years it is this author's strong opinion that **the significant interactive zone** of

the littoral drift and the beach is 30 feet or less. This conclusion is further supported by preliminary data analysis of the USGS Bathymetric Exchange work done by Ann Gibbs of California. Sediment deposited greater than 50' in the nearshore will be hard-pressed to reach the shore in any meaningful time frame. Prolonged storm events with seas in excess of 30 feet are required to move any significant amount of sediment deeper than 40'. These types of events may occur 1 to 3 times per decade, and in general these prolonged severe storm events cause coastal erosion, not deposition, suggesting the lack of inshore movement.

In a '97 letter to the Washington Department of Ecology, the Washington Department of Fish and Wildlife expressed concern about the severe erosion occurring on beaches just north of the Columbia River and described in detail an alternative proposal for depositing dredged sand directly onto these beaches through a pipeline dredge in order to help alleviate the erosion problem. Direct beach disposal through a pipeline dredge is a viable alternative. Indeed, it is a method of disposal that the Corps has used in similar conditions at Grays Harbor, Washington. Moreover, it is apparently the policy of the Corps to seek out beneficial uses for dredged material in developing alternatives. The Corps never fully evaluated this alternative. Further, CRCFA suggested to the Corps that a pipeline and repump station could be placed above A-Jetty and end on Benson Beach. The pluses for this site are enormous and should be further considered. Current sediment starvation of the ocean beaches is directly related to Corps management of the Columbia River sediment budget. It is acknowledged within the Draft that 67% of all sediment entering the Pacific Ocean is transported beyond the littoral drift system. The Corps failed to mention the vast quantity of material it has allowed to be entombed in upland sites over the history of the river maintenance. Building dikes and jetties has channeled the sediment budget and filled in bays and back waters trapping more sediment and deteriorating historic estuarine environments. No mitigation has ever occurred to compensate and/or mitigate for these and other historic and continuing losses, including the loss of in excessive amounts of sediment from Peacock spit at the time of jetty construction. **Direct beach placement without a sponsor would be entirely reasonable to replace the sediment lost through past dredging practices**. This needs to be addressed in a significant and meaningful manner.

Near shore disposal of dredged material off the beach north of the Columbia River

Despite repeated requests by Washington agencies that material dredged from the Columbia River entrance channel be disposed of near shore so that it will remain in the littoral drift system and help to nourish the eroding beaches, the Corps and EPA have not considered how such a site would be highly dispersive, A very small area would suffice to dispose of large quantities of material, therefore minimizing biological impacts. . Disposal of dredged material within the proposed sites, just off the beach in 25 to 40 feet of water north of the north jetty may offers a viable alternative for disposing of dredged material while also providing beach nourishment. The Seattle Corps has dumped dredge spoils in shallow depths south of the South Jetty at Grays Harbor. I believe that some dumping has occurred as shallow as 25'. The 25' material disappeared over the winter, while material dumped at 40' depths did not disperse as well. This method needs further scientific investigation. Accretion rates onshore, as a result of near-shore spoils disposal must be quantified. Is the accretion rate high enough to justify any degradation of the marine environment. Thresholds must be established. Time frames should be associated with beach accretion rates that are deemed acceptable. If the accretion rates are measured in geologic time (not years), this must be considered. Removal of sand from the beaches by contractors using sand for fill (in excess of 100,000cy per year may well be more than the

accretion rate ever obtainable by placing sand in the littoral drift. Direct beach placement could give contractors an additional source of sand for local construction needs without jeopardizing coastal erosion. If all these speculations can be removed, then near-shore dumping can remain a viable alternative provided the area is restricted in size, depending on dispersion rates. Biologic and mounding criteria must be applied to any near shore sites. Overall habitat alteration has to be a paramount concern.

Disposal of additional material in original site E

The Corps and the EPA should consider disposal of dredged material in original site E as part of the capacity needed for ocean disposal over the next 50 years. A conservative estimate, original site E has a 1 mcy per year capacity. This is 22% of the capacity requirement for the duration of the '98 DEIS on ocean disposal and 50% of the capacity examined by the site selection work group. If 1.5 mcy per year can be dumped on a sustained basis in original site E, 33% of the capacity requirement of the '98 DEIS are met, thus questioning the site capacity requirements the Corps and EPA have set forth. Again, all information must be examined in order to make informed decisions.

Dredging and disposal by the "sidecasting" method

Sidecasting out of the hopper dredge at remote locations to control accumulation depths to a truly thin layer should be investigated as a biologically acceptable method. This method will need to redefine thin layer as something considerably less than 12".

Punaise dredging technology

The Punaise dredging technology is submerged dredging machinery placed on the bottom of the ocean and controlled from a remote station. This is being done in the Netherlands and was discussed at a site selection work group meeting. This alternative maybe viable for Benson Beach or even as far away as Wash-away beach near Tokeland, for barged materials Calculations should be done on the trench near Wash-a-way beach and consideration should be given to barged sediments being placed here. The holding capacity of the area maybe unlimited. The initial cost of acquiring Punaise could be offset by using it in conjunction with other erosion hotspots coast wide. This needs further consideration and evaluation.

Conclusion

Many viable alternatives exist to North/South sites at the MCR that have not been fairly and fully evaluated. Accurate cost estimations of each disposal option must be fully explored. Current costs associated with the proposed North/South sites are not fully exposed. Full and accurate baseline studies, pre, during, and post disposal monitoring, mitigation for adverse effects to the habitat and resource, thin layering verses dump & run, all this and more has to be figured into the cost per yard of the sites.

The Corps failed to gather obtainable information

NEPA

The purpose of NEPA is to "ensure that an agency has at its disposal all relevant information about environmental impacts of a project before the agency embarks on the project." Where information relevant to reasonably foreseeable significant adverse environmental effects is incomplete, a federal agency has a duty to obtain new information. An EIS is to be prepared for all actions that may significantly affect the environment so as to eliminate the need for

speculation by insuring that available data is gathered and fairly analyzed prior to the implementation of the proposed action.

Additionally, information must be collected and studies conducted early enough to allow the agencies to integrate consideration of environmental impacts into the decision making process at the earliest possible time. An assessment must be prepared early enough so that it can serve practically as an important contribution to the decision making process and will not be used to rationalize or justify decisions already made.

It certainly would be feasible for the Corps and the EPA to collect more accurate data on crab distribution in and around the mouth of the Columbia River, and, indeed, they have done so in other locations, including within the Columbia River estuary. (study of distribution and abundance of Dungeness crab in Columbia River estuary using trawl sampling); (letter from WDFW: "The use of scientific sampling as a tool to designate disposal sites is essential. We are appalled that the Portland Corps seems to feel that they can designate sites without any investigation of the productivity of the area proposed for disposal.... The Seattle Corps has for years used beam trawling to investigate sites proposed for proposal, and to monitor new sites where disposal is conducted." In the fall of '98 the Seattle Corps and the State of Washington entered into an agreement for mitigation based in part on field investigations of the crab resource. CRCFA detailed opportunities for biological data collection that the Corps recently passed up. Additional laboratory studies could also be finished at reasonable expense which would shed more light on the impacts of disposal on crabs, particularly in the YOY, juvenile, molten, and soft-shell stages.

Since at least 1983, the Corps and the EPA have been aware that further study and monitoring of the impacts of dredged material disposal on crabs was needed and yet, despite repeated requests for ocean site analysis by other agencies and repeated promises from the Corps and the EPA, to this day no further ocean analysis studies have been done. Nor has there been any attempt to monitor crab presence at the disposal sites to determine distribution or evaluate disposal impacts. In the lawsuit filed against the Corps and EPA in '98 they repeatedly refused to monitor for crab presence and or effects of burial, instead agreed not to dump after a specific date to minimize adverse impacts to soft-shelled crab in and around expanded dump site E. This provision of the federal court ordered agreement must become part the related to site E.

In '83, in comments submitted to the EIS, NMFS noted that further study of the long-term impacts of dumping was needed, and recommended that the final EIS include plans for a long-term monitoring program to assess potential adverse impacts to living marine resources at the disposal sites. In response, the Corps and EPA promised to develop and implement a monitoring program. However, in the section entitled "Guidelines for the Monitoring Plan," the final EIS simply stated that most parameters did not need monitoring because the effects of the dredging would be minimal. It vaguely stated that the Corps and EPA "may select appropriate species to monitor" but offered no further specifics. To date, no monitoring of the effects of dredged material disposal on ocean crabs has been conducted. Cumulative effects including entrainment of crab while dredging is not in this document.

Cumulative effects of the dredging operation on the marine environment have not been adequately considered. Entrainment, impacts on food-web dynamics, life-cycle needs, habitat

alteration, fragmentation of habitat, impacts on juvenile refuge areas, sexual dysfunction, and respiratory impacts, all of which will lower overall productivity of a valuable ecosystem Several government agencies commenting on the '97 EA urged the Corps and EPA to conduct further studies on crab impacts and monitor for crab distribution and abundance:

> We have requested in previous correspondence that the effects of thin-layer disposal be examined with objective scientific studies, these requests stand. We are particularly concerned about the potential impacts to Dungeness Crab especially in juvenile and molting stages that have a reduced ability to escape once buried by sediment.

In response to the suggestion of one commentor to the '97 EA that "a formal monitoring methodology examining biological effects of disposal in area B should be devised and implemented," the defendants were unwilling to commit to implementing any biological monitoring program. In the section discussing monitoring, the '97 EA provides only for bathymetric monitoring, not monitoring of biological effects. In another part of the document, however, it promises that "additional biological evaluation, which would include determining whether impacts to crab populations are measurable, will be initiated prior to disposal in expanded Site B." Despite this language, the Corps announced its intention to dispose of dredged material in the '97 expansion of site B during the '98 season without announcing any plans to initiate a biological monitoring program, once again prompting the relevant state agencies to voice objections.

In sum, the Corps and the EPA have been on notice since '83 that their data on the effects of disposal on crabs was deficient, and at least since '93 that mounding would make the designation of new disposal sites necessary.

ODA

The Ocean Dumping Act requires the Corps and the EPA to develop site management plans for all designated sites. Such plans must include a baseline assessment of conditions at the site, and a program for monitoring the site, In this instance, such a plan could provide a useful vehicle to collect the information necessary to prepare an adequate EIS that takes the requisite "hard look" at the impact of dumping dredged materials in/on crab habitat. The ninth Circuit has observed that "without establishing the baseline conditions which exist in the vicinity of the disposal site before ocean dumping begins, there is simply no way to determine what effect the proposed dumping ... will have on the environment and, consequently, no -way to comply."

However, not only has the government failed to meet its obligation under the ODA to develop such a plan with necessary crab information , it has violated public notice and comment provisions by this failure. Additionally, the Corps held many so called "Round Table" meetings where untold numbers of public comments were made. These comments are not included in the record for consideration of this draft EIS. What happened to all that body of information that has been solicited, but not adequately shared. It should be available for review and considered in this DEIS.

It should be noted that much information available was specifically withheld from CRCFA during the last two years which in turn has delayed and impeded the process:

- Contact with Battelle NW to discuss soft-shelled study
- Contact with OSU researchers to discuss current study
- Contact with Daniel Hancock to discuss benthic analysis
- Denied a video tape copy of the Battelle NW soft-shell study, which was noted in the meeting notes of 8/19/98 page 11.
- Request for quantified socio-economic data related to ocean disposal sites and it's effect on local communities and fishermen
- Request for a Regulatory Flexibility Analysis (RFA)
- Request for outside impartial council to review potential law conflicts during the work group process
- Request of oil spill risk analysis of potential sites (stemming from concerns with site B)
- Analysis of E.O. 12898 and its application to low income areas (Pacific County is the lowest median income county in the state of Washington)
- Request for additional biologic data collection (including baseline studies) on all commercial resources in and around proposed sites
- Request Tech guide manual for designation of ocean dredged material disposal sites
- Request a copy of the Green Book
- Request consideration of black box use to monitor all ocean disposal to track dumping of material
- Request of a feasibility study for dumping beyond the continental shelf
- Request of beneficial use analysis – Benson Beach
- Request of ocean field analysis of hopper dredge footprints
- Request for "at sea" broad-base ocean disposal analysis as early as July 1997
- Analysis of restoring the jetties to full length
- Site maps for sharing with Congressmen – told to use FOIA, yet did not respond
- Request of material and was never even informed that the Portland Corps had a library, whereby material could be checked out

For these reasons and others this EIS process is inadequate to meet NEPA requirements for full public disclosure and informed decision making.

Every government agency that commented on the '97 expansion decision raised concern about whether the site expansions would adversely affect Dungeness crab. These letters, in conjunction with Dr. Armstrong's declaration explaining and clarifying the scientific basis for this concern, amply demonstrate that there are, at a minimum, substantial questions as to whether the expansions of North/South sites may cause significant environmental degradation. Accordingly, the Corps and EPA are not insuring informed decision making and public disclosure. They have dismissed the issue of crab impacts as minimal. Crabs impacts are definitely unclear,"but the Corps and EPA refuse to acknowledge the considerable scientific risk and uncertainty surrounding crab impacts. The Corps' decision to Expand Sites North/South of MCR is clearly at odds with Federal, State, and Local laws.

The Ocean Dumping Act prohibits ocean dumping of any material except as authorized by permit, and designates the Secretary of the Army (in practice, the Corps) as the permitting entity for the dumping of dredged materials. Before issuing a permit, the Corps must insure that "the dumping will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine

environment, ecological systems, or economic potentialities."

In making this determination, the Corps must apply specific criteria established by the EPA. These criteria require the Corps to:

1. **Select sites particularly to avoid areas of existing fisheries or shell fisheries** 40 CFR 228.5(a)
2. Conduct a **qualitative and quantitative assessment** of potential effects on the marine environment and commercial fishing, 40 CFR 227.17(a) (2), 227.19, 227.21
3. **Limit the size of sites** in order to localize any immediate adverse impacts 40CFR 228.5 (
4. Dump only at disposal sites and under conditions that will insure **no unacceptable interference with fishing** 40 CFR 227.10(a)
5. **Locate dumping sites beyond the edge of the continental shelf wherever feasible** 40 CFR 228.5(e).

Before a permit can be issued, the EPA also must be given an opportunity to review the application and relevant information, and if the EPA declines to concur in the Corps' finding, the permit cannot be issued.

The ODA imposes an affirmative duty on the Corps and EPA to demonstrate that the statute's standards and criteria have been met. They may not simply sit back and wait for the stakeholders to prove that their actions will cause adverse effects. Rather, the burden is on the government to determine what impact the dumping will have. The ODA "by its terms contemplates" that projects like this, involving the dumping of millions of cubic yards of dredge spoils in the ocean, "be carefully analyzed." _In lieu of issuing a permit to itself, the Corps prepared a document entitled "Section 103 Evaluation" purporting to demonstrate compliance with the ODA criteria. Based on this document, the EPA concurred in the Corps' finding that the ODA criteria were met. On its face, this document demonstrates that the Corps failed to comply with the ODA, and the EPA should not issue a concurrence.

The Corps has violated the ODA's clear command to avoid areas of existing fisheries in selecting a site.

The ODA criteria makes several affirmative commands to the agencies to locate disposal sites in areas where they are not likely to interfere with living marine resources, particularly fisheries. The regulations are unequivocal in this regard: "The dumping of materials into the ocean will be permitted <u>only</u> at sites in areas selected to minimize the interference of disposal activities with other activities in the marine environment, **particularly avoiding areas of existing fisheries or shellfisheries**.

The admonition that sites be located away from existing fisheries is unqualified. Thus, regardless of whether an agency concludes that disposal in the area of a fishery will actually have an adverse impact on marine life, the regulations require the agency to locate the site outside the area of the fishery. <u>This means that in this instance, the Corps and the EPA are required to locate the disposal sites for Columbia River dredge spoils outside the area of the existing Dungeness crab fishery regardless of their belief that thin-layer disposal will not adversely effect crabs</u>.

Far from complying with this requirement, the Corps failed to avoid the location of fisheries or shell fisheries in the '98 DEIS. This omission is particularly glaring in light of the broad consensus among state agency officials, scientists, crab fishermen, and the

Corps themselves that sites North/South of the MCR are areas of productive Dungeness habitat and a productive crab fishing ground. The Corps' failure even to give lip-service to the explicit command that disposal sites be located "particularly" so as to avoid "areas of existing fisheries or shell fisheries," clearly violated the ODA.

At 40 CFR 227.10(a), the ODA criteria contain another affirmative command to protect fisheries. That section provides: "Wastes which may present a serious obstacle to fishing or navigation may be dumped only at disposal sites and under conditions which will insure no unacceptable interference with fishing or navigation.". This requirement is clearly not met in this '98 DEIS. Yet the Corps cannot contest that dumping even 10 centimeters of sediment may kill crabs, and thus the disposal of dredged materials at the North /South sites presents a substantial risk of harming the Dungeness crab population and the fishermen that depend on it. Accordingly, the only way for the Corps to "insure no unacceptable interference with fishing" is to avoid all dumping in any sites, which are acknowledged to be in a productive Dungeness crab fishery, and to limit disposal in site E to periods of low crab presence, generally acknowledged as mid-August, even this is the Corps' responsibility to investigate, monitor, and avoid.

As a further safeguard against the location of disposal sites in or near fisheries or other areas of high biological productivity, the ODA criteria also require that the size of the sites must be kept small." The ODA criteria requires the agencies to assess the "potential of the dumping for affecting the recreational and commercial values of living marine resources," specifically including the impact on commercial fishing. The'98 DEIS purports to demonstrate compliance with them simply by reciting a few conclusory sentences. Specifically, it states that "the proposed ocean disposal would have minimal impact on crab. This analysis is grossly inadequate in light of the acknowledged importance of the Dungeness crab fishery in this area, and the widely-shared concern of experts from state agencies and elsewhere that disposal of dredged material at expanded North/South sites is likely to have significant adverse effects on this species. The site selection criteria reiterate the need to assess potential impacts on fisheries and direct the Corps and the EPA to consider those impacts in selecting a site. Thus, the agencies must consider the site's "location in relation to breeding, spawning, nursery, feeding, or passage areas of living resources in adult or juvenile phases." Extended discussion of impacts to Dungeness crab was clearly warranted here, especially since expanded North/South sites are in areas that offers valuable refuge habitat to juvenile crabs, and expanded site E is an area that becomes dense with soft-shell crabs in late summer. These considerations are particularly important in light of the fact that the impacts of dredged material disposal are likely to be especially severe for juvenile and soft-shell crabs and the deficiency of those documents do not adequately assess the site's location in relation to crab habitat.

The ODA's mandate to assess the impacts of dumping includes the requirement that the agencies conduct a site-specific survey of a disposal site before deciding to dump there. (requiring evaluation of "the impact of dumping on esthetic, recreational, and economic values ... on an individual basis"). Here, despite repeated requests from CRCFA, state agencies and others that the Corps and the EPA monitor the sites for crab before dumping, and despite the Corps' and EPAs'own promise to do so at least in site B, no such survey or monitoring has been conducted or planned in this '98 DEIS.

Not only do the ODA criteria repeatedly direct the agencies to evaluate the impact of the proposed dumping on the marine environment, but in two separate places, the regulations specifically require the agencies to express that assessment in quantitative as well as qualitative terms. Thus, the "potential of the dumping for affecting the recreational and commercial values of living marine resources," "will be expressed, where possible, on a quantitative basis, such as percentage of a resource lost ... or dollars lost in commercial fishery profits," Additionally, "a quantitative and qualitative evaluation will be made, where feasible, of the impact of the proposed dumping on each use including commercial fishing."

Yet the'98 DEIS is devoid of any quantitative analysis or any explanation for the failure to conduct such analysis, as are the '97 and '93 EAs and the '83 EIS. In his declaration, Dr. Armstrong describes studies that the Corps and the EPA could conduct that would provide far more accurate measures of crab distribution and disposal impacts than the information the agencies currently have. Indeed, the Corps itself has conducted some similar studies on Dungeness crabs in other locations including inside the confluence of the Columbia River Mouth.

The Corps needs to develop a adequate Site Management Plan for new sites

In the Water Resources Development Act of 1992, Congress amended the Ocean Dumping Act to require the EPA, in conjunction with the Corps, to develop a Site Management Plan for each site designated. Such plans must include a **baseline assessment of conditions at the site, a program for monitoring the site,** and **special management practices for each site** aimed at protecting the environment. No site designated after January 1, 1995 shall receive a final site designation without a plan; and sites designated prior to January 1, 1995 must have Site Management Plans no later than January 1, 1997.

In this instance, where so many unanswered questions remain about the effect of dredge spoil disposal on crabs and other marine organisms, the baseline assessment and monitoring required by such a plan would be a particularly important tool in collecting information critical to complying with the ODA's environmental protection mandates. The Corps, however, have not issued a Site Management Plan for North/South sites and that use of the sites are illegal without an adequate site management plan

In short, the Corps has blatantly disregarded the clear commands of the ODA that they avoid areas of existing fisheries and shell fisheries in designating sites, that they assess the potential impacts on living marine resources and fisheries before commencing use of an ocean disposal site, and that they develop a site management plan including plans for a baseline assessment and continued monitoring of biological resources. The comment letters submitted to the Corps and the EPA reveal a broad consensus among state agency officials, scientists, fishermen, and others that North/South sites cover areas of Dungeness crab habitat that are heavily used by crab fishermen and that the disposal of dredged material in these areas is likely to have significant adverse effects on this important marine resource. This view is confirmed by the declaration of Dungeness crab expert Dr. David Armstrong. Yet despite this chorus of voices expressing concern about the impacts of the Corps' & EPA's dredged material disposal plans on Dungeness crabs, the '98 DEIS dismisses adverse impacts as minimal.

Magnuson-Stevens Fishery Conservation and Mangement Act – EFH

New provisions of the Magnuson-Stevens Fishery Conservation and Management Act recently enacted by Congress have not been considered in the '98 DEIS. With implemention the States of Washington and Oregon will have full authority to manage the entire crab resource out to200 miles. This draft does not consider the new laws that will be enacted by the Coastal states that will have direct effect on the ocean disposal of sediments. In January, 1999 CRCFA will join with WDFW, and other state agencies to review, implement, and draft legislation to specifically address crab management into the area of its jurisdiction out to 200 miles. Current and future changes in the law will have to be considered in any 50 year plan. Today's environmental laws are quite different than in 1950. No one even suggests that society revert to that 1950 era. The draft plan falls to address future requirements being placed on the dredging process. The State of Washington currently has a Governor's Task Force established to evaluate and suggest courses of action to abate coastal erosion. This governor's task force will suggest specific legislation to deal with erosion. It has already been determined that the Columbia River is the prime source of sediment necessary to maintain a steady supply of sediment to the beaches. One of the primary recommendations of the Governor's Task Force on Coastal Erosion is that "coastal solutions and policies should not come at the expense of the state's natural resources, e.g. solutions must minimize interference with fishing areas and/or keep solution impacts to a minimum."

CZMA

Under the CZMA a federal agency must prepare a consistency determination for any agency activity if it either occurs inside the coastal zone or occurs outside the coastal zone but "affects any land or water use or natural resource of the coastal zone." Site E is clearly within the three-mile limit of the coastal zone. Although some of the North/South sites are outside the boundary of the coastal zone, dumping there will "affect" the coastal zone within the meaning of the Act. Crabs do not observe the coastal zone boundary. They live on both sides of it and move back and forth across it. Thus, a crab that is killed by dredged material disposal outside the coastal zone in the North/South sites, might otherwise have later moved inshore to be caught by fishermen in the coastal zone. Dumping in any portion of North/South sites, therefore, will affect a natural resource (Dungeness crab) and a water use (fishing) of the coastal zone. The Corps accordingly has a duty under the CZMA to ensure that dumping in North/South sites and in site E is consistent with the coastal zone management programs of Washington and Oregon.

Under **Washington's coastal zone management program,** the Corps must take "all reasonable steps ... to avoid and minimize adverse environmental impacts, with special protection provided for the marine life and resources of the Columbia River ... estuary" and to "avoid and minimize adverse social and economic impacts, including impacts to ... commercial . . . fishing." (Pacific County Master Shoreline Program 30.60.04 -.05); RCW 43.143.030(d),(e); WAC 173-16-064(d),(e). Additionally, the Corps must ensure that "there will be no likely long-term significant adverse impacts to coastal or marine resources or uses."

Ocean Uses

3.90.02 The **conservation and sustainable use of renewable ocean resources is given priority over nonrenewable ocean resource use.**

30.01 Ocean uses and associated on-shore facilities should be located, designed and operated to avoid and minimize adverse impacts on the following:

- environmentally critical or sensitive areas such as breeding, spawning, nursery and foraging areas
- areas of high productivity for marine and estuarine biota
- existing water dependent businesses; and
- transportation routes

17.06 Dredging and landfill operations should have the least possible detrimental effect on the existing character of shorelines, including associated wetlands. and the land underlying the water.

30.60.05 All reasonable steps are taken to avoid and minimize adverse social and economic impacts, including impacts to aquaculture, recreation, tourism, navigation, air quality, and recreational, commercial, and tribal fishing,

30.60.06 Compensation is provided to mitigate adverse impacts to coastal resources and uses;

30.60.07 Plans and sufficient bonding are provided to ensure that the site will be rehabilitated after the use or activity is completed; and

30.60.08 The use or activity complies with all applicable local, state, and federal laws and regulations

30.61 The proponent of an ocean use development or associated on-shore facility that could impact coastal waters or shorelines may be required to submit the following information, and any other information deemed necessary by the Shoreline Administrator, in the final permit application package:

30.61.01 An overall development scheme discussing the site plan and proposed management techniques;

30.61.03 Analysis of potential impacts identified in a SEPA environmental checklist;

30.61.04 Mitigation plans to address environmental, social and economic uses and resources;

30.61.05 Analysis of the visibility of the proposed facilities and a plan to minimize of eliminate such impacts;

30.61.11 Analysis demonstrating the proposed projects consistency with the Shoreline Master Program

30.62 All proposed activities and uses with potential to significantly affect any of the shoreline or waters user the jurisdiction of Pacific County may at the discretion of the Shoreline Administrator **require a socio-eonomic assessment and the development of mitigation measures to analyze and describe the long and short-term effects of the proposed action to directly stimulate or drain the local economy.** This assessment may include but not be limited to gains or losses of jobs and incomes, tourism, agricultural impacts, increased governmental planning and management loads, effects on construction and commercial activities, community support facilities (such as schools, hospitals, health and social services), tax structure, social changes in crime, mental health, crowding, sense of autonomy, and other quality of life indicators.

Under **Oregon's coastal zone management program,** the Corps must "develop inventory information necessary to understand the impacts and relationship of the proposed activity to continental shelf and nearshore ocean resources." This includes:

- Developing scientific information on the stocks and life histories of commercially, recreationally, and ecologically important species of fish [and] shellfish ...

- Developing scientific understanding of the effects of man's activities, including ... waste discharge, on the marine ecosystem ...

- Identifying and protecting areas of important biological habitat, including . . . areas of important fish, shellfish, and invertebrate concentration ...

- Providing for suitable sites and practices for the open sea discharge of dredged materials, which do not substantially interfere with or detract from the use of the continental shelf for fishing ... or from the long-term protection of renewable resources.

Statewide Planning Goal 19. ORS 196.425(l); OAR 660-015-0010. Additionally, the program "requires that actions affecting the nearshore ocean and continental shelf areas be based upon a sound understanding of the resources and potential impacts. . . . including the extent and significance of . . . fish and shellfish stocks and important habitat areas. . . . and present and projected uses, use patterns, and values associated with the ocean resource, including commercial fishing."

A federal agency's consistency determination under the CZMA must:

> include a detailed description of the activity, its associated facilities, and their coastal zone effects, and comprehensive data and information sufficient to support the Federal agency's consistency statement. The amount of detail in the statement evaluation, activity description and supporting information shall be commensurate with the expected effects of the activity on the coastal zone.

The document does not even attempt to explain how the Corps has taken "all reasonable steps" to avoid or minimize adverse impacts to the environment or to commercial fishing, or to develop information necessary to understand the impacts of dredged material disposal on crabs. Nor is the fact that the document refers to the Section 103 Evaluation and the EA sufficient, because, as demonstrated in the previous two sections, these documents do not provide such information either. Thus, on its face, the Corps' consistency determination is inadequate to comply with 15 CFR 930.39 and/or demonstrate compliance with the CZMA programs of Washington and Oregon.

Conclusion

Fifty years from now we would like to be able to look back and know the right choices were made for future generations. In the future our nation should not be paying an exorbitant price for habitat neglect, as it is with the salmon. To achieve protection of our valuable resources we will what is necessary to preserve marine habitat for future generations. Preservation is far superior to restoration. We must get it RIGHT.

As previously stated, there are alternatives:

1) Spend the resources necessary to more precisely identify and quantify the impacts of dredged material ocean disposal on Dungeness crabs and the habitat that supports them.

2. Simply avoid fishing areas

Thank you for your consideration. We appreciate the extended period of time for comment and look forward to hearing from you in response to our concerns and recommendations.

Sincerely,

Dale Beasley

Dale Beasley
Columbia River Crab Fisherman's Assoc. (CRCFA)

On behalf of:

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We the undersigned concerned citizens find it unacceptable that the Corps of Engineers and the EPA propose Ocean Dredged Material Disposal Sites that cover approximately 75 square miles off Washington and Oregon. Not only will this action negatively impact important crab resources, and habitat, but also the commercial crab industry, and its socio-economic importance to coastal communities. We call on the Corps and EPA to consider more alternatives.

	Name	Address
1	[illegible]	Box 141 Chinook Wa 98614
2	[illegible]	BOX 580 Seaview Wa 98644
3	Mark Peterson	Box 302 Chinook Wa. 98614
4	Wm Taylor	Box 331 Chinook WA 98614
5	[illegible]	Box 307 Chinook WA 98614
6	[illegible]	Box 121 Chinook Wa 98614
7	[illegible]	Box 516 Long Beach Wa. 98631
8	[illegible]	Box 721 Ilwaco Wa 98624
9	[illegible]	2007 N. Wash. St Long Beach 98631
10	[illegible]	Box 732 Ilwaco WA 98624
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12	[illegible]	P.O. Box 620 Ilwaco, WA 98624
13	[illegible]	PO Box 140 Seaview Wa 98644
14	[illegible]	PO Box 295 Langhorne WA. 98631
15	Stephen E. [illegible]	P.O. Box 1082 Long Beach, WA. 98631
16	[illegible]	PO. Box 552 Ilwaco Wa. 98624
17	Shari A. Barrett	3808 Place Seaview WA. 98644
18	[illegible]	PO Box 317 Bay Center Wa 98527
19	[illegible]	PO Box 2215 Gearhart, OR 97138
20	[illegible]	PO Box 317 Bay Center Wa 98527
21	[illegible]	PO. Box 77 - Chinook WA 98614
22	[illegible]	6111 V. Pl Long Beach WA
23	[illegible]	P.O. Box 873 Ilwaco, WA 98624
24	[illegible]	Rt 1 Box 4 Astoria Org
25	[illegible]	P.O. Box 573 Ilwaco, Wa. 98624
26	[illegible]	PO Box 529 Ilwaco Wa 98624

We the undersigned concerned citizens find it unacceptable that the Corps of Engineers and the EPA propose Ocean Dredged Material Disposal Sites that cover approximately 75 square miles off Washington and Oregon. Not only will this action negatively impact important crab resources, and habitat, but also the commercial crab industry, and its socio-economic importance to coastal communities. We call on the Corps and EPA to consider more alternatives.

	Name	Address
1	[illegible]	8400 Frederick Pl. Edmonds WA 98026
2	Marilyn Leask	8400 Frederick Pl Edmonds 98026
3	Paul F. Webber	14418 NE 64th St. Redmond 98052
4	[illegible]	8657 98th NW Stanwood WA 98292
5	[illegible]	PO Box 2145 G.G. Harbor 98335
6	Rosemary Ross	P.O Box 2145 Gig Harbor 98335
7	Doug Kaino	12722 39th Ave NE, Seattle 98125
8	Hector Sanchez	1713 Mill Av. Bellingham
9	Frank Magnuson	4005 20th Ave W No 207 Seattle
10	[illegible]	95E 400 N. Orem Ut. 84057
11	[illegible]	4005 20 Ave W No 66 Seattle
12	Paul Marcuk	2442 NW Market St. Box 215 Seattle
13	George McLeod	6536 S Mullen Tacoma
14	[illegible]	6165 W 331st Federal Way 98023
15	[illegible]	3223 So. 356th St. Auburn 98001
16	[illegible]	2901 Chico Way Bremerton WA 98312
17	Morgan Daines	PO 1427 Clatskanie 96017
18	[illegible]	3[illegible] Sudden Valley Bhm WA 98226
19	Margaret A. L. May	27777 Linchog Rd N.E., Kingston 98346
20	[illegible]	PO Box 9 Otter Rock, Or 97369
21	Connie Kennedy	9362 NW Lark St Seal Rock Or 97376
22	[illegible]	4210 Shinsky Road Olympia Wa 98502
23	[illegible]	64 Lutz Rd Aberdeen Wa 98520
24	[illegible]	1120 N 81st Seattle WA 98107
25	[illegible]	4032 35th Ave SW Seattle 98126
26	Samantha Greenwood	PO Box 2551 Cordova, AK 99574

We the undersigned concerned citizens find it unacceptable that the Corps of Engineers and the EPA propose Ocean Dredged Material Disposal Sites that cover approximately 75 square miles off Washington and Oregon. Not only will this action negatively impact important crab resources, and habitat, but also the commercial crab industry, and its socio-economic importance to coastal communities. We call on the Corps and EPA to consider more alternatives.

	Name	Address
1	JOE HUBBELL	P.O. BOX 603 WARRENTON OR 97146
2	ED McNULTY	2874 HARRISON ASTORIA OR 97103
3	DAN VISSER	PO Box 2464 Gearhart Or 97138
4	Richard L Lyons	3120 Col Hty Rd LV. WA 98632
5	Kurt Englund	828 14th St – Astoria, OR 97103
6	Monte Landwehr	1882 5th St Astoria, OR 97103
7	[illegible] W. Howell	671 Florence #1 Astoria, OR 97103
8	[illegible]	RT 1 Box 900 H Astoria OR 97103
9	Steve R Henberg	Rt. 6 Box 69A Astoria, OR 97103
10	Richard [illegible]	P.O. Box 1066 Warrenton OR 97146
11	James Nichols	P.O. Bx 132 Warrenton, Ore
12	Gary Zee	Rt 3 Bx 245 Astoria Ore.
13	David Schmeler	Rt 1 Box 656-10 Astoria Ore 97103
14	Gerald C Wright Sr	P.O. Box 2275 GEARHART, OR 97138
15	[illegible]	PO. Box 1043 Warrenton Or 97146
16	Elsworth E Sherman	Rt 1 Box 640-C Astoria 97103
17	[illegible]	1000 346rd Place Ocean Park WA 98640
18	KENNETH A. NIEMI	552 ALAMEDA ASTORIA OR 97103
19	Lorraine Vandecoevering	PO Box 452 Garibaldi OR 97118
20	LAVERNE VAN MARTER III	Box 113 Warrenton, Or. 97146
21	ROY A. SIGURDSON (Ret.)	250 8th Ave, SEASIDE, OREGON 97138
22	Joel Bergemer	Rt 1 Box 845 Astoria, Or. 97103
23	MIKE BRUNMEIER fng	920 GARA Pl. ASTORIA, OR. 97103
24	Marvin Calvert	1586 4th St Astoria OR 97103
25	DON Schock	100 AUBURN ASTORIA OR 97103
26	W. T. Ballard	808 Lewis Ave WARRENTON OR
	Lorraine Street	1435 6th. Astoria, OR

We the undersigned concerned citizens find it unacceptable that the Corps of Engineers and the EPA propose Ocean Dredged Material Disposal Sites that cover approximately 75 square miles off Washington and Oregon. Not only will this action negatively impact important crab resources, and habitat, but also the commercial crab industry, and its socio-economic importance to coastal communities. We call on the Corps and EPA to consider more alternatives.

	Name	Address
1	Richard T. WATROUS	7111 ORTELIUS DR. ILWACO WA 98624
2	Rich Bingham	Rt 5 Box 852A Astoria OR 97103
3	Larry Rfund	2065 Maple Seaside OR 97138
4	JOHN SVENSSON	1635 W Hispeed Pines Dr. Seaside 97138
5	Rick Newell	P.O. Box 1194 Astoria ore 97103
6	Lloyd Ludtke	RT 1 Box 675 WARRENTON
7	ROBERT SEITZ	266 LINCOLN – ASTORIA, OR
8	Kent Morelawd	RT 6 Box 1017 Astoria, OR
9	Paul A Takko	761 Jerome Astoria OR
10	Charles L. Neace	PO Box-583 Ilwaco, WA
11	[illegible]	POB 479 Astoria Ore
12	[illegible]	Rt 2 Box 136 Astoria OR 97103
13	Patrick L Bradshaw	76144 HWY 47 CLATSKANIE OR 97016
14	[illegible]	3838 29th Ave W Seattle WA 98199
15	[illegible]	P.O Box 129 St. Paul Ak 99660
16	[illegible]	Rt 2 Box 155-C Astoria, Ore 97103
17	MICHAEL C BALDWIN	BOX 541 WESTPORT, WA 98595
18	Pat Hull	HCR 67 Seaside OR 97128
19	Gary Marinowich	198 LEXINGTON ASTORIA, OREGON 97103
20	[illegible]	2264 Lucas Dr. Warrenton 97146
21	Steve Hunter	PO Box 135 Hammond, OR 97121
22	[illegible]	P.O. Box 306 Rt 3 Astoria OR 97103
23	Stephen R. Salmi	P.O. Box 383 Warrenton, OR 97146
24	Frank Tarabochia	872 15th St Astoria, Ore 97103
25	Ronald C Coleman	34662 Airport Lane Warrenton, OR 97146
26	[illegible]	P.O. Box 59 Hammond, Ore 97121
	Richard L Guttel	404 W. LEXINGTON ASTORIA OR 97103

We the undersigned concerned citizens find it unacceptable that the Corps of Engineers and the EPA propose Ocean Dredged Material Disposal Sites that cover approximately 75 square miles off Washington and Oregon. Not only will this action negatively impact important crab resources, and habitat, but also the commercial crab industry, and its socio-economic importance to coastal communities. We call on the Corps and EPA to consider more alternatives.

	Name	Address
1	Quentin Seager	8714 54th pl W Mukilteo Wash 98275
2	Nancy Seager	8714 54th PL W Mukilteo WA 98275
3	Monica Wright	12 Jones Creek Dr #4 Scarborough ME 84074
4	Dick Melo	Box 572, Bellingham, WA 98227
5	STEVE NEWELL	P.O.B. 1268 OCEAN PARK WA 98640
6	Grant Sean	POB 2034 Port Townsend WA 98368
7	Joe Short	POB 1224 Petersburg AK 99833
8	Paul Bertad	Box 183 Kake AK 99830
9	Dale Hughes	1111 Arckwood Dr SW #377 Olympia 98502
10	[illegible]	—
11	Pat Ronahan	301 E 'O' ST Tonwala WA 98501
12	Jack Hays	Bx 153 Metalline Falls, WA 99153
13	Darin Hart	911 236th St. SW #2 Edmonds Wa. 98026
14	Canal Marine Inc. Att Nicholas	Po Box 70522 Seattle WA. 98107
15	[illegible]	8123 Hillsboro Houston, TX 77029
16	Mildred Donnelly	P.O. Box 234, Cassville, TX 38557
17	John H. Donnelly	P.O. Box 234, Cassville, TX 38557
18	Robert M Barrett	18833 S Henrici Rd Oregon City OR 97045
19	John Goodhand	P.O. Box 218, Ectex AK 99725
20	Jim Swaney	Po Box 2191 Valdez AK 99686
21	DARRELL SMITH	17926 CAMBRIDGE DR ARLINGTON 98223
22	Dale Beasley	P.O. Box 461 Ilwaco, Wa 98624
23	Edith Beasley	POB 461 ILWACO, WA 98624
24		
25		
26		

We the undersigned concerned citizens find it unacceptable that the Corps of Engineers and the EPA propose Ocean Dredged Material Disposal Sites that cover approximately 75 square miles off Washington and Oregon. Not only will this action negatively impact important crab resources, and habitat, but also the commercial crab industry, and its socio-economic importance to coastal communities. We call on the Corps and EPA to consider more alternatives.

	Name	Address
1	Richard Nyhus	P.O. Box 1987 WESTPORT WA 98595
2	Brady Engwall	3714 OYSTER PL. E ABERDEEN, WA. 98520
3	Douglas H Fischer	110 Valley Rd, Hoquiam, Wa. 98550
4	Bill Wade	Box 101 Westport, Wa. 98595
5	Ed Queen	5132 DONNELLY DR SE, Olympia 98501
6	Mike Monnke	1664 View Ridge DR Westport 98595
7	Ernie Summers	1007 SUMMERS LANE Grayland, Wa. 98547
8	Tom Kelley	PO. Box 776, Westport, WA. 98595
9	MARK CEDERGREEN	PO BOX 546, WESTPORT, WA 98595
10	Robert E. Yake	Po Box 26 Grayland, WA. 98547
11	Allen R. Hollingsworth	39 Johns River BR. Rd Aberdeen, WA 98520
12	Larry L. Thrink	P.O. Box 88 Ocean Shores WA. 98569
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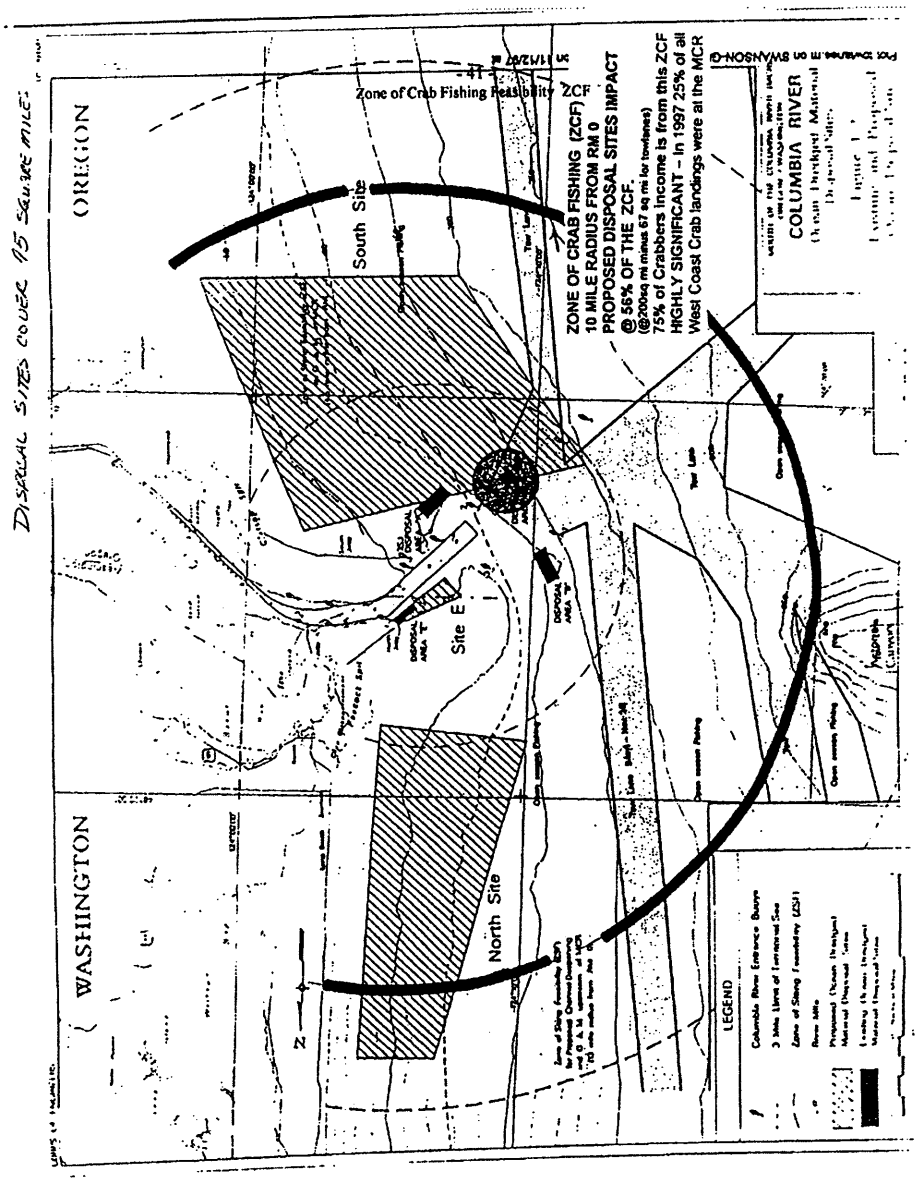

C·R·C·F·A
COLUMBIA RIVER
CRAB FISHERMAN'S ASSOC.
P.O. BOX ~~718 E. ILWACO, WA 98624~~
Bx 365 Ocean Park Wa.
98640

10 September 1992

Department of Environmental Quality
Water Quality Division
811 S.W. 6th Ave.
Portland, Oregon 97204

Re: Expansion of ocean disposal sites, A, B, F,
Mouth of Columbia River

Dear Sirs,

I received a late notification of this project by phone from your department, and received the project description on 9/9/92 by mail. Having been in contact with the Corps concerning the sites over the past two years I welcome this opportunity to respond on behalf of our Association.

I will not restate our safety concerns on the mounding on the dredge sites as they are addressed in both the Public Notice CENPP-PE-RP-92-05 and the Section 103 Evaluation.

Several other concerns that have a substantial impact on our industry's safety and economics have not been adequately addressed or have been ignored.

All of the sites proposed for "temporary expansion" are also evidently being considered for long term expansion. These sites are all in prime crab grounds, historically fished by the Columbia River fleets. However, no economic impact on the crab fishery by this proposal is included in the material I received for review; and the statement "The proposed action is not expected to adversely affect---economic values" (Pg 9 Sec 103 Evaluation) is most certainly not true.

The brief consideration of disposal effects on the onsite crab ignore the impact of potentially <u>sterilizing</u> the expanded sites as our fishing experience bears out, and totally ignores the impact of the dredging activity in itself. While dredging is not a direct issue, an increase or continuance of the activity has been shown to have a severe impact on crab populations in estuaries (Grays Harbor).

The maps and description of the sites were incomplete as to the total increased area of the proposal. Using the scale and information furnished, it seems that the total proposed expansion would cover approximately 4.08 square miles of sea bottom, or about a 325% increase. If this does not signal a significant impact on our fisheries, I can't imagine what would.

References to the continental shelf being an unacceptable dump site are unclear. Is the shelf the 1000 fathom curve or the Columbia Canyon? The canyon certainly is within reach as a disposal site. It seems the primary driver of this proposal is the cost to the Corps of transporting the dredged material.

The support study for the project ignores or downplays a number of factors, such as the economic impact on other than Corps priorities, dismissal of alternatives, and misleading conclusions as to impacts. A suspicion that conclusions came first, followed by support material is unavoidable.

I understand the Corps economic considerations, and the problems with disposal cite certification. The so called temporary dump sites may be temporary to the Corps, but permanent to the crab and drag fleets. Displacement of thousands of crab pots is no small impact on an already stressed industry and local economy.

The safety issue, considering the local fleet is mostly small boats operating out of the most trecherous winter bar in the continental United States on tidal schedules, is no small matter. The farther these boats must travel the more chances they are forced to take

The building out of the present berms would seem to tend to stabilize the existing conditions, which are admittedly dangerous. The Corps past projections were found to be inaccurate as to dispersal rates in the areas, and no information I have changes this factor.

In conclusion:

1. We do not consider five more years disposal as temporary.

2. We do not consider the magnitude of this expansion inconsequential or necessary.

3. The impact on safety has not been addressed.

4. The findings supporting the project are biased and incomplete.

5 Economic impacts must address all affected - not just the Corps.

Thank you for the opportunity to respond.

Sincerely,
Dick Sheldon
President CRCFA

Oregon

LAND
CONSERVATION
AND
DEVELOPMENT
COMMISSION

March 31, 1998

Mr. Thomas E. Savidge, Chief
Construction-Operations Division
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, OR 97208-2946

Dear Mr. Savidge,

Attn: Eric Braun

SUBJECT: DREDGED MATERIAL DISPOSAL - MCR 1998

The Department of Land Conservation and Development (DLCD) has considered the Corps of Engineers' plans for maintenance dredging of the mouth of the Columbia River (MCR) and dredged material disposal during the 1998 season as described in your February 13, 1998 submittal. DLCD is responding to the Corps' request for an extension of the coastal zone concurrence issued for the 1997 season, pursuant to coordination procedures agreed to by the Corps and DLCD last year.

In the development of MCR 98 plans, the Corps has made efforts to address concerns raised by DLCD in the 1997 review of site B and E expansions. Specifically, the Corps agrees to maximize, to the extent possible without further contributing to navigational hazards, the use of site E. Site F will be used with material placement controlled to avoid mounding. Any use of expanded site B would be restricted to the southwest corner, as was requested by DLCD and others in 1997. Physical monitoring data from MCR 97 and revised modeling predictions of site capacities have been provided. The Corps is also planning a laboratory study to investigate disposal impacts on crabs and flatfish and continues to work with DLCD and others to find new disposal sites to address capacity, environmental, and user conflicts associated with the use of sites B, E, and F.

Given the Corps efforts to address DLCD's concerns in its MCR 1998 plans, the need to maintain the entrance to the Columbia River navigation channel, and the current unavailability of alternative ocean sites, DLCD generally agrees with the Corps that the 1998 disposal plans remain consistent to the maximum extent practicable with the Oregon Coastal Management Program. However, the Department believes that the Corps can and should make a stronger commitment to avoiding the use of site B for the 1998 season. We also continue to stress the importance of efforts to find alternative ocean disposal sites. The following comments and recommendations serve to clarify the Department's position.

Site E:
Considering site expansion in 1997, the known dispersive nature of the area, and disposal data provided by the Corps, site E can likely accommodate disposal of 1.5 to 2 mcy and perhaps up to 3 or 4 mcy. The maximum use of site E is

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DLCD 3/98

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important because material deposited here is most likely to remain in the littoral system when compared to sites B & F, and increased disposal at site E reduces and perhaps eliminates any need for disposal at site B.

The Corps plans to proceed cautiously at site E given the importance of not exacerbating navigational difficulties across the site and in the area offshore of Peacock Spit. DLCD agrees that caution is necessary. Thin-layer disposal methods must be employed, with individual disposal locations spread out across the expanded site. Pre- and post-disposal surveys of bathymetry at and around site E are required as are frequent surveys (at least monthly but more often as disposal volumes increase) during disposal. Ongoing analysis of survey results and modeling of remaining capacity will be necessary to determine if and where material is moving and where any additional materials should be placed. The Corps must maintain the ability to respond quickly with appropriate management actions given any sign of accumulation at or near site E that could result in unacceptable wave conditions if disposal actions were not altered.

Site F:
The Corps predicts that the southern half of site F can handle around 2.5 to 3 mcy of additional dredged materials while the northern half of site F is estimated to have a 10 mcy capacity. The remaining capacity appears to be more than sufficient for the 1998 season, particularly when considering the Corps ongoing efforts to locate new disposal sites for use by 1999 and the availability of expanded site E.

The Corps has mentioned the need to avoid navigational impacts at site F given its location directly offshore of the navigation channel. The Department agrees that navigation impacts must be minimized, however, it seems that this can be accomplished through the use of thin-layer disposal and with coordination between dredge operators and the bar pilots.

Site B:
No use of site B must be the Corps goal for 1998. DLCD contends that a no use policy for site B is justified based on the availability of sites E and F, recognition of the biological productivity and fishing effort and catch in the area, unresolved questions about disposal impacts on crab and other commercially-important species, and the ongoing efforts to locate new disposal sites. The laboratory study of thin-layer disposal impacts on crab and flatfish has not been designed or completed, and it is unclear if or how the findings of the study might be linked back to the 1998 disposal plans. DLCD also notes that no biological monitoring specifically looking at crab and flatfish presence and impacts of past disposal at site B has occurred. Furthermore, the MCR 98 plans do not include any pre- or post-disposal biological monitoring at site B as was recommended in 1997.

In the event the Corps determines, based on pre-disposal surveys or monitoring of disposal at site E and F, that this years disposal needs cannot be safely accommodated in sites E and F, then the following restrictions on the use of site B are recommended. First, as the Corps proposes,

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DLCD 3/98

disposal would be restricted to the southwest section of site B. The southwest section is greater than 200 ft. in depth and is thought to be generally outside of flat fish nurseries and areas of highest crab concentrations. Spillover effects to the "mudhole" feature should be avoided. Second, disposal should be by point dumping to minimize the total area impacted by dredged material disposal considering the lack of information on disposal impacts to crabs and flatfish. Third, if the Corps knows up-front that site B must be utilized, then disposal should occur prior to July 1 to minimize impacts to any molting and soft shell crabs present in the area. Otherwise, we continue to ask the Corps to maximize the use of site E and F, avoiding disposal in site B as long as is possible. Fourth, options for biological monitoring (pre- and post-disposal) should be investigated and employed if any significant volume of material will be placed in site B.

Coordination/Monitoring Report:
We continue to request that the Corps notify DLCD and other interested parties of developing disposal information and events in a timely manner. This would include notification of survey completion dates, the availability of survey results, and any major changes in site management, such as discontinuing use of Site E or using site B. For site management changes, the Corps also must explain the reason(s) for its decision.

DLCD requests that the Corps provide a final monitoring report that details disposal locations and volumes, dredges used, disposal thickness, other survey and modeling data gathered throughout the dredging season, and discussion of any major changes in site use and management that occurred. The final report should be provided after the dredging season but prior to the end of the year.

Scour Hole Alternative:
Your staff advised DLCD of the possibility of using a scour hole that has formed along the south side of the northern jetty as a disposal site for 1998. The site is located east of site E in Washington waters and would not be considered an ocean disposal site, instead falling under the Corps Section 404 authority. We encourage the Corps to explore this option as use of this site could offer another way of avoiding disposal in site B this year. Of course, the environmental impacts of using the scour hole site would have to be determined and minimized, and the Corps needs to conduct a public interest review of the scour hole proposal before making a final decision.

Site Selection and Designation Process:
When reviewing MCR plans for last year and the expansion of sites B & E, DLCD stressed the need to find long-term solutions to the problems associated with continued dredged material disposal confined to existing sites B, E, and F. A year later, the Corps is closer to but still a ways from having candidate sites and being able to proceed with the studies and procedural steps necessary for final site designations. DLCD asks that the Corps consider the following ideas for aiding the site selection committee in moving forward with the site selection process: (1) ASAP complete the thin-layer study design, initiate the study, and provide findings explaining any

lethal and sublethal impacts of disposal on crabs and flat fish, (2) provide a written explanation of how the Corps believes the thin-layer technique would work offshore of the Columbia River addressing differences between here and the Gulf for variables such as water depths, wave climate/bottom disturbance, water temperatures, benthic species, and so forth, i.e. ensure the committee understands why the Corps believes the method can readily be adapted to the Pacific Northwest without having impacts appreciably different than in the Gulf, (3) schedule a meeting of committee members where the available time is devoted to discussion of overlays and the pros and cons of various candidate sites for meeting management measures, allowing the group as a whole to suggest and debate candidate sites instead of asking individuals to propose sites, and (4) ensure that all committee members understand and consider all potential disposal needs (MCR, channel maintenance, and channel deepening) as discussed in our previous comments on the draft Columbia River DMMS/SEIS.

Closing
The Department recognizes the Corps' efforts to address Oregon's concerns about dredged material disposal at sites B, E, and F, as expressed in DLCD's 1997 coastal zone response. We appreciate the continuing coordination efforts of your staff regarding ocean disposal issues. But DLCD continues to be concerned about disposal at site B and urges the Corps to restrict disposal to sites E and F for 1998 for the reasons stated in this letter. The Corps appears to have opportunities to manage MCR disposal such that no disposal or very limited disposal at site B occurs in 1998. Finally, the Department stresses the importance of continuing the work of the site selection committee and aiding committee members in addressing ocean disposal concerns and finding new ocean disposal sites. Much work remains if new sites are to be available for the 1999 dredging season.

Thank you for your continuing coordination with the Oregon Coastal Management Program. Please contact Christine Valentine at (503)-373-0093 if you have would like to discuss DLCD's comments and recommendations.

Sincerely,

Eldon Hout, Manager
Oregon Coastal Management Program

cc. Tom Rosetta, DEQ
Arlene Merems, ODFW-Newport
Neil Richmond, ODFW-Charleston
Kim Trimpert, CREST
Gilbert Gramson, City of Warrenton
Alan Willis, Port of Portland
Dale & Edie Beasley, CRCFA
Rick Vining, WDOE
Bob Burkle, WDFW

Oregon
DEPARTMENT OF FISH AND WILDLIFE
FISH DIVISION

May 8, 1998

Mr. Thomas E. Savidge, Chief
Construction-Operations Division
Portland District, Corps of Engineers
P.O. Box 2946
Portland, OR 97208-2946

Re: Dredged Material Disposal Off The Mouth Of The Columbia River (MCR).

Dear Mr. Savidge:

The Oregon Department of Fish and Wildlife (ODFW) has been participating in the Corps' inter-agency working group for finding new offshore disposal sites for MCR dredged material.

ODFW submitted comments to DLCD regarding disposal options for the 1998 season. These comments are largely reflected in DLCD's March 31 letter to the Corps of Engineers, Portland District regarding disposal site options at MCR for the 1998 dredging season. The purpose of this letter is to reiterate our Department's position on disposal options for 1998 and to further comment on other issues related to dredged material disposal.

1998 Disposal Options:
Based on the information presented and discussions in the MCR site selection working group meetings, expanded Site E is the best disposal option of the available sites for 1998. The site has the capacity for 2 million cubic yards (mcy) and perhaps up to 4 mcy. The high energy characteristics of this site and the potential for providing beach nourishment to Long Beach peninsula maximizes the benefits of disposing the material in Site E. Thin-layer disposal techniques should be employed to minimize mounding as well as to test the effectiveness of the thin-layer method in a shallow, highly erosive area. Bathymetric surveys should be conducted frequently to monitor the behavior of the material.

If bathymetric surveys demonstrate that Site E is reaching its capacity, Site F should be used for the remainder of the disposal material. With the existing capacity of more than 10 mcy there is sufficient room to accommodate all disposal material beyond Site E's capacity. Disposal methods in Site F should be thin-layer only, as there is potential for mounding which would result in serious navigational hazards.

ODFW strongly discourages use of Site B. Disposal of dredged material in this location is incompatible with the sensitivity of this area. This area is habitat for several species in vulnerable life history stages. This area is known to crabbers as having high densities of softshell crab and is a nursery area for some species of

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Governor

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juvenile flatfish. It is also an important commercial fishing area for Dungeness crab. With Sites E and F available for disposal and with enough capacity to hold the 4-5 mcy expected for the 1998 dredge season, there should be no need to use Site B this year. It is strongly recommended that Site B be considered a last alternative; to be used only if the other two sites exhibit sufficient mounding as to jeopardize vessel safety. If Site B must be used, ODFW agrees with the Corps decision to limit disposal to the southwest corner of the expanded site. ODFW strongly recommends that disposal practices be pin-point dumping only, and that the area be no larger than the required area needed for the dredges to maneuver, which the Corps states is 2,000 x 4,000 feet. Disposal in this area should occur before July 1, prior to when crabs molt. No dumping should occur in Site B, unless the Corp conducts a pre-disposal survey to determine the abundance and condition of crabs in the disposal site.

In keeping with Oregon's Goal 19, critical habitats must be protected. This includes factors that define critical habitat, such as "areas important in the life history stages of ... important species" and the "vulnerability of species to habitat alteration." Goal 19 requires that specific proposed actions by a Government be supported by inventories in order to describe the long-term impacts of the proposed activity on resources and uses of Oregon's nearshore ocean. ODFW is not aware of any such resource assessment that specifically addresses disposal impacts to softshell crabs or economic impacts to the crab fishery. The frequently referenced EIA by Durkin and Lipovsky (1977) did not examine impacts to softshell crab and affects on juvenile flatfish are not clear. An updated, and comprehensive impact study is needed considering current concerns about the species and area in question.

The Corps has not committed to any biological monitoring for the 1998 disposal season and has indicated that there are no plans for biological monitoring or impact assessments for offshore disposal in the foreseeable future. Until such studies are conducted, ODFW cannot support long-term use of Site B.

MCR and Channel Deepening Projects
The disposal needs for both the MCR maintenance dredging project and the channel deepening project are being addressed through the site selection process. While the need to find long-term disposal sites exists for both projects it should be made clear that they are separate disposal projects. The sediment from the portion of the channel that is proposed in the channel deepening project will have different characteristics from the MCR. Mixing sediment type may result in unsuitable habitat for benthic organisms and fish. We recognize that this may not be as much of a concern if the material is placed in a shallow, highly dispersive area, compared to deeper areas that have a more stable bottom composition. The Corps should consider the effects of mixing sediment types or grain sizes to determine if this would disrupt existing habitats.

Thin-layer Disposal Method
The Corps is considering employing thin-layer disposal methods for 1998 and in the future. Because this practice requires a much larger surface area than what has been required with "pin-point" disposal practices, any biological impacts from this method will be experienced over a much broader area than has occurred to date off the Columbia River. The impacts of thin-layer disposal to resources off Oregon are not known and no pilot study has been proposed by the Corps. The Corps should conduct an impact assessment for this methodology prior to use in any new or existing (expanded) sites following the 1998 dredge/disposal season, regardless of the

outcome of the Scripps studies on crab and flatfish impacts. Although the Corps, Mobile District, has conducted an impact analysis for thin-layer methods in the Mississippi Sound, the results are not necessarily applicable to Oregon. The Sound is a warm water, very shallow (10-11 feet), highly dispersive, estuary-type body of water with a silt-clay bottom. Fish and invertebrates in this environment are likely to respond differently to habitat alterations and stresses than animals in the cold Pacific Ocean, particularly in deeper water. Thin layer placement in the Sound was between 6 and 12 inches. This is at least 2 inches thicker than what was determined to be the thickness at which adult, hardshell crabs are smothered, based on Chang and Levings study. The Corps should demonstrate at sea and with both the *Newport* and *Essayons* dredges that it can maintain the thickness necessary to minimize lethal impacts to softshell and juvenile crabs and juvenile flatfish. The computer simulation models provide a good estimate of disposal characteristics, but at-sea trials are still needed.

The Gulfport study determined that coarser grained material was much more difficult to place in a thin-layer application than fine-grained silt-clay material. In the Columbia, the channel deepening operation may produce coarser material than the MCR maintenance dredging operation. ODFW recommends that both sediment types be tested at sea for thin-layer application.

The 1998 season can provide a good opportunity to practice thin-layer disposal. Efforts should be made to conduct pre, during, and post disposal surveys. The Corps should consider exploring survey options that can provide more accurate and detailed information beyond what is capable with bathymetric surveys alone. Sediment Profile Photography, used in the Gulfport Study, gives more precise measurements of disposal material than bathymetry surveys. It also provides detailed information on many physical and biological parameters and can be used to monitor changes to the benthic and epibenthic community. The Corps in New England has also tested Laserline Scanning which can quantify fish, shellfish and benthic invertebrate burrows at disposal mounds.

Disposal Impact Study at Scripps
ODFW believes that the impact study to be conducted at Scripps this summer should provide some baseline information about lethal and sublethal effects of disposal on softshell and juvenile crabs and juvenile flatfish. However, ODFW does not assume that the results of this laboratory study are conclusive. Many natural variables that cannot be duplicated in the lab may have compounding effects on animals who may be weakened by disposal. Sublethal effects may seem benign in the lab but may result in more serious consequences in the ocean environment, such as increased vulnerability to predation and disease. ODFW views the Scripps study as providing additional information about impacts to these animals which can be used in conjunction with other data to provide guidelines for disposal management. ODFW does not believe that the results of this study will provide the decision on whether or not to adopt thin-layer techniques for Oregon. As stated earlier in this letter, at-sea biological and thin-layer test surveys are needed to determine if this methodology is practicable for Oregon.

Site Selection
ODFW agrees with DLCD that candidate sites require more discussion by the Site Selection Working Group and that the group not be pressured into proposing new sites. Much of the hesitation in the selection process is due to unknowns about the degree of biological productivity in a

Thomas E. Savidge
May 8, 1998
Page 4

potential site. The group should have the option of rejecting previously proposed candidate sites if further discussions or information render these sites unfavorable.

ODFW feels strongly about the need for biological surveys in any new site. ODFW cannot make informed biological decisions about sites without these surveys. The Corps needs to commit to conducting biological surveys of new sites in addition to the bathymetric surveys.

ODFW recommends that the littoral drift cell both to the north and south off the Columbia be seriously considered as a potential disposal site. Disposal material may disperse fairly rapidly here, and impacts to organisms in this area may be minimal because of their adaptation to a highly dynamic environment. Disposal in the littoral cell also mimics the natural migration of sediment flowing from the MCR which ultimately returns to the littoral drift system. Disposal in the littoral system has the added benefit of providing beach nourishment to eroding beaches. State and university geologists believe that this is a practical mechanism for disposal and should be seriously considered.

ODFW appreciates the Corps' efforts thus far in working with other agencies and stakeholders to find new disposal options that will ultimately minimize impacts to the resources

Sincerely,

Burnie B. Bohn
Assistant Chief of Fisheries

c: Doug DeHart
Neal Coenen
Jim Golden
Dave Fox
Neil Richmond
Kim Larson, COE
Eric Braun, COE
Christine Valentine, DLCD
Eldon Hout, DLCD
Dale Beasley, CRCFA
Steve Barry, WDFW
Bob Burkle, WDFW
Rick Vining, WDOE
Susan Hinton, NMFS
Ben Meyer, NMFS

The May 8, 1998 ODFW letter to the Corps definitely is not reflected in the '98 DEIS on ocean disposal. The following concerns have been expressed and summarily dismissed in the '98 DEIS:

1. *Biological susrvey with inventories are needed to make informed decisions about any new disposal sites*
2. *Need pre-disposal survey to determine crab abundance*
3. *Need inventories to assess economic impacts to fishery*
4. *Need to study sediment grain size changes on habitat*
5. *Need an updated and comprehensive soft-shell study*
6. *Need at-sea trials to determine ability to control thin-layer disposal with MCR and upriver sediments for all disposal devices used*
7. *Should use sediment profile photography*
8. *Need at-sea tests to determine at what depth crab mortality occurs*
9. *Lab studies need at-sea verification*
10. *Candidates sites need further evaluation and some may need rejection with further information*
11. *Requested ongoing workgroup meetings*

ODFW letter also refers to the DLCD letter of March 31, 1998 which states the following:

1. *Requested more meetings to discuss overlays*
2. *Debate candidate sites*
3. *Consider potential disposal needs*
4. *Request for more information*
5. *Establish lethal and sub-lethal impacts to crab & flatfish*
6. *Investigate thin-layer in the Pacific Northwest*
7. *Conduct a public interest review*
8. *Require pre & post disposal biological monitoring*
9. *Determine the fate of material placed in site E*
10. *Avoid mounding at sites and maintain navigational safety*
11. *Address user conflicts*

Most of the requests by these state agencies are requirements of federal, state and local laws which have not been met.

2/5/99

CRCFA
COLUMBIA RIVER CRAB FISHERMAN'S ASSOC.

CRCFA Commissioners:

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23 July 1997

Kim Larson
U S Army Corps of Engineers
P O Box 2946
Portland, Or. 97208-2946

These items still need to be considered 1½ years later.

RE: Subgroup 1 & 2 meeting 7/23/97 in Portland

Kim:

CRCFA would like to thank the Corps for including the crab fishermen in this latest attempt at finding disposal sites which are least disruptive to safety and environmental concerns at the Mouth of the Columbia River (MCR). Our goal has not been to block projects, but to introduce information on the value of threatened resources and offer reasonable, non-destructive alternatives.

CRCFA realizes that dredging will continue at the rate of 4-5 million cy/yr. The benefits of dredging actions should NOT be placed on the back of the local economy. Presently, the Corps' dredging operation costs the local economy several million dollars per year, through lost habitat, resource potential and lost fishing time because of mounding.

After the first meeting on 10 July 1997 I have several observations that can aid in finding the safest, most environmentally friendly, and most acceptable location(s) for dredge disposal

1. Information Manual
   - All legislation, standards, policies and guides
   - All relevant facts
   - All biological and physical data
   - Sediment analysis for carcinogenic materials - test results & date (dioxins, PCBs, heavy metals, fertilizers, hydrocarbons, etc.) (Green Book)

2. More outside personnel

3. Focus on protecting marine ecosystems
   - what ecosystem management principles or tools are being used in the site selection process?

4. Re-examine Zone of Site Feasibility
   - environmental concerns
   - resource concentrations
   - effects on the local economy and the State of Oregon and Washington
   - Beneficial use and use of Site E lessens dredging time and decreases costs
   - Using the Essayons & Newport the current 4 ½ million cy can be dredged in less than 60 days, which is 1/3 of the dredging season from mid-April to mid-October

5. Collect and compile information on Crab and Bottomfish
   A. Examine environmental impacts and harms
      - consideration of bottom habitat / ecosystem - "wood zone" a *unique feature* must to preserved
      - effects of alteration and fragmentation
      - are we forcing crab out of normal areas of concentration and forcing them into smaller areas
      - are we stressing the environment and or other species

   B Bottomfish and Crab Survey
      - depth sensitivity of the bottom fish is reflected (see CRCFA letter to Steve Stevens in Jan '97)
      - obtain ODFW information

2/5/97

   C. Crab data (as put forth by ODFW)
      - direct and indirect impacts of broad based dispersal on various sizes and conditions of crab? (ODFW)
      - densities, distribution, and timing of various sizes and stages of crab at the MCR (ODFW)
      - what numbers of crab will be impacted by each disposal option. (ODFW)
      - identify the primary crab and bottomfish commercial fishing areas. (ODFW)
      - baseline crab and bottomfish studies - do we have a model for understanding these populations to ensure sustainability?
   D. In-depth study of crab mortality
      - during the entire dredging process
      - Entrainment (sucking them up)
      - Disposal plume (dumping them out)
      - Burial (covering them up)
   E. Data to understand ways to minimize this mortality in all phases of the dredging operation
      - timing - avoid when YOY are present
      - avoid largest concentrations both juvenile and adult
      - avoid when and where crabs molt

6. Mitigation Costs & Efforts

7. Regulatory Flexibility Analysis
   - Must start immediately to determine the effects on small businesses

8. Consideration of O & M alternatives for 1998
   - Must be part of the process
   - De-designation of Site B

9. Determine actual rate of deposition
   - A process to determine the actual rate of deposition for each hopper dredge dump, possibly a 1 yard collection device on the sea floor to collect the sediment after the dump

10. Consideration of new laws prior to '98 dredge season
    - Essential Fish Habitat - Reauthorization of the Magnuson Act
    - Pacific County Shorelines Management Act, Ocean uses
    - Shellfish Protection District

11. Evaluate restoring North & South jetties to full lengths
    - may decrease annual dredging requirements
    - may bring Benson Beach erosion under control
    - may provide a larger on shore disposal site.
    - is sand coming through jetty?

12. Evaluate broad -based dispersal - '97 season.
    - Direct and indirect impacts on various sizes and conditions of crab. (ODFW)
    - What numbers of crab will be impacted by each disposal option ?
      pinpoint
      broad-based
    - Effect on habitat / ecosystem alteration (smaller area vs larger area)

13 New Site requirements
    - Outline of process
    - Tech Guide for Designation of Ocean Dredged Material Disposal Sites

-47d-

2/5/99

14. Workplan timeline

15. Review current EIS

16. Review current DMRP

Supplemental Environmental Assessment Questions:

1. " The Corps and the EPA have initiated the necessary studies to develop a long-term dredged material management plan with expected completion in 1999." - SEA p.1
   • Supply studies or parameters

2. Monitoring of contract dredge
   [Optimum is broad-based dispersal.] "To achieve that result, the dump areas need to be adequately sized so that the relatively-small area utilized by a single dredge dump would not be used again in the immediate term [define?]. To be effective, the technique must incorporate accurate dump vessel positioning and vessel speed." (SEA p.3)
   • Need supporting data

3. Site E coordinates in SEA ? Different from Public Notice
   • Correct coordinates

4. "Biological evaluation, which would include determining whether impacts to crab populations are measurable, will be initiated prior to disposal in expanded Site B." (SEA p5)
   • Parameters of the this biological evaluation? When? By whom? How?

5. "Both agencies [EPA/Corps] have reviewed recently collected monitoring information at sites A. B. and F and have jointly concluded that this information is sufficient to support expansion of these sites...."
   • Specifically state what monitoring information was used to make this determination. (SEA p 7)

6. "...deposition at Sites B & F in prior years revealed no apparent lasting effect on the diversity and number of finfish." Do we know if there is a lasting effect on the diversity and number of crabs? (SEA p13)
   • Specify data.

Regards,

Dale Beasley

Dale Beasley
CRCFA
WFOA

State of Washington
DEPARTMENT OF FISH AND WILDLIFE
Region 6 Office: 48 Devonshire Road - Montesano, Washington 98563-9618 - (360) 249-4628

March 20, 1998

Washington Department of Ecology
ATTENTION: Rick Vining
Post Office Box 47600
Olympia, Washington 98504-7600

Dear Mr. Vining:

SUBJECT: Public Notice - Extension of CZM Consistency Concurrence for Disposal at Sites E, F, and B - Mouth of Columbia River, Tributary to Pacific Ocean, Pacific County, Corps Log No. PE-E9609-03, WRIA 24.MARI

Dear Mr. Vining:

The Washington Department of Fish and Wildlife (WDFW) has reviewed the above-referenced extension request dated February 13, 1998 and received on February 24, 1998; Public Notice Number CENPP-PE-E-96-09 received on December 30, 1996; attended several meetings on this subject with the Corps and other interested parties; reviewed crab fishery sampling data collected from 1981 through 1996; and last talked with you on March 3, 1998 to help develop this response.

WDFW remains opposed to the expansion of Site B, and remains opposed to the use of Site B for the disposal of dredged material now and in the future. This area is at the waterward edge of the littoral zone, where depths are sufficient to protect the bed from wave action, making this one of the most productive areas for fish life. Detritus necessary for productivity, especially for Dungeness Crab, falls to the bottom in this area, as evidenced by sediment data showing abrupt increase in fines on the bottom. This results in excellent fishing and heavy utilization by crab fishermen, as evidenced by catch statistics, shipboard sampling data, and the testimony of commercial crabbers. This is also a productive area for bottomfish, as landing reports and testimony from commercial trawlers indicates, and has been identified as a nursery area for juvenile flatfish. Disposing in this area would reduce productivity, perhaps permanently, for both fish and shellfish resources by covering benthic organisms and converting productive, fine grain beds to those coarser and less productive.

Disposal in Area B may also result in direct mortality of Dungeness Crabs. Crabs beneath the path of the dredge would be covered by more that 10 cm of spoils and may suffocate. Crabs molt in deep, stable areas that are protected from wave energy. Shipboard sampling data from the commercial crab fishery monitoring program consistently identifies higher ratios of soft shelled

Mr. Vining
March 20, 1998
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crabs in the catch from this area than in any other statewide. The crabs that are buried during molting would likely be killed by only a few centimeters of material, as they are unable to escape suffocation in their soft shelled condition.

The degradation of productive crabbing grounds, and the loss of crabs from disposal impacts, needs to be minimized. In addition, the issues of prevention of mounding in areas navigated by fishermen, and retention of sand in the littoral drift system also need to be addressed. To these ends we strongly support the disposal of sand in Site E, and the expansion and full utilization of this site. We feel that if several million cubic yards of sand has been successfully disposed annually at the original site in the past, and if the site appears to be capable of being expanded 300 to 400 percent, that additional sand, up to at least 2 million cubic yards (mcy) and as many as 4 mcy or more, should be able to be disposed in the expanded site successfully, particularly in an El Nino year, when it is likely that northwest winds and corresponding currents that push sediment disposed at Site E back into the navigation channel will not develop. This area is known to be erosive and is not particularly productive, and so productive capacity of fish and shellfish habitat should not be impacted as a result of disposal. As the area is near shore and has been shown to be dispersive in the past, it is likely that a significant portion of this sand enters the littoral drift system, although research will need to be conducted to prove this. Monitoring of sand disposed in the Peacock Spit area is also essential to identify if disposal in E exacerbates navigation difficulties, both in the maintained channel and in the area offshore of Peacock Spit between the dangerous mound created by disposal in original Site B and the shallows of the spit, that must be navigated by commercial fishermen in order to reach the fishing grounds in a timely and economical manner.

We realize that there needs to be an alternative to site E, and feel that there is sufficient capacity in recently expanded Site F to accommodate the remainder of the Corps needs for this year. Site F is considerably coarser than Site B, and sand disposed in Site F would not have the dramatic impact to seabed composition that would be caused by disposal in B. Disposing "like on like" material makes good biological sense. Consequently, we recommend that the Corps be required to dispose in Site E and Site F only. While we realize that Site F cannot be used in this manner for long term disposal without threatening navigation, and that sediment disposed in Site F will likely mound up and be lost to the littoral system, this is still likely the least impacting option for this year.

In the event that the Department of Ecology still wishes to allow the Corps to dispose of a very limited amount of sand in B this year, we offer the following guidance. These provisions may be applied to disposal in 1998 only.

Time Limitations: Immediately through December 31, 1998.

Mr. Vining
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Provisions as follows:

1. This project is approved as illustrated in plans dated February 11, 1998 attached to the referenced consistency concurrence letter, subject to the following provisions.

2. If a hydraulic hopper dredge is used, it shall only be operated with the intake at or below the surface of the material being removed. The intake shall only be raised a maximum of three 3 feet above the bed for brief periods of purging or flushing the intake system. During in-water disposal of dredged material, water shall not be drawn through the dragheads to flush out the hopper unless the dragheads are lowered to 20 feet or more below the surface.

3. Dredged material shall not be stockpiled below the ordinary high water line.

4. Dredged materials shall be deposited at expanded Site E to the greatest extent possible. We recommend disposal of at least 2 mcy to as many as 4 mcy in Site E in 1998. The following requirements apply to disposal at Site E:

   A. Sufficient material should be placed to create a bedform that can be monitored and tracked using depth sounding equipment. Depths of Site E should be monitored at least monthly, along with depths of adjacent areas, including the navigation channel next to Site E and Peacock Spit, Peacock Spit to the north of Site E for up to 2 miles, and Peacock Spit waterward to original Site B.

   B. A report shall be prepared that details monthly surveys and tracks the movement of the Site E bedform and submitted to WDFW for review prior to the end of 1998. The report should include an analysis of the fate of disposed sand and an estimate of the amount that entered the navigation channel, travels north across Peacock Spit, and travels waterward to Site B.

5. The remainder of the material dredged should be disposed in Site F. The following requirements apply to disposal at Site F:

   A. Thin layer disposal should be utilized.

   B. Prior to disposal, sediment samples should be taken and analyzed for percent fines. Benthic invertebrate samples should be taken prior to disposal. Crabs should also be sampled, using either standard commercial gear or commercial gear modified to trap smaller crabs. Depths should also be taken. A portion of

the site that is projected to be typical of the designed disposal depth and that has been minimally impacted by disposal activities in the past should be selected for sampling.

C After disposal on Site F is finished, samples as outlined above should be replicated. The samples should again be replicated prior to disposal the following year, if any. The Corps should attempt to keep the study area free of future disposal, and monitor sediment composition, benthic invertebrates, depths, and crab abundance as above for several years, to track the recovery of the site.

D. Preliminary reports should be presented to WDFW prior to the end of 1998 and subsequent reports presented in a timely manner.

6. Disposal in Site B is strongly discouraged, but if absolutely necessary, is acceptable in 1998 only, and only under the following conditions:

A. Disposal shall be confined to the southwestern corner of the offshore portion of expanded Site B as identified in the plans attached to the referenced letter.

B Disposal shall be by point dumping only, thin layer disposal over the remainder of Site B shall be prohibited.

C To avoid molting and soft shelled crabs, disposal shall be prohibited after July 1 of any year.

D Sampling and reporting of data shall be as provisioned for Site F in Provisions 5B, 5C, and 5D above. No disposal shall be done until this sampling, which is required according to the 1997 Environmental Assessment for site B expansion, is completed.

7. Dredging shall be conducted to minimize siltation of the beach area and bed.

8. If a fish kill occurs or fish are observed in distress, the project activity shall immediately cease and WDFW Habitat Program shall be notified immediately.

9. Debris or deleterious material resulting from construction shall be removed from the beach area and project site and shall not be allowed to enter waters of the state

10. No petroleum products or other deleterious materials shall enter surface waters.

11. Water quality is not to be degraded to the detriment of fish life as a result of this project.

In the future, an area to place sand that avoids productive fish and shellfish beds, while ensuring that the sand will enter the littoral system, needs to be found. Progress has been made in identifying such areas, but more work needs to be done. The selection of this area needs to incorporate input from resource agencies and user groups. Disposal sites need to avoid productive fishing areas. Disposal needs to be "like on like" to the extent possible, and be done in areas that analysis of bottom contours over the years shows to be erosive. Most importantly, beneficial uses need to be found for Columbia River sand, and the Corps needs to move away from disposal and towards beneficial use. No where else in the country is sand allowed to be wasted.

The potential damage caused by offshore disposal of sand, rather than nearshore beneficial use, is becoming increasingly significant in the light of new information presented at the recent Coastal Erosion Workshop on March 5 and 6, 1998. An estimated 7 million metric tons (approximately 5 mcy) of sand per year enter the Columbia littoral system, and the Corps dredges and disposes of essentially all of this sand. The placement of this sand in the nearshore littoral system, where it can accrete on to Washington's beaches, rather than wasting it into deep water, could make a significant difference in reversing the recent erosional tendencies of portions of the coast.

In working with agencies and user groups, WDFW has an opportunity to utilize sand to correct the significant erosion problems at Fort Canby State Park, and to retain all of the sand now disposed in deep water in the littoral system, where it has an opportunity to continue to nourish the beaches of the State of Washington to the north. Benson Beach at Fort Canby has eroded so severely this last winter that the restrooms, parking area, and road to the parking area has all been lost, and ocean waves are presently entering the sewage treatment lagoon that serves the park. All use of the Park may need to be curtailed this year as a result.

The most feasible way to do this without significantly increasing impacts to benthic animals and their habitat would be to pump sand directly from the dredge on to the beach. A pier, dolphin system, or other structure could be installed from the south jetty to an area deep enough to accommodate the dredge in the sheltered bay behind the jetty. The pump out line could be run from this structure over the jetty and to Benson Beach. There are likely other locations or scenarios under which this could be accomplished, and all should be entertained. We need this sand on the beach.

Obviously, there are additional costs associated with this operation. A similar scenario in Grays Harbor, where sand pumped from a hopper dredge was used to fill a breach between the south jetty and adjacent uplands, wound up doubling the cost per yard over that of disposal. However,

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the savings in hopper dredge hauling time for offshore disposal in the MCR would be considerable, compared to the situation in Grays Harbor where spoils were typically disposed adjacent to the jetty very near to the area dredged. Add in economy of scale, all the savings to the resource and to the Corps from not having to monitor and mitigate resource damages from disposal, plus the benefits to mariners from not having spoil mounds and dredges to navigate around, plus the benefits from avoiding lawsuits by user groups, plus the benefits of getting 100% of the sand on to the beach where it will help ensure that Long Beach and points north do not wash away in the next century and result in calls for federal disaster aid, and you have a net cost that is probably less than what is now being incurred. There are dredge capability concerns also, and these would need to be examined by dredge equipment experts. However, the idea does not seem at this point to be impractical.

Biologically, the potential nourishment area at Benson Beach is insignificant as a producer of resources, as it is so erosive. WDFW surveys indicate insignificant populations of razor clams in this area. The opinion of our razor clam manager is that building up the beach with sand would be a benefit to area clam populations, particularly as the sand accreted to northern beaches. Salmonids do not utilize the surf zone on the open coast in the same way that they utilize the shallow water migration corridor in the estuary, as by the time they leave the Columbia they have attained enough size to feed and rear pelagically. Crab fishermen do not fish or navigate there, nor do crabs or other important fish species utilize the area to any where near the significant extent that they utilize existing disposal areas. Other species that utilize beaches in their life cycle, such as surf smelt, have never been observed spawning here. All other uses of the beach, by all species including humans, would likely be enhanced by nourishing it.

The one drawback biologically is that re-handling of dredged material will likely result in additional mortality of crabs entrained in the hopper dredge and transported to the site. All of the crabs entrained by the hopper dredge would likely be buried and killed in the beach nourishment operation. The significance of this additional loss would need to be investigated, and balanced against the gains made in protecting crabs and crab habitat from offshore disposal impacts. Our feeling, lacking hard data, is that the additional direct mortality would be offset by increases in productivity offshore, and would be an acceptable trade-off, but we would need to see the numbers of crabs entrained studied before we could determine this. We understand that this study, conducted in conjunction with draghead excluder design experiments, is in the works, so this question should soon be answered.

Regulatory constraints on expansion of disposal sites would be considerably lessened, as would the political pressure generated by continuing proposals for expansion. The beach is not an ocean disposal site, and so would not need to be designated as such by the EPA. The project certainly qualifies for consideration as a beneficial use site, and as one that is replacing land that

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was formerly natural uplands and beach, and in a State Park to boot, the project may qualify as habitat restoration. This opens the door for significant additional funding opportunities

There are likely other beneficial uses of sand that could be identified, such as building beach nourishing berms in nearshore Washington and Oregon waters, as has been done offshore of Grays Harbor and is currently being done in Half Moon Bay, a tributary to Grays Harbor, at no additional cost to the Corps. A concerted effort by the Corps needs to be made to research all beneficial uses. By next year we need to be ready to utilize sufficient sand beneficially to prevent disposal in Site B, and possibly in Site F also. We need the Corps to diligently work towards this goal.

We appreciate your cooperation in our efforts to protect, perpetuate, and manage the fish resources of the State of Washington.

Thank you for the opportunity to provide this information. If you have any questions, please contact me at (360) 249-1217.

Sincerely,

Robert Burkle
Area Habitat Biologist

RB:rb:9

cc: Dan Guy
Sara LaBorde
Steve Barry
Ed Manary
Ken Mohoric
WRIA File
Kim Trimpert, CREST
Arlene Merems, ODFW
Dale Beasley, CRCFA
Chris Regan, WSPRC
Susan Hinton, Ben Meyer, NMFS Portland
Kathi Larson, USFWS Portland
Eric Braun, Rod Moritz, Kim Larson, COE Portland
John Malek, EPA

This letter encourages avoidance of fishing areas, direct beach placement of sediments, identification of near-shore erosive areas for use of disposal area, and need for test results on entrainment.

HABITAT HAPPENINGS
PFMC COUNCIL NEWS
MARCH 1997
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The U.S. Army Corps of Engineers and the Environmental Protection Agency soon will issue a temporary permit (to last up to years) for the disposal of dredge spoils off the mouth of Columbia River. Four to five million cubic yards of sediments will be disposed in two sites ("B" and "E"). This decision is controversial, because the Corps plans to significantly expand two current dredge ocean disposal sites. Local crab fishers, led by the Columbia River Crab Fishenman's Association (CRCFA), are Fighting the site expansions which they say will harm crab and bottomfish habitat. Based on these concerns, the Habitat Committee invited Mr. Steve Stevens of the U.S. Army Corps of Engineers, Portland office, and Mr. Dale Beasley of the CRCFA to discuss the disposal site expansion.

Mr. Stevens stated that the Corps must keep the navigation channel clean to accommodate $12 billion in commerce. Also, past dredge spoils (since 1957) have "mounded", resulting in the need to disperse spoils over a wider area in expanded sites. However, members of the CRCFA expressed concern that the proposed expansion will result in "excessive damage to the marine environment" A final decision by EPA on the site expansions will be made in late March. The Corps and the EPA have also initiated the "necessary studies to develop a long-term dredged material management plan, with expected completion in late 1999." In response to the potential impact of this dredging project on fish resources, the Council expressed its concern in a letter to Mr. John Malek of the EPA. key excerpts from the letter are provided below.

MALEK LETTER

On March 3,1997, the Council's Habitat Committee met in Portland, Oregon, and discussed the proposed expansion of ocean disposal sites "B" and "E" off the mouth of the Columbia River (CENPP-PE-E-96-09).

The Council has not developed a position with regard to the proposed expansion. However, we are concerned with the potential negative impacts on Dungeness crab and fisheries resources. We base our concerns on issues discussed below by the Oregon Department of Land Conservation and Development, and the Washington Department of Fish and wildlife.

In a February 7, 1997 letter to the Corps of Engineers, the Oregon Department of Land Conservation and Development said.

Without more specific evidence to the contrary, the state must conclude that the disposal in the nearshore portion of site B has the potential to directly impact an economically important species [crabs] and the habitat on which the species depends. Furthermore, the state cannot conclude that disposal at site B, particularly in the nearshore portion, would not be consistent with Goal 19 requirements for the long-term protection of renewable ocean resources (habitat and shellfish) and the protection of commercial fish and shellfish areas.

WDFW, in an October 28,1997 letter to the Corps of Engineers, expressed their concerns with disposal at Site B:
We do not, however, support the use of site B. Almost no sand (less than 10%) will enter the littoral system if disposed offshore.

This area is at the westward edge of the littoral zone, where depths are sufficient to protect the bed from wave action, making this one of the most productive areas for fish life, emphasis added. Detritus necessary for productivity, especially for Dungeness crab, falls to the bottom in this area. This results in excellent fishing and heavy utilization by crab fishermen. This is also a productive area for bottomfish. Disposing in this area would both reduce productivity and waste sand.

Another concern the Habitat Committee has with the site designation process is the paucity of distribution and production data fisheries resources around the mouth of the Columbia River. Without an improvement in the precision of the data currently being used, we fear that convincing fishers that you are taking necessary steps to ensure minimal impacts to crab and fishery resources will continue to be a point of contention.

Therefore, we encourage you to take the necessary steps to increase the baseline data on fish and crab abundance in and around the disposal sites. We suggest that you develop methods to obtain real time monitoring data. Perhaps this could be accomplished in cooperation with the fishing industry.

We realize that dredging and disposal of dredge spoils are a necessary part of keeping the Columbia River a functioning economic arterial. Our request is that decisions regarding the location of disposal sites be made with sufficient biological information to minimize impacts to crab and fish resources. If sufficient data does not exist, it is incumbent that steps be taken to get that data

Between the resources of the Environmental Protection Agency, U.S. Army Corps of Engineers, and NMFS, as well as state natural resource agencies and the fishing industry, there must be a vehicle to obtain better biological information.

We also hope that the "temporary" status of this rulemaking will be resolved quickly and that studies needed are undertaken Promptly to finalize locations of disposal sites so as to minimize impacts to fisheries resources.

Pacific Fishery Management Council recognized Corps/EPA was working from a lacking data base in early 1997. Nothing has changed, still no resource baseline data.

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U S Army Corps of Engineers
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3 July 1998

RE: Out of Court Settlement Agreement

Dear Colonel Slusar:

Recently CRCFA and PCFFA negotiated in good faith with the United States Army Corps of Engineers, Portland District through the Justice Department and Earth Justice. Our agreement had two parts;

1) The formal agreement for 1998 O & M at MCR before the Federal District Court stated:
   a) There would be no ocean disposal in expanded site B in 1998, except in case of a very large dredging volume (in excess of 6,000,000 cubic yards, a figure not reached in this decade)
   b) Ocean disposal would cease in expanded site E after August 22, 1998, to accommodate a biological timing window that avoids burying large numbers of adult dungeness crab
   c) The U S Army Corps of Engineers would immediately commence bathymetric monitoring of Peacock Spit out to 15 fathoms and North of expanded site E for a minimum of two miles on 750 foot transects.
   d) In conjunction with Peacock Spit monitoring the Corps would computer simulate wave modeling in the area
   e) If at any time Peacock Spit showed a 10% increase in wave intensification, dumping in Site E would be terminated until wave intensification decreased to the point where dumping could be resumed without infringing upon the 10% intensification level
   f) This 10% increase in intensification was independent of the cause
   g) These wave modeling would be run frequently enough to recognize the 10% increase in 1998 and in May of each year
2) The informal verbal agreement included immediate resumption of the MCR New Site Selection Work Group as early as July of 1998.
   a) The Work Group was to re-evaluate and refine the current set of overlays

   b) The Work Group was to re-evaluate and refine the candidate sites at MCR
   c) The Work Group was to look at possibly adding additional candidate sites
   d) The Work Group was to look at possible new methods of sediment disposal, other than by conventional belly dump
   e) The work Group should also look at cost-benefit analysis of the sites, including beneficial use potential
   f) Some field observations still need to be done, by October another year will be lost
   g) US Army Corps of Engineers was informed that CRCFA would not be available for Work Group meetings from late July through early October and mid-November until the End of January

At this time the US Army Corps of Engineers is not in accord with this agreement of at least two aspects:

1) At this time no baseline bathymetric monitoring and wave modeling has been accomplished and shared on a timely basis with CRCFA and the rest of the Work Group
2) At this time the New Sites Work Group meetings have not been resumed

It should be further noted that CRCFA has dealt in good faith with the Corps and expects the Corps to respond accordingly. CRCFA was a member of the Scripps soft-shelled study developmental team. To my knowledge only one conference call has been held and no formal draft write up has been put together for review by the team. Could you please formally acknowledge why CRCFA, as a member of the soft-shelled study developmental team was not included in the conference call and why the study appears to be stalled. What is the reason for delaying the resumption of the Work Group when there is so much work that needs attention?

You must also realize that this settlement is only directly related to O & M. The case involving the 1997 expansions of B & E could and probably will invalidate those expansions, further limiting the Corps disposal options at MCR. It is not CRCFA's intention to put a stop to dredging at MCR. The intention is to find and establish, as soon as possible new, more environmentally friendly, and economically feasible disposal options with beneficial uses that could abate beach erosion or added to sport fishing enhancement. These sediments should be used for beneficial projects even if disposal costs are increased.

Respectfully,

Dale Beasley

Dale Beasley
CRCFA

As of this time no wave analysis has been done. One 11th hour meeting has been held. The site selection work group did not anticipate the 75 square miles would be selected for disposal, especially without thin layer tests. Critical meetings were scheduled when the Corps knew CRCFA attendance would be limited.

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18 June 1998

RE: NWP-CO-CRA-FY98-005

Dear Colonel Slusar

Thank you for providing CRCFA with timely opportunity to review and comment on activating a disposal site at the end of the North Jetty, Columbia River Mouth.

Your concern for preservation of the North Jetty is welcomed and encouraged. The North Jetty disposal site may prove to be one of the better site choices available today. CRCFA has two areas of concern: ***navigational safety*** and ***environmental safeguards.***

1) Maintain navigational safety through adequate bathymetric monitoring. Consider 55' as a prudent depth for safety. ***Avoid any wave amplification*** in the main channel as a result of dumping in the North Jetty site. Apply the suspension of dumping criteria of 10% wave amplification to areas outside the channel. Maintenance of small vessel traffic routes keeps traffic levels in the main ship channel at lower levels and adds to the over all safety of the Columbia River transportation system. It is routine for fishermen to use this area as a traffic route to get out of excessive ebb tide while transiting inbound.

2) ***Utilize timing*** of dumping to minimize mortality to crabs of all life stages that use the area for transit in and out of the estuary. Your investigations and use of biological timing should include the possibility of dumping on large minus tides and the relationship to crab presence. This site can be useful to help relieve pressures on other areas of high marine resource abundance. It is possible that the timing closure window in expanded site E can be increased at least two weeks earlier in August when the North Jetty site becomes available and should be highly considered as such.

3) The North Jetty disposal site should be evaluated as a potential permanent, shore-based pumping station for direct beach placement of sediments on Benson Beach. Crab entrainment may or may not be acceptable depending on quantities present at various times. This is a beneficial use that could be used for erosion abatement to save the sewer lagoon used by Fort

Canby State Park and the USCG National Motor Lifeboat School. Excess sediments could be used for local contractor construction needs and/or building a dune field for tourist dune buggy activities. Other creative beneficial uses may result from the activation of the North Jetty site. Additional direct beach placement could dramatically increase the sites capacity and aid in future ocean disposal requirements.

CRCFA's concern for the North Jetty site is the same as for all disposal sites. **Minimize adverse biological affects,** especially related to crab and monitor for biological influxes throughout the dredging season. In Lou of monitoring, historic information related to timing should be more restrictive, in favor of the resource.

Maintain adequate numbers of disposal sites that are managed to minimize adverse affects to natural resources. Suspend disposal if, a site becomes biologically active, to maximize the use of sites biologic monitoring becomes a necessity. Switch to another site that is less active. Expanded site E is a good example. In 1997, large numbers of crab moved into the area as they usually do in August. At that time, dumping should have been suspended and moved to another less active area. Contracts with dredge companies should reflect rapid changes in dump location and be tied to monitoring when timing is necessary to avoid natural resource concentration.

Other ***environmental safeguards*** should be employed. Use the **primary principle of resource avoidance.** Establish site management plans that specify quantifiable resource thresholds which cannot be exceeded. These thresholds will be sanctioned by the area's resource managing agencies: NMFS, State Fisheries, State Department of Natural Resources, or other qualified resource managing agencies and put into place prior to deposition. Once natural resource concentration levels are triggered, switching disposal sites should be automatic. Remember, pressures from other priorities must not supersede responsible obligations to habitat.

Respectfully,
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11 August 1998

RE: August 19-20 Workgroup meeting

Dear Work Group:

CRCFA is glad to see the resumption of the Work Group meetings. This is long overdue.

In considering a new site selection, the workgroup should look closely at this year's dredge dumping activity in expanded site E. Expanded E was divided into about 50 dump areas. The majority of the sediment ended up in a mound within a very few number of cells. ***Critical navigation routes*** run through Expanded site E. The Corps' current monitoring intervals did not prevent the mound. Monitoring should be done based on the amounts being dumped rather than by time (ie once a month). Tracking of material offsite is mandatory to see if navigation and/or biologic integrates are being maintained. ***Biologic thresholds*** must also be established. If large quantities of crab or other resources move into an area, dumping should be discontinued or moved to another available site. Multiple sites for dumping should be available to the Corps. New sites should have a life expectancy of at least twenty years.

In reviewing the overlays:

1) The Shale area needs correct placement
2) The bottomfish overlay needs differential graying to more accurately depict total volumes of fish (numbers of sand sole in close on the South side of the Columbia River are only a fraction of the English sole by site B, yet have the same amount of gray)
3) The crab data should be grayed according to the crab survey showing differences in populations.
4) The soft-shelled areas should be refined and show that in August large numbers of crab are in and around expanded site E, there are plenty there right now and verification can be arranged if need be.
5) An additional overlay will be needed to show areas of juvenile crab that CRCFA is developing through their efforts with modified crab traps, in researching different year classes

present in and around MCR This data is still in the developmental stage.

6.) Actual costs of maintaining the individual sites should also be displayed, including the direct beach placement on Benson Beach and weigh the benefit of saving a sewer lagoon into the process.

Site selection should also look at potential for increasing accident potential. Site B wave intensification and associated wave amplification has significantly increased the potential for the death of small vessel operators and increased the potential for an oil spill in the area. The majority of oil transported at MCR is by tug and barge and in recent years a number of near miss accidents have occurred. An oil spill will be very costly in terms of clean up and biologic consequences could be disastrous. Any wave intensification in the main channel will increase the accident potential. The Corps should have their wave analysis of Peacock Spit ready for review by the Work Group meeting date.

The overriding goal CRCFA is working for is ***Navigational Safety and to minimize damage to the crab resource.*** Navigational safety extends to all the small vessel routes in and out of the main shipping channel with special emphasis for prevention of mound building. CRCFA feels the best way to minimize damage to the crab resource is to ***avoid dumping on the resource.*** Find the area(s) of least concentration and develop that as a site. The CRCFA proposal in the center of the towboat lane is but one option that should be considered, a better offshore site maybe found through the overlay process and further investigation. Beneficial uses, such as an offshore sport fishing reef should be considered. Direct beach placement for abatement of coastal erosion is also a beneficial use that needs consideration.
Nearshore berms cannot be placed close enough to shore to significantly contribute to abatement of coastal erosion. USGS bathymetric change maps indicate 30' or closer is needed to contribute to beach accretion, probably closer than the Corps would like to get with a hopper dredge.

Thank you for your considerations in this matter.

Regards

Dale Beasley

Dale Beasley
CRCFA

I would like to be at the meeting, and will be if at all possible. It is a very difficult time of year for me to attend the meeting as the Corps is well aware

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U S Army Corps of Engineers
Portland District
Planning & Engineering Division
P O Box 2946
Portland, Oregon 97208-294

3 July 1998

RE: CENWP-PE-E

Dear Sir:

Thank you for providing CRCFA with timely opportunity to review and comment on alternative measures to improve dredged material management practice for the existing Columbia River Federal Navigation 40-foot Channel. We will confine our comments to the dredging activities that are bound for ocean disposal.

CRCFA has two areas of concern: ***navigational safety*** and ***environmental safeguards.***

3) Maintain navigational safety through adequate bathymetric monitoring. This monitoring should be routinely carried out and wave amplification models evaluated where ever dumping activity could impact small vessel navigation routes. Consider 55' as a prudent depth for safety. ***Avoid any wave amplification*** in the main channel as a result of disposal activity. Apply the suspension of dumping criteria of 10% wave amplification to areas outside the channel. At this time the tongue area, just inside buoy #3 that has depths of 45 feet in May of 1998 is of particular concern and needs special attention to prevent further mounding. Navigation in the area is currently dangerous and life threatening much of the winter, any more deposition is not prudent. Maintenance of small vessel traffic routes keeps traffic levels in the main ship channel at lower levels and adds to the over all safety of the Columbia River transportation system.

2) CRCFA concern for environmental safeguards extends to all disposal sites. **Minimize adverse biological affects,** especially related to crab and monitor for biological influxes throughout the dredging season.

Utilize timing of dumping at ocean disposal sites to minimize mortality to crabs of all life stages that use the dump areas at different times of the year. Biological monitoring has to become part of the Dredged Material Management Plan. . Suspend disposal if, a site becomes biologically active, to maximize the use of sites biologic monitoring becomes a necessity. Expanded site E is a good example. In 1997, large numbers of crab moved into the area as they usually do in August. At that time, dumping should have been suspended and moved to another less active area.

Maintain adequate numbers of disposal sites that are managed to minimize adverse affects to natural resources Contracts with dredge companies should reflect rapid changes in dump location and be tied to monitoring when timing is necessary to avoid natural resource concentration.

Other ***environmental safeguards*** should be employed. Use the **primary principle of resource avoidance.** Establish site management plans that specify quantifiable resource thresholds which cannot be exceeded. These thresholds will be sanctioned by the area's resource managing agencies: NMFS, State Fisheries, State Department of Natural Resources, or other qualified resource managing agencies and put into place prior to deposition. Once natural resource concentration levels are triggered, switching disposal sites should be automatic.

Respectfully,

Dale Beasley

Dale Beasley
CRCFA

NORTHERN OYSTER COMPANY P.O. Box 165 Ocean Park, WA 98640 206/665-4886

January 15, 1999

Mr Steve Stevens
U S. Army
Corps of Engineers
PO Box 2946
Portland, OR 97208

Subject: Comments on final draft dredge disposal areas for Lower Columbia River maintenance and and channel deepening project.

Dear Mr. Stevens:

I have been involved in this Corps process since it opened for public input in 1996. At that time I was President of the Columbia River Crab Fishermen's Association based in Ilwaco, Washington. After resigning that position in 1997 our board requested that I continue because of my several years involvement with the Corps on the disposal issues.

In initial meetings with the Corps I asked if conclusions reached toward building a final document were going to be based on factual information, or if this exercise was simply to satisfy the process required by law. I was emphatically assured by the Corps representatives that science and facts would determine finding leading to a final decision. In many of our primary areas of concern this has not happened. As originally feared, satisfying process has been the primary driver toward a predetermined outcome for this project.

The prior 1980's impact statement prepared for the present dumping areas was one of the worst cases of Tinker Toy engineering that I have read. The Corps expanded the old sites to fit their agenda with little or no regard for extreme safety problems caused to all classes of shipping, the destruction of fishing grounds and a large negative economic impact to general fisheries. The Dungeness Crab fleet bore the majority of this impact.

The final page of this prior impact statement, signed by the Corps person in charge, states that based upon the Corps finding no adverse impacts of expanding those sites would occur. After the grounding of the log ship Green Cedar and its' subsequent scraping, the suspected drowning(s) at the sites, the extreme safety problems created and the miles of soured fishing grounds, we were hoping the Corps approach had changed. In this case, this has not happened.

It took several meetings to convince the Corps that their failed policy of expanding existing sites for their future needs was illogical and dangerous. These sessions brought about a reluctant admission from the Corps that cost of transporting disposal was the main driver in site selection, not environmental or safety concerns. Surprisingly, the EPA representative was supportive of the Corps position during these discussions. Other representatives, the U.S.C.G. Bar Pilots, Western Boat Owners Assoc., charter boat reps and our own organization were not.

Continued - Page two

January 15, 1999

Mr. Steve Stevens
U.S. Army
Corps of Engineers

The present "process" is flawed, in that it is questionably, not a document based on substantial fact. Unfortunately, the Corps is having some of the same creditability lapses they had in the previous E.I.S. To date, the Corps' process has:

I. Withheld information

- A. on the documents legal requirements.
- B. the true span of the proposal
  1. it started as a temporary 5 year project, became a 10 year proposal, evolved in the final draft into a 50 year plan which was a complete shock to the committee

II. Misrepresented crab information

- A. manipulated incomplete preliminary mortality work to justify decision making
- B. used a laboratory tank study to duplicate ocean conditions on dumping without any follow up
- C. used only the information that would support their position (and even that back-fired) from the study.

III. Refused professional assistance in obtaining documentation

- A. C.R.C.F.A. crab information
  1. area population and pot mortality
  2. other

IV. Set up study committees on research projects then unilaterally excluded crab representatives without notice.

V. Refused to explore preferred alternatives

- A. direct or re-pumped disposal on Benson Beach, WA.
  1. claimed it was outside Corps jurisdiction, etc. (this was the one choice all entities except the Corps preferred)
- B. others

VI. Used unsubstantiated claims to base findings upon

- A. Corps and private dredges are capable of thin disposal dumping
- B. crab mortalities will be minor in disposal area
- C. economic impact will be minor on crab industry
- D. Etc., etc. etc.

Conunued - Page 3

January 15, 1999

Mr. Steve Stevens
U.S. Army
Corps of Engineers

Page three

VII. Used incompatible information for justification

A. Gulf Coast inshore dumping study - with author presentation

1. totally unrelated to Columbia situation

In summary, the Corps has acted as predicted. They made a decision in the beginning and set up their facts along the "process" to justify it.

The proposed offshore dump site will basically destroy any opportunity for Crab harvest during the summer season because of dredge traffic across the ground. The Corps has not provided accurate information on true crab mortalities associated with dredge deposits or their effect on other aspects of the fishery. The Corps chosen site has no support from fishing interest because of the huge impact on prime grounds and nursery areas.

There is no questions that the Port of Portland is calling the shots with the Corps. There also is no question that as future ships get deeper that this is a wasteful temporary fix. Finally, there also is no question that the Columbia area crab and fishing interest are being set up to be sacrificed in the "process". This existing document, as it pertains to offshore dumping impacts, absolutely does not satisfy the true criteria demanded by law to allow the Corps to proceed.

Respectfully,

Richard N. Sheldon

Richard N. Sheldon
Past President C.R.C.F.A.

RNS/j

Date: January 11, 1999

To: Army Corp of Engineers

From: Daniel Oja, Commercial Fisherman

Subject: Navigation Hazards created by Army Corp of Engineer

Re: Dumping of Dredge Spoils

I've written this letter out of concern for the safety of fishermen while navigating the Columbia River Bar. I've noticed that it is no longer safe in the channel. The "humps" or dump sites created by the Corp of Engineers now cause the waves to break over the top of buoy number three and ricochet into the channel. We are no longer safe "just being in the channel". The waves also break on the inside of the channel between numbers six and eight buoys. When you enter the channel, you can not even use the ship ranges on Cape Disappointment. Where do we go now? Your dump sites are getting more dangerous every year to our boats and lives. The fishermen are aware of the dangers created by your agency, but this hazard will eventually kill some unsuspecting boaters. We have made your agency aware of these problems, but you have chosen to ignore us. Your boats are here only in the summer when monitoring the river and ocean bottoms. I suggest you come in the winter and try...only then will you notice the impact of your dump sites. The weather is very severe in winter, but we must fish in these conditions, and it does no good for you to show during fair weather and then insist that the dump sites have "little or no impact on navigation".

The Corp of Engineer has a big ocean to dispose of the dredge spoils, but the agency continues to dump on prime crab fishing grounds. Even worse, the agency intends to expand these dump sites along the Long Beach Peninsula and around the mouth of the Columbia River, despite the fact that the commercial fishermen have vigorously opposed this decision. The Corp has continually ignored all suggestions and has refused to consider the impact of their decisions on the people living near the mouth of the Columbia River. We are disappointed by the Corps continued refusal to cooperate with the communities that they impact, however, it is not surprising given the past history that we have personally experienced with the Corp of Engineers.

Sincerely,

Daniel Oja

Date: January 11, 1999

To: Senator Slade Gorton

From: Daniel Oja

Subject: Army Corp of Engineer

Re: Dredge Dumping in the Pacific Ocean off the mouth of the Columbia River

Dear Senator Gorton,

I am a resident of Pacific County and my husband makes his living as a commercial fisherman harvesting dungeness crab in the Pacific Ocean north and south of the Columbia River. I recently attended a meeting by the Corp of Engineers in Astoria, OR regarding the deepening of the Columbia River channel for the benefit of ship traffic. I understand that there are great economic benefits to the citizens living in the Portland area, the Port of Portland, barge workers, wheat farmers, etc., however, I cannot understand why the economic needs of those living at the mouth of the Columbia River are completely ignored in this process. The Corp of Engineers plans to dump approximately 230 million cubic yards of dredge spoils in prime fishing and crabbing grounds over the next 50 years (copy of proposed dump sites enclosed). Of course, this will destroy our fishing habitat and not only economically harm the fishermen, but also the community that still derives a great deal of their financial resources from this industry.

Sincerely,

Daniel Oja

C.R.C.F.A Columbia River Crab Fisherman's Assoc.

Po. box, 84
Chinook Washington 98614
U.S.A.

Phone (360) 777 - 8242

January 10, 1999

U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-294

Dear Colonel Slusar,

This letter is in regards to site B at the mouth of the Columbia River. and the effect that dredge spoil dumping in that area has made on our crab fishing waters.

Most fishermen do not fish that area any more, including myself,but this year I put some crab pots on the mound in site B just to see if there were any crab there.

As expected, I found that there were very few crab in that area. I would get one to two crab per pot on the dredge hump, and eight to ten crab per pot just north of that area. It is now very clear to me that this area is no longer the productive crab ground that it once was before the corps started dumping dredge spoils there.

Because this area is no longer fishable, it has caused me to fish further north, and has forced me to fish the soft bottom area called the mud-hole. Now our pots get stuck every year because we were forced out of our old fishing grounds.

It has been 19 months since the last dredge spoils were deposited in site B, and there are fewer crab there than I have ever seen. It is very clear that this area is no longer the rich crab waters that it once was.

Please do not destroy any more of our fishing grounds. Take the dredge spoils somewhere else!

Sincerely,

Rob Greenfield

Rob Greenfield
CRCFA

C.R.C.F.A Columbia River Crab Fishermen
Po. box. 84
Chinook Washington 98614
U.S.A.
Phone (360) 777 - 8242

January 10, 1999

U.S Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-294

Dear Colonel Slusar,

I am writing you this letter in regards to a recent event that I unfortunately was a part of on December 10,1998.

First of all, before I get started, I would like to clarify the fact that the corps is causing mounding both in and out of the navigation channel due to their dredge spoil dumping near the mouth of the river.

December 10 was a very nice day with very little wind, and about a 10 foot swell. We were fishing crab approximately two miles north of bouy number 1 that day. That afternoon myself, along with other fishermen, noticed the swell starting to build. It got big enough that we decided to head for port in order to get across the bar before dark. On our way in , I got to witness something I have not yet seen in my eleven years of crab fishing . A swell broke (tipped over) approximately a quarter mile S.W. of buoy #3, right in the middle of the channel. That is normally a very heavily traveled area by fishermen . Fortunately nobody was there at that time. My boat is only 36'x12', and I can guarantee you that if that wave would have broke on my boat, I wouldn't be writing you this letter today.

I won't go on any more, I am confident that you are aware of our (crab fishermen) concern about the safety of our fleet. We hope that you take measures to correct this problem, or at the very least keep it from getting any worse.

Sincerely,

Rob Greenfield
CRCFA

U S Army Corps of Engineers
Portland District
CENWP-PE-E
Attn: Steve Stevens
PO Box 2946
Portland, Oregon 97208 –2946

1/15/99

Dear Sir,

I'm dropping you a note in reference to my dungeness crab operation off the mouth of the Columbia River during the time frame around the middle of August 1998. I had a couple of strings of crab pots in the area of buoy no. 7 to buoy no. 3 I ran this gear every day being that the weather was calm and we could fish daily. There was a large number of soft shelled crab present at the time. It became very disturbing to me that a great many of the days the pots that were in the location of buoy no 7 and out toward buoy no. 3 would be buried down in the sand and I would have to stop on each pot to pull it free. But the most alarming thing was that most all the crab would be dead.

At that time of year I fish around 300 pots. I didn't find this problem anywhere else. It became increasingly apparent that the dredge spoils being dumped on site E were quickly covering the crab gear as well as smothering the crab. This happened day after day, it certainly brings several questions to light – first it has to be extremely apparent that when the crab show up around the Columbia River in great abundance and are especially vulnerable there shouldn't be any dredge dumping on these crab. There is no question when that time frame is. I have crab fished for many years. We see these new soft crab appear in August usually from the 10th to the 20th. That crab is always thickest close to the river. Once these soft crab appear they remain in the area until they get caught, usually about December.

One has to wonder how many crab are buried and don't crawl out – I know your study from San Diego that shows crab crawl out from a small amount of dredge spoils. There are also examples to show dredge spoils don't disperse worth a darn at shallow depths, like sites A & B, which would obviously be part of the problem in Site E.

It also becomes a factor of the disruption of covering our crab pots as the spoils tail out as well as dead crab for many pot lengths away form the dredge site. I believe it not legal for dredge spoils to impact an ongoing commercial fishery in this manner.

I don't want to complain on for ever but I do want to get the absolute point across that there is considerable damage done in dredge site disposal areas as well as the tail out area. There is not doubt that this occurs – I've been there and done that as they say. I'm absolute sure about the soft shell appearance in large numbers being close to mid August. The Corp definitely needs to do some further and better studies if they believe it to be any different.

Sincerely,

Lance Gray
Crab Fisherman

Northwest Environmental Defense Center
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(503) 768-6673 Fax - (503) 768-6671

District Engineer
U.S. Army Corps of Engineers, Portland District
CENWP-PE-E Attn: Steven J. Stevens
P.O. Box 2946
Portland, OR 97208-2946

This letter constitutes the comments of Northwest Environmental Defense Center (NEDC), Oregon National Resources Council Fund (ONRC), Northwest Environmental Advocates (NWEA),and Sierra Club Oregon Chapter, regarding the Portland District US Army Corps of Engineer's (Corps) Draft Integrated Feasibility report for Channel Improvements and Environmental Impact Statement (draft EIS) for the Columbia and Lower Willamette River Federal Navigation Channel. Our organizations are non-profit, public interest organizations located in the Pacific Northwest. Most of our members reside, work and/or recreated in or along the Columbia and lower Willamette Rivers. We request that these comments be incorporated into the record.

1. Our past Experience with the Corps on this issue has indicated that the Corps regularly disregards the comments our organizations submit. Not only is such behavior unprofessional, it also violates the spirit and intent of the public comment process under NEPA. Therefore, we request that the Corps give these comments full consideration, as NEPA requires. As we have done throughout the dredging and deepening EIS processes, we will look for incorporation of our suggestions in the final EIS. Should there be any issues you wish to discuss, please contact us (particularly NEDC).

The draft EIS fails to adequately comply with several statutory regulations, including (I) the National Environmental Policy Act (NEPA); (II) the Endangered Species Act (ESA); (III) the Clean Water Act (CWA); (IV) the Resource, Conservation, and Recovery Act (RCRA), and (V) the Ocean Dumping Act (ODA).

I. The draft EIS does not fully comply with NEPA requirements.

The NEPA process should be used to identify and address the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment. 40 CFR § 1500.2(e). The draft EIS fails to fulfill the purpose of NEPA because it A) does not provide a "full and fair discussion" of significant environmental impacts in a manner

Corps of Engineers Response

1. Comments noted.

as to avoid predecisional impact analysis; B) does not present environmental impacts and alternative actions in comparative form; C) inadequately addresses cumulative environmental
2. impacts that have not been sufficiently addressed previously in other EIS documents relating to maintenance of the navigation channel; and D) does not fully consider reasonably foreseeable significant adverse impacts, nor address the availability of information relating to these impacts.

A. The EIS rationalizes decisions instead of fully discussing environmental impacts.

The EIS should provide "full and fair discussion of significant environmental impacts," and shall not be used to rationalize or justify decisions already made. 40 CFR §§ 1502.1,1502.2. Several aspects of the draft EIS indicate that the Corps views its purpose as to rationalize decisions rather than to provide a "full and fair discussion" of significant environmental impacts. To begin with, many potentially negative impacts are dismissed as insignificant without clear basis or supportable scientific evidence. For example, the Corps relies on limited scientific studies to reach the conclusion that Dungeness crabs will escape detrimental impacts from disposal of dredged material onto crab habitat. The study cited took place in a small tank rather than in an
3. environment more similar to Dungeness crab habitat. Also, the amount of material deposited on the crabs was such a small fraction of the amount of material which will ultimately be disposed of during both the construction phase and the subsequent maintenance as to make the simulation inconclusive. DEIS, Appendix H, Exhibit F. Therefore, the Corps'conclusion that Dungeness crab will survive deposits of dredged material up to 10" depths by moving into the water column appears to be a rationalization rather than a supportable determination. Id. Furthermore, basing this conclusion on behavior exhibited only during the study adds a great deal of speculation to the Corps' conclusion.

The Corps reaches other conclusions in a similarly speculative manner. When discussing rock blasting, for example, the draft EIS states that salmonids and other fish in the Columbia and Willamette Rivers will be scared away prior to the blasting to decrease the likelihood of killing the fish. DEIS at 6-21. However, the draft EIS does not indicate what techniques will be used to
4. effectively scare the fish, whether a similar technique has been conducted elsewhere, nor what probability of success this technique may have. Also, the Corps concludes, with no apparent scientific reasoning, that benthic organisms will repopulate the blasted areas. Id. It provides no proof that such a conclusion is well founded, nor does it indicate when or how the repopulation would occur. Once again, the Corps seems to use these conclusions to rationalize their decisions.

Finally, incorporating the feasibility study into the draft EIS has the effect of diminishing the intended goal of an EIS, which is to identify and address the reasonable alternatives that will avoid or minimize adverse effects. 40 CFR § 1500.2(e). Rather than fully addressing reasonable
5. alternatives to the deepening, the Corps focuses a great deal on the various deepening alternatives, giving little attention to any actual avoidance or minimization of adverse effects. Also, while NEPA does not preclude a federal agency from employing a balancing test in reaching substantive permitting decisions, the extent to which the Corps favors the deepening alternatives is impermissible. Indeed, the Corps' cost-benefit analysis does not include costs beyond the

Corps of Engineers Response

2. Comments noted. See our responses provided below.

3. We realize the limitations of the crab burial studies. The determination that crabs could survive burial in up to 10 inches of material is based on actual data. However, the sample size was small. The Corps interpretation of that data has been incorporated into Appendix H, Exhibit F. Input on additional crab studies recommended by the management and monitoring task force will be considered.

4. A blasting plan was developed in cooperation with the federal and state resource agencies. It incorporates proven methods to minimize impacts to fish in the vicinity of the blast. All blasting will be done during the approved in-water work period, which is a time when fish numbers are low. Benthic invertebrate populations have been shown to recolonize a disturbed area relatively rapidly following the disturbance. This information is presented in the EIS.

5. Corps planning guidance recommends an integrated feasibility report and EIS as the preferred format. Most Corps General Investigation studies have used this format since the mid-1980s. Alternatives other than channel deepening were considered but determined not to be cost effective. Because of this, they were not considered in detail. Costs attributed to loss of agricultural land and other commercial and natural resources are taken into account. They are either described subjectively in the EIS section on environmental effects, or evaluated quantitatively as we determine mitigation required for these losses.

beyond the physical construction and maintenance of the channel, such as costs of species protection, losses of agricultural land, and loss of income resulting from salmonid and epibenthic habitat degradation. In not considering these costs, the Corps has not taken the necessary "hard ook."

B. The draft EIS is not presented in comparative form.

"[The EIS] should present environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options." 40 CFR § 1502.14. Segmentation of the draft EIS from the no-action alternative does
6. not present the alternatives in comparative form. Rather, it significantly deters the reader from comparing impacts of the sponsor's preferred alternative with the no-action alternative. In addition, the no-action alternative contains inadequacies which must be evaluated in their own right. Finally, conclusions in the no-action alternative are inconsistent with many in the draft EIS.

For example, the final SEIS of the DMMP (the no-action alternative) states that sediments in the Willamette River navigation channel would be suitable for in-water disposal. Furthermore, it indicates that while areas adjacent to the channel have high levels of HTRWs, the channel itself does not. Planned dredging along the Willamette River would have dredge spoils disposed
7. through uncontained in-water and upland disposal techniques. However, the channel deepening draft EIS specifically states that HTRWs are present in the navigation channel, as well as areas adjacent, and that safe disposal of dredged sediment must be done through in-water disposal and capping. DEIS at 6-12. Inconsistencies of this kind are difficult to assess due to the segmentation of the draft EIS from the no-action alternative.

In addition, the no-action alternative contained many vague, unenforceable promises to resolve agency mitigation concerns in the future. The EPA rated the draft EIS for the no-action alternative as "EC-2", Environmental Concerns. These concerns were not adequately addressed in the final SEIS for the no-action alternative. Nor have NMFS concerns been addressed, especially in relation to possible effects of dredging on fish populations. Indeed, the section 7
8. consultation submitted with the no-action alternative was dated 1993, and could not have taken into consideration any cumulative impacts from 1993 through 1998. What's more, the biological opinion for steelhead has yet to be released. In light of the fact that the Corps has recently decided to implement the no-action alternative as its Dredged Material Management Plan, the deficiencies in the no-action alternative should be made available for comment as an alternative to the proposed deepening, rather than be automatically accepted.

To the extent that resolution of these agency concerns involves mitigation measures, the 9th Circuit has found that mitigation must be discussed in sufficient detail in the EIS to ensure that
9. environmental consequences have been fairly evaluated. Robertson v. Methow Valley Citizens Council, 490U.S. 332, 353 (1989). A mere listing of mitigation measures does not sufficiently qualify as the reasoned discussion required by NEPA. Northwest Indian Cemetery Protective

Corps of Engineers Response

6. The EIS compares impacts of proposed actions to the no action plan in Sections 2 and 6 of the EIS.

7. The material routinely dredged from the existing 40-foot channel for the Columbia and Willamette Rivers has been tested and evaluated. The material dredged has been determined suitable for unconfined in-water disposal. The Willamette River has some isolated areas which will require additional testing prior to dredging in accordance with the Dredged Material Evaluation Framework (Novembber 1998). Back in the 1980s the Port of Portland dredged some contaminated sediment from the Willamette channel. This material was not placed in an unconfined in-water disposal site. Some of this material contained detectable levels of contamination. The Willamette River portion of the proposed action has been delayed to allow coordination with the ODEQ investigation and remediation planning for Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any Willamette River dredging and disposal activities. Appendix B provides additional detailed information on sediment quality.

8. The EPA has not commented nor raised objections to the Final Dredged Material Management Plan/SEIS or the Record of Decision on that action. The Final SEIS has adequately addressed their concerns with the Draft SEIS. The Final SEIS included the Biological Assessment for listed salmon and steelhead stocks. A Biological Opinion was received from the NMFS for the Dredged Material Management Plan/SEIS, and they concurred with our determination of no effect or not likely to effect.

9. The EIS and Appendix G lists describes in detail the environmental consequences and wildlife mitigation actions.

Ass'n v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986), rev'd on other grounds, 485 U.S. 439 (1988). Furthermore, a perfunctory discussion of these measures fails to take the "hard look" required under NEPA. The segmentation of the no-action alternative from the draft EIS precludes reviewing the alternatives in a comparable form.

10. Also, the EIS should reasonably explore and objectively evaluate all reasonable alternatives, and devote substantial treatment to each alternative. While the draft EIS does include a number of alternatives, it devotes little treatment to the non-structural alternative. It dismisses the alternative as less desirable, based primarily, it seems, on convenience to the shipping industry. An EIS should not use a cost-benefit analysis, nor the industry's preference, as its reasons for selecting or eliminating an alternative. Rather, an EIS should fully evaluate all reasonable alternatives.

C. The draft EIS does not adequately evaluate direct, indirect, and cumulative impacts.

11. EIS shall include discussions of direct effects and their significance and indirect effects and their significance 40 C.F.R. § 1508.8. Cumulative impacts must also be discussed. 40 CFR § 1508.25(a). "'Cumulative impact' is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 CFR § 1508.7. The congressional intent of NEPA and CEQ regulations mandate consideration of all of these actions to provide a full and fair analysis of the proposed action.

In other comments submitted to the Corps about proposed dredging plans, NEDC has consistently requested that the Corps address cumulative environmental impacts resulting from the maintenance dredging and disposal. Our fundamental concern has been the lack of adequate evaluation of the environmental consequences resulting from dredging. Our comments to the no-action alternative reiterated the concerns, as we do again here. Although the Corps acknowledges the NEPA requirement to include assessment of cumulative impacts, it again has failed to adequately address them in the draft EIS.

A fundamental problem in the draft EIS is the Corps' failure to recognize the Columbia and Willamette River systems as full ecosystems, rather than independent components. This failure is apparent in the Corps' handling of many major issues, from resuspension of hazardous and toxic materials, to destruction of benthic organisms, to disposal of 19 mcy of dredge material on Dungeness crab habitat. Considering that the rivers are whole ecosystems, with each component of the ecosystem having an impact on the whole, the draft EIS needs to address each activities on the whole. Also, since dredging has taken place in the Columbia and Willamette Rivers since the late 1800s, the Corps cannot look at the deepening project as an isolated incident, separated from past effects of dredging. Past, present, and future impacts along the entire ecosystem must be addressed to fully assess cumulative impacts.

Corps of Engineers Response

10. See response # 2 to the US Department of Interior letter concerning LoadMax.

11. Comments noted. See our responses to your specific comments below.

Specifically, the draft EIS has not adequately consider cumulative impacts on the following:

1) Loss of estuarine wetlands.

12. The draft EIS acknowledges that a substantial amount of wetland habitat has been lost due to urbanization and agriculture. DEIS at 6-57. However, causes and consequences of wetland habitat loss have not been adequately addressed in this draft EIS, the no-action alternative FSEIS, or in any other dredging document. Specifically, the DEIS has not addressed the net effect of the total disposal of dredged materials from channel maintenance dredging and other state, local, and private dredging projects on wetlands without mitigation. For example, the Port of Portland filled approximately 2,000 acres of wetlands and related habitat in Rivergate, with little or no mitigation. This fill has not been considered by the Corps in its discussion of direct, indirect, or cumulative impacts.

2) Cumulative impacts on benthic organisms.

13. In 1975, the Corps noted that "[b]enthic organisms are displaced by frequent dredging which makes their former habitat unsuitable for reintroduction. It can be estimated that 10 percent of the total bottom area of the Columbia river is so affected, but the impact on the total ecosystem is difficult to quantify." (1975 EIS p. 4-3) Since that time, the Corps has yet to quantify the total impact on the ecosystem or the cumulative impact on benthic organisms alone. Instead, it has only noted that deep water benthic communities are less productive than shallow water communities, and, indeed, now uses that as justification for increased dredging in deep water. In order to provide an adequate assessment of cumulative impacts on benthic organisms, the Corps should: 1) calculate the current percentage of total bottom area of the Columbia River and the Lower Willamette River that is affected by dredging; 2) calculate the total percentage of benthic communities lost from dredging activities during the past 28 years; 3) assess the cumulative impacts that the loss of benthic communities has had on the total ecosystem; and 4) provide a reasonable estimate of expected losses to benthic communities from deepening and rock blasting.

3) Cumulative impacts on sturgeon.

In 1975, the Corps noted that the species to be most impacted by dredging activities would be white sturgeon. Since then, the Corps has acknowledged that the sturgeon fishery has been limited because of declining stocks of sturgeon. DEIS at 5-24. However, the Corps has never adequately determined the cumulative effects of dredging operations on sturgeon populations, nor does it sufficiently assess potential impacts of the deepening and rock blasting on current sturgeon populations. Rather, the draft EIS dismisses the potential of the dredging to entrain and hann significant numbers of sturgeon by dismissing its own testing techniques. DEIS at 6-19. To provide an adequate assessment of cumulative and future impacts on sturgeon populations, the Corps should: 1) calculate total area of the navigation channel populated by sturgeon; 2) calculate total decline in sturgeon population resulting from dredging activities; 3)

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12. The general causes of wetland habitat loss, urbanization, agricultural development, infrastructure development, and dredge material disposal were identified in the DEIS in Section 6.12. The extent of these losses was also identified in this section. The consequences of these habitat losses was a cumulative loss of wildlife resources directly related to the level of habitat loss, as stated in this section of the EIS.

13. In the 1975 EIS and subsequent EAs for the Columbia River main navigation channel impacts to benthic invertebrates, sturgeon and salmon were addressed in detail. Impacts to these species by the currently proposed Dredged Material Management Plan have been addressed in the recently released SEIS for the project. Likewise, impacts to these species and others have been addressed in this EIS for the proposed project. As indicated in the EIS, the change in footprint of the shoals to be dredged with the deeper project is minor and consequently, the incremental impacts to the benthic communities from dredging is not expected to be significantly different from what is occurring now. Disposal activities will increase in some areas and this will increase the impact to benthic communities in these areas. These areas, however, are in the deeper parts of the river where several studies have show that benthic productivity is small. In order to verify this, however, we have agreed to conduct a study of one of the deeper disposal sites to assess the benthic productivity in this area. This information will be used to manage disposal operation in this site to minimize impacts to the benthic invertebrate populations to the extent possible.

Impacts to sturgeon by both the existing maintenance dredging program and the proposed channel improvement project have been described in the SEIS and this EIS. Additional information on sturgeon use of deep water areas in the lower river will be obtained during the above described benthic invertebrate study. This study will determine sturgeon use by season and age group in one of the deeper areas of the Columbia. This information will be used to design the disposal plan to minimize the impacts to larval and juvenile sturgeon from disposal.

calculate total loss of sturgeon habitat resulting from dredging activities; and 4) calculate the predicted losses of sturgeon habitat and population resulting from the proposed deepening and rock blasting.

4) Cumulative impacts on Dungeness crab.

The Corps acknowledges in the draft EIS that Dungeness crab populations have been adversely affected by disposal of dredge materials onto crab habitat. DEIS, Appendix H. However, it has not calculated the direct, indirect, or cumulative impacts resulting from all dredging activities. The current proposal to dump 19 mcy of dredge material onto offshore
13. (con't) disposal sites will undoubtedly have disastrous effects on crab and other epibenthic populations. While the Corps relies heavily on the assumption that crabs will escape into the water column before they get buried in dredge deposits, it should nevertheless provide a complete assessment of potential losses to crab habitat and crab populations, as well as the resulting impacts on the ecosystem as a whole. It must also consider other causes of crab population decline.

5) Cumulative impacts on salmon populations.

The fact that salmon populations have continued to decline in the Columbia and Willamette Rivers may be witnessed by the recent listing of steelhead runs and the probable listing of six more Columbia River salmon runs. DEIS at 5-30. While the Corps acknowledges the imperiled state of salmon in the Columbia and Willamette Rivers, it fails to adequately assess cumulative impacts of dredging on salmon habitat and salmon populations. In particular, the draft EIS barely mentions the declines in population resulting from stranding of juvenile salmon at beach nourishment sites, increased predation by Caspian terns at artificial islands created from past dredging disposal, and other indirect and direct impacts resulting from dredging activities. To adequately address cumulative, direct, and indirect impacts on salmon resulting from dredging and related activities, the Corps should discuss 1) the cumulative impacts beach nourishment sites have had on salmon habitat and populations, regardless of whether the Corps no longer intends to dispose at these sites; 2) loss of salmon habitat - both shallow and deep water - as the result of dredging; 3) takings of salmon from entrainment during dredging; 4) entrapment and suffocation of salmon during disposal; 5) loss of food for salmon from reduced benthic organism populations; 6) interference with juvenile and adult migration, both from dredging operations and shipping in general; 7) impacts of water quality on salmon, including increased temperature, turbidity and resuspension of hazardous and toxic materials into the rivers; 8) impacts resulting from introduction of exotic species; and 9) any other direct, indirect, or cumulative impacts on salmon.

D. The draft EIS must address reasonably foreseeable significant impacts, even if information about them is unavailable.

The draft EIS fails to appropriately evaluate reasonably foreseeable significant adverse effects.

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13 (continued). Dungeness crab impacts from the new ocean disposal site have been described in both the EIS and Appendix H. Impacts, including cumulative impacts, to salmon species have been described in the EIS and the Biological Assessment for the project. The Corps is fully aware of historic losses to salmonids. As described in detail in the EIS and Biological Assessment, incremental impacts from this project are expected to be minimal.

Incremental environmental impacts from the channel deepening itself are expected to be minimal since the deepening will be limited to the existing channel footprint in which dredging has taken place for many years. For this reason, the Corps cumulative effects analysis in the EIS focused on habitat impacts from increased sediment disposal resulting from the project as the best means for assessing cumulative environmental effects. That analysis considers historic losses to habitat in the Willamette and lower Columbia rivers, as well as the additional impacts that will result from this project. When planned habitat restoration and mitigation is taken into account, this project is expected to result in a new improvement to affected habitats.

If the Corps' failure to address a subject comes from a lack of available information on the subject, NEPA requires the Corps to state such information is unavailable. 40 CFR § 1502.22.
14. Furthermore, if the Corps cannot obtain relevant information, it must at least include a summary of existing credible scientific evidence and the agency's evaluation of foreseeable impact based on theoretical approaches. 40 CFR § 1502.22 (b).

1) The draft EIS does not adequately address the impacts of channel deepening on non-indigenous invasive species (NIS).

The Corps has not met the requirements of evaluating reasonably foreseeable impacts. Instead, it very briefly and incompletely addresses the potential introduction of NIS, simply stating that a primary means of transporting exotic species is through ballast water discharge, and that to date, no zebra mussels have been discovered in the Columbia River. DEIS at 5-24. The draft EIS neither refers to any relevant scientific evidence nor evaluates reasonably foreseeable significant impacts. Reasonably foreseeable impacts "[include] impacts which have catastrophic consequences, even if their probability of occurrence is low," so dismissing the potential introduction of exotic species as unlikely does not exempt the Corps from addressing the issue. 40 CFR § 1502.22(b).

15. NEDC submitted a FOIA request to the Corps, in which we requested any information the Corps had on the subject of exotic species. See Attachment A. The Corps' response indicated that the only information the Corps currently has consists of the information given in the DEIS. See Attachment B. This raises obvious questions about the due diligence given in considering cumulative and reasonably foreseeable significant adverse impacts. However, because the Corps has clearly indicated that it possesses no other information, we have attached several relevant documents relation to the subject of non-native invasive species. Since these documents are now part of the Corps' record, we expect the final EIS to discuss the information they contain, and to pay significant attention to the possibility of introduction of exotic species.

An EIS must look at both the direct and indirect effects of the proposed action and alternatives, especially in the light of new information. Considering new information regarding the danger of introduction of exotic species through ballast water discharges, it is imperative that the Corps of Engineers address the impact of exotic species introductions associated with continued large-hull ship activity throughout the Columbia and Lower Willamette Rivers as contemplated in and facilitated through the dredging plan for the next 20 years.

The introduction of the zebra mussel into the Great Lakes has already cause $120 million worth of damages from costly cleanups, loss of native clam and mussel beds, and monitoring efforts. David Davis, Deputy Director, Office of Water, U.S. EPA, Testimony in front of Congress, July 17, 1996, 1996 WL 10829741. The zebra mussel, a freshwater invertebrate, can attach to almost anything and gums up effluent out puts from ships, factories, or sewage treatment plants. The European green crab represents another major threat. The green crab can live in both brackish and saltwater, has no predators, reproduces quickly, and voraciously preys on other invertebrates.

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14. Comment noted. See our responses to your specific comments below.

15. The projections of traffic levels and export levels would occur with or without any channel improvement. The number of vessels expected to call on the river in the base condition does not represent an impact caused by any channel improvement alternative. The size of vessels in the future is also expected to be independent of any channel improvement activity.

Although the issue of invasive species is an important one for the Columbia River, and is recognized as such in the EIS, we do not believe that deepening the channel would contribute to the potential for increase in numbers or types of species. This issue is being addressed by multi-agency and industry working groups. We have included the invasive species study conducted by the Coast Guard for the lower Columbia River as a reference.

Green Crabs Attack, 1 Native Species Network, Issue 2, at 5 (1996). Green crabs are found in every major bay in California and are moving their way north to Oregon. The ruffe, another threat, is a small, aggressive fish native to Eurasia which has been introduced into Lake Superior, threatening introduction into the rest of the Great Lakes. It is a hearty, voracious eater, threatens native fish populations of perch, whitefish and others, through egg predation and out-competition. Ruffe: A New Threat to Our Fisheries, Sea Grant Exotic Species, http://www.d.umn.edu/~seagr/exotic/ruffe.html. A Federal Task Force has estimated losses of economic value in sport and commercial fisheries in the Great Lakes at $500 billion over the next 50 years. Gary Edwards, Assistant Director for Fisheries, USFWS, Testimony in front of congress, July 11, 1996, 1996 WL 10829512. Overall, these dangerous introduced species, which are almost always introduced through ballast water discharges, often have no natural predators and are able to out-compete native species. These species are merely a few examples of the current and future myriad of aquatic non-indigenous species introduced into United States bays, estuaries, and rivers through unregulated ballast water discharges which threaten our native commercial and sports fisheries. Non-indigenous introductions also result in millions being spent by local and federal agencies to eradicate the new pests and ultimately lead to extinction of local aquatic populations.

15. (con't)

The major vector of exotic pest species introductions into new rivers and estuaries is through unregulated discharge of ballast water once a ship either enters or is preparing to enter a port. The planktonic stage of many invasive species are sucked into a ships ballast in the port of debarkation and then released into the waters of the next port of call when the ship empties its ballast in order to stay afloat in the shallower port waters. Essentially, these large ships serve as floating aquaria for potentially devastating invasive species. Ships traveling from Japan to Oregon have been measured to carry as many as 367 "distinctly identifiable taxonomic groups of plants and animals." Office of Technology Assessment, Harmful Non-indigenous Species in the United States 82 (1993). Once these planktonic organisms enter their new waters in the port where the ballast water is discharged, they grow into adults in their new home and often reproduce at incredible rates due to new food sources and few predators. As shipping increases, especially with the increased production and utilization of large-hulled ships, exotic species ballast water introductions are increased as well. For instance, 40%-100% of the organisms currently living in the San Francisco Bay estuary are exotic species. Andrew Cohen, The Exotic Species Threat to California's Coastal Resources, Proc. Calif. and World Ocean '97 Conf., Mar. 24-27, 1997, San Diego CA. More than 200 exotic species now live in the SF Bay, and estimates show that a new species establishes itself every 12-24 weeks. Andrew Cohen, Biological Invasions of the San Francisco Bay and Delta, summary of comments USFWS Directorate meeting, June 12, 1996. In light of this increased risk, there is now a heightened duty to consider these sorts of influences. In particular, the Corps must consider possible introductions in the DEIS.

Congress considers the impact from invasive species introductions via ballast water to be of national significance. Currently, there is a ban on unregulated ballast water discharge in the Great Lakes. Two years ago, Congress enacted the National Invasive Species Act of 1996,

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which identifies a high level of risk from introduced ballast water species and seeks to deal with the problem on a national level. 16 U.S.C. § 4711 (a), (c) (1994). These guidelines recommend that all ships entering United States ports discharge their ballast water in areas beyond the exclusive economic zone. Id. § 4711 (c)(1)(D)(i).

In light of the new information on the threat of ballast-water-introduced exotic species and the increasing level of shipping, it is imperative that the Corps study the effects of continued and increased large-hull ship entry into the Columbia and Willamette Rivers through continued maintenance and deepening of the dredged boating channel. This study should specifically consider the unregulated discharge of ballast water containing exotic species into the Columbia and Willamette waters. Without the Corps' continued dredging activity, it would be impossible for large-hull ships to enter the river and the risk from exotic species via ballast water discharges would be greatly reduced. Ballast water exchanges beyond the port are not only recommended nationally, but are generally safe and cost-efficient to perform. In addition, shore-based ballast water treatment plants should be developed that can quickly and efficiently sterilize ballast water. In short, these steps are necessary to prevent potential future loss of millions of dollars through destruction of commercial and sports fisheries and degradation of Oregon's natural aquatic ecosystems.

15. (con't)

For example, the December 16, 1993, Environmental Assessment on Columbia River Maintenance Dredging for River Miles 3 - 106.5, noted that an exotic species called *scirpus triqueter* is common on Wallace Island, an island described as possessing "interesting wetlands." 1983 EA, p. 8. The 1983 EA described *scirpus triqueter* as a "tri-square bulrush resembling *S. americus*. This plant is very robust and is found in the flora of Taiwan. Species has been reported nowhere else in the U.S. It is common on the Columbia River in this vicinity." 1983 EA, p. 8. The presence of a species of flora from Taiwan could easily be related to shipping. The introduction of a "very robust" exotic species could have significant environmental consequences to native wetland habitats. Additionally, a Corps marine biologist told NEDC that at least one new species of freshwater shrimp has established itself within the Columbia River within the last twelve months. Each new species introduction is a potential Pandora's box of problems, and it is impossible to know which species may cause those problems. Therefore, each introduced species must be treated as a potentially destructive one.

As part of its final EIS, the Corps should study the environmental impacts from continued unregulated ballast water discharge into the Columbia and Lower Willamette Rivers. The channel presently allows large-hull ships to enter the Columbia. However, without the deepening, the ships would not likely pose as great of a threat because such large ships would not be able to enter the waterway. The Corps should more fully consider alternatives to the deepening to control the potentially serious and intractable problem of exotics invasions. Possible alternatives include coordination with other local and federal agencies to regulate ships entering the rivers. These regulatory steps could be presented in Memorandums of Agreement (MOA) between the agencies or through enforceable Best Management Practices (BMPs) to control the problem. The effects of unregulated ballast water exchanges must be studied and

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discusses as part of any environmental impact study for continued dredging activities.

15. (con't)

Because such introductions are likely to occur and would have high magnitude impacts on both the Columbia River aquatic ecosystems as well as on Pacific Northwest terrestrial ecosystems, the final EIS should detail: 1) which identified exotic species currently are in the Columbia, Willamette and Lower Snake Rivers; 2) the impact they have on endangered and threatened species; 3) the effect ballast water transfer would have on the spread and introduction of aquatic NIS; 4) the possible economic impact of large scale exotic species introduction; 5) the possible effect of NIS introduction on the diversity of native fauna and flora; 6) which exotic species pose the greatest threat of introduction to the Columbia River Basin; and 7) what prevention and mitigation measures the Corps proposes to prevent such introductions.

In comments to the final SEIS for the no-action alternative, NEDC thoroughly addressed the issue of NIS. These comments listed potential consequences of exotic species to the economy and ecology of the Columbia River, potential alternatives to prevent the introduction of NIS, and a bibliography of relevant research and testimonies about the NIS introduction. In failing to reference any of these sources and to mention any reasonably foreseeable impacts, the Corps has not complied with NEPA requirements.

2) The draft EIS does not adequately address reasonably foreseeable significant impacts of dredging on the redistribution and possible resuspension of hazardous, toxic, and radioactive wastes (HTRWs).

In spite of the fact that the draft EIS acknowledges the possibility that hazardous, toxic, and radioactive wastes may be present in navigation channel, it does little to assess the extent to which HTRWs exist or the possible effects from dredging and disposal of these materials. Sampling of sediments has been inadequate to determine actual amounts of hazardous materials in the areas to be dredged. The Corps only sampled sediments down to 10 inches, while the preferred alternative would excavate down 3 feet. DEIS, Appendix B, at 5. The Corps attempts to justify this method of sampling because the materials beneath had larger grain size. Id. at 6. However, larger grain size does not automatically preclude the existence of hazardous materials. Nor does sampling the top 10 inches factor in the previous effects of dredging on the composition of the channel bottom. Through the process of dredging, finer grained material may have been redistributed to lower levels, and consequently, more hazardous wastes may lie below the top 10 inches.

16.

Failure to chemically test samples with less than 20 % fine grain materials also prevents the Corps from adequately addressing future impacts, because the Corps doesn't have a clear idea of present conditions. Even though finer-grained material chemically binds better than the larger-grained material, larger-grained material may nonetheless have chemical contamination. In addition, material up to .50 mm may become suspended in the river from dredging operations. Failure to test these materials prevents the Corps from adequately assessing the possible impacts of resuspending hazardous materials into the waters.

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16. It is believed that surface grab samples in the mainstem Columbia River can be used to collect representative samples because of the nature of the shoaling in this part of the project. Samples in the Willamette River were collected by grab sampler where the proposed dredging prism was thin (0 to 3 feet). Thicker shoals (3 feet up to 24 feet) were sampled using a 4" vibra core.

All samples with >20% fines were chemically tested except for one sample in the Columbia River (CR-BC-75A). This sample was compromised during the sampling event and therefore would not meet the protocols for chemical testing. Material with <20% fines were collected and chemically tested in the Columbia River portion of the project though this material met the exclusionary criteria of the CWA as described in the Dredged Material Evaluation Framework. All material proposed to be dredged in the Willamette River was tested chemically regardless of physical characteristics because of its proximity to known sources.

Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which contain high levels of contamination. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging amd disposal activities. If highly contaminated sediments are to be dredged, then suspension of contaminants will need to be addressed. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

16. (con't) Indeed, the Corps has not addressed resuspension with any level of adequacy. While the draft EIS acknowledges that turbidity in the water would increase, it makes no indication that turbidity may indicate the resuspension of toxins. Nor has the Corps assessed any potential effects of this resuspension on water quality, aquatic species, or wetland and other aquatic habitat from the flushing of these toxins down the rivers. As stated above, to comply with NEPA requirements, the Corps must consider all reasonably foreseeable significant impacts.

3) The draft EIS neglects to adequately address other reasonably foreseeable significant adverse affects.

17. These effects include the possible designation of the 5.5 mile stretch of the Willamette River as a Superfund site, the possibility of dam removal on the Lower Snake River (a tributary to the Columbia River), and increased water flows for salmon. Much information about these possible actions exists, and could be obtained by the Corps. For example, the Environmental Protection Agency (EPA) conducted a study along the Willamette River, to evaluate the river for contamination and potential suitability for CERCLA designation.

II. The draft EIS indicates the dredging may violate Endangered Species Act requirements.

A. The proposed Corps actions, as well as its draft EIS, fail to comply with Section 7.

1. The information contained in the draft EIS does not adequately address impacts which should be fully discussed in the biological assessment.

Section 7 of the ESA requires the Corps to consult with the Fish and Wildlife Service (FWS) about possible impacts to endangered and threatened wildlife species, and with the National Marine Fisheries Service (NMFS) about possible impacts to listed anadromous species (salmonids). To facilitate compliance with the consultation requirement, the Corps must submit a biological assessment, which may be undertaken as part of the Corps' compliance with NEPA. 16 U.S.C. § 1536(c)(1). NEPA allows an agency to combine its EIS with its biological assessment and submit its EIS as the biological assessment. Id. However, should the Corps only include the information currently available in the draft EIS, the biological assessment would inadequately detail potential threats to the endangered species, particularly to salmonids, and not allow the consulting agencies to "use the best scientific and commercial data available." 16 U.S.C. § 1536(a)(2).

18. In order to provide NMFS with a clear indication of potential threats to salmonids, the Corps should more fully address the following information in its biological assessment: 1) the effects of potential introduction of exotic species resulting from channel deepening; 2) direct mortality through dredging and blasting; 3) adverse impacts to salmonid critical habitat, including nearshore and estuary habitat; 4) effects of resuspension of toxins on water quality, and effects of water turbidity on water quality; 5) effects of destruction of benthic organisms on salmon food sources; and 6) potential impediments to juvenile and adult migration from dredging.

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17. The Snake and Columbia River dams provide minimal flow regulation for the mainstem Columbia. River. The potential for listing the 5.5 miles of the Willamette River as a Superfund site was not proposed at the time the draft report was written. Discussion of the present situation has been added to the EIS and studies cited.

18. A detailed discussion of the impacts of the proposed project on listed species, especially salmonids, was provided in both the EIS and Biological Assessment submitted to the NMFS under the Endangered Species Act requirements. The NMFS determines Section 7 compliance of the proposed project. As described in the EIS, the project is not expected to have a significant impact on salmonid populations in the river. The Corps coordinated with both WDFW and ODFW to determine appropriate salmon restoration measures to be implemented under ecosystem restoration. We have prepared a Biological Assessment for salmonid species and are currently seeking concurrence from the NMFS through their Biological Opinion. The USFWS, in cooperation with WDFW, ODFW, and NMFS, has prepared a Coordination Act Report with specific recommendations on natural resources and project-related impacts.

2. The proposed deepening plan violates the Corps' obligation to not jeopardize endangered species.

The Corps has an obligation, under Section 7, to not jeopardize the continued existence of any endangered or threatened species, or to destroy or adversely modify designated critical habitat of the listed species. 16 U.S.C. § 1536(a)(2). Rather than take this obligation seriously, the Corps seems to be actively dodging its requirements through misstatements and failure to supply NMFS and FWS with the best scientific and commercial data available. Id. The failure to supply the reviewing agencies has been addressed above. Various inaccurate or blatantly
19. incorrect assertions proliferate the DEIS. To begin with, the Corps inaccurately states that the lower depths of the Columbia River are not critical salmon habitat. However, the entire Columbia River, from the mouth to the confluence of the Columbia and Snake Rivers, has clearly been designated critical habitat for Snake River Sockeye Salmon, Snake River Spring/Summer Chinook Salmon, and Snake River Fall Chinook Salmon, "including all Columbia River estuarine areas and river reaches." 50 C.F.R. §226.22, at 109. Where the Corps decides that the navigation channel doesn't fall into critical habitat, it seems to have done this on its own volition, rather than following any specific determination.

B. Many proposed actions discussed in the draft EIS would be a taking as defined by the ESA.

Section 9 of the ESA prohibits the "taking" of a listed endangered species. 16 U.S.C. § 1538(a)(1)(B). The term take means to harass, harm, pursue, wound, kill, trap, or capture. 16 U.S.C. § 1532(19). In this case, the actions of the Corps have the potential to "take" listed bald eagles, Columbian white-tailed deer, and salmon species.

1. Dredging and disposal activities will harm, trap, and harass listed endangered salmon and steelhead species.

20.

a. Critical habitat and salmon food sources will be destroyed and/or modified.

As already mentioned, the entire Columbia River is designated as critical habitat for six listed anadromous species. In addition, the lower Willamette River is designated critical habitat for steelhead. Many of proposed actions in the DEIS would significantly affect the habitat, thereby harming salmon. One of the most blatant examples is the proposed rock blasting in both the Columbia and Willamette Rivers. DEIS at 6-20. The DEIS acknowledges the potential harm that blasting may cause the salmon themselves as well as the benthic organisms upon which salmon feed. Id. Indeed, the DEIS states first, that consequences to the benthic organisms are unknown, then second, that benthic organisms in the blast area will be totally wiped out. DEIS at 6-21. Having actually acknowledged that there may be detrimental impacts from this proposed deepening, the DEIS attempts to soothe the concerned reader with the unfounded assurance that benthic organisms will recover to pre-blast levels. Id. The Corps apparently bases this assumption on the fact that, in other dredging situations, benthic organisms have repopulated

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19. All conclusions in the EIS are based on the best scientific information available for a given issue. Also see our response #18.

20. See our responses #4 and #18.

rapidly. Here, however, the Corps provides us with no scientific proof upon which to base this assurance. Such lofty expectations must have concrete and significant scientific proof. The DEIS must define both the geographical extent of the blasting area and the expected population size of killed benthic organisms. Furthermore, the Corps must provide a well founded and scientifically supported estimation of time span until complete repopulation occurs, the impact on salmon if their food source is destroyed, if only temporarily, and the cumulative impacts on the habitat from the blasting.

20. (con't)

Even less data are provided about the techniques the Corps intends to employ to avoid direct impacts on salmon. The Corps acknowledges that blasting can cause mechanical damage to fish's internal organs. DEIS at 6-20. It sketches a plan in which over pressures would remain at or below 10 psi (as recommended by NMFS), to avoid this possible organ damage. Id. The blasting would take place from November 1 to February 28 in the Columbia and the remainder of the year in the Willamette, which conflicts with steelhead migration. DEIS at 6-21. Even though it acknowledges that the schedule would change in light of the recent listing of steelhead, it hasn't provided a specific timetable for NMFS or any other reader to assess. More importantly, the Corps relies on a ludicrous plan to "scare fish away prior to the blast." DEIS at 6-21. Unfortunately, it gives no indication of specific techniques to scare the fish away, nor references to its projected success rate, reliability, or acceptability in the scientific community.

b. Entrainment of salmon will obviously trap salmon and thereby be a taking.

One of the more ridiculous and disturbing conclusions reached in regards to salmon concern potential entrainment of juvenile salmon. The Corps conducted an entrainment study to assess possible effects of the dredging on salmon and sturgeon populations. In one test, 2,000 juvenile sturgeon were entrained, and in another, 1 sturgeon and 2 juvenile salmon were entrained. DEIS at 6-20. Perhaps recognizing that any entrainment of any salmon constitutes a taking, the Corps denounced its own scientific techniques and reached the startling conclusion that, despite its recent entrainment, no salmon would be entrained during dredging operations. DEIS at 6-37. The Corps states that salmon rarely use the deeper parts of the channel, and therefore, "they would no be subjected to entrainment during dredging." Id. It then refers to the entrainment of the two juvenile salmon as proof that salmon will not be entrained. Id. However, the study proved just the opposite. Within 5 hours of pumping time, two juvenile salmon had been collected. Id. As much as the Corps may try to put a positive spin on this fact, the bottom line is that the entrainment indicates future likelihood of more such takings, especially considering that actual dredging will last years, rather than hours.

21.

The Corps also tries to dispel the legitimacy of its own study, saying that it is a "worse case situation" because the draghead of the dredge was skimmed along the bottom. Id. Rather than instilling more confidence in the Corps' predictions, however, this disclaimer leaves the reader wondering how the Corps will avoid future such occurrences when its own tests fail. If anything, the failure of the study points to the probability of many more potential failures, during which many more salmon could be entrained. The Corps' handling of the facts presented about

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21. Although two juvenile salmon were entrained during the sampling study, this entrainment occurred while the draghead was skimming the bottom. Entrainment should not occur during normal dredging operations, when the draghead would be buried in the sand. See Section 6.6.1.2 of the EIS for further detailed information. Also see our response #18.

entrainment also point to a trend of justification and dismissal of negative impacts. Not only is this a violation of NEPA in spirit and in law, but it leaves the reader wary to trust many of the statements made in the DEIS.

c. Flowlane disposal of dredged material will harm salmon.

The Corps repeats that adult and juvenile salmon migrate at depths above the disposal operations. DEIS at 6-37. It then takes this information to conclude that impacts to the salmon would be minimal. Id. This part of the DEIS provides no further information substantiating this assertion. A prior reference to flowlane disposal in the lower Columbia states that the area receives use by juvenile salmon, among other species, but that they would be able to "recover from [the] level of sediment deposition or to move out of the area during the disposal to avoid being impacted." DEIS at 6-22. As with the blasting, no scientific evidence supports this assumption. Indeed, the DEIS actually admits that individuals that can not move out of the way would likely be smothered. DEIS at 6-23. Smothering a salmon will kill it, and, therefore, will be a taking under the ESA. Further attempts by the Corps to negate the significance of smothering the salmon (such as by reasserting that populations are low at this depth) do not eliminate the fact that under section 9 of the ESA, taking of salmon is prohibited. 16 U.S.C. § 1538(a)(1)(B).

d. Dredging operations will interfere with salmon migration and constitute harassment.

22. Dredging and disposal will occur primarily in summer and early fall. DEIS at 6-38. During these times, intensive dredge operations would occur, creating noise and water pollution and increasing the general disturbance to the aquatic habitat. The DEIS fails entirely to address the harassment resulting from these operations. For example, while it acknowledges a short-term increase in turbidity, DEIS at 6-10, it makes no reference to the effects of this turbidity on migrating salmon, including how it may affect the salmon's navigational abilities. It mentions the possible disturbance of dredging to bald eagles and shoreline birds, but doesn't mention how increased activity will affect salmon and other aquatic species. DEIS at 6-41. Nor does the DEIS adequately address the fact that most dredging will occur during summer and early fall, when many of the listed stocks are in the Columbia and Willamette Rivers. DEIS at 6-38. Finally, the DEIS fails to consider possible future impacts from increased use of the navigation channel by larger boats, future development of port facilities, or future maintenance of the navigation channel. See DEIS at 6-58.

2. Proposed disposal activities are acknowledged to impact Columbian white-tailed deer habitat.

The areas which support Columbian white-tailed deer and which may receive dredge materials include Whites Island, Puget Island, James River, Tenasillahe Island, and Welch Island. DEIS at 6-38. On each of these islands, the deer typically use the area for forage and cover. DEIS at 6-32. In fact, Tenasillahe is part of the Julia Butler Hansen National Wildlife Refuge, and

23.

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22. See our response #18 concerning salmon impacts.

23. The Corps and the U.S. Fish and Wildlife Service concurred on ESA determinations and conservation measures for Columbian white-tailed deer at these dredged material locations, except Puget Island, during development of the Dredged Material Management Plan, the baseline condition for the channel improvement study. These ESA determinations and conservation measures were carried forward in our biological assessment, and it also addresses impacts and conservation measures for Puget Island.

managed for the deer. DEIS at 5-15. The Corps acknowledges that disposal of dredged material on these islands will result in the loss of existing habitat and associated wildlife use. DEIS at 6-31, 6-32. To mitigate its acknowledged destruction of Columbian white-tailed deer habitat, the Corps has proposed seeding the dredged material to retain or regenerate the grass-forb forage. Id. However, this proposed mitigation will likely not succeed, and, regardless of whether it eventually does, deer will nevertheless be harmed by the planned disposal.

23. (con't) In its discussion of islands formed from disposal of dredged material, the DEIS describes the islands as typically having little vegetation on the upland portion. DEIS at 5-15. It attributes this lack of vegetation to the lack of nutrients in the sand and the xeric nature of disposed sediment, saying "[n]either condition is amenable to the establishment of plants." Id. Indeed, the only island with plant communities established in the upland areas is Miller Sands, which was formed in the late 1920s and early 1930s. Id. In spite of this information regarding other islands, the Corps plans to seed disposed dredge material, but offers no indication that the seeding would succeed. Nor does the Corps present a time frame for the seeding to happen. Based on the Miller Sands example, one could expect grasses to grow within 70 years. Obviously, this type of mitigation would come too late to offset damage from the proposed disposal. Finally, even if revegetation were to succeed, there is no indication that the Columbian white-tailed deer would use revegetated areas.

3. Dredging and disposal activities will disturb bald eagle nesting sites, in spite of proclamations that they'll have no effect.

The Corps states that 56 bald eagle territories existed in the project area in 1997, and in 1998, the number of sites checked increased to 65. DEIS at 6-40. Quite obviously, bald eagles inhabit
24. significant portions of the project area. As with the Columbian white-tailed deer and listed anadromous fish, however, the DEIS minimizes potential impacts to listed bald eagles rather than acknowledge potential harm resulting from proposed dredging and disposal activity.

a. Nearshore dredging will drive bald eagles from nesting and foraging sites, and therefore, constitute harassment and harm.

The DEIS states that bald eagles may be temporarily displaced from portions of their territory during dredging activities. DEIS at 6-41. It says these displacements may last a few days to "about two weeks," but expects the eagles to simply use other portions of their territory during the disturbance. Id. However, it provides no information on whether the eagles would actually move to a different area or be permanently impacted from the disturbance. If the dredging activities disturb bald eagles to the extent that they leave their nests or foraging habitat, the dredging has harassed the eagles, which is prohibited under the ESA. 16 U.S.C. § 1538(a)(1)(B). Furthermore, if Corps' expectations prove inaccurate and the eagles don't avoid the dredging operations, the dredges may physically harm the eagles, which would also be a taking. Id. Finally, if the eagles do leave the foraging territory but don't return, they will have been displaced from their nests and may suffer indirect harm as a result of the nearshore dredging.

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23 (continued). The agreed upon conservation measures will be implemented as part of the Dredged Material Management Plan (DMMP) and will be continued with implementation of the channel improvement project. The biological assessment and opinion for the channel improvement study, which will identify terms and conditions and/or conservation measures to be implemented, will be attached to the FEIS. We disagree with the contention that seeding of grasses and forbs will not work as previous efforts at Welch and Wallace Islands were successful.

24. The Corps has discussed impacts to bald eagles in the EIS and Biological Assessments for the DMMP and for the channel improvement study. The assessment for the channel improvement study is located in Exhibit G. The Biological Opinion from the US Fish and Wildlife Service will be provided prior to the Record of Decision.

While these possibilities may seem speculative, they are no more so than the expectations printed in the DEIS. The Corps merely acknowledges potential harm, then dismisses this potential through recitations of expected eagle behavior. DEIS at 6-41. However, they present no data upon which these expectations are based, and indicate simply that "taking" of bald eagles is improbable. The attention to this topic in the DEIS also suggests that the spirit of NEPA has again been violated.

b. Potential contamination in dredged sediments may lower reproductive success in bald eagle pairs.

The DEIS notes that reproductive success for bald eagles nesting along the Oregon shore of the lower Columbia River is low. DEIS at 6-41. This limited success has been attributed to contaminants, such as DDE, PCB's, and dioxins, the main conduit of which has been dredging. Id. Rather than acknowledge that deepening and disposal of more dredged material may increase the eagles' exposure to contaminants, the DEIS concludes that contaminant loading is not an issue for the sandy sediments. Id. However, the Corps ignores its own statement that dredging may resuspend the contaminants, which then become available for uptake by bald eagles. Id. Since PCB's, DDE, DDT, and dissolved oxygen have repeatedly been found in tissue samples of
25. lower Columbia River fish - to the extent that the lower Columbia River is on the 303(d) list – these chemicals obviously exist in the water. Further, as basic physical sciences tell us, these chemicals eventually settle to the bottom. Unfortunately, the Corps' choice to only sample sediments to 10" beneath the surface, when dredging will resuspend contaminants as deep as 3' beneath the surface, provides little data to analyze. Regardless, significant levels of dioxins were detected throughout the lower Columbia River. Appendix B at 24. To adequately show that contaminant resuspension is not a risk, the Corps must analyze larger-grained sediment and analyze to the proposed deepening depth, that is, three feet beneath the surface. Simply dismissing the potential for contaminant loading on the basis of the sediment being fine to medium-grained sand does not suffice as serious consideration of the potential harm to eagles.

c. Disturbance to foraging bald eagles from disposal activities will harass and harm bald eagles.

Several proposed disposal sites provide foraging, nesting, and loafing habitat to bald eagles. DEIS at 6-40. Disposal at many of these sites will destroy wildlife use and habitat. For example, disposal on Martin Island, upon which a bald eagle nest exists, would result in the loss of wildlife habitat. DEIS at 6-29. Planned timing and spatial restrictions are intended to avoid impacts, Id., however, the Corps presents no specific information about how these restrictions would work.
26. The same loss of bald eagle habitat is expected on other proposed disposal sites, but very little data about bald eagle habitat and use is in the DEIS. Indeed, a frustrating trend in the handling of impacts to bald eagles is the lack of real information presented. When discussing the nest on Martin Island, for example, the DEIS refers the reader to section 6.7.2 for more specific information. However, the information in this section includes no more specific information or projected impacts. Instead, the discussion of bald eagles turns into another circular argument

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25. See our response #24. The issue of contaminated sediments relative to bald eagles has been addressed in the EIS and Biological Assessment.

26. See our responses #24 and #25.

about the lack of contaminants in sediment. DEIS at 6-41-42.

III. Proposed actions in the draft EIS may violate parts of the Clean Water Act.

A. Dredging operations will violate the Clean Water Act's antidegradation policy.

Both the Columbia and Willamette Rivers are Water Quality Limited Streams in Oregon. The Columbia River is water-quality limited for bacteria, dissolved oxygen (DO), temperature, total dissolved gas, and toxics (including PCB, DDE, DDT, and arsenic). Oregon's Final 1998 Water Quality Limited Streams - 303(d) list. The Lower Willamette River is water-quality limited for bacteria, chlorophyll a, DO, phosphorous, pH, temperature, and toxics, including mercury, pentachorophenol, and arsenic. Nowhere in the DEIS are these 303(d) listings specifically mentioned nor considered. However, under the Clean Water Act, states must institute comprehensive water quality goals and standards for all waters of the state. Clean Water Act, §303(d), 33 U.S.C. §1313(d)(1)(C). Since these water quality goals (or TMDLs) are subject to federal approval, the safe assumption is that federal agencies must comply with these approved goals, rather than bully or maneuver their way around compliance.

27. Under section 303, water quality standards are comprised of designated uses, water quality criteria, and antidegradation policies. EPA regulations required that states adopt water quality criteria that protect all designated uses. These criteria consist of narrative or numerical thresholds of quality which must be achieved or maintained in public waters. The numerical criteria are specific numeric values for chemical constituents, physical parameters, or biological characteristics. The narrative criteria are general statements of quality to be maintained. The antidegradation policies are narrative statements that discourage and/or prohibit the lowering of water quality in state waters.

Even if the antidegradation policy allows the waterbody to be degraded to the limits of the standards, the beneficial uses (and their attributes) may not be impaired. The recognized designated or beneficial uses for waters in the Willamette River Basin include: public domestic water supply; private domestic water supply; industrial water supply; irrigation; livestock watering; anadromous fish passage; salmonid fish rearing; salmonid fish spawning; resident fish and aquatic life; wildlife and hunting; fishing; boating; water contact recreation; aesthetic quality; hydropower; and commercial navigation and transportation. OAR 340-41-442. These uses must be protected even if the criteria in the standards do not apply. The resuspension of pollutants and toxics will inevitably occur through the dredging process. As both the Columbia and Willamette Rivers are currently water-quality limited for many parameters, this resuspension will contribute to the degraded status of these waterways. Thus, the process of dredging will violate the CWA's antidegradation policy. Furthermore, beneficial uses, such as salmon spawning and rearing, will suffer from the resuspension.

Not only does the introduction of non-native species pose significant threats to salmon, industry, and the entire Columbia and Willamette River Basins, it also could violate the antidegradation policy of the CWA. If zebra mussels become introduced to the Columbia River through ballast

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27. Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which contain high levels of contamination. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging amd disposal activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

water discharges, they would impact nearly all of the listed beneficial uses (public domestic water supply; private domestic water supply; industrial water supply; irrigation; livestock watering; anadromous fish passage; salmonid fish rearing; salmonid fish spawning; resident fish and aquatic life; wildlife and hunting; fishing; boating; water contact recreation; aesthetic quality; hydropower; and commercial navigation and transportation). The mussels are known to
28. pose the greatest threat to irrigation systems by cutting off flow in irrigation canal. Portland Oregonian, 1998 WL 20376390. Also, the zebra mussel could destroy salmon recovery efforts. Not only do they choke out fish species by out-competing for microscopic food sources, they can also clog fish screens and ladders. Id. The zebra mussels' sharp shells can also cause direct harm to salmon by scraping off the salmon scales. Id. Therefore, any activity which allows or encourages introduction of non-native invasive species will violate the antidegradation policy of the CWA.

B. Section 404

Section 401 of the CWA requires water quality certification of all federal permits - in this case, Section 404. 33 U.S.C. §1341(a)(1). Section 404 requires that all projects involving the discharge of dredged or full material into waters of the United States be evaluated for water quality and other effects prior to making a discharge. 33 U.S.C. § 1344(a). The draft evaluation of § 404 included in the DEIS states that the proposed action, including mitigation, would result in "no significant adverse effects on human health or welfare, municipal water supplies, plankton, fish, shellfish, or wildlife. Significant adverse impacts on life stages of aquatic life and other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational esthetic or economic values would not occur." DEIS exhibit D. These conclusions have not been effectively proven or referenced in the DEIS.

29.

Also, the project is not yet certified. It is not clear that it will ever become certified due to the significant problems with sediments in the Willamette River. The Corps' proposed channel deepening plan includes both rivers, with the intent to phase construction to delay the Willamette deepening procedures until the sediment issues are resolved. However, since only 5.5 miles of the Willamette have thus far been studied, and many more will most likely be tested in the future, the proposed delay may be indefinite. Additionally, for any certification to occur before complete testing of the river is completed would make no sense nor be responsible. The DEIS fails to address indirect impacts and possible future events related to the deepening project, including potential listing of the Willamette as a Superfund site.

IV. If the Corps proceeds with its proposed actions in the Willamette River, it will be a violator under RCRA.

The Corps of Engineers must comply with the Resource, Conservation and Recovery Act (RCRA). See RCRA § 3002, 42 USC § 6921. In the Columbia and Lower Willamette
30. Navigation Channel Project, the Corps will be generating hazardous waste as defined in the statute. Generators of hazardous waste are persons or sites whose acts or processes produce waste which are listed or have a hazardous characteristic. 40 CFR §261. This includes any persons whose acts cause hazardous waste to become subject to the generation requirement, such

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28. See our response #15.

29. The Section 404(b)(1) Evaluation (Exhibit D) has been revised to provide additional information supporting this conclusion. Also see our response #16.

30. Disposal of dredged material in waters of the United States is regulated under the Clean Water Act and not the Resource, Conservation and Recovery Act. The protection provided by these two laws are considered equivalent; however, there was in the past considerable disagreement over which law applied to various situations.

as the dredging and transportation of waste. During the dredging of the Columbia and Willamette River, the Corps will be moving an enormous amount of sediments which are either listed or may be characterized as hazardous waste. Although the Corps may not be directly liable for the contamination of the sediment, according to RCRA's statutory guidelines, the Corps will be a generator of hazardous waste. Although the Corps considers themselves exempt from RCRA regulations, there is no statutory, regulatory, or judicial basis for that belief. If the Corps can prove that they are in fact exempt from RCRA, then this should be included and explained in the EIS. If not, the Corps must comply with all the regulations for generators of hazardous waste established in RCRA § 3002 and elaborated in 40 CFR § 262. Generators of hazardous wastes are persons or sites whose acts or process produce wastes which are listed or have a hazardous characteristic identified in 40 C.F.R. Part 261. A "solid waste" is defined by Part 261.4 as any "discarded material," and the Corps will be discarding dredged material as explained in Section 2 of the EIS. Waste generators, like the Corps, are responsible for determining whether their solid waste is hazardous, 40 CFR § 262.11. The failure to make a waste determination can lead to criminal prosecution of the generator. See United States v. Dee, 912 F.2d 741 (4th Cir. 1990).

30. (con't) Many of the wastes that are identified in the EIS are listed as a hazardous waste in the RCRA regulations, or may be characterized as hazardous waste if the Corps conducted the proper characterization tests on the sediments. In the Columbia and Willamette River Sediment Quality Evaluation (Appendix B), the Corps identifies contaminates in the sediment that will be dredged, moved, and stored during the project. 89 samples of sediments were taken along the proposed dredging sites along the Columbia and the Willamette. The Columbia River Data showed the existence of metals, pesticides, and polynuclear aromatic hydrocarbons. The Willamete River sediment contains highly toxic compounds at high levels. Sample 42 exceeded the screening levels for mercury at .87 parts per million, and sample 42D at 489 ppm of lead. Samples 23 and 24 both exceeded screening levels of tributyltin. Furthermore, known carcinogens and endocrine disrupters were found in the sediment: 9 samples exceeded screening levels for DDT, PCPs exceeded screening levels in 42C, and Deildren exceeded screening levels at 40A. In one sample, 24A, pesticides are exceedingly high (DDD exists at 100 ppm and DDT exists in 198 ppm.). The Corps is responsible for determining whether these wastes are hazardous under the regulatory definition, and how much hazardous waste is going to be dredged.

Because the Corps is, or will be, a generator of hazardous waste, they must comply with the standard requirements for generators, which include: 1) characterizing all the waste that is dredged, transported, and stored, 2) handling the hazardous waste according to the regulations while in the possession of the Corps, and 3) compiling with all of the manifest requirements. See 40 CFR Part 262.

V. Specific Comments

A. Testing of toxins and pollutants should be more complete.

31. The Corps has chosen to not conduct Tier 11 chemical testing of dredged material which contains less than 20% sand and finer grained material. Although the finer grained material chemically

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30 (continued). To clarify the jurisdiction recent changes to 40 CFR 261 November 30, 1998 has been made. These changes clarify when dredged material is not to be considered a hazardous waste, as shown by the text below:

"Sec. 261.4 Exclusions.
* * * * *

(g) Dredged material that is not a hazardous waste. Dredged material that is subject to the requirements of a permit that has been issued under 404 of the Federal Water Pollution Control Act (33 U.S.C.1344) or section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413) is not a hazardous waste. For this paragraph (g), the following definitions apply:

(1) The term dredged material has the same meaning as defined in 40 CFR 232.2;

(2) The term permit means:

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(i) A permit issued by the U.S. Army Corps of Engineers (Corps) or an approved State under section 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344);

(ii) A permit issued by the Corps under section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413); or

(iii) In the case of Corps civil works projects, the administrative equivalent of the permits referred to in paragraphs (g)(2)(i) and (ii) of this section, as provided for in Corps regulations (for example, see 33 CFR 336.1, 336.2, and 337.6)."

Unless the Portland Harbor is declared a "Superfund" site by EPA all dredging must be carried out under the regulations of the Clean Water Act. In addition if the Portland Harbor is declared a "Superfund" site by EPA the Corps will not conduct any navigational dredging work related to maintenance dredging of the existing project or new work dredging related to the proposed channel deepening project within the boundaries of the declared site.

31. Chemistry (Tier IIB) was conducted on material with less than 20% fines in the Columbia River and the Willamette River, in accordance with the Regional Dredged Material Evaluation Framework (November 1998).

bonds better than the larger grained material, the larger grained material may still have chemical contamination. Because of this and the possibility of larger-grained material (up to .50 mm) becoming suspended in the river with impacts similar to larger-grained materials, the Corps should chemically test all of the samples.

The Corps should also test for radiation. The Hanford Nuclear Reactor site lies on the Columbia River upstream of the navigation channel. Radioactive materials readily travel down the Columbia, moving along with the constant suspension and resuspension of river sediment. Any omission of testing these materials for possible radioactivity is patently irresponsible and dangerous. The Corps seems to dismiss the need to test for radioactivity based on half-lives of
32. radioactive material and the date Hanford ceased production. However, materials remain stored on the Hanford site and in the river. For example, cesium-137, a radio active substance, was present in all tested samples in 1993. Reconnaissance Survey of the Lower Columbia River, v. 1, May 1993, prepared for the Lower Columbia Bi-State Water Quality Program, at 3-29. Indeed, the Columbia River has been called the "most radioactive river in the world." Martin, 1996. To avoid resuspension of radioactive materials, the Corps should test for radiation prior to any deepening.

The Corps should also perform biological testing. The draft EIS states the only physical and chemical analyses - but not biological - were conducted on sediment samples. DEIS at 2-15. It then concludes that sediment within the Columbia River navigation channel is not contaminated.
33. Id. It also acknowledges that four sites outside of the navigation channel had excessive levels of DDT. Id. However, it doesn't provide the reader with a clear idea of where, specifically, the testing took place, nor how close the testing site is to the navigation channel, the likelihood of this DDT sloughing into the navigation channel or becoming resuspended from the process of dredging, or other consequential effects from dredging near a contaminated site.

Finally, the Corps should test beneath the 10" depth actually tested. The Corps chose to test only to 10," primarily because it concluded that material beneath this level would not bind as well chemically as the upper material. DEIS, Appendix B at 5. However, if the Corps doesn't test to deeper levels, over two-thirds of the material to be dredged and resuspended will have gone
34. untested. The flow of the Columbia River is large enough to suspend and transport particles as large as .10 mm, and as large as .50 mm during high flows. Reconnaissance Survey at 3-19. Thus, most of the material to be dredged could become suspended particles in the river and be dispersed throughout the river, including along the river's sloughs and wetlands. Resident and endangered species, including salmonids, depend on these areas for sustenance and cover, and could be impacted by chemicals bonded to the larger, untested materials. Because of these potential consequences, the Corps must test lower sediment material.

B. Economic analysis in the draft EIS is inaccurate, incomplete, and outdated.

The economic analysis was drafted during a booming economic upturn and has not taken into account the economic crises currently plaguing Asian and Latin American countries. Since

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32. A Tier I evaluation was made regarding radionuclides in the project area. Based upon this analysis no testing at higher tiers was considered warranted. A reason-to-believe was not established that current levels of radionuclides posse a threat. The Bi-State found that there were similar levels of radiation in lower river sediments as in sediment above Hanford.

33. Bioassays (Tier III) would be conducted on all sediments that contained contamination above screening levels if proposed to be dredged and placed into open-water unconfined. No sediment in the Columbia River had any contaminate at levels above screening levels so biological testing of these sediment is not necessary to determine the suitability if the material. Sediment in the Willamette River does have contamination above screening levels. Prior to dredging these materials would require higher levels of testing if the material were to be dredged and placed in an unconfined open-water disposal site. Tables are provided listing the results of the physical and chemical testing along with station numbers. Sample locations are shown in Plates 1 through 25.

34. ODEQ, WDOE, WDNR, and EPA reviewed the sampling plan including specific sample locations prior to sampling. Because of the dynamic nature of the shoals in the mainstem Columbia River where the material is continually reworked surface sediments are considered representative of the material to be dredged. As noted the high flows in the Columbia River are capable of the suspension and transport of even .50 mm grains. This insures homogenization of shoals so that the material proposed to be dredge is similar to the material sampled on the surface.

predictions of future needs for bulk and container shipping are necessarily associated with the economies of these markets, a new assessment should be done to take into consideration the recent economic trends. More importantly, the document should acknowledge the unpredictability of the situation and plainly state that any economic analysis remains uncertain and dependent upon factors well beyond the Corps', sponsors', or anyone else's control. Finally, the Corps must factor in all costs of the project, not only direct navigation and dredging expenses. This is especially important in light of the economic benefit expected to be realized by the sponsors and the Corps.

35. The Corps develops a simplistic benefit/cost ratio (BCR) analysis in which it looks primarily at the costs of constructing and maintaining the deeper channel versus costs saved by the shipping, container, and grain industries. DEIS, Appendix C. From comparing these two factors, the Corps concludes the net annual economic benefit will total $39 million. Id. at 110. This overly simplistic analysis excludes several significant factors. These include: the loss of jobs for barge operators and lost revenue for barge companies; full costs of dredging and possibly developing current ports to accommodate the deeper draft; the temporary nature of the jobs created to accomplish the deepening; and the costs to repair the environmental damage which will inevitably result from the deepening. Since taxes, whether federal or local, will fund the cost of this project, the Corps has an obligation to disclose an accurate and comprehensive BCR analysis.

The economic analysis must acknowledge that, while certain industries may benefit from the deepening, others will suffer. For example, the DEIS justifies the need to deepen based on the time wasted in having barges back large ships out of several ports. It then explains how this practice wastes time and money. However, that conclusion comes only from the perspective of the shipping companies themselves, because the money they spend is earned by someone else. Every backing operation economically benefits barge companies, and the deepening may eliminate this source of income for barge operators. Furthermore, the laborers who must physically be present during these "wasted" backing processes receive hourly wages. The Corps neither addresses how, or if, this loss of income for them will be recovered, nor factors these losses into the BCR.

The DEIS fails to consider long-term economic consequences, particularly in terms of long-term employment. Even though the deepening may initially create jobs for dredge operators, the Corps' predictions indicate that long-term employment opportunities will decrease. Since one justification for the deepening is its feature of reduced maintenance dredging, this will reduce future long-term employment opportunities in this field. Also, if, as the Corps contends, the actual number of ships will not increase, no increase in dock and shipping jobs will likely occur.

The economic analysis should also acknowledge the speculative nature of the deepening project. As a niche market, Portland serves a small population of the shipping industry. The percentage of its container marker remains relatively small, which the Corps acknowledges. DEIS at 3-2. Despite proclamations that the deepening does not intend to change the Columbia River ports'

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35. We received many comments regarding the economic analysis and the 1997 Asian currency crisis and the fact that most of the work on the economics was completed prior to 1997. We have added additional information on these concerns to the final EIS and Economic Appendix C. The general consensus among major entities such as the World Bank, the International Monetary Fund, and the United States Department of Agriculture, is that the Asian economies have reached the trough of their downturn, and that those economies (along with the associated trade) are rebounding. The crisis has resulted in a short-term reduction in Columbia River exports, but the crisis does not represent a fundamental change in Asian economies that would result in a long-term decline or even stagnation of exports. Indeed, most forecasts call for Asian recovery to be well underway by 2001, and the first year that a deepened channel would be available is 2004.

Also, the suggestion that the channel could be configured less efficiently to increase jobs is interesting and focuses on giving more people a slice of the pie. From a federal perspective, it is preferable to increase the amount of pie available via improved efficiencies.

Our economic analysis has been performed using the regulations governing Corps studies. A detailed study of the exact monetary incidence of the benefits is outside the scope of the study, and is also outside the regulations guiding the analysis.

status as niche ports, however, the entire plan is designed to tap more fully into the container market. DEIS at 3-8. To date, grain shipping has not followed the deepening trend of container shipping. DEIS at 3-9. However, the container market shows a clear trend toward using larger and larger boats, and the Columbia River ports seem intent on gaining a piece of that market.

Whatever the motivation, this deepening will not likely prove to be the sound economic decision the Corps promises. First, as stated above, the shipping industry is naturally subject to the ebbs and flows of the market. These uncertainties must be factored in the BCR. Second, the Northwest as a whole has experienced a decline in its shipping business, quite apart from the presence or absence of a 43-foot channel. Seattle, for example, once served as one of the major Pacific Coast ports for the United States, rivaling its competitors in Long Beach and San Francisco. Recently, however, even this deep-water port has struggled to maintain the level it once did. Finally, no real guarantee may be made that the deepening will have any net economic benefit at all. As the Corps acknowledges, the trend in shipping has gone to larger and deeper-drafted boats. Many other dredging projects have been proposed throughout the United States, looking to deepen channels that already exceed 45 feet in depth. This points to the fact that the proposed deepening will be inadequate in its attempt to draw in bigger ships, and that, eventually, the Corps may decide that 43 feet isn't deep enough after all.

35. (con't)

Since the Corps behaves essentially as both the planner and contractor, it should bear the same responsibilities as any other contractor and provide detailed financial statement. Since the Corps is so actively pursuing many dredging projects throughout the country, it owes its employers (essentially, the taxpayers) a clear idea of what its goals really are. For example, a proposed deepening project in the Delaware River would only benefit 6 companies, none of whom have committed to paying to deepen their own ports. In essence, the Corps wants to deepen a river that even the beneficiaries don't care about. It may do this even without the guarantee that the beneficiary ports will be deep enough to make the project relevant. In the case of the Columbia, the Corps proposes essentially to offer a massive corporate subsidy to the shipping industry, even though the number of beneficiaries is small. Indeed, the Corps' plan, with its incomplete BCR and unreliable predictions, would likely fail in any nongovernmental, competitive operation.

Furthermore, since taxpayers will fund the deepening project, the Corps should openly acknowledge taxpayers' contribution, not only in terms of federal money, but also in terms of local contributions. Residents whose taxes will help fund the project should understand not only how the BCR has been calculated, but should also know exactly who benefits from the deepening project. The Corps should provide a detailed list of which corporations and industries will receive the greatest economic benefits from the proposed project. This list should also indicate which corporate and agricultural subsidies the beneficiaries already receive. The Corps' insistence that the deepening project will have a net economic benefit should indicate who exactly will derive that benefit.

Finally, the BCR should factor in costs of habitat restoration and wildlife recovery. The economic analysis of the costs and benefits of the project does not consider in adequate detail the

potential impacts of this project on salmon recovery efforts. The states of Oregon and Washington have spent large amounts of money on salmon and steelhead recovery efforts in the Columbia and Willamette watersheds. If this project impacts the recovery of these species, then this money will have gone to waste. The DEIS should therefore consider this possibility as a potential cost of the project. The expensive salmon recovery efforts clearly show how high these costs can climb, as shown by a recent pledge of $100 million by the federal government to help
36. salmon recovery in the Pacific Northwest. Another likely cost which must be considered comes from the possible introduction of non-indigenous species. Clean-up costs in the Great Lakes have exceeded $120 million dollars. David Davis, Deputy Director, Office of Water, U.S. EPA, Testimony in front of Congress, July 17, 1996, 1996 WL 10829741. The loss to sport and commercial fisheries will exceed $500 billion over the next 50 years. Gary Edwards, Assistant Director for Fisheries, USFWS, Testimony in front of Congress, July 11, 1996, 1996 WL 10829512. The cost analysis must factor in economic losses to impacted fisheries and crabbing resources, reduced aesthetic values, lost wetlands, and harmed wildlife. It must also anticipate and calculate recovery costs.

C. Proposed disposal will detrimentally impact the crabbing industry and important epibenthic habitat.

Although the Corps devotes two volumes of appendices to the discussion of offshore disposal, it relies heavily on conclusory statements and insufficient study results. To comply with NEPA's requirement that the Corps provide a "full and fair discussion," the DEIS must thoroughly analyze all relevant issues, including those which point to detrimental impacts resulting from the disposal. Additionally, the DEIS must discuss cumulative and foreseeable future events. Finally, the Corps must comply with the Ocean Dumping Act in its development of offshore disposal sites.

1. The Corps must consider all impacts to the crab habitat.

37. In developing its disposal plan, the Corps must first establish baseline data about the marine habitat and resources affecting Dungeness crabs. In particular, it should detail life histories and habitat use for breeding, spawning, rearing, and nursery. Perhaps because little is known about population dynamics, the DEIS focuses only on the 6 ¼" legal male crab, which represents a very small section of the overall MCR crab population. However, to understand the impacts of disposal on this environment, the Corps must obtain baseline data on other aspects of the population, including segregation of the sexes, YOY (young of the year), and juveniles. Finally, the Corps must establish ecosystem requirements for sustained maintenance, including habitat and food source (such as Corophuim salmonis) preservation. All of these basic life-cycle factores need further attention in the final EIS.

The Corps must then fully investigate and thoroughly discuss the impacts on the current marine environment, the epibenthic species, and the interrelated crabbing industry. Specifically, in the final EIS, the Corps should: 1) fully consider beneficial use sites; 2) address coastal erosion

Corps of Engineers Response

36. Costs for wildlife and habitat mitigation are accounted for in the project mitigation plan. See Appendix G as well as the costs for ecosystem restoration features. Also, see our responses #15 and #18.

37. Additional information has been added to the final EIS on Dungeness crab and the commercial crab fishery. The currently proposed disposal sites minimize impacts to both crab and the crab fishery.

parameters to accomplish adequate accretion; 3) establish marine resource baseline data; 4) establish resource food supplies and cover requirements; 5) consider stresses caused by fragmentation and over-crowding of the environment; 6) accurately estimate local economic
37. (con't) harm to the fishing fleet and local communities; 7) perform thin-layer investigations to establish accumulation depths of disposal or levels of resource mortality; 8) conduct tests on biological or physical effects of depositing coarse grained sediments in the ocean environment; 9) assess the increased risk of marine casualty from direct burial, impaired respiration, burial of food and habitat, and impaired reproduction; and 10) examine all viable alternatives to the proposed disposal.

a. The thin-layer disposal method must be fully analyzed and tested.

The Corps proposes to shift from pinpoint to broad-based disposal. This rapid shift represents the Corps' preference to rely on unproven techniques in order to fulfill its need for extensive disposal sites. At the worst, this technique may pose substantial risk to our nation's marine resources and may set precedent for the rest of the nation. Notwithstanding such a grave prediction, the less cataclysmic impacts are quite severe. Rather than acknowledge the potentially serious impacts of this shift, the Corps uses inadequate testing and questionable conclusions to diminish the significance of the impacts. For example, throughout the DEIS, the Corps claims that annual maintenance will be less under the proposed deepening. However, it admits that "the average annual maintenance dredging of years 21-50 of the project cannot be forecast with any degree of certainty." DEIS at 4-10. It also acknowledges that present shipping demands for deeper and deeper channels will continue to escalate, placing more demands on ocean dumping. DEIS at 4-32. Even these acknowledgments, though, do not result in the Corps admission that proposed ocean dumping may be inadequate.

38.

Nor do these acknowledgments negate the need to conduct acceptable test. Even if the marine environment may be able to assimilate a thin layer of disposal without noticeable consequences, little information exists about this type of disposal. Also, no field work is scheduled to establish disposal thresholds that minimize adverse impacts (including direct crab mortality and indirect results of habitat destruction). Without this critical information, the Corps cannot legitimately claim that the thin-layer disposal method will not harm or destroy the crab populations. Unfortunately, the Corps tries just that in the DEIS, without acquiring adequate data, conducting effective tests, or fully considering all reasonable alternatives to these disposal sites.

The proposed thin-layer disposal methods will cover seventy-five square miles. Because this practice requires a much larger surface area than "pin-point" disposal practices, any biological impacts from this method will affect a much broader area than has occurred to date off the Columbia River. The impacts of thin-layer disposal to resources off Oregon are not known and no pilot study has been proposed by the Corps. The Corps should conduct an impact assessment for this methodology prior to use in any new or existing (expanded) sites following the 1998 dredge/disposal season.

Corps of Engineers Response

38. Thin layer disposal is no longer being considered.

Rather than doing this, the Corps cites only one study to conclude the thin-layer disposal will succeed. Based on the findings of a single 1978 laboratory study investigating the ability of adult hard-shell crabs to dig out of various depths of deposited sand, the agencies proposed the thin-layer disposal method. AR Vol. 2 at 1484 (Chang and Levings). According to the 1997 EA, this method would release the dredged spoils over a large area and attempt to keep 90 percent of any mound thickness to 10 centimeters or less. The test cited in the DEIS fails to provide an accurate simulation of actual disposal in the ocean. For one thing, the test takes place in a small tank. For another thing, only adult hard-shell crabs were tested, and from their performance, the Corps has concluded that crabs will escape into the water column and avoid negative impacts of dredging. This conclusion, however, fails to fully account for critical features of the crab
38. (con't) population. To begin with, by not testing juvenile and soft-shell crabs, the Corps ignores basic physiological processes of the crab, in that the hard shell grows in stages, and many parts of the Dungeness crab population will not have the protective hard outer shell. Also, the test only measures the single aspect of crabs moving into the water column. It neglects to mention that over 80% of the crabs which didn't escape into the water column died. DEIS, Appendix H, Exhibit F. It also fails to consider impacts of disposal on crab habitat, including its food sources, and crab life cycle. As the mating patterns of Dungeness crab are complex and not well understood, for the Corps to not actively consider disposal effects is nonsensical. Indeed, since the reproductive cycle is based on chemosensory mechanisms and occurs during a 24-hour window, disposal has the high potential to greatly affect the reproductive rates. Another test should be cone to adequately assess potential harm to the Dungeness crab populations.

b. The Corps must test all dredged sediments.

The Corps claims all sediments headed for the ocean are clean sands and will have no significant impact to the ocean. DEIS at 6-11. However, analysis of sediments at site B indicate high concentrations of oils & grease. These carcinogens are known to cause high rates of mortality to YOY crabs. Unless proven otherwise, it should be assumed that disposal materials contain high
39. concentrations of these lethal hydrocarbons. See Sea Grant circular in appendix. Indeed, the lower Columbia River below Astoria Bridge regularly exceeds screening levels for metals, chlorinated hydrocarbons, volatile solids, pesticides, polychlorophenols and polynuclear aromatic hydrocarbons. DEIS at 5-10. Considering these accumulated irregularities, the Corps must perform tests to detect and prevent bioaccumulation in the marine ecosystem. Without testing, carcinogenic accumulations can occur undetected.

c. The Corps must develop a monitoring plan to study long-term impacts of disposal.

In its 1983 comments to the EIS, the National Marine Fisheries Service noted that further study of the long-term impacts of dumping was needed, and recommended that the final EIS include
40. plans for a long term monitoring program to assess potential adverse impacts to living marine resources at the disposal sites. In response, the Corps and the EPA promised to develop and implement a monitoring program. However, in the section entitled "Guidelines for the

Corps of Engineers Response

39. The Corps is required to evaluate all sediments for suitability for in-water disposal in compliance with the Regional Dredged Material Evaluation Framework (November 1998) for the Columbia River management area and the national Dredged Material Testing Manual. The material proposed for open water disposal has been evaluated and determined to be in compliance with these manuals.

40. Concur with comment. The revised Management and Monitoring Plan can be found in Appendix H, Exhibit H.

Monitoring Plan," the final EIS simply stated that most parameters did not need monitoring because the effects of the dredging would be minimal. DEIS, Appendix H, Exhibit G. It vaguely
40. (con't) stated that the Corps and the EPA "may select appropriate species to monitor" but offered no further specifics. Id. To date, no monitoring of the effects of dredged material disposal on ocean crabs has been conducted. The final EIS should include a specific monitoring plan.

2. The DEIS must comply with the Ocean Dumping Act.

The Ocean Dumping Act prohibits any unauthorized ocean dumping of any material, and designates the Secretary of the Army (in practice, the Corps) as the permitting entity for the dumping of dredged materials. Before issuing a permit, the Corps must insure that "the dumping will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities." 40 CFR § 224. In making this determination, the Corps must apply specific criteria established by the EPA. These criteria require the Corps to: (1) select sites particularly to avoid areas of existing fisheries or shell fisheries, 40 CFR § 228.5(a); (2) conduct a qualitative and quantitative assessment of potential
41. effects on the marine environment and commercial fishing, 40 CFR §§ 227.17(a)(2), 227.19, 227.21; (3) dump only at disposal sites and under conditions that will insure no unacceptable interference with fishing, 40 CFR § 227.10(a); and (4) locate dumping sites beyond the edge of the continental shelf wherever feasible, 40 CFR § 228.5(e). Before a permit can issue, the EPA also must be given an opportunity to review the application and relevant information, and if the EPA declines to concur in the Corps' finding, the permit cannot be issued. Here, in lieu of issuing a permit to itself, the Corps prepared a document entitled "Section 103 Evaluation" purporting to demonstrate compliance with the ODA criteria. Based on this document, the EPA concurred in the Corps' finding that the ODA criteria were met. However, on its face, this document demonstrates that the Corps failed to comply with the ODA, and the EPA should not issue a concurrence.

a. The Corps must avoid areas of existing fisheries or shell fisheries.

The ODA imposes several affirmative commands on the agencies to locate disposal sites in areas where they are not likely to interfere with living marine resources, particularly fisheries. The regulations are unequivocal in this regard: "[t]he dumping of materials into the ocean will be permitted only at sites in areas selected to minimize the interference of disposal activities with other activities in the marine environment, particularly avoiding areas of existing fisheries or shellfisheries." 40 CFR § 228.5(a). Even if an agency concludes that disposal will not have an
42. adverse impact on marine life, the regulations require the agency to locate the site outside the area of the fishery. Id. Thus, the Corps must locate the disposal sites for Columbia River dredge spoils outside the area of the existing Dungeness crab fishery regardless of their belief that thin-layer disposal will not adversely effect crabs. Far from complying with this requirement, the Corps failed to avoid the location of fisheries or shell fisheries in the DEIS. This omission is particularly glaring in light of the broad consensus among state agency officials, scientists, crab fishermen, and the Corps that sites North and South of the MCR are areas of productive

Corps of Engineers Response

41. Comments noted.

42. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. The North and South sites have been eliminated. The timing of the use for Expanded Site E will be restricted as described in the Management and Monitoring Plan located in Appendix H, Exhibit H.

Dungeness habitat and a productive crab fishing ground. The Corps' failure to comply clearly violates the ODA.

42. (con't) The ODA criteria contain another affirmative command to protect fisheries. "Wastes which may present a serious obstacle to fishing or navigation may be dumped only at disposal sites and under conditions which will insure no unacceptable interference with fishing or navigation." 40 CFR § 227.10(a). This requirement is clearly not met in the DEIS. Indeed, the Corps acknowledges that dumping even 10 centimeters of sediment may kill crabs. Cite. Thus, the disposal of dredged materials at the north - south sites presents a substantial risk of harming the Dungeness crab population. Accordingly, to insure no unacceptable interference with fishing, the Corps must avoid all dumping in any sites designated or known as productive Dungeness crab fishery. It should also limit disposal in site E to periods of low crab presence (generally acknowledged as mid-August).

b. Disposal sites must be small.

The ODA requires that the size of the sites be kept small. 40 CFR § 228.5(d). The agencies must assess the "[p]otential [of the dumping] for affecting the recreational and commercial values of living marine resources," specifically the impact on commercial fishing. 40 CFR § 228.6. The DEIS purports to demonstrate compliance with them simply by reciting a few conclusory sentences. For example, it states that "[t]he proposed ocean disposal would have no significant impact." DEIS at 9-2. This unsupported conclusion negates the acknowledged importance of the Dungeness crab fishery in this area, and ignores the widely-shared concern of

43. experts that disposal of dredged material at expanded north- south sites is likely to have significant adverse effects on this species. In assessing disposal sites, the agencies must consider a site's "[l]ocation in relation to breeding, spawning, nursery, feeding, or passage areas of living resources in adult or juvenile phases." 40 CFR § 228.6(a)(2). Extended discussion of impacts to Dungeness crab was clearly warranted here, especially since expanded north - south sites are in areas that offer valuable refuge habitat to juvenile crabs, and expanded site E is an area that becomes dense with soft-shell crabs in late summer. These considerations are particularly important because the impacts of dredged material disposal are likely to be especially severe for juvenile and soft-shell crabs.

c. The Corps must quantitatively and qualitatively assess potential effects.

Agencies must conduct a site-specific survey of proposed disposal sites, including evaluation of "[t]he impact of dumping on esthetic, recreational, and economic values ... on an individual basis". 40CFR§228.10. Rather than comply with this requirement, the Corps chooses to apply the results of an inadequate test done in a tank to the entire area. Furthermore, no surveying or monitoring has been conducted or planned in the DEIS.

44. Not only do the ODA criteria repeatedly direct the agencies to evaluate the impact of the proposed dumping on the marine environment, but the regulations specifically require the

Corps of Engineers Response

43. See our response #42.

44. We have minimized the impact to commercial fisheries to the extent possible as required by the Ocean Dumping Act. The Ocean Disposal Working Group has agreed to the currently proposed sites. The commercial crab fishery was represented in the working group and agreed that the currently proposed sites minimize the impact to the crab fishery.

agencies to express that assessment in quantitative as well as qualitative terms. Thus, the "[p]otential [of the dumping] for affecting the recreational and commercial values of living marine resources," "will be expressed, where possible, on a quantitative basis, such as percentage of a resource lost . . . or dollars lost in commercial fishery profits." Id. Additionally, "a quantitative and qualitative evaluation [will be] made, where feasible, of the impact of the proposed dumping on each use [including] [c]ommercial fishing." Id. The DEIS lacks any quantitative analysis or any explanation for the failure to conduct such analysis. The Corps should conduct tests that would provide far more accurate measures of crab distribution and disposal impacts than the information the agencies currently have.

45..(con't) Finally, new provisions of the Magnuson-Stevens Fishery Conservation and Management Act have not been considered in the DEIS. Upon the law's implementation, the States of Washington and Oregon will have fall authority to manage the entire crab resource out to two hundred miles. This draft must consider that new laws enacted by the coastal states will have direct effect on the ocean disposal of sediments.

D. Non-structural alternatives should receive greater consideration.

The draft EIS acknowledges that available water depths were not fully utilized by ships, including the deepest 10 percent of the fleet. DEIS at 4-4. It also accepts the possibility of improving the river stage forecasting system (Loadmax) to overcome limitations to the system. Id. However, it then dismisses the potential benefits of improving the system because of the difficulty in predicting them. DEIS at 4-5. It doesn't explain why predicting outcomes from this system is any less certain than predicting outcomes from the deepening plan. Indeed, as stated above, the predicted benefits from the deepening will prove inaccurate when analyzed under current market conditions.

46. The cost/benefit ratio for the Loadmax alternative is substantial. Improving the river stage forecast system would cost only about $500,000, a fraction of the total cost of the construction alternatives. The annual operation costs would be equally minimal. DEIS at 5-5. Instead of spending any real amount of time with this alternative, however, the Corps chooses to piggyback the option on top of the structural alternatives. It then devotes significant analysis to these alternatives. See DEIS at 4-6 - 4-12. Under NEPA, the Corps has an obligation to fully explain and consider all alternatives, including the non-structural one. The Corps' failure to do this not only violates the spirit of NEPA; it indicates that the Corps approached the DEIS as a means to rationalize a decision it had already made.

E. In light of recent changes in the Willamette River, this segment of the proposed dredging channel should be removed from consideration, and an independent EIS should be drafted for the Willamette River.

47. The EPA has considered designating a 5.5-mile stretch of the Willamette River as a Superfund site. DEIS at 6-12. Areas beyond this 5.5-stretch have yet to be adequately studied for inclusion in the Superfund listing, but it remains highly likely that they would also receive Superfund

Corps of Engineers Response

46. See our response #2 to the US Department of Interior letter regarding LoadMax. Additional information has been added to the final EIS.

47. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging amd disposal activities.

designation once they were studied. While the DEIS briefly refers to these possibilities, it falls short in its consideration of the Willamette River, and tries to compare its status with the less polluted Columbia River. Because the water and sediment qualities of the two rivers differ so
47. (con't) significantly, and because different technique of dredging, disposal, and testing must be implemented to dredge the navigation channel in the Willamette, the Corps should develop an independent EIS for the Willamette in which it thoroughly discusses the status of this river and proposed actions specific to its condition.

1. The discussion of issues in the Willamette River must be presented in comparative and understandable form.

The DEIS bounces around significantly in its discussion of the Willamette River. Even though the Willamette drains into the Columbia, it must be considered and analyzed independently of the Columbia. Furthermore, this analysis must be coherent and presented in a clear manner. Unfortunately, the inadequate handling of the separate issues of the Willamette River prevents accurate assessments of the potential effects resulting from dredging and disposal of dredged materials. For example, the Corps discusses the difference between sediment in the Columbia and Willamette Rivers in several parts of the DEIS. However, it often transitions between the two rivers midsentence or midparagraph, which prevents the reader from developing a clear idea of the separate natures of the rivers or developing a clear understanding of the exact condition of the entire Willamette as a whole.

48.

To develop a more coherent and comprehensible document, the Corps not only should segment the Willamette River from the Columbia River final EIS, it should also address issues specific to the Willamette. First, it must address effects of dredging on listed Steelhead, not simply include them in listed salmon category or as aquatic species. Second, the Corps must accurately and adequately define the specific location and parameters of the dredging channel in the Willamette River. The Alternatives Chapter of the DEIS notes that "for much of [the Willamette] reach, the navigation channel has been defined as being bank to bank. DEIS at 4-60. However, other parts of the document indicate that the navigation channel does not encompass the entire riverbed. Cite. Not only are such inconsistencies impermissible under NEPA, but the manner in which they are interspersed throughout the document make commenting excessively difficult. Separating discussions about the Willamette River from the Columbia River will produce a better document.

2. Proposal that the federal navigation channel not be included in the possible Superfund listing is irresponsible and inappropriate.

At a recent meeting of various area environmentalists with Port of Portand, Oregon Department of Environmental Quality (DEQ), and Corps officials, Gayle Killam, the director of the River
49. Network, asked DEQ what their official position on the dredging within the proposed Superfund area is. The DEQ representative stated that DEQ hadn't taken an official position yet. The Corps' technical and engineering representative said the Corps' position would be to request that

Corps of Engineers Response

48. See our response #47.

49. The Corps has no position on the listing of the Portland Harbor as a Superfund Site, for or against. At the meeting referenced it was asked if the navigation channel was automatically included or could be excluded. There are consequences either way. If it is listed all navigational dredging whether new work or operation and maintenance (O&M) will cease. This means that all funding to evaluate dredged material proposed for dredging will cease. In addition all funding to find suitable dredged material disposal alternatives including pilot management and monitoring projects will cease. Funding may be available through other Corps programs but not through the navigation new work, O&M, or Section 312 programs.

the federal navigation channel not be included in the Superfund listing. He offered no reason for this, and no indication exists that federal channel deserves exclusion. This suggestion indicates a blatant disregard for the serious environmental status of the Willamette River, in terms of contamination and the disturbing lack of clear data on the entire stretch considered for dredging and deepening. It also indicates that the Corps has decided to pursue this project and views the DEIS as a necessary bureaucratic hoop through which it can justify its decision,

We request the Corps takes these comments into their full consideration as it develops the final EIS for the deepening project. We also hope the Corps takes a much more serious look at the many potential environmental consequences of the project, and works to develop a significantly less harmful plan.

Sincerely,

Melissa Powers

Melissa Powers
Volunteer,
Northwest Environmental Defense Center

Nina Bell /s/

Nina Bell,
Executive Director,
Northwest Environmental Advocates

Regna Merritt /s/

Regna Merritt
Water Project Advocate
Oregon Natural Resources Council

Lynn Mattei /s/

Lynn Mattei
Wetlands Coordinator
Sierra Club, Oregon Chapter

cc: EPA, NMFS, FWS

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Feb. 5, 1999

District Engineer
U.S. Army Corps of Engineer District, Portland
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P.O. Box 2946
Portland, OR 97208-2946

RE. Channel Deepening for the Columbia and Willamette Rivers

To Whom It May Concern,
The Tualatin Riverkeepers offer the following comments regarding the US Army Corps of Engineers Draft Environmental Statement. Generally, we are concerned that the Statement does not adequately address certain environmental concerns.

Degradation of Critical Habitat

1. There is a need to consider the impact this project will have on Proposed, Threatened and Endangered salmonid populations on a watershed basis. The Tualatin River Steelhead Trout will likely be listed as Threatened in March 1999. We would like to be assured that migratory, spawning, and rearing habitat will not be degraded.

Loss of Wetlands

2. The loss of 38 acres of wetlands is disturbing. The multiple beneficial wetland functions need to be avoided. These benefits include provision of biodiverse habitat, storage of flood waters and filtering of surface water runoff. The cumulative impact of each of these lost benefits needs to be further assessed.

Water Quality

3. What is in store for the Willamette River? Will the Willamette be listing as a Superfund site to address the serious problems with toxic sediment? Dealing with this problem is likely to take years and may jeopardize 404 certification for this project.

4. The citizens of the Tualatin River watershed are making progress toward restoring and maintaining our waters. A huge investment of tax dollars has gone into this effort and the benefits are beginning to show. We are dependent on others outside our watershed to do their part and assure that our native fish have safe passage home. We urge you to thoroughly evaluate the impacts that channel deepening will have on water quality, fish, and wildlife habitat. The stakes are higher now than ever before.

Thank you for your consideration.

Sue Marshall
Community Educator/Organizer
Tualatin Riverkeepers

Corps of Engineers Response

1. A detailed discussion of the impacts of the proposed project to salmonids was provided in the EIS and Biological Assessment submitted to the NMFS under the Endangered Species Act requirements. As described in the EIS, the project is not expected to have a significant impact on salmonid populations in the river. The Corps coordinated with both WDFW and ODFW to determine appropriate salmon restoration measures to be implemented under ecosystem restoration. We have prepared a Biological Assessment for salmonid species and are currently seeking concurrence from the NMFS through their Biological Opinion. The USFWS, in cooperation with WDFW, ODFW, and NMFS, has prepared a Coordination Act Report with specific recommendations on natural resources and project-related impacts.

2. Impacts to wetlands have been minimized to the extent possible. The disposal plan has been revised; about 20 acres of wetlands would now be impacted. Full mitigation of impacts is planned, and wetland habitat development will be an emphasis of mitigation actions recommended by the interagency team participating in the mitigation planning effort. Also, the Shillapoo Lake restoration action would restore about 1,250 acres of valuable wetland and riparian habitat along the Columbia River near Vancouver.

3. Dredging the Willamette River is being delayed in order to allow coordination with ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

4. Comments noted. The Corps is an active supporter of the salmonid recovery efforts in the Columbia Basin and has been working with the resource agencies on several programs.

NATIVE FISH SOCIETY

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February 3, 1999

District Engineer Attn: CENWP-EC-E
U.S. Army Corps of Engineers, Portland District
P.O. Box 2946
Portland, OR 97208-2946

RE: Channel Deepening Project for the Columbia and Willamette rivers

The Native Fish Society would like our concerns about this project included in the public record.

The Army Corps of Engineers (COE), must consult with the National Marine Fisheries Service regarding fish habitat loss and potential harm to listed species. The Columbia River is critical habitat for Snake River chinook. The species now listed include steelhead, sockeye, and chinook. The NMFS is proposing to list more populations of these species and will add new species to the list of federally protected species such as chum salmon and sea-run cutthroat trout.

1. There is very little information on the use of the Columbia River estuary by salmon juveniles for foraging and rearing prior to entering the ocean, however, research on the Fraser River in British Columbia and the Sixes River in Oregon establish use of these waters by fall chinook especially. We ask to COE to do a thorough review of the scientific literature to evaluate the potential effects of the channel deepening project and spoils deposition on these species, especially fall chinook, and to structure the project to avoid negative effects on listed fish rearing and feeding in the estuary.

2. The productive capacity of the lower Columbia and Willamette Rivers has already been compromised by the filling in of wet lands associated with the river. These wetlands and side channel areas are important food production areas and a source of food for juvenile fish. Additional loss or further compromise of these areas by the proposed project should be evaluated against the historical loss of this environment and the effects of additional losses the project expects to promote. The DEIS proposes to sacrifice 38 acres of wetlands and to spread dredge spoils over 75 square miles of marine habitat. The effect of this proposal must be evaluated using the scientific literature and a risk analysis provided regarding effects on listed fish species and those that are proposed. Since there is not much data on this effect for the Columbia River, the COE will have to review data from other sources, some of which are mentioned above. It may be necessary to conduct additional research before the proposal can be finalized. Certainly, the COE will have to provide a long-term monitoring and evaluation plan for its project to evaluate the effect of the project and any mitigation measures adopted.

3. The continuing decline of Pacific salmonids and the failure of mitigation programs in the past recommend that prevention of damage to salmonid habitat be the priority of this project rather than uncertain mitigation measures. The EIS should fully discuss past mitigation measures for salmon and evaluate whether the objectives of those measures have been achieved. For example, the mitigation measures for COE dams on the Willamette and Snake rivers have not been achieved, even though some of those mitigation measures are over 50 years old. The COE evaluation of mitigation measures for salmonids should include a risk analysis based on the past

Corps of Engineers Response

1. A detailed discussion of the impacts of the proposed project to salmonids was provided in the EIS and Biological Assessment submitted to the NMFS under the Endangered Species Act requirements. As described in the EIS, the project is not expected to have a significant impact on salmonid populations in the river. The Corps coordinated with both WDFW and ODFW to determine appropriate salmon restoration measures to be implemented under ecosystem restoration. We have prepared a Biological Assessment for salmonid species and are currently seeking concurrence from the NMFS through their Biological Opinion. The USFWS, in cooperation with WDFW, ODFW, and NMFS, has prepared a Coordination Act Report with specific recommendations on natural resources and project-related impacts.

2. Impacts to wetlands have been minimized to the extent possible. The disposal plan has been revised; about 20 acres of wetlands would now be impacted. Full mitigation of impacts is planned, and wetland habitat development will be an emphasis of mitigation actions recommended by the interagency team participating in the mitigation planning effort. Also, the Shillapoo Lake restoration action will restore about 1,250 acres of valuable wetland and riparian habitat along the Columbia River near Vancouver.

3. See our response #1. The Corps is an active supporter of salmon recovery efforts for the Columbia Basin and has been working with the resource agencies on several programs to help restore salmonid populations and habitats. Also, ecosystem restoration actions incorporated into the proposed project would improve salmonid passage and habitat along the Columbia River.

history of mitigation successes, and the likelihood that proposed mitigation measures will be successful. Since this project will affect listed native species, the mitigation measures should be constructed to specifically address these animals. The purpose of the ESA is to recover the native species in its natural habitat, which, by NMFS rule, includes the Columbia River where the proposed project is located.

The COE should also evaluate the migration patterns of listed salmonids and the effects of the project on migration. Adult chinook salmon tend to be deep water migrants and use obstructions, bottom topography, and currents for migration, resting, and cover. The effect of the proposed project on migration of listed species should be fully evaluated to determine whether the project will affect cover and resting habitats in the river for these fish. Disrupting the ability of adults to rest while migrating could increase spawning failure by causing them to exceed
3. (con't) energy budgets and stored fat reserves. Also, by removing cover such as that provided by channel topography and structure, the project may be increasing the exposure of juvenile salmonids to predation from birds, fish and mammals. This effect should be fully evaluated. One of the limiting factors identified by research in Oregon estuaries is the lack of large wood associated with banks and channels. The proposed project will not be enhancing this type of cover and food producing habitat and could be removing more of it, so this should be evaluated. In terms of a mitigation plan the COE may wish to ask scientists to develop a plan using large wood for enhancement of cover for salmonids in the estuary.

Year-round dredging and blasting poses a risk to listed salmonids in the river. This proposal should be fully evaluated in terms of causing harm and mortality to these fish. For example, I would assume the COE would not plan to blast when adult or juvenile salmonids are in the river. But then, when, exactly, would that time frame be? The migration timing of juvenile and adult salmonids would confine the project. Has the COE identified a period when listed salmonids would not be vulnerable to construction? This evaluation should be done to
4. provide a window for certain construction actions such as blasting. The proposal for continuous work on the project is a high risk option that must be fully evaluated. Does the COE have a monitoring plan for blasting to evaluate the effect on listed salmonids? Monitoring will be very difficult to do because dead or injured fish are not readily available for surface detection. Monitoring gas bubble disease associated with the hydro-dams presents a similar problem that has not been solved. A monitoring and evaluation plan must be stated in the final EIS.

The listed salmonids and those proposed for listing are declining because they are not productive enough to replace themselves. The smolt to adult survival rate SAR is too low for these animals to rebuild their numbers and to recover. The proposed project is likely to affect the salmonids at both the juvenile and adult stages. In combination with mortality at COE dams upstream from the proposed project, it is likely that the COE will be compounding the effect on salmonid survival and recruitment by adding the effect of the channel deepening project to that of the dams. Has the COE evaluated the cumulative impact of all its operations on the survival and recovery of listed salmonids? The final EIS should include this cumulative impact analysis.

The ocean environment is considered a major limiting factor in salmon survival and it
5. could be with us a long time. However, if the ocean conditions improve, the number of juveniles that make it to the ocean and survive to the adult stage i-nay increase. Has the COE evaluated its options for carrying out the proposed actions by keying it to improved ocean survival? I ask this because a period of higher smolt to adult survival rates may be a better time to do a project that is likely to increase risk to listed fish. At this time, with very low smolt to adult survival rates, the risks the project imposes on listed fish may be excessive and unacceptable. For example, this year's spring chinook adult run to the Snake River is estimated to be 3,600 fish, the lowest run in history. This proposed project, if approved, will be operating when the juveniles from this run will be migrating down the Columbia River. The 1999 adult run of spring chinook is likely to result in local extinctions among the 40 subpopulations found in the Snake River basin. The

Corps of Engineers Response

4. A blasting plan was developed in cooperation with both federal and state agencies. It incorporates proven methods to minimize impacts to fish in the vicinity of the blast. All blasting will be done during the approved in-water work period, which is a time when fish numbers are low.

5. See our response #3. All conclusions in the EIS are based on the best scientific information available for a given issue.

proposed project would contribute to the risk the juveniles from this parent run would face on their seaward migration. Is this kind of ecological information taken into account when developing the DEIS? It would seem the COE, with its ESA responsibilities, would target the project at a time when it is expected to cause the least environmental damage rather that at a time when it may cause more or impacts would proportionally greater. It is possible that the COE channel project could increase the extinction rate on Snake River spring chinook because of its timing. This possibility should be fully evaluated including a risk analysis.

5. (con't) The COE should provide an analysis of this project based on environmental factors such as ocean productivity changes, and especially vulnerable listed species, to better address the project timing and day to day operations as they relate to risk of doing the project as proposed rather than at some other time. It appears that the COE project is driven by funding and administrative pragmatism rather than trying to fit the project into an environment where it would be expected to do less damage than it would if carried out according to present obligations. These factors should be discussed in the EIS.

The DEIS is based on assumptions and on a weak data base that does not lend itself to certainty in making predictions about environmental risk. By saying this, I am not questioning the integrity of the COE or its process, I am merely noting the problem of having a data base that help make decisions and impacts of those decisions more certain. With regard to the assumptions about effects of this project on salmonids, especially listed fish and their habitats, has the COE asked for an independent scientific review. I would recommend that this approach be taken. It could improve the EIS, improve the proposed action in terms of scheduling certain actions and improve the monitoring and evaluation needed to protect listed species.

Sincerely,

Bill M. Bakke

Bill M. Bakke, Director

Corps of Engineers Response

Columbia Group Sierra Club
3701 SE Milwaukie Ave
Portland, OR 97202
February 3, 1999

Colonel Robert T. Slusar
Portland District
Corps of Engineers
P.O. Box 2946
Portland, Oregon 97208

Dear Colonel Slusar:

1. The Columbia Group of the Sierra Club represents over 6,000 Oregonians living along the Columbia and Willamette Rivers from The Dalles to Astoria and south to McMinnville. We believe that the Draft Environmental Impact Statement (DEIS) fails to adequately consider both Individual and cumulative Impacts of the preferred alternative on the region's environment, relies on faulty economic data, and fails to adequately examine alternatives. After reviewing this document, we call upon the Corps to not only revise the document, but to do an analysis of the present ship canal on the local environment. Our concerns with the plan are as follows:

Environmental Impacts

2. Past and present dredging of the Columbia River channel has resulted in ocean dumping destroying crab habitat and created Islands in the estuary, one of which is now home to the largest population of Caspian terns in the world. These terns may be eating as much as 20% of the Columbia River's endangered salmon as they migrate downstream. Recently, we have learned that the piled dikes that the Corps has placed along the river is a favored spot for comorants and terns to rest and forage for juvenile salmon (Don Lyons, OSU, personal communication). We see little in the draft EIS to assure us that the Corps plans for a deeper channel, with more spoils to dispose of, will be any kinder to the environment. The new plan calls for more of the same-more pilings, more dumping of sand on estuary islands, more dumping in shallow bays which are vital salmon juvenile rearing areas, and more ocean dumping which may adversely impact crabs. The draft EIS indicates that the dredging may adversely affect sturgeon as well (Sec. 6.6.1.3). The plan also calls for dumping the sand on land, destroying agricultural land, riparian habitat, and wetlands. Furthermore, there is no plan in place for dealing with some of the extremely toxic soil that may be dredged up, particularly in the Willamette River.

3. The Columbia Group is also extremely concerned with the history of the shipping industry spreading exotic species around the world. David Pimentel, an ecologist at Cornell University, in a recent presentation to the American Association for the Advancement of Science, estimated that exotic species are costing the U.S. 123 billion dollars per year. Much of this damage is to aquatic systems. The DEIS pays only minimum attention to exotic species. It mentioned one such species, Asian clam, as being an important food source for young

Corps of Engineers Response

1. Comments noted. See our responses to your specific comments below.

2. We have worked cooperatively with the interagency Caspian Tern Working Group on management solutions to tern predation on juvenile salmonids in the Columbia River estuary. We have implemented and/or cooperated in a number of management strategies so far in 1999. The Miller-Pillar ecosystem restoration action (pile dike field) is no longer included in the proposed project because of concerns with avian predation on juvenile salmonids. There will be no pile dike construction with the proposed action.

Comments regarding disposal sites proposed in the draft EIS has prompted changing the disposal plan in the final EIS. Concerning ocean disposal, further workshop meetings have been conducted. The North and South sites have been eliminated, and the currently proposed sites have reduced in size and located further offshore to minimize impacts to the commercial fishery. The Ocean Disposal Working Group has agreed to the currently proposed sites.

Upland disposal sites have changed as well, and impacts to agricultural land and wetlands has been reduced. Also, dredging the Willamette River has been delayed because of the potential listing of the Portland Harbor as a Superfund site. The EIS will be updated to reflect this information.

3. Although the introduction of invasive species is an important issue for the Columbia River, and is recognized as such in the EIS, we do not believe that deepening the channel would contribute to a potential increase in numbers or types of species. This issue is being addressed by multi-agency and industry working groups.

salmon without analyzing whether the species it replaced may have been even more beneficial (Section 6.9). The DEIS calls for studies of the exotic species problem. We believe that there should be an action plan to prevent the spread of exotic species, and a system to bill the shipping industry for the resulting costs if those plans fail, before this dredging system is considered.

Economic Analysis

4. The Columbia Group finds the economic analysis hopelessly outdated. Much of the growth in shipping that the dredging is supposed to accommodate is due to rapid growth in Asia. Obviously, those trends have been reversed. Airlines are cutting back service to Asia, the same is no doubt true In the shipping industry. Before this proposal is considered, the economic analysis in the DEIS must be redone with more realistic projections.

Failure to adequately address alternatives

5. The DEIS fails to adequately address alternatives to channel deepening. Nowhere in the DEIS is there any mention of providing alternative transportation to the Puget Sound. Burlington Northern has recently upgraded their rail lines over the Cascades-will this result in traffic that would have gone through Portland being diverted through Tacoma or Seattle? There is a proposal to build a pipeline for oil products over Snoqualmie Pass. What impact will this have on Columbia River shipping? Neither of these two issues is addressed in the DEIS.

6. In the region, the Columbia River is being recognized less and less as a big hydroelectric turbine and shipping channel, and more and more for the creatures that live there - particularly for salmon. In recent years, we have become more aware of how the industrialization of the Columbia River has decimated salmon and that, in order to restore the salmon, breaching of the Snake River dams and possibly the drawing down of John Day Dam will be necessary. This will have an adverse impact on shipping upriver of Portland. What impact would these changes have on the economics of this project? It is not mentioned at all in the DEIS. Furthermore, if there are reservoir drawdowns, rail lines from Portland to Pasco and Lewiston will likely be upgraded. If that is the case, perhaps the rail lines should be Improved downstream to Astoria or Longview and the channel only deepened part way up the Columbia. The option of transporting commodities to Astoria or Longview was given little attention in this DEIS.

Cumulative Environmental Impacts

Corps of Engineers Response

4. The general consensus among major entities such as the World Bank, the International Monetary Fund, and the US Department of Agriculture is that the Asian economies have reached the trough of their downturn, and that those economies (along with the associated trade) are rebounding. The crisis has resulted in a short-term reduction in Columbia River exports. The crisis does not represent a fundamental change in Asian economies that would result in a long-term decline of exports. Indeed, most forecasts call for Asian recovery to be well underway by 2001, and the first year that a deepened channel would be available is 2004. Also, we have added updated export data to the EIS, and it supports the analysis in the report.

5. If it were more economical for Columbia River exports to be exported through other ports or by other means, then goods would not be exported via the Columbia River navigation channel.

6. The sensitivity analysis in the Economics Appendix C addresses concerns regarding reduction in tonnage due to drawdowns. It shows that all of the tonnage that arrives via barge could be removed from the benefit analysis without significantly impacting the benefits of the proposed project. Also see response #5.

7. The Columbia Group of the Sierra Club is also concerned with the cumulative impact of more development. The DEIS says that dredging plan "would contribute to the cumulative loss [of agricultural land] that is occurring presently" (Section 6.12). Furthermore, some of the spoil is intended to convert wetlands to industrial land (Hayden Island). The impact of these actions should be more closely addressed by the DEIS.

8. Furthermore, we believe that the DEIS should address region wide impacts. Schools and roads in the Portland metro area are at or exceeding capacity. Air quality in the summertime approaches polluted levels. How many more people will move to the Portland area because of the dredging project? The area is at, or near, full employment so new jobs will likely all be filled by people moving to the area.

9. The DEIS states (6,7.1) that "deepening the Columbia River navigation channel to 43 feet would not be expected to have any greater impact to the listed and proposed stocks of salmonid than the existing maintenance dredging program." As the Columbia Group testified at the November 12 Public Hearing, just what are those present Impacts? What studies have been conducted to determine the impact of dredging on salmon that may spawn in these stretches of river? What are the impacts of the deeper channel and pile dikes on wetlands and riparian habitat along the shores of the river? How long will it be before the shipping Industry wants the channel dredged, at taxpayer expense, to 45 or 50 feet? At what point do we say "NO", the Columbia River is a river, not a canal? We believe that there should be a study closely examining the environmental impacts of the present channel from Astoria to Lewiston, Idaho, before the channel deepening project is considered.

10. And, as we concluded in the November hearing, the Independent Scientific Review Group stated in its study of Columbia Basin salmon, we need to turn to more normative river conditions. Dredging a 43 foot channel down 115 miles of river goes in the wrong direction. We believe that the DEIS overestimates economic benefits and vastly underestimates ecological costs and therefore oppose this project.

We appreciate the opportunity to provide DEIS comments.

Sincerely,

Jeffrey K. Fryer
Chair
Columbia Group, Oregon Chapter
Sierra Club

Corps of Engineers Response

7. Comments regarding disposal sites proposed in the draft EIS has prompted the Corps and project sponsors to revise the disposal plan for the final EIS. There has been a reduction in the amount of agricultural and wetlands impacted. The anticipated impacts of the revised disposal plan is discussed in the final EIS and Appendix G.

8. Improved shipping does not in itself contribute to regional growth but it does increase the efficiency of moving goods. Portland is a major distribution center for import and export products. Improved shipping could lead to reduced emissions and traffic congestion when compared to rail and truck shipment.

9. A detailed discussion of the impacts of the proposed project to salmonids was provided in the EIS and Biological Assessment submitted to the NMFS under the Endangered Species Act requirements. If, at some future date, the lower Columbia River ports request Congress to authorize a study for further deepening, an EIS would be prepared to address the impacts of that action.

10. Comment noted.

AUDUBON SOCIETY OF PORTLAND

Inspiring people to love and protect nature.

February 5, 1999

Portland District Engineer
U.S. Army Corps of Engineers
Attn: CENWP-EFC-E
PO Box 2946
Portland, OR 97208-2946

RE: Columbia and Willamette Rivers Channel Deepening Project

Dear District Engineer,

On behalf of our 7,000 members, the Audubon Society of Portland submits these comments on draft Environmental Impact Statement (EIS) for the Columbia and Willamette River channel deepening project. The mission of our organization is to promote the understanding, enjoyment, and protection of the natural world, particularly native wildlife and its habitat. Our membership lives within the Columbia River watershed, and are concerned about actions which may further harm native species, their habitats, and the biological health of the watershed.

1. In summary, we believe the draft EIS is inadequate as a basis to move forward with the channel deepening project as proposed. There are simply too many unknowns regarding the biological and toxicological effects of channel deepening on aquatic and terrestrial elements of the Columbia basin ecosystem. The draft EIS fails to display the net benefits of the proposed channel deepening project. The alternatives, except for the no-action alternative, fail to address how channel deepening operations are consistent with the region's efforts to recover imperiled salmon runs, or how the adverse environmental impacts can be adequately mitigated.

1. Economic Justification for the Project.

We are concerned by the one-sided nature of the economic analysis used to justify the channel deepening project. The draft EIS evaluates the project benefits to navigation without an equally rigorous evaluation of the project's costs to society due to loss of fishery and crabbing resources, lost wetlands, diminished water quality, and harm to wildlife and human health. We are interested in having the Corps disclose the project's "net benefits" for all of the alternatives presented in the draft EIS. While the navigation benefits may be greatest for the longest, deepest, and widest channel improvments for navigatioin, costs associated with such channel improvements may also be the greatest. These costs include not only the costs of dredging, disposal, and, mitigation, but also the costs of environmental degradation that cannot be mitigated.

2.

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Corps of Engineers Response

1. Comments noted. See our responses to your specific comments below.

2. As with all major federal actions, the EIS prepared for this action considers potential impacts of the action to the environment and compares impacts to alternatives including the no action alternative. The decision to recommend any action is based on consideration of monetary costs and benefits and non-monetary environmental effects.

Another dimension missing from the draft EIS is analysis of the enormous amount of public and private dollars that have gone into recovery efforts for Columbia River and Snake River salmon
2. (con't) and how this project will interfere with, frustrate, or impede those recovery efforts. This obvious cost of the project must be accounted for in the draft EIS.

2. Impacts on Fish Resources.

We could not locate any data in the draft EIS demonstrating how the project will provide benefits to fish resources. Considering the magnitude of dredging and disposal operations and their impacts, and the dire condition of Columbia River and Willamette River salmon and steelhead runs, the draft EIS does an inadequate job of reconciling these conflicts.

3.

The National Marine Fisheries Service is poised to make additional listing and critical habitat decisions for Columbia River and Willamette River salmon and steelhead runs. These decisions further underscore the importance of maintaining and improving the integrity of the Columbia basin ecosystem if there is to be any hope of salmon recovery. The draft EIS fails to adequately address how channel deepening supports regional efforts to recover imperiled salmon.

A. Impacts of dredging and disposal operations.

The draft EIS fails to adequately describe how dredging and disposal of millions of cubic yards of sediment will NOT harm, trap, or harass listed endangered salmon and steelhead species. As dredging and disposal operations are planned to occur continuously for two years, how can the project avoid adverse effects on protected salmon and steelhead, especially during migration periods?

4.

The draft EIS asserts that lower depths of the Columbia River are not critical salmon habitat, but fails to adequately describe how contamination of the upper water column due to dredging operations at benthic levels may adversely affect migrating juveniles and returning adult salmon. What is the impact of dredging operations on the food supply of migrating salmon?. The entire Columbia River, from its mouth to its confluence with the Snake River, is designated under the Endangered Species Act (ESA) as critical habitat for Snake River Sockeye, Snake River spring and summer Chinook, and Snake River fall Chinook Salmon. It is unclear what criteria were applied by the Corps to determine that critical habitat for listed salmon species will not be adversely affected by the project.

B. Impacts of blasting operations.

Blasting will be used during dredging operations to produce desired channel depths and widths. The draft EIS is silent with regard to when blasting will occur, and to the exact quantity and
5. duration of blasting operations. Will they occur during fish migration periods? The draft EIS acknowledges that blasting can damage and kill fish, but fails to quantify direct and indirect impacts to fish. The draft EIS must present more information about intended blasting operations and their impacts on salmon.

Corps of Engineers Response

3. The Corps is an active supporter of salmon recovery efforts for the Columbia Basin and has been working with the resource agencies on several programs to help restore salmonid populations and habitats. Also, ecosystem restoration actions incorporated into the proposed project would improve salmonid passage and habitat along the Columbia River.

4. A detailed discussion of impacts of the proposed project to salmonids was provided in the EIS and Biological Assessment submitted to the NMFS under the Endangered Species Act requirements. All conclusions in these documents are based on the best scientific information available.

5. A blasting plan was developed in cooperation with both federal and state agencies. It incorporates proven methods to minimize impacts to fish in the vicinity of the blast. All blasting will be done during the approved in-water work period, which is a time when fish numbers are low.

C. Water quality impacts.

The lower Columbia River is listed as a water quality limited (303d) under the Clean Water Act. We question how elevated dredging and disposal activities, outside of maintenance dredging operations, are permissible under the Clean Water Act (CWA). How is releasing of contaminants from sediment material consistent with the CWA?

6. The draft EIS asserts that "sediment in the Columbia River navigation channel is not contaminated." What data is the Corps relying on to make this assertion? The draft EIS itself contains data which directly contradicts this assertion (see Appendix B of draft EIS). Channel sediments are contaminated adjacent to the Gateway area in Vancouver. Without actual data from channel sediments, it is not known whether screen benchmarks established by the Environmental Protection Agency and other federal agencies for toxic materials are exceeded. We urge the Corps to undertake comprehensive ecological risk assessments before authorizing any channel deepening dredging operations.

The water quality impacts of dredging and disposal operations are not adequately described in the draft EIS. What are the effects of increased turbidity, suspension of contaminated sediments, and decreased levels of dissolved oxygen on fish and other aquatic organisms? How will filling of 38 acres of wetlands benefit water quality of the Columbia and Willamette Rivers?

3. Impacts of Disposal Operations.

Much of the dredge material would be disposed of on existing wetlands or in the marine environment. Significant wetlands, such as those in the Gateway area in the Vancouver Lake Lowlands, are identified for fill in the draft EIS. We question how filling of these wetlands is consistent with section 404 of the CWA, the Corps own regulations, and Presidential Executive Orders for calling for wetland preservation.

7. The draft EIS does an inadequate job of decribing the cumulative impacts of continued wetland loss due to dredging operations. The loss of 38 acres of wetland habitat is significant. The historical loss of wetlands in the Columbia River esturary and associated freshwater habitats is well documented. Available data indicates that wetland mitigation projects are not effective in compensating for lost wetland values.

8. For marine disposal, the Corps proposes a "thin layer" disposal technique which will place the dredge sports on 75 square miles of productive marine habitat, within 13 miles of the mouth of the Columbia River. Much of the analysis of marine disposal in the draft EIS is based on a "what if" description of disposal scenarios. Much is unknown about the effects of marine disposal on benthic organisms and the fish populations that feed on them. For example, the ability of bottom feeding fish to move elsewhere to feed once prey are buried is not known. Also, grain size composition of disposal areas will determine which organisms colonize the deposits, and hence, the effects on fish populations. The draft EIS offers no mitigation for channel or marine dredge disposal. This omission does not seem justified.

Corps of Engineers Response

6. See our responses #16, #27, #29-34 to the Northwest Environmental Defense Center regarding water quality impacts.

7. Impacts to wetlands have been minimized to the extent possible. The disposal plan has been revised; about 20 acres of wetlands would now be impacted. Full mitigation of impacts is planned, and wetland habitat development will be an emphasis of mitigation actions recommended by the interagency team participating in the mitigation planning effort. Also, the Shillapoo Lake restoration action would restore about 1,250 acres of valuable wetland and riparian habitat along the Columbia River near Vancouver.

8. Thin layer disposal has been dropped from consideration.

4. Impacts on Wildlife Resources.

There are many federally listed wildlife species associated with the Columbia River estuary. Some of these include the Brown Pelican, Bald Eagle, Aleutian Canada Goose, Peregrine Falcon, Snowy Plover, Columbian White-tailed Deer, upper and lower Columbia River Steelhead, Snake River Steelhead, Snake River Sockeye Salmon, Snake River fall/spring/summer Chinook Salmon, and a number of marine species.

1. Bald Eagles

9. There are 65 Bald Eagle nesting sites within the project area, yet the draft EIS downplays the potential impacts of the dredging operations on this species. Little attention is paid to nearshore dredging and disposal activity that could disturb eagles while nesting or foraging. Bald Eagles are making a come-back in Oregon, and are proposed for de-listing by the U.S. Fish and Wildlife Service, yet recovery goals have not been met for all Bald Eagle management areas in Oregon. Nesting sites along the lower Columbia River have had trouble producing young, and part of the problem is assoicated with contamination of food sources by toxic chemicals. The draft EIS does a very poor job of explaining how dredging will not release contaminants into the aquatic food chain and consequently will not affect Bald Eagle reproductive success.

2. Other Wildlife Species

We are concerned about the impacts of dredging and disposal on a variety of other wildlife species, including the Peregrine Falcon, Sandhill Crane, Dusky Canada Goose, Aleutian Canada Goose, river otters, and others. Part of our concern stems from the use of "indicatior species" to assess habitat loss for all wildlife at disposal sites. For example, using the Canada Goose to represent species dependent on agricultural lands overlooks important habitat use differences by species such as the Sandhill Crane, listed as an endangered species in Washington State. Thus the impacts on some wildlife species such as the Sandhill Crane are undervalued. For other species such as the river otter, the toxicological effects of contaminants associated with dredging may likewise be underestimated.

Thank you for the opportunity to comment on the draft EIS .

Sincerely,

Paul Ketcham

Paul Ketcham
Conservation Director

Corps of Engineers Response

9. Comments noted. The issues you raise relative to bald eagles have been addressed in Section 6.7 of the EIS and the Biological Assessment submitted to the USFWS under requirements of the Endangered Species Act. The EIS explains that contaminants tend to attach to fine-grained sediments or organic material; and that since the material to be dredged from the Columbia channel is sand with low percent fines and organic content, contaminant release is not an issue.

O R E G O N T R O U T

TO: District Engineer, U.S. Army Corps of Engineers District, Portland
ATTN: CENWP-EC-E
P.O. Box 2946 Portland, OR 97208

COMMENTS
to the
U.S. ARMY CORPS OF ENGINEERS
regarding the
COLUMBIA RIVER CHANNEL IMPROVEMENT STUDY

The Army Corps of Engineers has issued a Draft Environmental Impact Statement on the Columbia River Channel Improvement Study. Oregon Trout appreciates the opportunity to comment on the DEIS and offers the following remarks.

The actions proposed in the DEIS would violate the federal Endangered Species Act

The federal Endangered Species Act (ESA) states that each federal agency "shall ... insure [sic] that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined . . . to be critical . . . ."[1] When a federal agency proposes to take action that may impact a listed species or its critical habitat, that agency is required to consult with the appropriate resource agency, here, the National Marine Fisheries Service, and obtain a biological opinion as to whether the proposed action is likely to violate the ESA.[2] Although the federal agency is not required to adhere to the findings in the biological opinion, acting contrary will likely be considered arbitrary and capricious.[3]

1. The entire Columbia River, along with its estuarine areas and river reaches, from the mouth of the Columbia River to the confluence with the Snake River has been designated as critical habitat for Snake River sockeye and Snake River chinook.[4] Because this habitat has been designated as critical, any adverse modification violates the ESA. Additionally, the ESA prohibits federal agencies from making an "irreversible or irretrievable commitment of resources" after its initial consultation with the appropriate federal agency.[5] Oregon Trout is concerned that this project not only adversely impacts critical habitat, but that it also is an irretrievable commitment of at-risk stocks of aquatic species.

[1] Federal Endangered Species Act, 16 U.S.C. § 1536(a)(2) (1994).
[2] *Id.*, 50 C.F.R. § 402.
[3] *See eg*, Lone Rock Timber Co. v. U.S. Dept. of the Interior, 842 F.Supp. 433 (D.Or. 1994).
[4] 50 C.F.R. § 226.22.
[5] 16 U.S.C. § 1536(d)

Protect and Restore Native Fish and their Ecosystems
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Corps of Engineers Response

1. A detailed discussion of the impacts of the proposed project on listed species, especially salmonids, was provided in both the EIS and Biological Assessment submitted to the NMFS under the Endangered Species Act requirements. The NMFS determines Section 7 compliance of the proposed project. As described in the EIS, the project is not expected to have a significant impact on salmonid populations in the river. The Corps coordinated with both WDFW and ODFW to determine appropriate salmon restoration measures to be implemented under ecosystem restoration. We have prepared a Biological Assessment for salmonid species and are currently seeking concurrence from the NMFS through their Biological Opinion. The USFWS, in cooperation with WDFW, ODFW, and NMFS, has prepared a Coordination Act Report with specific recommendations on natural resources and project-related impacts.

The planning area for this project is 105 miles in the lower Columbia River to the mouth of the Willamette River, and the Willamette River to Portland. In addition to being designated as critical habitat for Snake River sockeye and chinook, these stretches of river provide habitat for one other federally listed species, five proposed species, and one candidate species of anadromous fish: threatened lower Columbia River steelhead, proposed threatened Columbia River chum, proposed threatened lower Columbia River chinook, proposed threatened upper Willamette River chinook, proposed threatened upper Willamette River steelhead, proposed cutthroat trout, and candidate lower Columbia River coho.

2. Because activities conducted under the DEIS would occur continuously for a two year period, the activities would undoubtedly impact listed species. The DEIS admits "dredging may result in the entrainment of fish and other aquatic organisms."[6] Additionally, the DEIS proposes to conduct underwater rock blasting activities in six sites along the Columbia and Willamette Rivers, and if they are conducted improperly, "internal organs and membranes [of fish species] will rupture which can lead to death."[7] To avoid this situation, the Army Corps proposes to "scare fish away prior to the blast."[8]

The Army Corps also states that dredging will result in the "disruption of bottom habitat and loss of the benthic invertebrate community," and that disposal of dredged material will "smother" some species. Finally, the re-suspension of sediments that contain dioxin and other toxic materials will increase turbidity and contribute to bioaccumulation in present fish species.

All six of these examples (entraining listed species, rupturing the internal organs of listed species, scaring listed species, loss of food for listed species, smothering listed species, increasing toxicity levels in listed species) amount to "jeopardy" of listed species or destruction of critical habitat. Permitting the activities described in the DEIS would violate the Endangered Species Act.

Activities proposed in DEIS may violate the Clean Water Act

The project area includes the lower Columbia and lower Willamette Rivers. The lower Columbia River is water quality limited for bacteria, dissolved oxygen, temperature, total dissolved gas, and toxics (DDE, DDT, PCB, and arsenic), and the Willamette is water quality limited for bacteria, temperature, and toxics (mercury).

3. Conducting activities which would stir up nearly 20,000,000 cubic yards of toxic sediment would lead to substantially increased turbidity and toxicity levels, causing a measurable decrease in water quality. Not only does this violate the antidegradation policy of the Clean Water Act for high quality waters and water quality limited waters, but it also will likely impair the beneficial uses of the Columbia and Willamette Rivers.

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[6] DEIS, at 6-19.
[7] *Id.* at 6-20.
[8] *Id.* at 6-21.

Corps of Engineers Response

2. See our response #1. The blasting plan was developed in conjunction with state and federal resource agencies. All blasting will be done during the approved in-water work period and will include proven measures to scare fish away prior to blasting. Additional information regarding your six examples of concern has been included in Chapters 5 and 6 of the FEIS.

3. Contrary to what you have stated, this project would not stir up any toxic sediments. Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which contain high levels of contamination. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging amd disposal activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

Corps of Engineers Response

Conclusion

4. Oregon Trout remains concerned about the Columbia and Willamette River project. The Army Corps appears to have given only token attention to the needs of numerous at-risk aquatic species without thoroughly considering the requirements of the Endangered Species Act or the Clean Water Act.

4. Comment noted.

Sincerely,

Jim Myron
Conservation Director

Mary Scurlock Adamson
10575 NW Skyline Boulevard
Portland OR 97231
503-735-1240

5 February 1999

Robert T. Slusar
District Engineer
U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

Re: Draft Integrated Columbia and Lower Willamette Rivers Channel Improvement Study and Environmental Impact Statement

Dear District Engineer:

Please accept these brief comments on the proposed channel-deepening project for the Columbia and Willamette Rivers.

I write in my several capacities as an attorney, a conservation professional, a resident of
1. Northwest Portland and as the mother to two children who swim in the Willamette and Columbia Rivers during the summer.

My areas of concern primarily include: protection of aquatic habitat for fish and other aquatic species under the standards of the Endangered Species and Clean Water Act and assurances that public health will not be threatened.

Water Quality and the Clean Water Act: 401 Certification and EPA Approval

I question the basis for the finding that the proposal provides the basis for a finding be either the affected states (Section 401 authority) or the EPA (Section 309 Clean Air Act authority) that water quality standards – in all their aspects – are reasonably assured of being met.

2. Section 401 of CWA requires water quality certification of all federal permits - in this case, a Clean Water Act Section 404 permit. Section 404 of the Clean Water Act requires that all projects involving the discharge of dredged or fill material into waters of the United States be evaluated for water quality and other effects prior to making discharge. The draft evaluation of section 404 included in the DEIS states that the proposed action, including mitigation, would result in "no significant adverse effects on human health or welfare, municipal water supplies, plankton, fish, shellfish, or wildlife. Significant adverse impacts on life stages of aquatic life and

Corps of Engineers Response

1. Comments noted.

2. The EIS and Section 404(b)(1) Evaluation have been revised to provide additional information supporting our conclusions. The possible listing of the Willamette as a Superfund site occurred after the draft report was prepared. The local sponsors have requested that the Willamette River dredging be delayed. If the harbor is listed, no navigational maintenance or new work dredging can be conducted in the listed area under the Clean Water Act. If the harbor is not listed, dredging for the proposed project would not preclude cleanup activities but would enhance and perhaps extend the effort. The dredging in the Willamette River would require full compliance with all the laws including the Clean Water Act, Endangered Species Act, and the National Environmental Policy Act.

other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational esthetic, or economic values would not occur" (DEIS Exhibit D).

Similarly, what would be the basis for an EPA finding that this proposal is "environmentally satisfactory"?

2. (con't)

The basis for these conclusions is not found in the DEIS, and therefore, it is not clear that a basis for 401 certification and EPA approvals exist. Given the significant problems with sediments in the Willamette River, further analysis must be provided.

If approvals are to be limited to the initial phase of the project (my understanding is that the Corps' proposed channel deepening plan includes both rivers, with the intent to phase construction to delay the Willamette deepening procedures until the toxic sediment issues are worked out) does it make sense to go forward with the first phase of the plan knowing that the second phase may not be capable of passing certification requirements? Of primary concern is the fact that the draft EIS fails to address indirect impacts and possible future events related to the deepening project, including potential listing of the Willamette as a Superfund site.

Endangered Species Issues

The actions of the Corps have the potential to jeopardize, through direct take of species and degradationof habitat, the survival of imperiled salmonid species, bald eagles and Columbian white tailed deer to name a few. (Federally listed wildlife species associated with the Columbia River estuary include: the brown pelican, bald eagle, Aleutian Canada goose, peregrine falcon, snowy plover, Columbian white tailed deer, Upper and Lower Columbia River steelhead trout, Snake River Basin steelhead trout, Snake River sockeye salmon, Snake River fall/spring/summer chinook, and a number of whale and marine turtle species in the project's offshore region).

3.

Inexplicably, the DEIS discounts the potential impacts of the proposed deepening to threatened and endangered species. For example, 65 bald eagle nesting sites exist in the project area, but the DEIS doesn't adequately acknowledge potential harm resulting from proposed dredging and disposal activity. Nearshore dredging as well as disposal activity will drive bald eagles from nesting and foraging sites, and therefore, constitute harassment and harm, which is prohibited under the ESA. Furthermore, potential contamination in dredged sediments may lower reproductive success in bald eagle pairs. The DEIS does not address such concerns, as they state that no contaminates exist in the channel sediments. The project should consider any species that are likely candidates for ESA listing before the project is complete.

In order to complete the project in two years, the Corps plans to dredge year round, regardless of time periods established by specified State and Federal resource agencies to protect juvenile salmonids and smelt, sturgeon, and other threatened and endangered species and habitat. It is unclear whether the entrainment of salmon during this process meets the requirements for an Incidental Take Permit from the National Marine Fisheries Service. The basis for a finding that such activities will not significantly impair the survival and recovery of these species should be

Corps of Engineers Response

3. A detailed discussion of the impacts of the proposed project on listed species was provided in both the EIS and Biological Assessments submitted to the NMFS and USFWS under requirements of the Endangered Species Act. The NMFS and USFWS determine Section 7 compliance for the proposed project.

This issues you raise relative to bald eagles have been addressed in Section 6.7 of the EIS and in the Biological Assessment, located in Exhibit G. The EIS explains that contaminants tend to attach to fine sediments or organic material, and that since the material to be dredged from the Columbia channel is sand with low percent fines and organic content, contaminant release is not an issue.

Alternative dredging methods are discussed in the EIS. The final dredging plan for construction will be developed to minimize impacts to species of concern. Restricting construction dredging from July to December will increase construction time from two years to four years.

Additional information has been added to the EIS concerning LoadMax and the regional port analysis.

included in this document, just as it will be required to provide the basis for a no jeopardy finding from the Service.

3. (con't)

To provide a basis for a determination that direct and indirect impacts on listed species do not exceed the limits of take/jeopardy standards. The final EIS needs to include alternative procedures that will minimize or mitigate the impacts to these valuable resources – such as providing a schedule of in-water work occurring only when fish are least present. It should fully evaluate non-structural alternatives (developing an improved LOADMAX forecasting system) in order to avoid impacts from additional dredging and disposal on threatened and endangered species and habitat.

Conclusion: DEIS falls short on NEPA requirements

The intent of the NEPA process is to identify and address the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment. The DEIS fails to fullfil the purpose of NEPA because it:

4.

* does not provide a "full and fair discussion" of significant environmental impacts in a manner as to avoid predecisional impact analysis;
* does not present environmental impacts and alternative actions in a comparative form;
* inadequately addresses direct, indirect, and cumulative environmental impacts relating to maintenance of the navigation channel; and
* does not fully consider reasonably foreseeable significant adverse impacts, nor address the availability of information relating to these impacts.

Thank you for your consideration.

Sincerely yours,

Mary Scurlock Adamson

Corps of Engineers Response

4. We disagree. All discussions and conclusions in the EIS are based on the best scientific information available for a given issue. The EIS compares impacts of proposed actions to the no action plan in Sections 2 and 6 of the report. Scoping for the study was initiated in 1994 in order to determine the significant issues to be addressed in the study. Specialized coordination meetings were held throughout the study process; Section 7 of the EIS and Appendix H, Volume III describe these meetings.

February 5, 1999

To: District Engineer
U.S. Army Corps of Engineer District, Portland

From: Matthew Nahan
Mechanical Engineer, Ph.D.

Subject: DEIS - Channel Deepening Project for the Columbia and Willamette Rivers

The Draft Environmental Impact Statement (DEIS) for the Cannel Deepening Project on the Columbia and Willamette Rivers requires further investigation and disclosure to uphold the NEPA the responsibilities of your office. Specifically, the following activities should receive further consideration:

1. • Determine the cumulative effects of dredging operations on the white sturgeon populations. Determination should address effects in relation to conditions considered necessary to support historic populations. Considered effects should include direct taking, harassment (stress), habitat disturbance and loss, impact of migration interference, short and long-term impact upon food supply quantity and content and impact of released toxins on tissue bioaccumulation. Measures should identify the distribution of total population loss and long-term health effects.

2. • Provide proof that the proposed action will result in "no significant adverse effects on human health or welfare, municipal water supplies, plankton, fish, shellfish, or wildlife. Significant adverse impacts on life stages of aquatic life and other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational esthetic, or economic values would not occur" (DEIS exhibit D). In particular, testing of toxins through-out the full depth and length of planned dredge area must be conducted. Testing must include a representation of the actual sediment composition including suspended fines. Impact of dredging upon toxin migration requires assessment, through-out the Pacific Ocean coastline as well as the Columbia and Willamette river planning area. Effects upon toxin migration should be related to cumulative health impact marine organism health.

•

Thank-you for your Efforts,

Matthew Nahan

Matthew Nahan, Ph.D.
Corvallis, OR 97330
nahan@frl.orst.edu
535 No. 15th St.

Corps of Engineers Response

1. See our responses #6, #7, and #8 to the National Marine Fisheries Service letter regarding sturgeon impacts. Some additional information has been added to the EIS concerning impacts to sturgeon.

2. We have revised the report and the Section 404(b)(1) Evaluation to provide additional information supporting this conclusion. Sections 5 and 6 of the EIS, as well as Appendix B, discuss in detail the testing methodology and analysis results for material to be dredged. Dredging the Willamette River, however, has been deferred. Further sediment quality evaluations will be required and conducted prior to any dredging activities on the Willamette River.

District Engineer
U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

Dear District Engineer:

1. Dredging and disposal activities will harm, trap, and harass listed endangered salmon and steelhead species. Critical habitat and salmon food sources will be destroyed and/or modified. Flowlane disposal of dredged material will harm salmon. Dredging operations will interfere with salmon migration and constitute harassment as defined by the ESA. The DEIS does not provide well-founded and scientifically supported estimation of the time before complete repopulation of benthic organisms occurs after dredging and blasting activity. Nor does the DEIS explore the impact on salmon if their food source is destroyed, if only temporarily. The Corps acknowledges that blasting can cause mechanical damage to fish's internal organs, but does not provide data about the techniques the Corps intends to employ to avoid direct impact on salmon in its DEIS. (DEIS at 6-20.) The effects of increased turbidity on aquatic life must be addressed, including the impact of blasting and dredging operations, the suspension of contaminated sediments, and the potential for depressed levels of dissolved oxygen at dredge and disposal sites. The Corps' plans to dredge continuously for two years must be seriously reconsidered.

2. The Corps noted in 1975 that the species to be most impacted by dredging activities would be white sturgeon. However, the Corps has never adequately determined the cumulative effects of dredging operations on sturgeon populations, nor does it sufficiently assess potential impacts of the deepening and rock blasting on current sturgeon populations. Rather, the DEIS dismisses the potential of the dredging to entrain and harm significant numbers of sturgeon by dismissing its own testing techniques.

Studies that show a 3.5% immediate mortality rate of entrained juvenile sturgeon do not evaluate further loss of life resulting from stress and/or injury of those juveniles that survived the entrainment. To provide an adequate assessment of cumulative and future impacts on sturgeon populations, the Corps should: 1) calculate the total area of the navigation channel populated by sturgeon, 2) calculate the total decline in sturgeon population resulting from dredging activities; 3) calculate total loss of sturgeon habitat resulting from dredging activities; and 4) calculate the predicted losses of sturgeon habitat and population resulting the proposed deepening and rock blasting.

Habitat degradation

3. The Corps has an obligation under Section 7. not to destroy or adversely modify designated critical habitat of the listed species. Various inaccurate or blatantly incorrect assumptions proliferate in the DEIS. To begin with, the Corps inaccurately states that the lower depths of the Columbia River are not critical salmon habitat. However, the entire Columbia River, from the mouth to the confluence of the Columbia and Snake Rivers, has clearly been designated critical habitat for Snake River Sockeye Salmon, Snake River spring/summer Chinook Salmon, and Snake River Fall Chinook Salmon, "including all Columbia River estuarine areas and river reaches." Of the impacts of dredging on deep-water habitat the DEIS states that "these impacts are not expected to be significant since benthic habitat of the 40-foot deep navigation channel is generally not considered productive." Where the Corps decides that the navigation channel doesn't fall into critical habitat. it seems to have done this on its own volition. rather than following any specific determination. Potential impacts to these populations must be adequately addressed in the final EIS. The Corps identifies the loss of 38 acres of wetlands as "unavoidable impacts" of the project. By the end of the 1970s, tidally influenced wetlands in most Oregon and Washington estuaries had been reduced 50 to 95%. The DEIS does not address the cumulative impacts of continued wetlands loss. Further comments on these losses will become available in the next few days.

Corps of Engineers Response

1. A detailed discussion of the impacts of the proposed proejct on salmonid species was provided in both the EIS and Biological Assessment submitted to the NMFS under requirements of the Endangered Species Act. The NMFS will determine Section 7 compliance for the proposed project. All discussions and conclusions in the EIS are based on the best scientific information available for a given issue. A blasting plan was developed in cooperation with federal and state resource agencies. It incorporates proven methods to minimize impacts to fish in the vicinity of the blast. All blasting will be done during the approved in-water work period, which is a time when fish numbers are low.

2. See our responses #6, #7, and #8 to the National Marine Fisheries Service letter regarding sturgeon impacts. Some additional information has been added to the EIS concerning impacts to sturgeon.

3. See response #2 concerning impacts to salmonids. Impacts to wetlands have been minimized to the extent possible. The disposal plan has been revised; about 20 acres of wetlands would now be impacted. Full mitigation of impacts is planned and wetland habitat development will be an emphasis of mitigation actions recommended by the interagency team participating in the mitigation planning effort. Also, the Shillapoo Lake restoration action would restore about 1,250 acres of valuable wetland and riparian habitat along the Columbia River near Vancouver.

The Corps intends to implement a "thin-layer" disposal technique to place the dredge spoils on 75 square miles of biologically productive marine habitat, within thirteen miles of the mouth of the Columbia River. The DEIS states that "one consequence of thin4ayer disposal is the burial of organisms living in and on the surface of the sea floor. The effect of this burial on fishes that prey upon these organisms will depend in part upon their ability to detect reduced abundance of prey in and on the thin-layered deposits. and thus
4. continue moving to feed elsewhere." Studies must be conducted that can prove this ability before such a plan is implemented. Furthermore, "a second consequence of thin-layer disposal could arise from changes in the grain size composition of the surficial sediments, if the grain size composition of the dredged sediments differ markedly from those they bury. The grain size composition of sediments can influence which organisms colonize them and in what level of abundance, and therefore thin-layer disposal could change the overall quality of the sea floor affected as to its suitability for foraging fishes." Studies and/or monitoring schemes must be prepared before the final EIS can be completed. The DEIS offers no mitigation plan for estuary or ocean impacts from dredged material disposal.

Crabs and the Ocean Dumping Act:

The Corps will have to remove and dispose of 19 million cubic yards of sand, 220 thousand cubic yards of hard basalt rock, and 450 thousand cubic yards of gravel and boulders to deepen the channel to 43 feet (DEIS pages 4-8 and 4-9). Over the next 50 years, 191 million cubic yards of material will be dredged from the mouth of the Columbia River. During the next 20 years, over 91 million cubic yards of material will be removed and disposed of elsewhere in order to maintain the channel. The Corps states in its DEIS that such actions will have very little impact on habitat and wildlife health. The only ocean disposal alternative discussed is a 50 year plan. In it the Corps offers no baseline data on crabs, no thresholds, no monitoring, no mitigation, and no Regulatory Flexibility Analysis to determine the economic effect on small businesses.

5. According to the Ocean Dumping Act (ODA), there are 11 specific and 5 general criteria in selecting ocean disposal sites. "Some of these are: to select sites particularly to avoid areas of existing fisheries or shell fisheries, to limit the size of sites in order to localize any immediate adverse impacts, to dump only at disposal sites and under conditions that will insure no unacceptable interference with fishing, to conduct a qualitative and quantitative assessment of the potential effects on the marine environment and commercial fishing, to create a buffer zone when site is in close proximity to area of unique or significant importance (ie. the mudhole,) and to protect spawning and nursery areas."

The Corps is planning to dump dredge spoils over 75 square miles at the mouth of the Columbia River. This will cover 56% of the zone of crab fishing, where Crabbers make 75% of their earnings. The Corps provides insufficient information regarding the disposal over such vast acreage of productive marine habitat. Inadequate studies have been completed to prove that thin-layer disposal (maximum 12 inches) will have non-significant impacts on marine life. "Based on what is known about the physiology and ecology of the Dungeness crab, dredged material disposal on areas where crab are living can be expected to have numerous adverse effects, including mortality through direct burial, impaired respiration, burial of food and protective habitat and impaired reproductive activity." (Beasley, p. 23) Differences in particle size between the ocean bottom and channel dredge spoils provide further reason to believe that recolonization rates at dumping sites would be affected. No system of monitoring toxics in the dredged material before ocean dumping has been proposed. The DEIS document asserts that no significant impact on crabs is "evident." What it should do is conduct studies that go beyond "pilot" level, and offer fair consideration of the alternative disposal sites: upland disposal, estuarine disposal, disposal off the continental shelf. and no ocean disposal.

Sincerely,

David Davies

Corps of Engineers Response

4. Thin-layer disposal is no longer being considered.

5. Comments noted. Concerning ocean disposal, further workshop meetings have been conducted and the disposal plan has been changed. The North and South sites have been eliminated, and the currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. The Ocean Disposal Working Group has agreed to the currently proposed sites. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

539 Kensington Ave.
Astoria OR 97103
February 3, 1999

District Engineer, U.S. Army Corps of Engineers
Portland District
Attn: CENWP-EC-E, P.O. Box 2946
Portland OR 97208-2946

I urge you to reconsider the negative environmental and public health effects which deepening the shipping channel in the Columbia River will have.

Specifically, I think the effect of dredging at the mouth of the Columbia will be to release both known, and as yet unknown, deadly toxins into the food chain: dioxin, heavy metals, pesticides, DDT, and radionuclides.

The Columbia River has received waste products and toxic materials for decades, both as a direct dump-site, as as an indirect dumpsite from tributaries. That lack of stewardship on our part, as citizens and as the various levels of government which represent us, is bad enough. At this point, our only shelter from our own mistakes is to be glad that gravity has taken the toxins to the bottom of the river, and, IF UNDISTURBED, pretty much keeps them there.

We all know that one dredging will call forth others. Let's look again at our priorities; let's have the full story in your final EIS in June.

Thank you.

Sincerely yours,

Carolyn Dunn

Carolyn Dunn

Corps of Engineers Response

The material proposed to be dredged from the Columbia River is the same type of material that is currently dredged for maintenance. This material has been tested and evaluated, and is primarily sand and has a low percent of fines and organic material due to the constant reworking of the sediments by large flows in the Columbia River. When released from the dredge, sand settles very rapidly to the bottom and is not carried in suspension except under extreme flow conditions. Deepening of the channel in the Columbia River will not uncover or expose any material that is different from the material now dredged.

Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which contain high levels of contamination. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging amd disposal activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

February 5, 1999

District Engineer
U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

RE: Comments on the Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement, Columbia and Lower Willamette River Federal Navigation Channel

The following elements are have not been adequately covered in or are missing from the DEIS:

ADEQUATE DATA TO DETERMINE PREFERED ALTERNATIVE BASED ON THE GREATEST NET BENEFITS

1. In light of the study of the sediment contamination in the Portland Harbor area and the possibility that this area will be listed on the Superfund National Priority List, the costs to deepen that part of the project and to dispose of the contaminated sediment are unknown and cannot be included in the calculations.

In fact, given that if the Portland Harbor area is listed as a Superfund site, no deepening or maintenance dredging will proceed, the Willamette portion of the project should be removed entirely. It would be irresponsible to even authorize the deepening of the Willamette portion given all the unknown factors at this time, such as the following:
-We do not know if it will be a federal Superfund site;
-We do not know what the impacts of digging deeper would be in this area;
-We do not have anywhere to put the material;
-We do not know the environmental and human health risks associated with deepening and moving the material;
-We do not know what the cost would be to deal with it;
-We do not need to deepen the channel to get the Corps help on cleanup, we can use the provision that allows clean up work at 75% cost share with a local sponsor, even without a new project.

2. Also, in light of the Asian economic crisis, the commodity analysis used in the DEIS is outdated and may be erroneous in demonstrating need for the project. A new analysis should be completed that better estimates the future demand given the recent developments. There is a lesser demand for grain than when the economic analysis was completed (especially corn); we are not seeing the projected demand for grain as stated in the economic analysis, and we may not see the projected demand increase – a crucial factor in the benefits calculation – in the next several years.

Corps of Engineers Response

1. Comments noted. The Corps has no position on the listing of the Portland Harbor as a Superfund Site, for or against. At the meeting referenced it was asked if the navigation channel was automatically included or could be excluded. There are consequences either way. If it is listed all navigational dredging whether new work or operation and maintenance (O&M) will cease. This means that all funding to evaluate dredged material proposed for dredging will cease. In addition all funding to find suitable dredged material disposal alternatives including pilot management and monitoring projects will cease. Funding may be available through other Corps programs but not through the navigation new work, O&M, or Section 312 programs.

2. We received many comments regarding the economic analysis and the 1997 Asian currency crisis and the fact that most of the work on the economics was completed prior to 1997. We have added additional information on these concerns to the final EIS and Economic Appendix C. The general consensus among major entities such as the World Bank, the International Monetary Fund, and the United States Department of Agriculture, is that the Asian economies have reached the trough of their downturn, and that those economies (along with the associated trade) are rebounding. The crisis has resulted in a short-term reduction in Columbia River exports, but the crisis does not represent a fundamental change in Asian economies that would result in a long-term decline or even stagnation of exports. Indeed, most forecasts call for Asian recovery to be well underway by 2001, and the first year that a deepened channel would be available is 2004.

IMPACT OF OTHER RIVER MANAGEMENT DECISIONS ON THE COST AND MITIGATION ASSOCIATED WITH THE PROJECT

3. This DEIS has not taken account of the possible impacts of the Snake Dam removal and John Day draw down. How would the sediment loads in the river increase? What would they be carrying?

AVOIDED COSTS

4. What is the cost that will be avoided with each alternative that was not chosen? Given that federal and state tax dollars will pay for this project, it is important to understand the alternatives based on their relative cost as well as the benefit – cost ratios.

DEEPENING PORT BERTHS

5. There has been little discussion about the costs of and risks associated with deepening the berths along the Willamette and the Columbia Rivers. Data have shown that the most contaminated sediment in both rivers is in the near shore areas. None of these costs or responsibilities are part of the "federal project" so they are not included in this analysis. These taxpayer costs and potential- environmental and human health risks will be faced by the region and should be presented as a necessary part of the project upfront.

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6. After three years of working with the Corps and the Ports to try to address the environmental concerns of the project, many of my original concerns remain and many more have been added in the interim. Most of the individuals working on this analysis have been very interested in the environmental concerns, but, unfortunately, the DEIS has not responded to them. Perhaps some of the concerns have not been addressed because they are outside the scope and authority of the Corps or the NEPA process, but that does not make the concerns go away, nor will it prevent citizens from continuing to raise them.

Gayle Killam
2544 SE 31st Avenue
Portland, OR 97202

Corps of Engineers Response

3. The dams in question provide minimal flow regulation for the mainstem Columbia River. Alterations in flow regimes, if those dams were ever drawn down, would have insignificant impacts on sediment discharged to the Pacific Ocean and on the maintenance-dredging forecast.

4. Alternatives considered in detail in the EIS are described and compared in Section 4, which includes an economic comparison. Our economic analysis has been performed using the regulations governing Corps studies.

5. The costs shown in the report for the 43-foot channel alternative include costs for turning basins and berthing areas which must be deepened in order to achieve the benefits of the project. Sections 4.6.1 and 4.6.3 of the EIS discuss this.

6. Comment noted.

February 2, 1999

District Engineer
U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-29464

Dear Sir/Madam,

1. As a concerned citizen of the state of Oregon, I have followed the planned deepening of the Columbia and Willamette Rivers very closely. While I support ideas that work to develop our state and improve opportunity for its people, I have several concerns with this particular project. I had hoped the draft environmental impact statement (DEIS) would alleviate my concerns, but instead, I have more concerns than before, rather than less. It is my feeling that while growth and development in Oregon is necessary and of itself a good thing. I am equally convinced that marginal net benefits of such large-scale benefits must be thoroughly evaluated and understood before we begin such a large-scale and environmentally sensitive operation as this channel-deepening project.

While I said I have several concerns after reading the DEIS, I will limit my written comments to two points 1) costs of mitigation and the "greatest net benefits." and 2) possible harm to fish and fish habitat.

1) Costs of mitigation and the "greatest net benefits."

2. Because Congress authorized the project as a "navigation project," the evaluation of this project's benefits (to compare [with] its costs) can only include the benefits to navigation. This means that the greatest possible benefits have been calculated by determining the benefits from the widest, deepest, longest possible alternative. I would argue that while large benefits may be realized, the loss of the largest quantity of valuable assets to the people of Oregon and Washington will also be lost; wetlands, water-quality (from stirred-up contaminated sediments), and aesthetic values. I feel the Corps has failed to offer a comprehensive analysis that evaluates the total net benefits from this project. Such an analysis must be considered **MANDATORY** before the Corps, the Port of Portland, and the people who value these resources can determine if this project carries the "benefits" that it promises. I also recommend that the Corps complete an assessment of cost avoided by a "No Action" alternative.

As I have said, I support growth and development that benefits our state. I also equally disapprove of growth for growth's sake. A detailed comprehensive economic analysis of the net benefits for the proposed project and each considered alternative must be present to the people who are being affected by this action before any further progress is made toward action.

Corps of Engineers Response

1. Comments noted. See our responses to your specific comments below.

2. The economic analysis has been performed as per the regulations governing Corps studies. A detailed study of the exact monetary incidence of the benefits is outside the scope of this study, and is also outside of the regulations guiding the analysis.

2) Possible harm to fish and fish habitat

The dredging and disposal activities described in the DEIS paint a disturbing picture for the life cycle of highly-valued salmon runs in the lower Columbia and Upper Willamette areas. I see little evidence of how the Corps would plan on adapting their work to accommodate federally listed species of salmon and steelhead. The DEIS suggests the Corps' plans to dredge continuously for two years. In light of the probable impacts on threatened species, this plan must be seriously reconsidered. I have every faith that, once presented with the biological realities that this project presents for our depleted fish populations, changes will be adopted. I do feel it imperative that the Corps considers such realities before work is begun and a modified timeline and cost adjustment be completed to reflect changes, which will eliminate impacts on fish.

3. Make no mistake, as presented this plan **WILL** harm threatened salmon and steelhead species and constitute harassment as defined by the ESA. As a specific example of my concern I offer this. The Corps acknowledges that blasting can cause mechanical damage to fish's internal organs, but does not provide data about the techniques the Corps intends to employ to avoid direct impact on salmon in its DEIS. (DEIS at 6-20.) In addition, critical habitat and salmon food sources will be destroyed and/or modified by the dredging plan. The DEIS does not explore the impact on salmon if their food source is destroyed, if only temporarily.

The threats to things that a large number of Oregonians and Washingtonians value are very real. Contaminated sediment is known to be at the bottom of the Willamette and Columbia Rivers and several federally listed species exist in these waters. Such large-scale construction can not avoid disruptions to the surrounding environment. The DEIS must suggest that the disruptions will be fully considered and a realistic assessment of those disruptions will be made. This DEIS seems to go to great lengths to avoid examining these real threats and chooses instead to dwell on the possible benefits. If **TOTAL** benefits are to be understood, those real costs must be subtracted from the possible benefits.

I thank you for your time and consideration in accepting my comments on this crucial decision for the people of the Northwest.

Sincerely,

Ted Gresh

1374 W. 4th St.
Eugene, OR 97402
541.334.6607

Corps of Engineers Response

3. A detailed discussion of the impacts of the proposed proejct on salmonid species was provided in both the EIS and Biological Assessments submitted to the NMFS under requirements of the Endangered Species Act. The NMFS will determine Section 7 compliance for the proposed project.

Alternative dredging methods are discussed in the EIS. The final dredging plan for construction will be developed to minimize impacts to species of concern. Restricting construction dredging from July to December, for example, would increase construction time from two years to four years.

All discussions and conclusions in the EIS are based on the best scientific information available for a given issue. A blasting plan was developed in cooperation with federal and state resource agencies. It incorporates proven methods to minimize impacts to fish in the vicinity of the blast. All blasting will be done during the approved in-water work period, which is a time when fish numbers are low.

The material proposed to be dredged from the Columbia River is the same type of material that is currently dredged for maintenance. This material has been tested and evaluated, and is primarily sand and has a low percent of fines and organic material due to the constant reworking of the sediments by large flows in the Columbia River. Deepening of the channel in the Columbia River will not uncover or expose any material that is different from the material now dredged.

The local sponsors have requested that the Willamette River dredging be delayed because of the possible listing as a Superfund site. No further studies of Willamette River sediments are anticipated at this time. Any future dredging in the Willamette River would require full compliance with all the laws including the Clean Water Act, Endangered Species Act, and the National Environmental Policy Act.

Stevens, Steven J NWP
From: Laurie Pavey [bigdog@spiritone.com]
Sent: Friday, February 05, 1999 7:1 0 AM
To: Steven J. Stevens
Subject: Dredging Columbia

--- begin forwarded text

Date: Thu, 4 Feb 1999 20:35:12 -0800
To: Steven J. Stevens <Steven J. Stevens @usace.army.mil>
From: **Laurie Pavey <bigdog@spiritone.com>**
Subject: Dredging Columbia
Cc:
Bcc:
X-Attachments:

Dear Mr. Stevens,
The Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement has recently been offered to the public for our comment. I believe that alternatives to dredging must be explored. The impacts to the crab fishing industry are significant. The Batelle Study should be fully included in your document. Also note that impacts to sturgeon from entrainmnet are significant.

1. Please explore the deep water port for Astoria options more closely, and keep in mind the economic impacts to the population below Longview.

A comprehensive risk assessment should be done at least for the fish and wildlife of the river and preferably for human health. The sediment issues especially in regards to the Willamette River have not been adequately addressed as required by the Clean Water Act.

Sincerely,

Laurie Pavey

--- end forwarded text

Corps of Engineers Response

1. Alternative dredging methods are discussed in the EIS. The final dredging plan for construction will be developed to minimize impacts to species of concern. Concerning ocean disposal, further workshop meetings have been conducted and the disposal plan has been changed to minimize impacts to the commercial fishery, including crabs. The EIS has been revised to reflect this information.

Additional information has been added to the report concerning the regional port analysis. The material proposed to be dredged from the Columbia River is the same material that is currently dredged for maintenance. This material has been tested and evaluated, and is primarily sand and has a low percent of fines and organic material due to the constant reworking of the sediments by large flows in the Columbia River. Deepening of the channel in the Columbia River will not uncover or expose any material that is different from the material now dredged.

Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which contain high levels of contamination. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging amd disposal activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

Stevens, Steven J NWP
From: deBruler [cruwa@gorge.net]
Sent: Friday, February 05, 1999 3:59 PM
To: Steven.J.Stevens@USACE.ARMY.MIL
Subject: Greg deBruler's EIS Comments!

2/4/99

District Engineer
US Army Corps of Engineers
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

Dear Colonel Robert T. Slusar:

Here are my comments for the record on the draft EIS for the Integrated Feasibility Report for Channel Improvements on the Columbia and Willamette rivers. For the past 11 years I have been studying the water quality problems with the Columbia River and in particular the Hanford Nuclear reservation in SE Washington State.

1. In the last 11 years I have seen some pretty comprehensive EIS's and I have seen some that were written so poorly they were obviously written in hopes of slipping one by. The problem with the later is they make themselves easy targets for court challenges usually ending up in the cessation of the proposed project. This draft EIS is a perfect example of myopic scientific investigation built around gross assumptions. In some cases the science reportedly used is not based on science but political opinion.

In short, this EIS has failed in addressing a multitude of potential impacts from this proposed dredging project.

This EIS has not adequately analyzed the potential radioactive sediments that will be disturbed from this dredging project. Your citation in this study is not correct saying that there are no radioisotopes of concern because most those released during Hanford's operation have decayed away. For example, Neptunium 237 decays into Plutonium-239, which has a half -life of 24,000 years and Plutonium-240 with a half-life of 6.500 years. Both of these isotopes have been found in salmon, sturgeon and other species in the Columbia River. In the early 60's radiation was found down the central cost of Oregon and up the Washington coast. The Columbia River was so hot that the state of Oregon requested from the AEC shut down the reactors at Hanford. These isotopes are only just a few that are in the sediments of the Columbia River and not just the ones from atomic testing. Pockets of contamination could be found this must be assessed.

2. The assumptions made from sampling you have done in the existing channel is not adequate and assumes this proposed extensive dredging operation will not release any contaminated sediment beside the channel. This is an erroneous conclusion and if you insist this is reality you need to explain in detail the provisions you are taking to prevent re-suspension of contaminated sediment.

From past experiences with the Corp. it appears that the standing operating procedure is to dismiss contaminated sediment as no problem, no significant impact. It makes you wonder what standard the core uses in assessing what is significant? It has been made very clear that the Corps doesn't even consider the impacts caused from the synergistic, additive effects in regards to heavy metals, chemicals and radioisotopes. Case in point was the dredging of the Port of Pasco and Port of Kennewick ports a few years ago where the Corp concluded like in this EIS's there were no contaminants of concern. After challenging this assumption Ecology and the Dept. of Health surveyed the sediments and found radioisotopes of concern.

This EIS had failed to adequately address all contaminants that will be put into suspension. It is easy to ascertain what contaminants you should screen for considering the NPDES permits.

Corps of Engineers Response

1. Comments noted.

2. The material proposed to be dredged for the proposed project from the mainstem Columbia River is the same type of material that is currently dredged for maintenance of the channel. Deepening of the channel will not uncover or expose any material that is different from the material now dredged. The material composing sand wave shoals is continually exposed, eroded, transported, deposited, buried, and reexposed as the sand wave bedform moves downstream. The material forming cutline shoals do not vary (are homogeneous) because of there source of the sediment and similar depositional processes that form the shoal. Unlike the material behind McNary Dam radionuclides released from Hanford do not presently reside under a subsequently deposited cleaner layer of sediments in the project area. The slack water pool behind McNary provided a depositional sink for sediment. This allowed the original deposition of the bulk of the radioactive material to be deposited behind McNary Dam and then to be subsequently buried by cleaner sediments. This effectively provided an isolating cap of clean sediments. The same slack water flow regime does not exist in the project area requiring deepening by dredging an additional 3 feet.

The Bi-State Study states that radionuclides are the most studied contaminate in the Columbia River. The Bi-State Study conducted limited sampling and testing for radionuclides and reported the levels were similar to or less than those found above Hanford. The USGS conducted extensive studies of sediments in the early to mid-seventies. We are not aware of any health or environmental advisories that resulted for these extensive studies in the lower Columbia River. It is understood that the Oregon Dept of Health discontinued monitoring radionuclides in the Columbia River in 1995 after 30 years of monitoring.

You have failed to adequately address dioxin and furans and the biological impacts that has already occurred in the Columbia river ecosystem and what the re-suspension will do to the already overly stressed eco-system.

2. (con't) You have failed to adequately address the multitude of chemicals that cause endocrine disruption that are present in the sediment and failed to address the reproductive disorders that will occur from this extensive dredging operation. You must perform a comprehensive risk analysis.

I can go on and on with a very long list of eco-toxicity impacts that may occur and that have not been adequately addressed. It is the Corps responsibility to adequately address all potential impacts. You have failed to assess virtually all ecological, human health, and cultural impacts that will occur from this proposed dredging.

The cultural impacts in this EIS' are an embarrassment. Shipwrecks are only one part of cultural impacts. Cultural impacts are protected under the Treaties and this EIS has failed to address the
3. cultural impacts that will occur from the contamination of the ecosystem and the long-term impacts to the ecology of the aquatic system. Because of the delicate dependency web of aquatic species, the Corps must assess the long-term impacts to this web. It must assess key species in the dependency web that might be eliminated because of the disruption to their habitat.

This EIS fails to address Treaty Rights and this proposed action clearly violates the Treaties.

It fails to assess the habitat of the Columbia River and Willamette River. It only addresses a few species ignoring other species that are an integral part of a healthy ecosystem. For some unexplained reason habitat is only really considered if it's on land. It is almost as though out of site out mind is the approach used in this EIS.

4. The proposal for an ocean disposal option of over 75+ sq. miles fails completely to address the habitat destruction that will occur. It gives no consideration to the dependency web of the aquatic life in the ocean, and fails to assess the destruction of this delicate web of life. The Cousteau Institute would have a field day with this EIS and the lack of sufficient analyses.

Your thin layer ocean disposal has not been adequately addressed as far as how you will assure 100% thin layering over 75+ sq. miles. This EIS shows there is no requirement that thin layering will be used. Most all of the mitigation plans mentioned are only recommendations, in fact very little habitat mitigation will occur. The habitat mitigation dollars have not been fully assessed. Habitat destruction has not been fully assessed or characterized. Habitat mitigation has not been fully characterized, or addressed.

5. The Battelle study clearly shows the impacts that will occur to the crab and you must include the whole study. The destruction will be much greater than projected in the prime habitat area because of the Corps historic inability in actually achieving consistent thin layering. These proposed sites clearly violate the Ocean Dumping Act, and violate the Coastal Zone Management Act because there is no way you could mitigate the damage and it fails to protect critical habitat. There is no mitigation planned for estuary or ocean impacts.

Impacts to endangered species those listed and those yet to be listed have not been fully assessed. This proposal would violate the Endangered Species Act.

This EIS fails to evaluate all potential alternatives, as example the construction of a deep water port at Astoria. Ecologically and economically this makes a lot more sense, yet no assessment of this alternative has been done.

6. This EIS mentions that channel deepening would be for 3 feet. No where in this EIS does it state that this is the maximum depth that will in fact be dredged. It appears that 3 feet was chosen because of a Congressional funding estimates. If more funding is made available in theory the channel could be made deeper perhaps another 4 feet, 7 feet etc. No where in this EIS have you addressed the additional impacts that would occur from the additional dredge material. This EIS must assess all potential impacts and any additional deepening must be assessed. Do not try

Corps of Engineers Response

2 (continued). The Hanford Dose Reconstruction effort in its River Pathway does not identify sediment in the lower river as being a concern. We have not been able to find any report or studies that indicate that radionuclides present in the project area pose a threat to human health or have any adverse environmental effects due to dredging activities.

The sediments proposed to be dredged from the Columbia River have low percent fines and organic material due to the constant reworking of the sediments by the large flows in the Columbia River. Since the silts and clays are not deposited in the navigation channel or are soon removed by the process of winnowing and suspended transport the material proposed to be dredged is sand. Sand when released from the dredge settles very rapidly to the bottom and is not carried in suspension except under extreme flow conditions.

3. Cultural resources described in the report are defined by Section 106 of the National Historic Preservation Act of 1966. The resources discussed under this Act are historic properties, and prehistoric and historic archeological sites. Both historic and prehistoric cultural resources are considered in the EIS. The proposed action described in the EIS will have "no effect" on those prehistoric and historic sites identified. In areas where sites are recorded, no disposal will occur. Additional studies may be undertaken to identify site boundaries to ensure that any historic or prehistoric sites in disposal areas are avoided. In addition, some monitoring will occur in areas that are proposed for wildlife mitigation.

The EIS addresses the expected effects on the aquatic environment under other sections of the EIS and in coordination with those agencies responsible for their protection. The proposed action does not include treaty lands. Treaty Tribes and non-Treaty Tribes potentially affected by the proposed action were contacted and their comments requested.

4. We disagree. The EIS assesses all relevant habitat issues and potential impacts from the proposed action and alternatives.

5. Thin-layer disposal has been removed from consideration.

6. A detailed discussion of the impacts of the proposed project on listed species was provided in the EIS and Biological Assessments submitted to the NMFS and USFWS under the Endangered Species Act. The NMFS/USFWS will determine Section 7 compliance of the proposed project.

The regional port analysis has been revised in the report to reflect more accurate costs.

If, at some future date, the lower Columbia River ports request Congress to authorize a study for further deepening, an EIS would be prepared to address the impacts of the action.

and dredge deeper at a later date without going back through the EIS process. This is not a one size fits all EIS.

In closing I can only say that this EIS is not even close to being complete and considering the magnitude of this proposal it will take you many more years to adequately address these listed omissions.

I hope that the Corps does not think they are above the law and try and push this through. Rushing this EIS will only land the Army Corps into court and waste even more money.

Sincerely,

Gregory deBruler. PS. TA.
P.O. Box 667
Bingen, WA 98605

Stevens, Steven J NWP
From: Brimhall, Diana C NWP
Sent: Monday, February 08, 1999 10:24 AM
To: Hicks, Laura L NWP; Stevens, Steven J NWP
Subject: FW: Opposition to Columbia River dedging from Pacific Ocean to Portland

----- Original Message -----
From: Bradley, Sam E Jr NWP
Sent: Saturday, February 06, 1999 11:50 PM
To: CENWP-PA NWP
Cc: weblord@usace.army.mil; 'treeed'
Subject: RE: Opposition to Columbia River dedging from Pacific Ocean to Portland

I believe that this message was intended for you folks. Thanks. Sam.....

==========
Sam E. Bradley, Jr.
Program Manager
E-Mail Center of Expertise
US Army Corps of Engineers
http://eml01.usace.army.mil/

----- Original Message -----
From: **treeed** [mailto:treeed@pacifier.com]
Sent: Thursday, February 04, 1999 11:04 PM
To: weblord@usace.army.mil
Subject: Opposition to Columbia River dedging from Pacific Ocean to Portland

We oppose the corps plans to deepen the Columbia River channel between the Pacific Ocean and Portland based on the following: Year around construction will violate state and federal laws which protect endangered species habitat. Contamination from sediments will adversely affect water quality. The impact on commercially vaulable species including but not limited to Dungeness crab and flatfish has not been addressed. Mitigation plans for disposed dredged materials placed in both ocean and estuary are not included in your report.
I am not sure if this is the proper location for this document to be filed, if it needs forwarding, would appreciate your help.
Ed & Tree Johnson PO Box 241 Cannon Beach, OR. 97110

Corps of Engineers Response

A detailed discussion of the impacts of the proposed project on listed species was provided in the EIS and Biological Assessments submitted to the NMFS and USFWS under the Endangered Species Act. The NMFS/USFWS will determined Section 7 compliance of the proposed project.

The material proposed to be dredged from the Columbia River is the same type of material that is currently dredged for maintenance. This material has been tested and evaluated, and is primarily sand. Deepening of the channel in the Columbia River will not uncover or expose any material that is different from the material now dredged. Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which contain high levels of contamination. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ inyestigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging amd disposal activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

Concerning ocean disposal, further workshop meetings have been conducted and the disposal plan has been changed. Tthe currently proposed sites have been reduced in size and located further offshore to minimize impacts to the commercial fishery, including crabs. We have minimized the impact to commercial fisheries as required by the Ocean Dumping Act to the extent possible. A Management and Monitoring Plan is located in Appendix H, Exhibit H. The EIS has been revised to reflect this information.

Feb. 5, 1999

District Engineer; Portland District
Attn: CENWP-EC-E
US Army Corps of Engineers **CC: Oregon Gov. John Kitzhaber**
P.O. Box 2946
Portland, OR 97208-2946

Feedback on the Environmental Impact Study (EIS) to deepen from 40' to 43' the 115 mile shipping channel from the Pacific to Portland most of which is in the Columbia River. This is follow-up to my letter sent yesterday - it is attached.

1. **We have endangered salmon now on the Columbia River and it is proposed many more salmon species will be listed as endangered soon** (possibly in March the list gets bigger). The National Marine Fisheries Service in May of 1990 listed the wild Coho Salmon of the lower Columbia River and three other stocks of Snake River salmon as endangered or threatened (Oregonian 1/17/91, page D1, second paragraph "Scientists take to streams to count salmon").

2. **Years of built up sediment containing industrial waste when disturbed and suspended will hurt endangered and threatened salmon species.** Your current EIS does not address this. The current plan is to have dredging operations working continuously for two years. "Superfund" money will be needed to disturb the Willamette river bottom. Portland-area sewers overflow directly into the river during high rain periods and the Willamette basin drains much industrial waste from paper mills and others. The Columbia is down-river from the Willamette where several more Columbia River mills add to the flow and create toxic-to-fish-waste which builds up on the channel river bottom. Disturbing the bottom all at once will hurt fish. Possibly on future Corps construction projects work could be staged over more time to reduce the impact on salmon. Salmon need to be given a break during annual migrations of both small fish down-river and big fish upriver - everything needs to be done to make it as easy as possible for fish in both directions. Especially during these annual salmon migration times dredge spoil toxins should not be suspended in the water for fishsake.

Your EIS needs to better address the huge salmon problem in the Columbia River. The current plan to suspend toxins 24 hours a day for two years into the river/ocean is not going to help the fish/bottom-life. My feedback is kill the 115-mile channel project now and spend the money doing something better for Oregon and fish.

Shaun Maki
P.O. Box 247, Warrenton OR 97146

Corps of Engineers Response

1. A detailed discussion of the impacts of the proposed project on listed fish species was provided in the EIS and Biological Assessment submitted to the NMFS under the Endangered Species Act. The NMFS will determined Section 7 compliance of the proposed project.

2. Alternative dredging methods are discussed in the EIS. The final dredging plan for construction will be developed to minimize impacts to species of concern. Restricting construction dredging from July to December, for example, would increase construction time from two years to four years.

The material proposed to be dredged from the Columbia River is the same material that is currently dredged for maintenance. This material has been tested and evaluated, and is primarily sand. Deepening of the channel in the Columbia River will not uncover or expose any material that is different from the material now dredged.

Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which contain high levels of contamination. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging amd disposal activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

CORVALLIS ENVIRONMENTAL CENTER

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- Editor

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-Secretary

Steve Northway

Rob Pabst
-President

Ashley Roorbach

2/4/99

District Engineer
U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

Comments on the Channel Deepening Project for the Columbia and Willamette Rivers US Army Corps of Engineers Draft Environmental Impact Statement (DEIS).

District Engineer:

We are concerned with the inclusion of the Willamette River in the proposal and with the potential impacts to water quality, salmon, and other aquatic species. The DEIS fails to address indirect impacts and possible future events related to the deepening project. The DEIS also fails to adequately address the effects of dredging on redistribution and resuspension of contaminants with sediments in the Willamette River. With the potential listing of the Willamette as a Superfund site, this evaluation is essential. We would request that adequate testing be conducted for contaminants to the depths proposed for deepening the channel. We also request that potential effects are assessed of the resuspension of contaminants with sediments on water quality, aquatic species, wetland, and other aquatic habitats. The effects of increased turbidity on aquatic life must also be addressed, including the impact of blasting and dredging operations, the suspension of contaminated sediments, and the potential for depressed levels of dissolved oxygen at dredge and disposal sites.

We urge you to reconsider the inclusion of the Willamette River in the proposal until adequate assessment have been done.

Sincerely,

Nancy Allen

Nancy Allen
Director
Corvallis Environmental Center

Corps of Engineers Response

Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which contain high levels of contamination. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging amd disposal activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

NCAP

Northwest Coalition for Alternatives to Pesticides

February 5, 1999

District Engineer
US Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

Re: Proposed Channel Deepening Project for the Columbia and Willamette Rivers

On behalf of the Northwest Coalition for Alternatives to Pesticides (NCAP), I would like to submit the following comments on the US Army Corps of Engineers' Draft Environmental Impact Statement (DEIS) for the proposed channel deepening project for the Columbia and Willamette Rivers.

1. The proposed project will further jeopardize the water quality, fish, and wildlife of the Willamette and Columbia Rivers.

The DEIS has major omissions and serious problems that must be addressed in order to protect the aquatic life and water quality of these rivers that are vital to the region. In particular, we ask that your agency address the following concerns:

1. The DEIS does not adequately address the threats to aquatic life and to water quality that will result from the dredging of sediments laden with toxic materials. Studies conduced by scientists at the US Geological Survey and other agencies indicate that the sediments in both rivers are contaminated with toxic substances, including pesticides, dioxins, and heavy metals. We are concerned that the proposed dredging will lead to the redistribution and suspension of those contaminants.

The DEIS recognizes this possibility; however, the Corps did not test particles of all sizes. Pesticides and other hazardous chemicals sorb to particles regardless of grain size.

2. In addition, material may be suspended in the river as a result of the dredging, making substances that are toxic to aquatic life bioavailable. How will these suspended toxics move in the food chain and what organisms will be affected as a result?

Furthermore, the Corps failed to test sediment samples down to three feet, the level to which the proposed dredging would occur. The Corps' method of sampling to 10 inches does not recognize how dredging that has occurred previously has modified the composition of the channel bottom. Tests should be done down to the level of the proposed dredging.

P.O. Box 1393
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info@pesticide.org
http://www.efn.org/-ncap

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Corps of Engineers Response

1. Comments noted. See our responses to your specific comments below.

2. A detailed analysis of sediment studies and chemical testing is included in the EIS and Appendix B. The material proposed to be dredged from the Columbia River is the same type of material that is currently dredged for maintenance. This material has been tested and evaluated, and is primarily sand. Deepening of the channel in the Columbia River will not uncover or expose any material that is different from the material now dredged.

Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which contain high levels of contamination. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging amd disposal activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

2. (con't) Pesticides can be taken up from the water and accumulate in tissues of aquatic organisms, often becoming magnified thousands of times higher in an organism than in surrounding water. How will release of the toxic substances now buried in the sediment impact the entire aquatic ecosystem if chemicals like DDT are disturbed and biomagnify, as would be expected? How will such biomagnification affect threatened and endangered salmonid populations?

The Corps fails to take into account the full ramifications of the proposed action.

2. The DEIS fails to meet the requirements of the Clean Water Act. The DEIS states that the proposed action, including mitigation, would result in "no significant adverse effects on human health or welfare, municipal water supplies, plankton, fish, shellfish, or wildlife. Significant adverse impacts on life stages of aquatic life and other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational esthetic, or economic values would not occur" (DEIS exhibit D).

These sweeping conclusions are not effectively proven or referenced in the DEIS.

3. How will the Corps address the substantial problems associated with sediments in the Willamette River? What will happen if the Portland Harbor is listed as a federal Superfund site? What are the indirect impacts of such a listing on the channel deepening project?

Section 404 of the CWA requires that all projects involving the discharge of dredged or fill material into waters of the United States be evaluated for water quality and other effects prior to making discharge. The Corps has failed to make a sufficient evaluation in this regard, and has failed to address indirect impacts and possible future events related to the deepening project.

At a time when our river systems are in critical condition, the deepening of the channel would be a grave mistake.

NCAP anticipates that the Final EIS will address these concerns and that the Corps will decide against this project in the interest of protecting our water quality and aquatic environments.

Sincerely,

Neva Hassanein

Neva Hassanein, PhD

Corps of Engineers Response

3. Comments noted. The Section 404(b)(1) Evaluation (Exhibit D) has been revised to provide additional information supporting this conclusion.

COLUMBIA RIVER UNITED

CRU

P.O. Box 1254
Hood River, OR
97031
503-387-3030

P.O. Box 912
Bingen, WA
98605
509-493-2808

February 4, 1999

Columbia River United
P. 0. Box 912
Bingen, Washington 98605

District Engineer
US Army Corps of Engineers
Portland District
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

Dear Colonel Robert T. Slusar:

Thank you for the opportunity to comment on the draft EIS for the Integrated Feasibility Report for Channel Improvements on the Columbia and Lower Willamette Rivers. CRU represents a group of approximately 1400 citizens concerned about issues regarding the Columbia River and its ecosystem. We offer the following comments for incorporation into your final EIS on behalf of our group and as individuals.

1. The proposal to deepen the channel from 40 to 43 feet as outlined will result in extreme environmental impacts and this must be admitted and more sufficiently addressed. The proposed channel deepening will provide no economic benefits for the communities surrounding the estuary and could affect many people who depend on the natural resources of the estuary and ocean for employment in both economic and cultural ways not addressed in the document.

The Draft EIS lists a preferred alternative that has the greatest environmental impacts and the lowest cost-to-benefit ratio without adequately addressing the economic benefits to be gained from this alternative. We suggest an independent economic study be included that justifies the chosen alternative (if it is justifiable) in a scientific manner. The questionable nature of the benefits does not justify the environmental degradation that will occur if you proceed with this plan. The Draft EIS is lacking in analysis of alternative evaluations, ocean disposal, threatened and endangered species, water quality impacts, especially those from contaminated sediment, economic impacts and mitigation.

CRU requests the final document reevaluate the alternatives and address in

Corps of Engineers Response

1. Comments noted. See our responses to your specific comments below.

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detail each of the following:

1. Sediment contamination problems are not adequately addressed for either river. The Bi-State study of 1991 found every sediment sample to be elevated for dioxins, yet the document states no sediment samples from the channel contained it. This is incorrect. Direct dioxin and furan testing of channel samples must occur prior to the project proceeding based on the high amounts found in sediment in the rivers to date. A screening is not adequate to meet Clean Water Act requirements. Analysis of sediment contamination must include **additive and synergistic effects** from contaminants along with **bioaccumlative and persistent factors** of these contaminants. Radioactive testing and direct dioxin testing must occur
2. during the process with a mitigation plan in place if detected. A **comprehensive risk analysis** must be included for endangered species and must include bald eagles and mink and otter in the lower river. These species are already suffering population loss from contamination and these issues must be addressed. A human health risk analysis should also be included for additional contamination to salmon, sturgeon and crab. The Clean Water Act requirements are not proven or referenced sufficiently. Although mitigation of the Willamette sediments is mentioned, no plan or discussion is included on how the contaminated sediments would be removed without release into the environment in some way. Continuous monitoring of sediment must occur for both rivers. The stirring up of sediment alongside the channel in both rivers is also a concern that must be addressed as this is bound to occur.

2. The Draft EIS does not adequately evaluate alternatives and this must be expanded and improved. The non-structural alternative and the deep port
3. alternative are two that are especially lacking. Both have less environmental damages potential and would be more beneficial to the region economically.

3. The Draft EIS does not adequately address the disposal options. There are no beneficial uses of the dredged materials. The proposed ecosytem restoration at Millar/Pillar should be removed. It would not benefit the ecosystem but would only increase the number of salmon lost to terns. The
4. ocean disposal must be dealt with by offering other alternatives. The only one currently offered violates the Coastal Zone Management Act and the Ocean Dumping Act. The Batelle research which should be included in its entirety shows potential for significant crab mortality from thin layer ocean disposal. This should be admitted not dismissed. The proposal to dump on crab fishing sites is ridiculous and must be changed. A study of past

Corps of Engineers Response

2. The material proposed to be dredged for the proposed project from the mainstem Columbia River is the same type of material that is currently dredged for maintenance of the channel. Deepening of the channel will not uncover or expose any material that is different from the material now dredged. The material composing sand wave shoals is continually exposed, eroded, transported, deposited, buried, and reexposed as the sand wave bedform moves downstream. The material forming cutline shoals do not vary (are homogeneous) because of there source of the sediment and similar depositional processes that form the shoal. Unlike the material behind McNary Dam radionuclides released from Hanford do not presently reside under a subsequently deposited cleaner layer of sediments in the project area. The slack water pool behind McNary provided a depositional sink for sediment. This allowed the original deposition of the bulk of the radioactive material to be deposited behind McNary Dam and then to be subsequently buried by cleaner sediments. This effectively provided an isolating cap of clean sediments. The same slack water flow regime does not exist in the project area requiring deepening by dredging an additional 3 feet.

The Bi-State Study states that radionuclides are the most studied contaminant in the Columbia River. The Bi-State Study conducted limited sampling and testing for radionuclides and reported the levels were similar to or less than those found above Hanford. The USGS conducted extensive studies of sediments in the early to mid-seventies. We are not aware of any health or environmental advisories that resulted for these extensive studies in the lower Columbia River. It is understood that the Oregon Dept of Health discontinued monitoring radionuclides in the Columbia River in 1995 after 30 years of monitoring.

The Hanford Dose Reconstruction effort in its River Pathway does not identify sediment in the lower river as being a concern. We have not been able to find any report or studies that indicate that radionuclides present in the project area pose a threat to human health or have any adverse environmental effects due to dredging activities.

The sediments proposed to be dredged from the Columbia River have low percent fines and organic material due to the constant reworking of the sediments by the large flows in the Columbia River. Since the silts and clays are not deposited in the navigation channel or are soon removed by the process of winnowing and suspended transport the material proposed to be dredged is sand. Sand when released from the dredge settles very rapidly to the bottom and is not carried in suspension except under extreme flow conditions.

3. Additional information has been added to the EIS concerning LoadMax and the regional port analysis.

dumping impacts on crab should be included as it has resulted in bed sterilization. There is no discussion of how thin layer dumping would be accomplished. Please include.

4. There are several threats to endangered species that are not adequately addressed or dealt with in the Draft EIS. The recommendation by Fish and Wildlife to stick to windows of working time for salmon recovery efforts
5. should be incorporated into the plan. The excuse it would take longer than two years is not addressing the problem adequately. The time period for in water work should be developed specific to threatened and endangered species, smelt and sturgeon. The impacts must be included or discussed in truth, not summarily dismissed as insignificant.

5. The economic impacts to commercially valuable and other important species are not addressed. The conclusion that no significant impacts will occur to Dungeness crab and flatfish from ocean disposal is an example of
6. inadequately evaluated impacts. The long term mortality of white sturgeon from entrainment is not known or discussed and the impact on the species as well as the commercial impact must be addressed.

6. Cultural impacts are dismissed without discussion simply by stating there are none. This is not true. Any possible impacts to the Tribes, to Treaty
7. Rights and to fishermen and families relying on fishing in the estuary must be included.

In summary, the EIS has not justified the conclusions reached of no adverse significant environmental impacts. The summary statements throughout must be referenced or documented. The choice of an alternative with questionable economic benefits and severe environmental damage that is not, adequately mitigated in the plan is not acceptable and must be changed to include more environmentally friendly alternatives and better economic evaluations. The alternative choice should be reconsidered.

Sincerely,

Cyndy deBruler, Director
Columbia River United

Corps of Engineers Response

4. The Miller-Pillar restoration action has been removed from the proposed action.

5. A detailed discussion of the impacts of the proposed project to listed species was provided in the EIS and Biological Assessments submitted to the NMFS and USFWS under Endangered Species Act requirements. The NMFS and USFWS will determine Section 7 compliance of the proposed project.

6. Additional information has been added to the EIS concerning these species and potential impacts from the proposed project.

7. Cultural resources described in the report are defined by Section 106 of the National Historic Preservation Act of 1966. The resources discussed under this Act are historic properties, and prehistoric and historic archeological sites. Both historic and prehistoric cultural resources are considered in the EIS. The proposed action described in the EIS will have "no effect" on those prehistoric and historic sites identified. In areas where sites are recorded, no disposal will occur. Additional studies may be undertaken to identify site boundaries to ensure that any historic or prehistoric sites in disposal areas are avoided. In addition, some monitoring will occur in areas that are proposed for wildlife mitigation. Also, the proposed action does not include treaty lands. Treaty Tribes and non-Treaty Tribes potentially affected by the proposed action were contacted and their comments requested.

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Jeff Allen

3 February 1999

Dear Mr. Willis,

On behalf of the Oregon Environmental Council, I am taking this opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Channel Deepening Project for the Columbia and Willamette Rivers. OEC has four specific concerns:

1 Our first concern addresses water quality issues. Under the Clean Water Act, water quality certification is required for all federal permits. Section 404 of the Clean Water Act requires that all projects involving the discharge of dredged or fill material into waters of the United States be evaluated for water quality and other effects prior to making discharge. The draft evaluation of section 404 included in the DEIS states that the proposed action, including mitigation, would result in

> no significant adverse effects on human health or welfare, municipal water supplies, plankton, fish, shellfish, or wildlife. Significant adverse impacts on life stages of aquatic life and other wildlife dependent on the aquatic ecosystem, on ecosystem diversity, productivity, or stability, or on recreational esthetic, or economic values would not occur (DEIS exhibit D).

These conclusions are not proven or referenced to OEC's satisfaction in the DEIS.

2 The channel deepening project is not yet certified. It is not clear that it will ever become certified because of the significant problems with sediments in the Willamette River (see below). The Corps' proposed channel deepening plan includes both rivers, with the intent to phase construction to delay the Willamette deepening procedures until the toxic sediment issues are worked out. The draft EIS fails to address indirect impacts and possible future events related to the deepening project, including potential listing of the Willamette as a Superfund site.

OEC's second concern specifically addresses the contaminated sediments of the Willamette River. While the DEIS acknowledges the possibility that hazardous, toxic and radioactive wastes may be present in the navigation channel, the Corps

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Corps of Engineers Response

1. The 404 evaluation has been revised to more specifically address these and other factors.

2. Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which likely contain high levels of contaminants. The local sponsor has requested that dredging of the Willamette River be delayed as part of the initial channel deepening project. Therefore, no further studies of the Willamette River sediments are anticipated in the immediate future. Further sediment quality evaluations will be required and conducted prior to any Willamette River dredging activities.

fails to adequately address the effects of dredging on redistribution and resuspension of those contaminants. Inwater disposal was suggested as one du mping method, but no possible level of success was indicated.

The draft did not chemically test samples with less than 20% fine grain material. The Corps attempts to justify this method of sampling because the materials beneath had larger grain size. However, larger grain size does not automatically preclude the existence of hazardous material. Even though finer-grained material chemically binds better than the larger-grained material, larger-grained material may nonetheless have chemical contamination.

In addition, material up to .50mm may become suspended in the river from dredging operations. Failure to test these materials prevents the Corps from adequately assessing the possible impacts of resuspending hazardous materials into the waters. The Corps needs to assess the potential effects of this resuspension on water quality, aquatic species, wetland, and other aquatic habitats.

The Corps did not test dredge samples lower than 10", though the preferred channel deepening alternative would excavate down 3 feet. Sampling the top 10 inches doesn't factor in the previous effects of dredging on the composition of the channel bottom. Through the process of dredging, finer grained material may have been redistributed to lower levels, and consequently, more hazardous wastes may lay below the to 10 inches. The Corps needs to conduct adequate testing for such contaminants, to the depths that they would like to deepen the channel.

The Corps also did not consider an alternative that excluded dredging the Willamette. Due to differences in river bottom materials, as discussed above, it is entirely appropriate to consider severing the Willamette River from this project.

Our third concern is related to the potential damage the dredging operation may cause fish populations in both the Willamette and the Columbia. Dredging and disposal activities will harm, trap, and harass currently listed endangered salmon and steelhead species. Critical habitat and salmon food sources will be destroyed and/or modified. Flowlane disposal of dredged material will harm salmon. Dredging operations will interfere with salmon migration and constitute harassment as defined by the ESA. These concerns are also applicable to the salmonid species whose listings under the ESA will be announced in March 1999.

The DEIS does not provide well-founded and scientifically supported estimation of the time before complete repopulation of benthic organisms occurs after dredging and blasting activity. Nor does the DEIS explore the impact on salmon if their food source is destroyed, if only temporarily. Although the Corps acknowledges that blasting can cause mechanical damage to fish's internal organs, the DEIS does not provide data about the techniques the Corps intends to employ to avoid direct impact on salmon. The effects of increased turbidity on aquatic life must be addressed, including the impact of blasting and dredging operations,

Corps of Engineers Response

3. See comment-response 16 to NEDC letter.

4. See response to comment 1 above.

5. See comment-response 18 to NEDC letter

the suspension of contaminated sediments, and the potential for depressed levels of dissolved oxygen at dredge and disposal sites. The Corps' plans to dredge continuously for two years must be seriously reconsidered in light of those effects.

6 The Corps noted in 1975 that the species to be most impacted by dredging activities would be white sturgeon. However, the Corps has never adequately determined the cumulative effects of dredging operations on sturgeon populations, nor does it sufficiently assess potential impacts of the deepening and rock blasting on current sturgeon populations. Rather, the DEIS dismisses the potential of the dredging to entrain and harm significant numbers of sturgeon by dismissing its own testing techniques. Studies that show a 3.5% immediate mortality rate of entrained juvenile sturgeon do not evaluate further loss of life resulting from stress and/or injury of those juveniles that survived the entrainment.

To provide an adequate assessment of cumulative and future impacts on sturgeon populations, the Corps should: 1) calculate the total area of the navigation channel populated by sturgeon; 2) calculate the total decline in sturgeon population resulting from dredging activities; 3) calculate total loss of sturgeon habitat resulting from dredging activities; and 4) calculate the predicted losses of sturgeon habitat and population resulting the proposed deepening and rock blasting.

7 Finally, OEC is concerned that alternatives to the dredging option, particularly the "Loadmax" alternative, were not given sufficient attention. Nor did the Corps consider an alternative that entirely excluded dredging the Willamette, despite the fact that, due to differences in river bottom materials (as discussed above) it is entirely appropriate to consider severing the Willamette River from this project. EPA rules call for serious consideration of alternatives that minimize environmental impacts. The DEIS fails to adequately explore dredging alternatives.

Thank you for this opportunity to comment on the DEIS. I hope these comments are helpful in your efforts to produce a more effective and comprehensive document.

Sincerely,

Karen Lewotsky

Karen Lewotsky, Director of Water Programs
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Corps of Engineers Response

6. See comment-response 13 to NEDC letter.

7. See response #2 to the U.S. Dept. of Interior letter. Additional information has been added to the Final EIS.

WILLAMETTE RIVERKEEPER

February 3, 1999

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E ATTN: Steven J. Stevens
P.O. Box 2946
Portland, Oregon 97208-2946

Re: Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (DEIS)

Dear Mr. Stevens:

The following are Willamette Riverkeeper's comments to the draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement in the Columbia and Lower Willamette River Federal Navigation Channel.

Willamette Riverkeeper was formed in 1996 in the tradition of Oregon's history of citizen led initiatives for the Willamette. Willamette Riverkeeper's mission is to work to make the Willamette River Watershed healthy for fish and wildlife, and safe for fishing and swimming, forever and for all. We are the only organization dedicated exclusively to the Willamette Watershed, and currently have a membership of over 400 concerned citizens.

Willamette Riverkeeper is very concerned about the proposal to deepen the Columbia and Lower Willamette. We believe that this project will have deleterious effects on the overall health of the watershed and that the Draft Environmental Impact Statement does not adequately address these effects.

Specifically, our concerns are:

(1) Threatened and Endangered Species

1.1 The DEIS does not even mention fish species that have been listed under the Endangered Species Act since the inception of the DEIS in 1994, nor does it mention species that are proposed for listing in March of this year. This omission renders the DEIS seriously outdated and therefore inadequate.

1.2 The DEIS concludes that adult and juvenile salmon will not be significantly impacted because they do not normally occur in the deep waters where the dredging will take place. (DEIS 6-37). However, the activities associated with the dredging will not be confined to the river bed -- we assume that the dredging equipment will be floating on the surface of the water and there will consequently be significant activity at all river depths. The DEIS therefore does not adequately address impacts on threatened or endangered species because it only considers activities occurring at the bottom of the river.

Rita Haberman, Co-Director
Mary Lou Soscia, President
Mike Lindberg, Secretary
Joe Coffman, Treasurer
Patricia Bennett
Richard J. Brown
Terry Durst
Rosemary Furley
Rev. Dr. Marie Morgan
Rich Rodgers

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Corps of Engineers Response

1. See comment-response 18 to NEDC letter.

1.3 The only details concerning efforts to protect listed species during blasting are the use of smaller quantities of explosives and measures to "scare fish away prior to the blast." (DEIS 6-21). Since blasting activity has a high likelihood of resulting in a direct take of listed species, more detail must be provided about the specific methods that will be employed to protect fish, including data about the effectiveness of these methods. 2

1.4 The economic analysis of the costs and benefits of the project does not consider in adequate detail the potential impacts of this project on salmon recovery efforts in the Willamette Watershed. The state of Oregon is spending large amounts of money on salmon and Steelhead recovery efforts in the Willamette Watershed. If this project impacts the recovery of these species, then this money will have gone to waste. The DEIS should therefore consider this possibility as a potential cost of the project. 3

(2) Portland Harbor Contaminated Sediments

2.1 The Environmental Protection Agency is considering a 5.5 mile stretch of the Portland Harbor for possible inclusion on the National Priority List under CERCLA. In response a group of potentially affected industries calling itself the Portland Harbor Group has initiated a voluntary cleanup plan. The DEIS does not address how the channel deepening would be coordinated with activities related to the cleanup of the Portland Harbor sediments.

4 2.2 The DEIS does not adequately consider the effects of possible resuspension of contaminants in the Portland harbor on fish or water quality standards.

2.3 The study did not consider test dredge samples lower than 10" even though the preferred channel deepening alternative is to excavate three feet. The DEIS does not adequately account for the influence of past dredging (as well as other) activities on the distribution of contaminants within the sediment. Because of such activities, the top 10" is not necessarily representative of the sediment at lower levels and the DEIS provides no reasoning to support the claim that it is representative.

(3) Water Quality

5 The lower Willamette is listed under section 303(d) of the Clean Water Act as water quality impaired for temperature, as well as other pollutants. The DEIS fails to account for how the project or the increased shipping that will result from the project, will affect temperature or how it might impair other efforts to fix the Willamette's temperature problems.

(4) Economic Analysis

6 The economic analysis in the DEIS relies on economic data current through 1995. Given the changed economic conditions in Asia since 1995, this data should be revised.

Corps of Engineers Response

2. A blasting plan was developed in cooperation with both state and federal agencies. It incorporates proven methods to minimize impacts to fish in the vicinity of the blast. All blasting will be done during the in-water work period when fish numbers are low.

3. See comment-response

4. See response to Oregon Environmental Council comment 2.

5. See comment-response

6. See comment-response 4 to Columbia Group Sierra Club letter.

(5) Division of the Project into phases

7. The Army Corps has suggested that the public provide separate comments for the Columbia River portion of the project and the Willamette portion of the project. We believe that this project should be divided into phases because the problems associated with dredging the Willamette portion are significantly greater than the Columbia portion. However, the DEIS makes no mention of such a division and should be accordingly revised. In particular, if the project is divided into phases, then there should be a separate economic analysis for each phase.

We are aware that many of the flaws contained in the DEIS are the result of events and conditions that have arisen since the study was initiated in 1994. Certainly the drafting process cannot be expected to account for every change that occurs during the process. However, the changes we have highlighted above are significant and should be addressed in order for the Final EIS to be an adequate statement of the impact of this project.

We look forward to your responses to these points and ask that you keep Willamette Riverkeeper informed on all future decisions and the progress of this process.

Michael Fife, Esq.

Rita Haberman, Co-director

Don Francis, Co-director

Corps of Engineers Response

7. See response to OEC comment 2.

the Oregon Center for Environmental Health

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February 3, 1999

District Engineer
U.S. Army Corps of Engineers District, Portland
Attn: CENWP - EC - E
P.O. Box 2946
Portland, OR 97208-2946

District Engineer:

On behalf of the Oregon Center for Environmental Health, our members and the citizens of the Portland metropolitan region, I am writing to provide comment on the Corps' recommendations regarding dredging of the Willamette and Lower Columbia River Basin. I would like these comments to become part of the public record.

The specific issue my organization is most concerned with is contaminated sediments. Both the USGS Willamette River Water Quality Study and the Columbia Basin Bi-State Study have revealed that these two rivers are highly contaminated with some of the most toxic chemicals ever produced. Carcinogenic and endocrine disrupting toxins are found routinely throughout the system in sediment samples, ambient water samples and fish, bird and mammal tissue samples. The Bi-State mammal study revealed that at this level of the food chain, these toxins are so concentrated, otters, eagles and minks are becoming reproductively non-viable in the lower basin.

Yet your EIS fails to adequately address the contaminated sediments issue. Testing should be done at sights throughout the basin and to depth of at least three feet. Slights of hand in describing sediments according to size and the dredge as something other than hazardous is a disservice to the public and must be stopped. These sediments are full of hazardous wastes and should be classified as such. Issues of re-suspension and disposal of this hazardous dredge also need to be addressed in the best interests of the public, not from an economic perspective alone. Dumping it in our communities and calling it beach enhancement is nothing short of criminal and will no longer be tolerated by an informed public.

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1. The Bi-State study sampled only 2 stations in the federal channel. Both of these were in the estuary. Contamination levels in these samples were mostly below detection limits, that is, extremely low. No constituent exceeded the established screning levels for the evaluation of dredged material in the Columbia River. Four out of the 69 total Bi-State sediment stations had contamination levels above the Dredged Material Evaluation Framework (DMEF)* screening levels. These stations were not near the federal channel and consisted of fine-grained material not typically found in the areas to be dredged.

   Based on sediment sampling conducted by the Corps for this study, sediments that would be dredged to deepen the federal channel are below DMEF screening levels and are considered suitable for unconfined inwater disposal. See Sections 5 and 6 of the Main Report and Appendix B.

   *Screening levels for Columbia River dredged material sediments have been adopted by the states of Oregon and Washington, the Corps, and EPA based on the direct results of effects based testing. The documentation of the evaluation process and screening level decisions are contained in the November 1998 Lower Columbia River Management Area Dredged Material Evaluation Framework, DMEF.

This entire document fails to identify and quantify the levels of contamination in the proposed dredge. It further fails to report on the risks to the public health and the environment from disturbing these contaminated sediments and, finally, promotes a plan for disposal that puts communities at even greater risk. This is a document clearly biased in favor of the economic interests who paid the bill and, as such, is not credible.

Very truly yours,

Jane H. Haley

Jane H. Haley, President
Oregon Center for Environmental Health

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February 4, 1999

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E
ATTN: Steve J. Stevens
P.O. Box 2946
Portland, OR 97208-2946

Re: Comments on October 1998 Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement

Dear Mr. Stevens:

This firm represents Paul L. King, who lives and works in Clark County, Washington. We write this letter on Mr. King's behalf to comment on the Army Corps of Engineers' (the "Corps") October 1998 Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement ("DEIS"). As a Clark County resident, a recreational user of the Lake Vancouver area, and as one who takes a serious interest in the avifauna and other wildlife that inhabit the Lake Vancouver lowlands, Mr. King is deeply concerned about the adverse environmental impacts that will be caused by the Corps' proposed Columbia River channel deepening project.

1. It is important to note from the outset that Mr. King is not opposed to the channel deepening project (the "project") in its entirety. Rather, he is opposed to those aspects of the project that will be conducted in the vicinity of or otherwise impact areas designated in the DEIS as "Gateway 3" and "Gateway 5," properties that would be affected by dredging activity generally and by dredge spoils under the Sponsor's Disposal Plan. Based on studies conducted by the Corps, the Port of Vancouver, and biologists retained by Mr. King, it is evident that the project will result in significant and irreparable adverse impacts to valuable wildlife habitat--particularly avian habitat--at and near Gateway 3 and Gateway 5. Mr. King submits these comments because, based on applicable legal requirements, the DEIS fails to adequately disclose these impacts.

[15690-0014/SB990310.015] 2/4/99

Corps of Engineers Response

1. Comments noted. See our responses to your specific comments.

Corps of Engineers Response

In particular, as described in more detail below and in Exhibits A and B of this letter, the DEIS's alternatives analysis and its analysis of the project's environmental impacts to Gateway 3 and Gateway 5 are scientifically flawed and legally inadequate because, among other things:

- The DEIS alternatives analysis does not meet NEPA's legal requirements for adequacy.
  - The DEIS erroneously assumes that Gateway 3 and Gateway 5 do not contain wetlands.
  - The proposed filling of wetlands on Gateway 3 and Gateway 5 violates Executive Orders 11,990 and 11,988.
  - The proposed filling of wetlands on Gateway 3 and Gateway 5 violates the Clean Water Act.
  - The DEIS fails to consider the impacts of the project on bald eagle nests located on Gateway 3 and Gateway 5.

1. (con't)

- The DEIS fails to disclose significant adverse environmental consequences of the project.
  - The DEIS fails to disclose potential sediment contamination adjacent to Gateway 3 and Gateway 5.
  - The DEIS fails to adequately examine the project's impacts on endangered, threatened and other significant species that nest, rest or forage on Gateway 3 and Gateway 5, including peregrine falcons, bald eagles, dusky Canada geese, and sandhill cranes.
  - The DEIS fails to address secondary growth and cumulative impacts of the project.
- The Corps failed to ensure the scientific integrity of its studies.

Corps of Engineers Response

- The DEIS fails to address another agency's opposing views concerning the project's potential environmental impacts.

- The DEIS fails to disclose and resolve the conflict between the project and State controls on the development of Gateway 3.

1. (con't)

Lacking adequate disclosure of the project's potential adverse environmental impacts with respect to Gateway 3 and Gateway 5, no decisionmaker is currently equipped to make reasoned, legally defensible decisions regarding the project's design, implementation, or mitigation measures on or in the vicinity of those properties. Consequently, Mr. King vigorously opposes both the dredging of sediments adjacent to Gateway 3 and the placement of sediments or other fill material on Gateway 3 and Gateway 5.

I. TECHNICAL STUDIES USED AS THE BASIS FOR THESE COMMENTS

Four principal sources were used for the technical studies that support these comments: the DEIS and its Appendices; the Natural Resources Baseline, Port of Vancouver Columbia Gateway Master Plan, 1997 ("Port's Natural Resources Baseline"); comments on the DEIS prepared by Terry Huffman of Huffman & Associates and James Broadway of Turnstone Environmental, Inc. ("Huffman-Broadway Comments"); and comments on the DEIS prepared by Beak Consultants ("Beak Comments").

2. Comments noted.

2.

The Huffman-Broadway Comments and the Beak Consultants Comments were prepared on Mr. King's behalf and are attached as Exhibits A and B, respectively. The Port's Natural Resources Baseline is attached as Exhibit C. While comments in this letter refer only to particular aspects of the Huffman-Broadway and Beak analyses, the Huffman-Broadway and Beak Comments in their entirety are incorporated into this letter by reference.

II. THE PROPERTIES AT ISSUE: GATEWAY 3 AND GATEWAY 5

A. Gateway 3 and Gateway 5 Are Environmentally Sensitive Properties Threatened by the Project

Gateway 3 and Gateway 5 are part of the Lake Vancouver lowlands and are located near Lake Vancouver, the Shilapoo Wildlife Area and the Ridgefield National Wildlife Refuge. See, Site Plan, attached as Exhibit D. Gateway 3 totals approximately 500 acres in size; Gateway 5 is 550 acres.[1] The properties have never been subjected to industrial development; portions of both are used for cereal grain and silage corn production. Both contain sloughs and shallow depressional areas, and are separated by a flushing channel. The Port's Natural Resources Baseline indicates
3. that significant wetlands are currently present on Gateway 3 (approximately 130 acres) and Gateway 5 (approximately 50 acres). Port's Natural Resources Baseline, Ex. D at 23, 24. Other areas on the properties could revert to wetlands if the current fanning or grazing activities were to cease. Huffman-Broadway Comments, Ex. A at 7.

The DEIS states that "wildlife use, particularly by waterfowl, is substantial on the 93-acre site [Gateway 3]." The DEIS also states that Gateway 3 "provide[s] cover and forage for rodents, thus attracting raptors and herons to forage in the area." DEIS at 6-63. A bald eagle nest is located on Gateway 3, possibly within the footprint of the proposed Gateway 3 disposal site area, and a second bald eagle nest is located on Gateway 5. See, DEIS at 6-36; Beak Consultants Comments, Ex. B at 5 and the Port's Natural Resources Baseline, Ex. D at 31.

B. This Letter Addresses the Project's Impacts on the Entirety of Gateway 3 and Gateway 5

The DEIS contains significant errors and ambiguities with respect to
4. Gateway 3 and Gateway 5 and the extent of the fill planned for them. For example, it erroneously claims that Gateway 3 is 93 acres, when that property is actually nearly

[1] As discussed in Section II(B), the DEIS erroneously states that Gateway 3 is 93 acres.

Corps of Engineers Response

3. Gateway 3 and Gateway 5 may be "environmentally sensitive properties" but they are not "threatened" by the project. The proposed disposal site for "Gateway 3" (G-3) is located on property owned by Port of Vancouver (POV). "Gateway 5" (G-5), although not a proposed disposal site, is also part of the POV's property. To the extent these comments address G-5, they are not accurate. As pointed out in the comments, neither the Least Cost Disposal Plan nor the Sponsor's Disposal Plan lists G-5 as a proposed upland disposal site.

To the extent any wetlands are identified on G-3 within or near the originally identified disposal footprint, the disposal site footprint is located so as to avoid impacting any wetlands to the fullest extent practicable, while still fulfilling the needs of the project.

The proposal to allow land currently in agricultural use to "revert" back to wetlands is too remote and speculative to warrant discussion in this DEIS. "NEPA does not demand a full discussion of land use alternatives 'whose implementation is deemed remote and speculative'." Friends of Endangered Species, Inc. v. Jantzen, 760 F.2d 976, 988 (9th Cir. 1985), quoting, Life of the Land v. Brinegar, 485 F.2d 460, 472 (9th Cir. 1973), cert. denied, 416 U.S. 961 (1974).

4. The DEIS described the originally projected 93 acre portion of G-3 designated as the proposed upland disposal site. The DEIS did not state that the legal lot or parcel commonly referred to as G-3 is only 93 acres. The comments' assertion that the DEIS "erroneously claim[ed]" G-3 was 93 acres is inaccurate. While the originally proposed upland disposal site located within G-3 was approximately 93 acres, the entire parcel size is much larger. In any event, the DEIS need not address the precise acreage of the legal lot or parcel in question.

The comments state that the DEIS is legally defective, ambiguous, and full of errors if it does not address all properties which may conceivably be used as upland disposal sites. An EIS need only discuss "reasonable alternatives" to the proposed action. 40 CFR § 1502.14(a). An EIS need not consider an infinite range of alternatives, only reasonable or feasible ones. City of Carmel-by-the-Sea v. U.S. Dept. of Transp., 123 F.3d 1142, 1155 (9th Cir. 1997)[1]; Friends of the Earth v. Coleman, 513 F.2d 295, 297 (9th Cir. 1975).

[1] The comments cited an earlier version of the Carmel-by-the-Sea case (Comments, p.8), but that earlier opinion was withdrawn and replaced by the case cited here. 123 F.3d 1142 (9th Cir. 1997) (replacing the withdrawn Carmel-by-the-Sea opinion cited at 95 F.3d 892).

500 acres according to its owner of record, the Port of Vancouver. Port's Natural Resources Baseline, Ex. D at 21.

In addition, although only a portion of Gateway 3 is listed as a preferred disposal site under the Sponsor's Disposal Plan and Gateway 5 is not listed as a preferred disposal site under either the Sponsor's Disposal Plan or Least Cost Plan, the Corps has indicated that it has not decided which disposal site alternatives it will ultimately pursue, leaving all potential disposal sites as viable options. Corps October 1998 Press Release. Moreover, the DEIS does not precisely indicate the location of
4. (con't) the proposed Gateway 3 disposal site, nor does it include a wetland delineation for Gateway 3 or Gateway 5. And, the Port of Vancouver asserts it will use dredge spoils from the project to fill Gateway 3 and most of Gateway 5. See Port of Vancouver Master Plan, attached as Exhibit E; "Port Chiefs Discuss Channel-Deepening Project," Vancouver Columbian (1/15/99) attached as Exhibit F.

The DEIS fails to accurately describe Gateway 3 and Gateway 5; both properties continue to be considered as potential disposal sites; the DEIS does not identify with precision the proposed disposal site location on Gateway 3; the DEIS does not identify the size and location of wetlands on Gateway 3 and Gateway 5; and documents in the public record indicate that all of Gateway 3 and 5 will be filled or impacted. This letter comments, therefore, on project impacts to the entirety of Gateway 3 and Gateway 5.

III. THE DEIS ALTERNATIVES ANALYSIS DOES NOT MEET NEPA'S LEGAL REQUIREMENTS FOR ADEQUACY

The alternatives analysis is the "heart of the environmental impact statement." 40 C.F.R. § 1502.14. In the DEIS, the Corps must "rigorously explore, objectively evaluate and devote substantial treatment to each alternative." Id. A threshold legal requirement of NEPA is that the decisionmaker not take an uninformed action. See Marsh v. Oregon Natural Resources Council, 190 S. Ct. 1851, 1858 (1989).

5. The DEIS's evaluation of alternative disposal sites does not meet the alternatives analysis test: it is not accurate, much less "rigorous" or "substantial." In particular, with respect to the identification of Gateway 3 and Gateway 5 as potential disposal sites, the DEIS erroneously assumes there are no wetlands on Gateway 3 and

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4 (continued). The DEIS contained no wetlands delineation for G-3 because no wetlands are proposed to be filled or impacted under the federal action.

The POV's contemplated development plans of its property are not directly at issue in the scope of this EIS. We disagree that the proposed federal action and the POV's contemplated development plans are "connected actions." The term "connected actions" stems from NEPA's implementing regulations. 40 CFR § 1508.25 addresses and defines the "scope" of an EIS. That section provides that *scope* consists of the range of actions, alternatives, and impacts to be considered in an EIS. To determine the scope of an EIS re: "actions," an agency considers 3 types of actions. The 3 actions include:

1) "*connected* actions," which means actions that are closely related and therefore should be discussed in the same EIS. Actions are *connected* if they:

a) automatically trigger other actions which may require EISs;

The POV's contemplated development of Gateway will not be "automatically triggered" by the federal action. See, e.g., Northwest Resource Information Center v. NMFS, 56 F.3d 1060, 1067 (9th Cir. 1995) (NRIC);

b) cannot or will not proceed unless other actions are taken previously or simultaneously;

POV's contemplated development plans for Gateway can proceed whether or not the federal action is approved, and vice versa. See, e.g., Sylvester v. US Army Corps of Eng'rs, 884 F.2d 394, 400-01 (9th Cir. 1989); &

c) are interdependent parts of a larger action and depend on the larger action for their justification.

The two projects are **independent** from one another, not **interdependent**. The federal action is not dependent upon the POV's contemplated development plans for Gateway for its justification. See, e.g., Western Radio Services Co., Inc. v. Glickman, 123 F.3d 1189, 1194-95 (9th Cir. 1997) (holding that a permit for a new radio tower and plans for an access road serving among other things the tower were not "connected actions"); Morongo Band of Mission Indians v. FAA, 161 F.3d 569, 580 (9th Cir. 1998) (holding that a proposed expansion project for LAX and a traffic controller "Arrival Enhancement Project" for the southern Cal. district have "independent utility" and are not connected actions).

2) "cumulative actions," which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same EIS (see comments and the response re: this issue under IV.A.4, and

Gateway 5, fails to explore practicable alternatives to filling these wetlands as required by Executive Orders 11,988 and 11,990 and the Clean Water Act and makes inconsistent statements about the presence of bald eagle nesting sites on Gateway 3
5. (con't) and Gateway 5. These fundamental flaws and inaccuracies regarding the existing quality of Gateway 3 and Gateway 5 habitat indicate that decisions based on the DEIS's alternatives analysis will be without scientific support, unreasonable, and in violation of NEPA.

A. The DEIS Erroneously Assumes that Gateway 3 and Gateway 5 Do Not Contain Wetlands.

The DEIS states that upland disposal sites were screened using six environmental criteria, including proximity to wetland habitat.[2] DEIS at 4-15, 16. The DEIS recognizes that "[e]nvironmental issues related to endangered species and wetlands are especially sensitive in the lower Columbia River Study Area" and emphasizes that suitable sites must pass **all** environmental criteria: "the six environmental criteria were considered significant enough to restrict or prohibit disposal actions that might adversely impact them." DEIS at 4-15, emphasis added. According to the DEIS, then, properties containing wetland habitat are not environmentally suitable and must be eliminated from further consideration as disposal site alternatives.

6. Both Gateway 3 and Gateway 5 contain wetlands of significant size. Appendix E of the DEIS, the HTRW Preliminary Assessment Screening Study (Oct. 1998), states that "wetlands cover much of [Gateway 3]." The Port's Natural Resources Baseline estimates that there are as many as 130 acres of wetlands on Gateway 3 and as many as 50 acres of wetlands on Gateway 5. Port's Natural Resources Baseline, at 23-24. And the wetlands analysis prepared by Huffman & Associates, Inc. and Turnstone Environmental Inc. on behalf of Mr. King also concludes that significant wetland areas are present on Gateway 3 and Gateway 5,

[2] Other environmental criteria include proximity to ESA critical habitat, bald eagle sites, productive shallow water habitat, beach nourishment sites and state/federal wildlife refuges. DEIS at 4-15, 16.

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4 (continued).

3) "similar actions," which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography.

Agencies should be given "considerable discretion" in defining the scope of an EIS, NRIC, 56 F.3d at 1067, quoting, Thomas v. Peterson, 753 F.2d 754, 758 (9th Cir. 1985), but must consider more than one action in a single EIS if they are "connected actions," "cumulative actions," or "similar actions." NRIC, supra. The scope of the channel deepening DEIS is described specifically in the DEIS (see DEIS § 1.4), and it properly excludes any analysis of the POV's contemplated development plans for Gateway. The POV's non-federal, contemplated plans are not "connected" to the federal action. See, Enos v. Marsh 769 F.2d 1363, 1371-72 (9th Cir. 1985) (agency's EIS did not have to consider non-federal shore facilities for a new deep-draft harbor project).

The Map accompanying Table 4-4 in the DEIS, entitled "Considered Sites – Reach 1," indicates the proposed disposal site within G-3, noting that it contains 69 acres. The location of the disposal site footprint on G-3 will be identified in the FEIS.

5. The DEIS alternatives analysis met NEPA's legal requirements for Adequacy. The comments fail to point out the case law limiting the alternatives analysis by a "rule of reason," Idaho Conservation League v. Mumma, 956 F.2d 1508, 1519 (9th Cir. 1992), clarifying that an agency need not consider an infinite range of alternatives, only reasonable or feasible ones. Carmel-by-the-Sea, 123 F.3d at 1155, citing, 40 CFR § 1502.14 (a)–(c). The "rule of reason" guides both the choice of alternatives, as well as the extent to which the EIS must discuss each alternative. Carmel-by-the-Sea, supra.

The DEIS considered many alternatives in addition to the preferred alternative, the Least Cost Disposal option. The DEIS discussed the "no-action" alternative, which is the ongoing maintenance dredging for the 40-foot navigation channel of the Columbia River. The Dredged Material Management Plan (1998), or the DMMP, was chosen to serve as the "no action alternative" by the Corps of Engineers. The DMMP evaluates the most efficient way to maintain the authorized 40-foot navigation channel in the future.

In addition, the DEIS discussed a non-structural alternative to the channel deepening proposals. This alternative proposed improving navigation by upgrading the existing river stage forecasting system, known as *LoadMax*. Further, based in part on public comments, the DEIS considers an alternative involving siting/constructing deep-draft regional port facilities closer to the mouth of the Columbia River. Finally, the DEIS addressed the options of a 41-foot, a 42-foot, and a 43-foot deep channel.

with the potential of increased wetland areas on both properties through reversion if current farming activities are terminated. Huffman-Broadway Comments, Ex. A at 1.

6. (con't)

In spite of its own technical documentation, the DEIS indicates that no wetlands are located on either the Gateway 3 disposal site or on Gateway 5. See DEIS Table 4-4, Disposal Site Screening Summary Chart, at 4-18. This conclusion contradicts all existing wetlands analysis regarding these sites and must be corrected. Based on the presence of significant on-site wetlands, both Gateway 3 and Gateway 5 fail the DEIS's environmental screening criteria and must be eliminated from further consideration as potential disposal sites.[3]

B. The Proposed Filling of Wetlands on Gateway 3 and Gateway 5 Violates Executive Orders 11,988 and 11,990.

The Sponsor's Disposal Plan proposes to place dredge spoils on a 93-acre (see, DEIS at 6-36) portion of Gateway 3 which, as discussed above, contains significant wetland areas. Gateway 5 also contains many acres of wetlands. Port of Vancouver documents indicate that the dredge spoils from the project will be used to fill approximately 400 acres of the approximately 500-acre Gateway 3 parcel and
7. approximately half of the approximately 550-acre Gateway 5 parcel. Port of Vancouver Master Plan, Gateway Update (Mar. 1998), Ex. E at 2; "Port Chiefs Discuss Channel Deepening Project," Vancouver Columbian (1/15/99), Ex. F. Regardless of the precise amount of filling proposed, there can be no question that should any portion of Gateway 3 or Gateway 5 be utilized as a disposal site, wetlands will be impacted.

[3]. In light of the Corps' errors with respect to the presence of wetlands on Gateway 3 and Gateway 5, additional conclusions in the DEIS regarding wetlands are also incorrect. For example, the DEIS states that a total of 38 acres of wetlands on all affected properties would be destroyed under the Least Cost Disposal Plan, and a total of 30 acres of wetlands would be destroyed under the Sponsor's Disposal Plan. It does not, however, explain the method used to calculate those acreages. Based on the Corps' conclusion in Appendix E that wetlands cover much of Gateway 3, the Port of Vancouver's conclusion that Gateway 3 contains as many as 130 acres of wetlands, and the Huffman-Broadway Comments concerning the presence of wetlands on both Gateway 3 and Gateway 5, the Corps' conclusions regarding the total wetland acreage that will be destroyed under the Least Cost Disposal Plan or Sponsor's Disposal Plan are clearly inaccurate and must be corrected.

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5 (continued). All of these alternatives, except for the structural alternatives, were dropped from further consideration because of the increased costs associated with construction, transportation, port facilities, and environmental needs, or a failure to fulfil the project's purpose. The alternative analysis satisfies both NEPA and the Clean Water Act. The DEIS correctly stated the size of the legal lot owned by the POV. No wetlands are planned to be filled as part of the federal action at the proposed G-3 disposal site.

6. We agree there are wetlands contained on the entire property denoted as Gateway 3. The spatial extent of the disposal footprint for the federal action does not impact any wetlands. Further, it is configured in such a manner to assure no wetland impact.

7. Executive Orders 11988, 42 Fed Reg. 26951 (1977), and 11990, 42 Fed Reg. 26961 (1977), direct federal agencies to minimize adverse effects of agency actions on floodplains and wetlands. (See also, 40 CFR 6, Appendix A, Statement of Procedures on Floodplain Management and Wetlands Protection). Disposal on G-3 will have no affect on the floodplain or flood levels.

The FEIS for the federal action identifies the specific size and location of the G-3 disposal site area "footprint." In addition, the footprint is sited so as to avoid filling or impacting any wetlands on G-3.

When proposing to fill wetlands or floodpla' s, the Corps 's legally obligated by Executive Orders 11,988 and 11,990 to make a determination that "there is no practicable alternative" to the fill. The failure to make such a finding renders an EIS unlawful and inadequate. City of Carmel-by-the-Sea v. United States Dep't of Transp., 95 F.3d 892 (9th Cir. 1996).

The "no practicable alternative" determination required by Executive Orders 11,988 and 11,990 was not made for the Corps' alternative analysis at issue here. Indeed, the DEIS demonstrates exactly the opposite: the Loadmax would avoid filling wetlands (DEIS at 6-53); in-water disposal sites could be used under the no-action alternative (DEIS at 4-2, 3); and use of non-wetland, upland sites is also practicable
7. (con't) under the Least Cost Alternative (DEIS at 6-26, 27.). Since Gateway 3 is an alternative disposal site only under the Sponsor's Disposal Plan (but not under the Corps' Least Cost Disposal Plan), it is clear that there are practicable alternatives to filling wetlands on that property. Similarly, since Gateway 5 is currently not listed as a proposed site under either the Sponsor's Disposal Plan or the Least Cost Plan, there are practicable alternatives to filling wetlands on Gateway 5.

The DEIS clearly demonstrates the Corps' failure to make a no practicable alternative determination with respect to the deposit of dredge spoils on wetlands generally, including those located on Gateway 3 and Gateway 5. As established by City of Carmel, this oversight renders the DEIS inadequate. And even if such a determination were made, specifically with respect to Gateway 3 and Gateway 5 the DEIS already demonstrates that there are practicable alternatives to filling both. Neither is suitable as a project disposal site.

C. The Proposed Filling of Wetlands on Gateway 3 and Gateway 5 Violates the Clean Water Act.

The Corps' failure to analyze practicable alternatives to filling wetlands on Gateway 3 and Gateway 5 also violates the requirements of Section 404(b) of the Clean Water Act and its implementing regulations (i.e., 33 C.F.R. § 336, 40 C.F.R.
8. part 230). In particular, Clean Water Act regulations provide that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental

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8. Section 404(b)(1) of the Clean Water Act has not been violated in that no wetlands will be filled on G-3 as a result of the federal action.

consequences." 40 C.F.R. § 230. 10(a); 33 C.F.R. § 336. l(a). Moreover, if a proposed discharge activity is not "water dependent," practicable alternatives "are presumed to be available." 40 C.F.R. § 230. 10(a)(3). Since the Corps has made no
8. (con't) determination that filling wetlands on Gateway 3 and Gateway 5 is water dependent, and the DEIS shows that there are practicable alternatives to filling Gateway 3 and Gateway 5 that would have less environmental impact, (i.e., the Least Cost Disposal Alternative), the Corps' proposed fill of Gateway 3 and Gateway 5 violates the Clean Water Act.[4]

D. The DEIS Fails to Consider the Impacts of the Project on Bald Eagle Nests Located on Gateway 3 and Gateway 5.

According to the DEIS, an "alternate nest location of the Buckmire bald eagle pair was discovered on Gateway 3, adjacent to the disposal location, during 1998 surveys." DEIS at 6-36. This finding is consistent with an analysis of the project's wildlife impacts on and in the vicinity of Gateway 3 prepared by Beak Consultants. The Beak Consultants Comments note that a bald eagle nest is located on Gateway 3, Possibly within the proposed disposal area. Beak Consultants Comments at 5. Likewise, according to the Port's Natural Resources Baseline, a bald eagle nest is located on Gateway 5. Port's Natural Resources Baseline, Ex. D at 31.

9.

The DEIS Disposal Site Screening Summary Chart indicates that there are no bald eagle nests within 1,500 feet of either Gateway 3 or Gateway 5. As discussed above, this conclusion is flatly contradicted by DEIS analysis, analysis by the Port of Vancouver, and analysis by Beak Consultants which find active eagle nests on both

[4] Should the Corps assert that the proposed fill of Gateway 3 or Gateway 5 is water dependent based on the Port of Vancouver's plans to construct new port facilities on Gateway 3 or Gateway 5, NEPA's prohibition of segmenting or piecemealing a project would be violated. The DEIS contains no analysis of the impacts of, or alternatives to, the Port of Vancouver's proposed fill and development of Gateway 3. If the Port of Vancouver's development of Gateway 3 were, in fact, a "connected action" justifying the water dependent nature of the Corps' fill of Gateway 3, all the impacts of the Port of Vancouver's development of Gateway 3 and Gateway 5 would have to be disclosed in the channel deepening EIS. 40 C.F.R. § 1508.25(a)(1). Since this has not been done, the Corps' proposal to fill Gateway 3 and Gateway 5 would violate NEPA because the impacts of the Port of Vancouver's proposed development, as a "connected action," are not disclosed or analyzed in the DEIS.

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9. The Disposal Site Screening table has been corrected. The presence of a bald eagle nest site adjacent to a proposed disposal site does not preclude dredged material deposition at that location. Temporal and spatial restrictions would be employed to preclude impacts to an active bald eagle nest location. The Biological Assessment for wildlife (Exhibit G) fully describes conservation measures to be employed to minimize disturbance to nesting bald eagles. The forthcoming Biological Opinion from the U.S. Fish and Wildlife Service will establish the specific conservation measures to avoid disturbing nesting bald eagles.

9. (con't) properties. The Screening Summary Chart must be corrected to indicate the presence of eagle nests on Gateway 3 and Gateway 5. Based on the Corps' screening criteria, both Gateway 3 and Gateway 5 are unsuitable as disposal sites.

IV. THE DEIS'S ANALYSIS OF ENVIRONMENTAL CONSEQUENCES IS SCIENTIFICALLY FLAWED AND LEGALLY INADEQUATE.

An EIS must take a "hard look" at the environmental consequences of a project to enable the decision maker to make an informed decision about whether to proceed. Marsh, 190 S. Ct. at 1858. In determining whether an agency has taken that hard look, courts examine, among other things, the level and amount of disclosure of potential environmental consequences, the scientific methods used for uncovering potential environmental consequences and whether the EIS discloses and addresses opposing agency and scientific views. See, eg., Friends of the Earth v. Hall, 693 F. Supp. 904 (W.D. Wash. 1988).

10. The DEIS fails all three "hard look" tests. First, it does not disclose numerous significant adverse environmental consequences that would be caused by channel deepening. Second, its scientific methodology is flawed because the Corps selected inappropriate indicator species for use in the HEP analysis. Third, the DEIS fails to consider the U.S. Fish and Wildlife Services' ("USFWS") opposing scientific views regarding the project's adverse consequences on wildlife. For these reasons, the DEIS's discussion of environmental consequences is inadequate.

A. The DEIS Fails to Disclose Significant Adverse Environmental Consequences of the Project.

To meet the "hard look" requirement for disclosure of environmental consequences, an EIS must provide decision makers with "an environmental disclosure sufficiently detailed to aid in the substantive decision whether to proceed
11. with the project." Friends of the Earth, 693 F. Supp. at 912. An EIS must be particularly thorough "when the environmental consequences of a federal action are great." Id. at 926. Only "remote or highly speculative" environmental consequences can be eliminated from discussion. Id. The DEIS does not disclose numerous adverse

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10. The DEIS's analysis of environmental consequences is not scientifically flawed and is legally adequate. Each specific individual comment under this heading will be specifically addressed below. All conclusions in the FEIS are based on the best scientific information available on a given issue. We have addressed all environmental concerns that we were aware of plus those concerns identified by the resource agencies and/or general public during the course of public meetings and workshops, environmental roundtables, technical group meetings, responses to the DEIS and the U.S. Fish and Wildlife Service Coordination Act Report. Indicator species used in the HEP analysis were selected by an interagency team comprised of biologists from Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Washington Department of Environmental Quality, and the Corps. The indicator species selected were chosen to be representative of the habitats subject to impact from the proposed project. HEP analysis is a process to determine impacts to wildlife habitat and species and also serves as a means to measure effectiveness of suggested mitigation measures. The U.S. Fish and Wildlife Service has provided a Coordination Act Report, as required by law, to the Corps, which incorporates the comments of the Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, and the National Marine Fisheries Service. The Corps has given full consideration to the recommendations set forth in the Coordination Act Report and has responded to those recommendations in Exhibit C of the FEIS.

11. The DEIS adequately discussed potential significant adverse environmental consequences of the project. The "hard look" standard established by the courts is the required level of inquiry for an agency when conducting an EIS. The DEIS met the "hard look" standard for the following reasons.

and significant environmental consequences of the project. Since none are remote or speculative, this failure results in a legally inadequate DEIS.

1. The DEIS Fails to Disclose Potential Sediment Contamination Adjacent to Gateway 3 and Gateway 5.

The DEIS state s that "sediment quality in the Columbia River navigation channel is not contaminated." DEIS at 2-15. This statement is simply incorrect. The Corp's own sediment study indicates that the channel near and adjacent to Gateway 3 and Gateway 5 contains highly contaminated sediment; incorrectly assumes that contamination of sediments caused by deepening the channel will be the same as those for maintenance dredging; fails to analyze the impact of sediment discharge on "water quality limited" segments of the Columbia River; and fails to analyze the potential environmental impacts of depositing contaminated sediments on upland and wetlands areas. These gross oversights render the DEIS inadequate.

a) Corps' studies indicate that, in the vicinity of Gateway 3 and Gateway 5, the Columbia River Channel contains contaminated sediment.

12. Appendix B of the DEIS indicates that the channel near and adjacent to Gateway 3 and Gateway 5 is a fine-sediment depositional area that contains the highest levels of all contaminants sampled in the lower Columbia River. DEIS App. B. See also Beak Consultants Comments, Ex. B at 1, 4. This conclusion appears to be based on a single surface grab sample for chemical analysis of this area, which is three kilometers long and represents some 600,000 m^3 of sediment. This extremely limited sampling in an area with a high potential for contamination is inadequate and in violation of Corps sampling guidelines. Beak Consultants Comments, Ex. B at 1. Moreover, because the channel area adjacent to Gateway 3 and Gateway 5 is located just downstream of the mouth of the Willamette River, a segment of which is under review as a potential Superfund site, it is likely to be more contaminated than the Corps' superficial sampling indicates. Id. at 1-3.

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11 (continued). Initially, it is premature to begin evaluating the legal adequacy of an EIS before the final EIS is filed. See, 40 CFR § 1500.3 ("It is the Council's [Council of Environmental Quality] intention that judicial review of agency compliance with these [NEPA] regulations not occur before an agency has filed the final environmental impact statement . . ."); see also, Kleppe v. Sierra Club, 427 U.S. 390, 406, n15 (1976). In fact, the lone authority relied on by the comments did not consider a draft EIS at all, let alone declare one legally inadequate. Friends of the Earth v. Hall, 693 F.Supp. 904 (W.D. Wash. 1988) (where agency failed to address in FEIS any environmental problems raised by comments of responsible parties to DEIS, among many other problems, court found EIS inadequate, and therefore held Corps decision to issue 404 permit was arbitrary and capricious).

Please see responses to each of your adverse impacts below.

12. The DEIS discussed the potential for sediment contamination, but found no significant sediment contamination concerns for the proposed channel deepening of the Columbia River. While samples collected from the Gateway 3 and 5 reach contained some of the highest concentrations of chemical contaminants found in the Columbia River, all values were below the screening levels established in the *Dredged Material Evaluation Framework, Lower Columbia River Management Area* (November 1998). The very high proportion of fine material in the samples from this reach does not necessarily indicate a deposition zone. The hydraulic conditions of this reach do not differ significantly from adjacent sand bed reaches. The fine material was found in samples that were obtained from below the current dredging prism and may be old riverbed material. The bathymetric analysis done to identify potential rock areas shows that the riverbed around CRM 100.5 had never been deeper than -48 feet CRD, indicating a hard bed material of either rock, gravel or silt/clay.

b) Sediments disturbed during channel-deepening may be more contaminated than sediments disturbed during channel maintenance.

The DEIS asserts that sediments from current maintenance dredging are acceptable for uplands disposal and that sediments from deeper dredging will be substantially the same as those from maintenance dredging. Unlike maintenance dredging, however, which continuously removes recently deposited sediments,
13. channel deepening will remove sediments five feet below the current floor of the navigation channel. These deeper sediments may contain contaminants discharged into the river by historical uses. The DEIS fails to discuss in sufficient detail the extent to which deeper dredging in the Columbia and Willamette Rivers will resuspend and redistribute toxic compounds.

c) The DEIS fails to analyze the impact of sediment discharge on "water quality limited" sections of the Columbia River.

Both the Washington Department of Ecology and the Oregon Department of Environmental Quality have identified a segment of the Columbia River in the vicinity of Gateway 3 and Gateway 5 as "water quality limited" under § 303(d) of the Clean Water Act. Beak Comments, Ex. B at 3-4. New or increased discharges of these contaminants to the Columbia River, however minimal, are prohibited under the Clean
14. Water Act unless the Washington Department of Ecology and the Oregon Department of Environmental Quality establish new Total Maximum Daily Load allocations for them, which is not expected to occur until 2001. Beak Consultants Comments, Ex. B at 4. Analysis of the water quality impacts of resuspending potentially contaminated sediments is required to bring the project into compliance with the Clean Water Act. The DEIS's failure to include such an analysis renders it inadequate.

d) The DEIS fails to analyze the potential environmental impacts of depositing potentially contaminated sediments on Gateway 3 and Gateway 5.

The DEIS does not identify deposit sites for the potentially contaminated
15. sediments located in the vicinity of Gateway 3 and Gateway 5. Based on the

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13. The contaminant levels of the sand to be dredged during the channel deepening are expected to be similar to those of sand dredged during current channel maintenance because both actions would occur in the active sand wave zone. In the Columbia River, sand waves cover the riverbed, and are typically 4 to 8 feet high and 300 to 400 feet long in the navigation channel. In the navigation channel the sand waves generally have crest elevations of about -40 feet CRD, and trough elevation near -50 feet CRD. The sand waves migrate slowly downstream as sand erodes from the upstream face, deposits in the downstream trough, and is then buried by additional sand eroded from the upstream face. This movement occurs in a layer only a few sand grains thick above the bed. Through this mechanism, all the individual grains in a sand wave are exposed to flow, eroded, transported, deposited, buried, and then eventually exposed again as the sand wave migrates downstream. Through this process any fine material and potential contaminants would be washed away by the river's flow.

14. The DEIS addressed the potential impact of sediment discharge on "water quality limited" sections of the Columbia River, and found that no contaminants would be introduced as part of the proposed Columbia River navigation channel deepening. The sediments to be disturbed and/or removed during the channel deepening were found not to be contaminated, and the water quality limited (WQL) analysis does not apply. The dredged sediments, whether actually removed or simply disturbed, would have to contain some chemical element, compound, or contaminant for which the particular section of river was "listed" as WQL for there to be an issue. Based on the Corps sediment sampling and analysis, there are no such contaminants present, at least with respect to the Columbia River navigation channel.

According to the 1998 Oregon CWA 303(d) list for the Columbia River (from Tenasillahe Island to the Willamette River), the river is "WQL listed" for bacteria (in fall-winter-spring), dissolved oxygen (summer), pH (spring), temperature (summer), total dissolved gas (year-round), and toxics (PCB, DDE, & DDT). According to the navigation channel sediment tests performed, only one sample tested positive for any of the above listed toxics (PCB), but even then the PCB level detected did not exceed the established screening level.

Sponsor's Disposal Plan, however, it is reasonable to assume that they will be deposited on Gateway 3; if Gateway 5 is used as a disposal on subsequent fill site, then it is reasonable to assume that contaminated sediments will be deposited on that
15. (con't) property as well. Given the environmentally sensitive nature of both sites, the DEIS' failure to address the adverse environmental impacts of the deposit of potentially contaminated soils on upland and wetland areas is a fundamental oversight that renders the DEIS inadequate.

2. The DEIS Fails to Adequately Examine the Project's Impacts on Endangered, Threatened and Other Significant Species.

Gateway 3 is intensively used by sandhill cranes (listed as endangered under Washington State's Endangered Species List) and dusky Canada geese for feeding and resting during each species' migration. As noted above, bald eagles nests have been found on Gateway 3 and Gateway 5; bald eagles are listed as threatened under the ESA. Peregrine falcons (listed as endangered under the ESA) hunt on or in the vicinity of both properties. Beak Comments, Ex. B at 9. Gateway 3 and Gateway 5 are also used by ducks and geese "in the thousands," for overwintering. Port's Natural Resources Baseline, Ex. D at 31. Within the adjacent Columbia River, 12 species of salmonids are listed as threatened or endangered under the ESA. DEIS at 2-19.

16.

The DEIS fails utterly to disclose potential adverse impacts of dredging and disposing contaminated sediments in the vicinity of and on Gateway 3 and Gateway 5. This oversight is serious. It is well documented that contaminants found in the sediments of the Columbia and Willamette Rivers, such as PCBs, DDE, PAH, dioxin and other toxic materials, have caused and are causing egg-shell thinning and mortality in bald eagles. Beak Comments, Ex. B at 5. Likewise, aquatic mammals exhibit reproductive abnormalities associated when the food chain is contaminated by such toxins. Beak Consultants Comments, Ex. B at 5-9.

Contaminant impacts to salmon are also likely to be significant. Salmon exposed to contaminants are subject to greater risk from pathogens, predation or mortality. Indeed, it appears likely that the projects dredging component, if taken without regard for salmon impacts, will violate the "take" prohibition of the ESA, 16 U.S.C. § 1538(a)(1)(b), and the duty of federal agencies to ensure that their actions

Corps of Engineers Response

15. The DEIS adequately addressed the potential environmental impacts of depositing potentially contaminated sediments on Gateway 3, but found that the sediments impacted by the proposed channel deepening of the Columbia River navigation channel are not contaminated. G-5 is not part of either disposal alternative. For G-3, the Corps relied on evidence that, with the exception of the sediments from the Willamette River, the sediments dredged from the Columbia are not contaminated.

16. The DEIS adequately examined the project's potential impacts on endangered, threatened and other significant species, and will be supplemented in the FEIS by a Biological Assessment. Exhibit G contains the Biological Assessment for wildlife that identifies and discusses potential impacts to wildlife and wildlife habitat.

will not jeopardize the continued existence of listed species or adversely modify critical habitat for listed species, 16 U.S.C. § 1536(a)(2).

16. (con't)

In sum, the DEIS is inadequate because it fails to identify, discuss and analyze how the project, by increasing the ambient concentration of toxic contaminants, will adversely modify critical habitat of listed species located on or in the vicinity of Gateway 3 and Gateway 5, such as bald eagles, peregrine falcons, sandhill cranes and salmonids. Additional analysis must be undertaken to remedy this fundamental deficiency.

3. The DEIS Fails to Address the Project's Secondary Growth Impacts.

NEPA requires the Corps to analyze both the direct and the indirect environmental effects of the project. 40 C.F.R. § 1502.16. In contrast to the project's direct effects, like those to water quality and wildlife, indirect effects are those that are "caused by the action and that are later in time or farther removed in distance from the project, but are still reasonably foreseeable." 40 C.F.R. § 1508.8(b). Indirect effects may include "growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate." Id. These impacts are commonly called "secondary growth impacts."

17.

The DEIS devotes only one page to the project's secondary growth impacts. It concludes, without analysis or support, that "[c]hannel deepening in itself would not induce additional ship traffic. Likewise, it would not contribute to development of additional ports or port facilities." DEIS at 6-51. This statement is conclusory, contrary to common sense and is contradicted by the DEIS's technical appendices which disclose that the fleet will respond to channel deepening by increasing "the actual number of vessels and the percentage of vessels with deeper drafts." DEIS, Appendix C at 28.

An increase in the number or size of vessels entering Columbia and Willamette River ports will increase the volume of the commodities the ports will handle. An increase in the volume of commodities, in turn, will cause secondary growth impacts such as expansion of port facilities, increased number of truck trips from the ports to highways, increased demand for rail transportation, increased number of workers to

Corps of Engineers Response

17. The DEIS adequately addressed the project's secondary growth impacts. "Indirect effects," or "secondary growth" impacts are defined as those effects "caused by the [proposed] action * * *." 40 CFR § 1508.8(b). The comments state that the channel deepening project is the "cause" of the Port of Vancouver's contemplated Gateway property development. As addressed elsewhere in these responses, neither the federal action nor the POV's contemplated Gateway development are dependent upon the completion of the other to justify its existence. Each project can stand alone on its own merit, and either project may proceed even if the other does not.

The channel deepening project addresses the existing situation of Panamax deep-draft ships calling on the Columbia River ports, and the ability of those ports to efficiently accommodate this type of vessel. Deepening the channel conceivably may "facilitate further growth" at the respective ports, or "induce additional development" of shore side facilities. However, based on the analysis of Morongo & Carmel-by-the-Sea, these types of new growth or development fail to qualify as "growth-inducing" impacts. Although "secondary impacts" were discussed in the DEIS generally (see EIS Chp. 6), the discussion of the POV's contemplated Gateway development is properly limited in the discussion related to channel deepening.

handle the increased volume of commodities, and all the secondary growth impacts associated with a larger work force. The Port of Vancouver and other ports have already announced plans to expand port facilities, presumably in part to handle an
17. (con't) increase in the amount of cargo the larger deep draft ships will bring to the ports. Port of Vancouver Master Plan, Gateway Update, Ex. E at 2; "Port Chiefs Discuss Channel Deepening Project," Ex. F. Without an analysis of these secondary growth impacts, the DEIS is inadequate and fails to meet the requirements of NEPA.

4. The DEIS Fails to Address Cumulative Impacts of the Project.

The Corps is required to examine the project's cumulative impacts. 40 C.F.R. § 1502.16, § 1508.8. Cumulative impacts are defined as "impacts on the environment which result from the incremental impact on the action when added to other past, present, and reasonably foreseeable future actions." 40 C.F.R. § 1508.7. The Corps must identify "all other actions -- past, proposed, and reasonably foreseeable – that
18. have had or are expected to have impacts in the same area" and "the overall impact that can be expected if the individual impacts are allowed to accumulate." City of Carmel-by-the-Sea v. United States Dep't of Transp., 95 F.3d at 892 (9th Cir. 1996). Because it fails to disclose the project's cumulative impacts on wetlands and other wildlife habitat (both within the channel and on adjacent upland areas) and on the aesthetics of the lower Columbia and Willamette River basins, the DEIS is inadequate.

a) The DEIS fails to disclose the project's cumulative impacts on wetlands and other wildlife habitat.

Over 50,000 acres of wetlands, nearly 18,000 acres of wetland/pastureland and 27,000 acres of willow swamp areas have been destroyed within the project area since the 1880s. DEIS at 6-57, 58. Yet the DEIS entertains the possibility of filling
19. wetland habitats on Gateway 3 and Gateway 5 without analyzing the further, cumulative adverse impacts of the project on wetlands, farmland and willow swamp or on the avian, fish and wildlife resources whose survival depends upon the existence of those habitats.

Corps of Engineers Response

18. The DEIS adequately addressed any potential cumulative impacts of the project. The DEIS recognized that the Columbia River has a history of channel deepening, as well as past and ongoing maintenance dredging. The DEIS also recognized the potential incremental impacts the dredging may have caused, and those potential impacts are addressed. However, the so-called "project in the pipeline" to which the comments refer, the Port of Vancouver's Columbia Gateway Master Plan, is not a cumulative impact action to the federal action. Nor is it a "connected" action (see response above under II.B) or a "secondary growth" action (see response above under IV.A.3) required to be addressed in this EIS.

The DEIS generally discussed the cumulative impacts associated with the federal action. DEIS § 6.12. However, because the POV's proposed, speculative development plans for its Gateway property do not satisfy the tests for cumulative, connected, or secondary growth actions, they need not and appropriately were not addressed in detail in the DEIS.

The federal action shares no "inextricable nexus" with any of the contemplated development plans described in the POV's Master Plan. Although the channel deepening and the POV's contemplated development plans for Gateway may conceivably be linked, the POV could sever that link by abandoning its Master Plan development plans for Gateway "without destroying the proposed action's [Corps channel deepening] functionality." Airport Neighbors Alliance, 90 F.3d at 431. "[A]n EIS need not be prepared simply because a project is *contemplated*, but only when the project is *proposed*." Wemberger v. Catholic Action, 454 U.S. 139, 146 (1981) (emphasis in original). With or without the POV's contemplated Gateway development, the federal action would still serve to improve deep-draft navigation along the Columbia River.

19. The DEIS adequately disclosed the project's cumulative impacts on wetlands and other wildlife habitat. For wildlife habitat, see Exhibit G. For wetlands, see our responses under Sections II and III.

Moreover, the DEIS fails to analyze the significant development projects currently proposed within the project area (i.e., projects in the "pipeline") that will have the same or similar impacts as the channel deepening project or that would not be undertaken without it. The Port of Vancouver, for example, has adopted a plan to convert Gateway 3 and Gateway 5 to industrial use as a part of its comprehensive plan. Port of Vancouver Master Plan, Ex. E. That conversion will require fill which will have similar impacts on wetlands and other wildlife habitat as the channel-deepening project. The Corps must analyze the cumulative impacts of the Port's comprehensive plan on the Gateway parcels if the Sponsor's Disposal Plan is to go forward.

19. (con't)

Within the channel itself, the DEIS states that impacts on benthic invertebrates will be minimal because deeper areas have lower densities of benthic invertebrates. This assertion ignores the fact that benthic invertebrates are currently located in deeper areas because the Columbia River channel has already been deepened more than 20 feet over time--to 20 feet in 1878, to 25 feet in 1899, to 30 feet 'in 1912, to 35 feet by 1935 and to 40 feet between 1962 and 1976. DEIS at 2-2. With each channel deepening, the habitat value for benthic invertebrates has diminished. The Corps is required to examine the cumulative impacts of successive channel deepening projects on the habitat for benthic invertebrates and the larger ecosystem. 40 C.F.R. §§ 1502.16, § 1508.8.

b) The DEIS fails to disclose the project's cumulative impacts on aesthetics.

The DEIS asserts that the aesthetics of the lower Columbia and Willamette River basins have not changed significantly in more than two decades. DEIS at 5-34. This conclusion ignores the dramatic changes in the Vancouver/Portland area that have taken place during that period of time. The DEIS fails to evaluate the further impacts on aesthetics that will occur as a result of project dredging and related wetland fill, farmland conversion, and consequent impacts on wildlife and wildlife habitat.

20.

The DEIS's cumulative impact analysis does not permit a reasoned analysis of the project's cumulative impacts. It is, therefore, inadequate.

Corps of Engineers Response

20. The DEIS adequately addressed the project's cumulative impacts on aesthetics. "Aesthetics" are part of the "socio-economic" component of review under NEPA, and any impacts to aesthetics are adequately addressed in the DEIS. DEIS, 4-50 - 4-51; see also DEIS § 6.8.5 at 6-47. The comments present no evidence demonstrating even any potentially significant project impacts to "aesthetics," and therefore the FEIS need not address this issue to any greater extent. See, e.g., Goodman Group, Inc. v. Dishroom, 679 F.2d 182, 184-85 (9th Cir. 1982) (pointing out the burden is greater on the commenter to produce some evidence of a "causal nexus between the [proposed] project and a significant cultural impact" than for "physical effects on the environment"). Id.

B. The Corps Failed to Ensure the Scientific Integrity of Its Studies.

Analysis used to support conclusions reached in the DEIS must have scientific integrity. 40 C.F.R. § 1502.24. The DEIS fails to meet this standard because (a) the Habitat Evaluation Procedure ("HEP") fails to utilize backup population data essential to ascertaining whether a species should be designated as a "representative indicator species," and (b) the HEP fails to consider the project's impacts on sensitive species such as sandhill cranes and dusky Canada geese. See Beak Consultants Comments, Ex. B, at 9-11.

21. In particular, the Corps uses mink to represent species dependent on wetland riparian habits, despite the extremely low occurrence of mink in the lower Columbia River. Beak Comments, Ex. B, at 8. Therefore, the project's impacts on mink are simply not indicative of its likely impacts on common species in the area. Id.

Similarly, the HEP's reliance on the Canada goose and mallard as indicator species for the effects of the project on birdlife does not accurately reflect the severity of the project's potential impacts on less common waterfowl, such as sandhill crane. Beak Comments at 11. With respect to conclusions reached in reliance on HEP analysis of project impacts on common and uncommon wildlife species, the DEIS is inadequate because the HEP lacks scientific integrity.

C. The DEIS Fails to Address Another Agency's Opposing Views Concerning the Project's Potential Environmental Impacts.

Failure to reflect opposing views of other agencies in the body of an EIS renders it legally inadequate. Friends of the Earth, 693 F. Supp. at 931. Merely including the comments in an appendix to the DEIS is insufficient to meet NEPA's requirements. Id. The EIS must inform decisionmakers of "the full range of responsible opinion on the environmental effects." Id. at 934. "Where the agency fails to acknowledge the opinions held by well respected scientists concerning the hazards of the proposed action, the EIS is fatally deficient." Id.

22. The USFWS has prepared a detailed critique of the project, but the Corps simply attaches it, without comment, as an appendix to the main volume of the DEIS. The USFWS raises numerous concerns about the significant adverse effects of the

Corps of Engineers Responses

21. Wildlife species that were representative of wildlife habitats along the lower Columbia River were selected by the Interagency HEP team as HEP target species. Species were selected that were representative of agricultural croplands, wetland and riparian habitats. These were the habitats most likely to be affected by the proposed project. Population data were not used. The basic test was whether target species habitat models would reflect project-related changes in wildlife habitat, either from habitat loss or from mitigation actions to restore habitat. The comment used mink as an example of an incorrect indicator species as their present population is low. However, the mink model provides a good means to capture wetland and riparian habitat impacts. Habitat quality and quantity, not population levels of a particular species drive these models. While mink population levels may be low, potentially a response to environmental contaminants, the assessment of riparian habitat quantity and quality using the mink model is still appropriate and provides a good analysis of project impacts for this species and other species which also utilize these habitats.

The Canada goose habitat model has provided considerable insight into the level of project-related impacts to Canada geese in general. The model was derived to be representative of wintering Canada geese, of which Dusky Canada geese are a component. Winter foraging habitat requirements for the 5-plus subspecies of Canada geese that winter along the lower Columbia River and in the Willamette Valley are virtually identical, e.g. agricultural fields, particularly grass fields and harvested corn and grain fields. Lakes, farm ponds, rivers, gravel pits, flooded fields, and other bodies of water provide ample locations for night roosting and loafing activities. The results indicate that Canada geese will be impacted, through loss of 200 acres of agricultural habitat. However, the Canada goose population is currently 350,000 birds versus a historic level of approximately 30,000 birds. The loss of habitat for the species in general is considered negligible, particularly when management efforts are currently focused on reducing the population. Dusky Canada geese are managed intensively, primarily through restrictive hunting regulations, in order to maintain their population. Wintering habitat for dusky Canada geese is not a limiting factor, rather suitable nesting habitat on the Copper River Delta of Alaska is their limiting factor.

Wintering sandhill cranes do have a minor presence in the general project area, particularly in the Sauvie Island-Vancouver Lowlands area and to a lesser extent around Woodland. The Canada goose model is representative of impacts to this species as the model addresses agricultural cropland losses. The intensive waterfowl management actions at Sauvie Island Wildlife Management Area, Shillapoo Wildlife Management Area, and Ridgefield National Wildlife Refuge play a substantial role in this species wintering presence. Washington Department of Fish and Wildlife is currently moving forward to purchase Shillapoo Lake, which would add 1,000-plus acres to public wildlife management lands in the Vancouver Lowlands. The future presence of wintering sandhill cranes will be contingent upon the presence of large wildlife management areas. Agricultural croplands suitable for sandhill crane are diminishing due to urban-industrial-residential development and the change in agricultural crops from cereal grains, dairies and row crops to hybrid poplar plantations, nursery crops and caneberries.

project on wildlife. Those concerns are either ignored or contradicted in a conclusory fashion in the body of the DEIS. For example, the USFWS report states:

> Dredging activities could result in the resuspension of sediments in the water column during both dredging and disposal of dredged material. . . . Contaminated material containing low concentrations of organocholorine compounds, especially in the Willamette River, may pass the Corps testing requirements or screening levels and be dredged and disposed of in the flowlanes of the Columbia and/or the Willamette Rivers. Once in the flowlane fine materials containing organochlorines could accumulate in shallow areas, tidal flats, or other depositional zones, and thus become available to aquatic organisms. Low concentrations of persistent compounds such as some organochlorine pesticides, PCBs, dioxins, and furans can bioaccumulate within the food chain in these depositional areas and impair reproduction in top level predators. In addition, many of these organocholorine contaminants disrupt the immune or endocrine system (Colburn et al. 1993), and very low concentrations of the chemicals could adversely impact fish and wildlife during sensitive life stages.

22. (con't)

USFWS, Impacts of the Proposed Columbia River Channel Deepening Project on Fish and Wildlife Resources at 18 (Sep. 1998). Thus, the USFWS poses serious questions regarding the accuracy of the Corps' screening methodology; the DEIS either ignores or fails to adequately evaluate and address them.

For example, in spite of the USWFS analysis, the DEIS baldly asserts that "[t]he dredging and disposal of Columbia River material would have **no significant impact on sediment quality** in the ocean, river or in the upland disposal sites." DEIS at 6-11 (emphasis added). In another section, the DEIS acknowledges that "dredging has been suggested as a means wherein contaminants contained within the sediments can be resuspended and thus become available for uptake by bald eagles," and concludes that this type of sediment contamination is not a concern for the project because Columbia River sediments are not the type of sediment grains to which contaminants attach. DEIS at 6-41. This conclusion ignores the fact that studies cited

Corps of Engineers Response

21 (continued). The Corps has no legal obligation under NEPA to "ensure the scientific integrity of its studies." As federal courts have frequently held in the context of preparing EIS's, "when specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive." Price Rd. Neighborhood Ass'n. Inc. v. US Dept of Transp., 113 F.3d 1505, 1511 (9th Cir. 1997), quoting, Greenpeace Action v. Franklin, 14 F.3d 1324, 1332 (9th Cir. 1992) (internal citations and quotations omitted); Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 378 (1989).

The Corps is entitled to rely upon its own experts' studies, and under no circumstances need it affirmatively defend those studies' "scientific integrity." "Even when a[n opposing party] presents expert opinions raising questions regarding an agency's analyses, methodology, and conclusions, such opinions have been viewed by the courts as 'a difference of scientific opinion.'" Hells Canyon Preservation Council v. Jacoby, 9 F.Supp.2d 1216, 1239 (D.Or. 1998), quoting, Greenpeace Action, 14 F.3d at 1333.

Accordingly, to the extent the comments question the Corps' experts, the "difference of scientific opinion" will not render the EIS inadequate. NEPA does not require a reviewing court to decide whether an agency's evaluation is based on the best scientific methodology available or to resolve disagreements among various scientists as to methodology. Hells Canyon, supra. Even if the comments had produced some evidence that the Corps' experts lack proper qualifications or relied upon flawed scientific methods (which they failed to do), that evidence would not discredit or otherwise render the Corps' studies unreliable or its EIS legally inadequate.

22. All comment letters received, whether from federal, state agencies, or the public, have been addressed and added to the FEIS. The U.S. Fish and Wildlife Final Coordination Act Report has also been added to the FEIS. The Corps of Engineers' responses to the specific recommendations in the Final Coordination Act Report are also included in the FEIS.

by USFWS demonstrating adverse impacts of contaminants on bald eagles and river otters were conducted within the lower Columbia River area. See Beak Consultants Comments, Ex. B at 1-3.

The USFWS also raises serious concerns regarding the upland disposal sites selected under the Sponsor's Disposal Plan, which concerns are ignored in the DEIS. For example, the USFWS states:

22. (con't)

> While the Service does not, 'in general, object to the use of such sites for dredged material disposal, we do have reservations about some of these port sites because some of them support valuable wildlife habitat on site or are adjacent to such habitat, e.g. the Gateway 3 site.

USFWS Report at 31. With respect to mitigation proposed for riparian habitat losses, the USFWS states "this amount of dredged material would have a significant detrimental impact on many habitats and species within the lower Columbia River Basin." Id. The DEIS does not address USFWS's criticism of the Sponsor's Disposal Plan.

The DEIS fails to mention, let alone analyze, serious environmental concerns regarding the project raised by another federal agency. It is, therefore, "fatally deficient" pursuant to the standard set forth by Friends of the Earth.

V. THE DEIS FAILS TO DISCLOSE AND RESOLVE THE CONFLICT BETWEEN THE PROJECT AND STATE CONTROLS FOR GATEWAY 3 AND GATEWAY 5.

The Corps is required to examine the environmental consequences of "possible conflicts between the proposed action and the objectives of Federal, regional, State, and local . . . policies and controls for the area concerned." 40 C.F.R. § 1502.16(c).
23. A state control relevant to disposal site selection that the DEIS fails to consider is a Clark County Superior Court Order that requires the Port of Vancouver to prepare an EIS before it can fill or develop Gateway 3 or Gateway 5.

In particular, Judge Poyfair of the Clark County Superior Court has held that Gateway 3 and Gateway 5 (as well as the adjacent Gateway 2 and Gateway 4

Corps of Engineers Response

23. The DEIS need not "resolve the conflict" between the project and state controls for Gateway 3, as no such "conflict" exists. The POV is obligated to comply with Judge Poyfair's Order, (Order Modifying Judgment, Clark County Superior Court, Washington, No. 94-2 01668 1, June 6, 1996), as well as all Corps requirements for necessary 404 permits, before any dredged material is placed on any delineated wetland as part of any development of the POV's Gateway property.

The comments state that, under Judge Poyfair's Order, the Corps "is prohibited from identifying Gateway 3 as a potential dredged material disposal site until (the POV) has completed its Environmental Impact Statement for the comprehensive scheme." (Emphasis added). This argument is both factually and legally inaccurate.

properties), are environmentally sensitive. As a result, the court enjoined the Port of Vancouver "**from authorizing or taking any action to commence the development of the Port's downriver property for any specific development until the Port has prepared and issued a final Environmental Impact Statement** addressing the plans for and environmental impacts to all of the downriver properties (Parcels 2, 3, 4 and 5)." Order Modifying Judgment at 4, attached as Exhibit G (emphasis added).

23. (con't)

The Port of Vancouver has adopted a comprehensive scheme for development of Gateway parcels 2, 3, 4 and 5. Deposit of dredge spoils on Gateway 3 and Gateway 5 is a part of that development. Under the Order Modifying Judgment, the Port of Vancouver is prohibited from identifying either Gateway 3 or Gateway 5 as a dredge spoils disposal site until it has completed its EIS for the comprehensive scheme. That EIS has not yet been commenced. Since the DEIS fails to disclose and resolve the direct conflict between the project and the requirements of the Order Modifying Judgment, it is legally inadequate.

VI. CONCLUSION

For the reasons set forth above and in the attached Huffman-Broadway and Beak Consultants Comments, the DEIS is legally and scientifically inadequate. Of greatest concern to Mr. King is the DEIS's failure to identify, describe and address serious adverse environmental impacts to Gateway 3 and Gateway 5. Mr. King urges the Corps not to authorize disposal of fill material on Gateway 3 or Gateway 5 and to ensure that other activities related to the project do not adversely affect the avian, fish and wildlife resources that depend on those properties.

24.

Respectfully submitted,

PERKINS COIE LLP

By Mark W. Schneider
Mark W. Schneider
Attorneys for Paul L. King

MWS:bal

[15690-0014/SB990310.015] 2/4/99

Corps of Engineers Response

23 (continued). First, while the Corps could recommend G-3 as an upland disposal site as part of the federal action, the Corps is not the ultimate decision-maker regarding the selection of disposal sites – the ultimate decision-maker for this project is Congress. Judge Poyfair no doubt never intended his Order to bind the decision-making ability of Congress on a federally funded, Congressionally approved civil works project.

Secondly, Judge Poyfair's Order did not enjoin the Corps' identification of a potential upland disposal site as part of the channel-deepening project, or any other project. Rather, the Order enjoins the POV from "implementing any specific plan for industrial development" of the POV's Gateway property prior to the completion of the EIS. Judge Poyfair's Order,[2] p.3. The identification of a proposed upland disposal site on a fraction of the total area of G-3 cannot reasonably be termed "industrial development." In addition, as discussed above, the identification of G-3 as a potential disposal site is but one of many required legal steps that must be taken prior to any actual dredged material deposition. Indeed, were the site never identified, it could hardly be evaluated for possible significant adverse environmental impacts, as required under NEPA's EIS law and Judge Poyfair's Order.

24. For all the reasons discussed above, the DEIS was both legally and scientifically adequate. The DEIS adequately addressed and discussed both alternatives to the proposed 43-foot channel deepening project, as well as the reasonably foreseeable potential environmental impacts of the proposed project.

[2] Judge Poyfair's Order may also be found at Exh. G of King's Comments to the DEIS.

Enclosures:

	Tab
Letter from James E. Broadway, President, Turnstone Environmental, Inc. to Steven J. Stevens, dated December 11, 1998	A
Resumes of Terry Huffman; James E. Broadway (Attachment 1 to Turnstone Letter)	A1
Comments on: Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement, Columbia and Lower Willamette River Federal Navigation Channel (Attachment 2 to Turnstone Letter)	A2
Cover Letter and Comments on the Columbia River DEIS by Beak Consultants Incorporated, dated January 27, 1999	B
Calculated porewater concentrations in the Gateway sediment piles. Comparison to water quality criteria for protection of riparian wildlife.	B1
Resumes for Beak Consultants Incorporated	B2
Source material for Beak Comments	B3
Site Plan Illustrating Gateway 3 and Gateway 5, Section 4 of DEIS.	C
Natural Resources Baseline, Port of Vancouver Columbia Gateway Master Plan (Sept. 30, 1997)	D
Port of Vancouver Master Plan, Gateway Update (Mar. 1998)	E
"Port Chiefs Discuss Channel-Deepening Project," Vancouver Columbian (Jan. 15, 1999).	F
Order Modifying Judgment, King v. Port of Vancouver, No. 94-2-016681 (June 7, 1996)	G

cc: (w/enc.)

Mr. Paul L. King
The Honorable Gary Locke
The Honorable Thomas Fitzsimmons
Mr. Curt Smitch, Washington's Salmon Task Force
Washington Fish & Wildlife Commission
Mr. Larry Peck, Washington Department of Fish & Wildlife
Mr. Rick Vining, Washington Department of Ecology
The Honorable Charles Clarke, U.S. Environmental Protection Agency
U.S. Fish & Wildlife Service
Christine Valentine, Oregon Coastal Management Program

Vanalco, Inc.
5701 NW Lower River Road
P.O. Box 9805
Vancouver, Washington 98666-9805
Telephone: (360) 696-8661
FAX: (360) 696-8780

February 4, 1999

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E
P.O. Box 2946
Portland, OR 97208-2946

Attention: Steve J. Stevens

RE: October 1998 Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement

Please accept the following comments regarding the draft Environmental Impact Statement referenced above. On page 5 of Appendix E-HTRW Preliminary Assessment Screening in Section C.2.:

- Release Number 3856 is not located on Vanalco property.
- Crowley Marine is not a lessee on Vanalco property.

Sincerely,

L. W. McLellan
EHS Manager

LWM/do

cc: Ms. Ellen C. Dial - Perkins Coie
Mr. Charles D. Reali - Vanalco

Corps of Engineers Response

Thank you for this corrected information.

COLUMBIA RIVER PILOTS
13225 N. LOMBARD
PORTLAND, OREGON 97203
503-289-9922
FAX 503-289-9955

February 3, 1999

U.S. Army Corps of Engineers,
Portland District
Attention: Steven J. Stevens
CENWP-PE-E
P. O. Box 2946
Portland, OR 97208-2946

Re: Non-Structural Alternative to Channel Deepening Project

Dear Army Corps of Engineers:

The October 1998 Public Review Draft of the Columbia River Channel Improvement Study at pages 4-4 and 4-5 discuss what is termed a "non-structural alternative" to the channel deepening project. This non-structural alternative is simply an enhancement of the river forecasting system known as "Loadmax". There is also a discussion of improving and expanding the Loadmax system in chapter 4 of Appendix A to the Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement dated October, 1998. The purpose of this letter is to object to consideration of Loadmax enhancements as an alternative to channel deepening.

The supposed value of the non-structural alternative seems to arise from an apparent misunderstanding of current circumstances. The misunderstanding crops up in various places, but is best summarized in the following statement by the ACOE:

LL01-65407.1 20460-0001COLRIP/PILOTING/LOADMAX1

Corps of Engineers Response

Thank you for your comments concerning LoadMax. Please see our response #2 to the Department of Interior letter regarding LoadMax. We have updated the report to reflect this information.

> " [W]ater depths available were not consistently being fully utilized. Ships are routinely limited to the predetermined target drafts listed in Chapter 1. However, Figures 4, 5 and 6 show that both bulk carriers and container ships sailing at their respective target drafts commonly had underkeel clearances that ranged from 1-ft less to 4-ft greater than the minimum acceptable clearances. Bulk carriers occasionally may touch bottom on shoals with bed elevations above 40 ft CRD project depth. This does not seem to be a serious problem, but is a safety concern. The range of underkeel clearance indicates there are opportunities to increase both draft and safety for the deepest draft transits on the Columbia River. "

We take exception with the assertion that contact with the bottom is not a serious concern. We suspect the United States Coast Guard would also, as would the Oregon Board of Maritime Pilots, the B.C./States Oil Spill Task Force, the Washington State Office of Marine Safety and most any other agency or entity that concerns itself with maritime safety. The reasons are obvious. Contact with the bottom can very easily result in serious damage. Contact with a hard structure on the bottom will open the hull of a ship like a can opener. And the concern has grown progressively more intense over the last ten years, as public awareness of maritime safety issues has grown.

Even a soft bottom is to be avoided. Grounding on a falling tide will at the very least create a hazard to navigation and can cause structural damage to the ship if the weight of the ship comes to bear unevenly as the tide subsides. of more frequent concern are the ill effects on the handling of a vessel from contact with the bottom. Even light contact with a soft bottom by a vessel underway can cause extreme difficulty maintaining control, with such occurrences increasing the likelihood of a ship veering out of the channel or into oncoming traffic.

Loss of vessel control becomes much more likely as underkeel clearance diminishes, even if contact with the bottom is not made. This seems to be the result of increased squat, which is felt by the pilot as suction on the bottom of the ship, to which a ship sometimes reacts

unevenly by shearing off in one direction or the other. And, squat increases almost geometrically as underkeel clearance diminishes, so that, for example, a loss of one measure of underkeel clearance may result in squat increasing threefold or fourfold. The ill effects of this are compounded when a vessel with diminished underkeel clearance traverses an area of shoaling--the increased squat from deeper loading may not be a problem in most areas but the squat becomes suddenly pronounced in areas of shoaling, causing serious handling problems or sometimes causing the vessel to drop down until contact with the bottom is made.

One point that is not discussed in the ACOE materials is that deeply laden ships are often allowed to cross the bar at Astoria only at high tide. Timing to achieve highwater bar crossings is necessary to avoid grounding on the bar as the ship rides up and down on the ocean swell. In order to arrive at Astoria just before highwater, an outbound vessel must depart Portland or Vancouver at lowwater or within a couple of hours of lowwater at the upriver location. Then, the outbound ship will actually traverse a second lowwater period somewhere between Wauna and Longview. One cannot simply leave Portland at high water and ride the highwater crest outbound--a vessel cannot keep up with the fall of the tide. A departure at highwater in Portland will result in arriving at lowwater in Astoria, requiring the vessel to anchor, which is itself ill-advised and dangerous given the grossly inadequate anchorage in Astoria. The fact that outbound, deep ships must contend with at least one and sometimes two periods of low water compounds the difficulty in planning for safe transits. And, all transit planning must encompass the entire transit from Portland/Vancouver to the open ocean, it cannot just look at the Portland/Vancouver to Astoria segment.

In section 4.4 of Appendix A, the Engineering Appendix, the discussion focuses on enhancing Loadmax by including not just water volume information, but channel bottom information, so that estimated underkeel clearance projections could be made. "The controlling shoal elevations for each reach of the channel would come from the Corps of Engineer's hydrographic surveys and can be updated at approximately three-month intervals. " These comments reflect a misunderstanding of the hazards that shoaling presents, as described above, as well as the way pilots currently deal with information about the occurrence of shoaling.

The river bottom changes daily, some days more than others, but constantly. To suggest that a snapshot of

the bottom be put into Loadmax and then relied upon for a period of three months for critical, zero clearance transit planning until another snapshot is taken three months later is to invite disaster. Currently, pilots utilize ACOE surveys and charts, but base their decisions on almost daily reports from other pilots about areas of known or suspected shoaling and how other vessels are handling in such area. That kind of information is critical, as it is almost real-time feedback about channel dynamics. In fact, it is the pilots who most often notify the ACOE of the discovery of shoals, sand waves and other such transient but potentially dangerous bottom features. A snapshot every three months would give a very misleadin- picture of what a vessel is likely to encounter.

The ACOE discussion also notes that: "Container ships that have design drafts of 38-to-41 feet are currently targeting a draft of only 36-feet. The container lines are concerned about the reliability of service, therefore they schedule only enough outbound cargo to be at the docks to load to a predetermined draft. " The discussion goes on to suggest that expanding Loadmax would allow container ships to load deeper. Maybe, but we suspect not, as safety and certainty are extremely important in container service, and the proposed enhancements to Loadmax cannot guarantee either.

The container lines have generally set a target draft of 36 feet on their own. Pilots did not establish that as a draft limitation and are generally willing to transit at drafts from 38 to 40 feet, depending on the circumstances. The container lines must have absolute certainty that loading to a particular draft will not result in delay, either because water levels at the time of sailing are not as previously forecast, or because shoaling has been discovered downriver, or because that vessel grounds unexpectedly outbound and is either hung up or must delay while reporting to authorities. The 36 foot target drafts were not set arbitrarily. Rather, they were adopted in response to the actual experiences of container vessels that loaded to deeper drafts. We suspect that the container lines would not change their practices in response to Loadmax enhancements, because those enhancements cannot eliminate the uncertainties that must be avoided. These lines have adopted policies about minimum underkeel clearances, and they are not likely to cut those minimums in response to more information.

We note that certain inadequacies in the current forecasts cannot be improved upon by the proposed Loadmax

enhancements. Water release information from Bonneville Dam is not now considered accurate beyond one, two, three days, nor are such projections of the effects on river levels of rain in the lower third of the Columbia basin. Those sources of error will remain and are significant. Given the inherent error in forecasts, and the potential adverse financial and environmental consequences of being over optimistic, it is only prudent to err on the side of caution when planning vessel transits.

Finally, we do not intend by our comments to suggest that Loadmax is not useful. It is useful. While we sometimes observe that its forecasts are inaccurate, we take such inevitable inaccuracies into account in how we use Loadmax. We will use any information that is available, and if Loadmax can be made more reliable, so much the better. But we very much disagree with the notion that Loadmax enhancements can be considered a substitute for channel deepening. We believe the margin of safety has been reduced to zero in many cases, and any attempt to reduce underkeel clearances further, which appears to be the goal of the Loadmax enhancement alternative, would be a serious mistake.

Very truly yours,

Jack Vonfeld

Captain Jack Vonfeld
President

cc: Port of Portland
Port of Longview
Port of Kalama
Columbia River Steamship Operators Assn.
Columbia River Channel Coalition

City of St. Helens
P.O. BOX 278 PHONE (503) 397-6272
St. Helens, Oregon
97051

November 18, 1998

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E ATTN: Steven J. Stevens
P.O. Box 2946
Portland, OR 97208-2946

Dear Mr. Stevens:

The City of St. Helens appreciates the opportunity to review the Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement for the Columbia and Lower Willamette River Federal Navigation Channel.

The City fully supports the use of Sand Island, at River Mile 86.2 as a disposal site for dredged materials. The City, with the help of the Oregon State Marine Board, has made over $1 million in recreational improvements to the Island. These include transient boat docks, restrooms, picnic and camping facilities. The adopted Conservation Resource Management Plan for the Island lists beach nourishment as the least cost option for protecting the investments on the Island.

The City would also like to suggest another site for disposal. Just north of the City limits is a parcel of publicly owned land that has frontage along the Columbia River. It is located at approximately River Mile 85 and is an ideal beach site. It is close to the channel dredging work site and could have broad positive recreational impacts. We urge you to look at this site also.

Thank you for the opportunity to comment on this project.

Sincerely yours,

Donald L. Kallberg
Mayor

Corps of Engineers Response

Comments noted.

Paul Vik
152 East Sunny Sands Rd.
Cathlamet WA 98612

(360) 849-4109

January 20, 1998

Steven J. Stevens
U.S. Army Corps of Engineers, Portland District
PO Box 2946
Portland, OR 97208-2946

Dear Mr. Stevens:

Please consider some thoughts herein submitted which I wish to have appended to my verbal remarks at the workshop in Kelso on December 19, 1998.

At that time I described the action of ship wakes in the mouth of the slough on the upriver end of Puget Island meeting the river between disposal sites 43.8 and 45.0 and the resultant erosion of the downstream end of the "the sand bar," the island on which is located disposal site 45.0.

Erosion caused by ship wakes has been mentioned at Environmental Roundtable meetings, in one-on-one discussions, and in written comments. Standard Corps response is that wind waves, current and tidal action are causing erosion and, while the ships wakes contribute to the problem, they are not the main event.

Wind waves do not push a surge ahead of themselves causing rapid fluctuations of water level as does the passing of a ship. The surge that precedes a ship has been used to raise the water level to assist in freeing stranded vessels by deliberately steaming a ship at full power as it approaches the scene of the stranding. (Ask the pilots about this). The effect of that surge upon shallow water is what I described December 19th.

Also, there were 705 tide cycles in 1998. In the backwater sloughs, as at the upper end of Puget Island, these cause current reversals regardless of river level. 705 cycles X 2 directions per cycle = 1,410 current changes.

There are 2,000 ships calls per year above Puget island, resulting in 4,000 wake events per year. A typical wake event causes the water to rise, lower, rise, lower, then return to normal level. In shallow slough mouths this combines with

Corps of Engineers Response

Comments noted. See the discussion of shipwake erosion in Section 6.2.3 of the EIS.

swells to result in violent action. Tidal fluctuations result in gentle buildup of flow in shallow sloughs and do not muddy the water as do ship wakes.

In my verbal remarks I recall stating that 4,000 ship transits per year average a wake event every 2 hours and 11 minutes. 705 tide cycles per year x 2 results in a current change every 6 hours and 13 minutes on the average.

Thank you,

Paul Vik

Paul Vik
Puget Island resident

Paul Vik
152 East Sunny Sands Rd.
Cathlamet WA 98612(360) 849-4109

February 1, 1999

Mr. Steven J. Stevens
U.S. Army Corps of Engineers, Portland District
PO Box 2946
Portland, OR 97208-2946

Dear Mr. Stevens:

Regarding verbal comments by Mr. Richard Gustafson of Astoria at your workshop meeting in Astoria on November 12, 1998, concerning your estimates of transportation from Portland to Astoria, his point is well taken.

It appears to me that what you have done is assumed that freight would be "load-centered" in Portland and then shuttled to Astoria. In other words, the bills of lading would originate in Portland. For that kind of operation I will accept your estimates. However, grain in shipload quantities travels by unit train, and assuming improvements to the railroad, the difference in rates for a consist originating in Nebraska between termination in Portland or termination in Astoria isn't going to be much. (I have some long-haul trucking experience and in understand this). You also need to consider barges loaded in, say, Central Ferry, Clarkston, Port Kelly, etc., on to Astoria, deducting rates for similar tows terminating in Portland.

The same procedure should also be applied to containers. Pick an inland terminal and compare the difference. Also, be aware that trucks northbound on I-5 south of Portland use US 26 if their destination is Astoria. Assume you are in Eugene and want to take the short route to Astoria. Look at a state highway map and see what you would do.

Regarding barging costs, the Wauna pulp mill has been barging product to Portland for over 30 years. I realize they are consolidating shipments with Camas and West Linn which ports ships cannot reach so their situation is somewhat special. However, if barging is so expensive, I would think Crown Zellerbach would have originally located all their mills where ocean-going vessels could terminate. Crown Z also towed logs from Blind Slough and Cathlamet to Camas and then barged the products back to Portland for thirty years or more. Remember the sternwheeler Jean which was build to do just that? And the diesel boats George Birnie and Western Star, which operated long after the Jean was retired after 20 years of service in 1957? Camas pulps were towed from Cathlamet for several years after Wauna began operation, ending with hostile takeover and subsequent breakup of Crown Zellerbach in the mid 1980's.

I do not trust your figures regarding transportation costs to a regional port at the coast.

Thank you,

Paul Vik
Puget Island Resident

Corps of Engineers Response

Comments noted. The regional port analysis has been revised to reflect more accurate costs.

Stevens, Steven J NWP
From: john boyle [SMTP:jsse@pacifier.com]
Sent: Tuesday, February 02, 1999 12:34 PM
To: Steven.; J.; Stevens@usace.army.mil
Subject: Channel Deeping Project

District Engineer,
US Corp of Engineers,
CENWP-EC-E,
PO Box 2946, Portland, OR> 97208-2946,
Attn: Steven Stevens

I submit my comments to the proposed channel deeping project regarding the preceived damage to my interest in real property which I own on Puget Island. My place is at 193 East Sunny Sands.
1. It lies outside the dike road. Inside the dike road, directly behind my house and a number of other residences, is a proposed New Site for the dredge spoils. On your map the site is identified as: Puget Is. (Vik) W-44.0, 100 Acres. I believe more suitable sites are available for your use which will not inflict damage to my property.

The damage to me will be from the sand of the spoil which will become air borne, blow from the site across the road and will infiltrate my house, deck, and yard. It will do the same to my neighbors property also. While it may seem to be an insignifigant concern to the planners, it is very important to me. The late spring, summer, and fall wind patterns are such that heavy winds,
2. especially the afternoon period, tend to blow up stream, and across the body of the island. At our house, we do open the windows and doors to cool and ventilate on the hot days—they are in the direct path of any airborne particles. Should this seem to be an insignifigant concern, I suggest that any conversation with residents on lower island would find complaints about the amount of sand which infiltrates and requires excessive cleaning efforts, and buttoned up conditions on the windward, view sides, of their houses. Further, should you visit the upstream tip of the island and stand on an unsheltered area, the airborne sand would soon make things uncomfortable as it strikes you.

Since the spoil area is for the long term, we would be required to look out over a Gobi type,desolate looking area, void of greenery. The greenery is one of the pleasing things for the
3. island people and visitors to view, we certainly enjoy what we now have, and we do not want to lose it to a convient sand pile for the Corp. Looks like we are now becoming an endangered species with this proposed plan.

I'm sure that the logic of depositing all the spoils from this stretch of the river on the Oregon side of the channel should carry some weight to the planners. Many good reasons, other than my
4. complaint, can and probably have been advanced. We aren't wildlife, just taxpayers and voters, so we should be listened to, and have equal or better consideration than wildlife or corporate interests.

Another thing is the problem of shoreline erosion which is a big concern of the waterfront residents.The erosion that has been observed in recent years is awesome. On our stretch there has been some 20'to 30'feet of bank lost. Your plan must contain provisions to refurbish this
5. shoreline at intervals, which it does not now intend to do. The amount, size, and speed of ship traffic is what your plan intends to facilitate. These require a suitable protection for the land owners which it does not now do. You must see and feel this as an obligation that a final plan addresses.

Respectfully,

John S. Boyle
13655 SW 21st St. Beaverton, OR. 97008 and
193 E. Sunny Sands, Puget Island, Cathlamet, Washington

Corps of Engineers Response

1. Comments noted. This stretch of the river is one of our most problematic reaches of the navigation channel. It is a difficult reach to maintain. It is necessary to obtain a large upland disposal site in this area. We have evaluated many different upland disposal sites, as discussed in Chapter 4 of the EIS. Site W-44.0 was found to be cost effective and environmentally acceptable for use as a disposal site.

2. The impact of airborne particles could be evaluated on a site-by-site basis, and stabilization measures implemented as needed.

3. There is likely to be a visual impact from the new disposal site. The disposal would look similar to the barren sandy beaches common in the area.

4. Oregon sites were considered, but those sites either did not have sufficient capacity or had equal or greater impacts than the proposed Puget Island site (W-44.0).

5. Sandy beaches are easily eroded and the deeper channel should not cause a measurable increase in erosion. This issue is addressed in the EIS in sections 5.1.5.3 and 6.2.3.1.

RND Development
109 Kalama River Road
Kalama, WA 98625

January 28, 1999

Robert T. Slusar
Colonel, Corps of Engineers
District Engineer
Department of the Army
Portland District, Corps of Engineers
P.O. Box 2946
Portland, OR 97208-2946

Re: Columbia and Lower Willamette Rivers Integrated Feasibility eport and Environmental Impact Statement

Dear Colonel Slusar:

Per your letter dated November 25, 1998 on the extension of the review period for the Columbia and Lower Willamette Rivers Integrated Feasibility Report and Environmental Impact Statement, please accept our following comments and request for consideration:

1. We believe the deepening (dredging) of the Columbia River as proposed is basically an excellent project. There have been several plans proposed, incorporating a variety of combinations on how to "make it work". We realize many hours have been spent by the USA Corps of Engineers, and others, in preparation, review, and alteration of every aspect of the deepening plan. We have spent considerable time reviewing the documents prepared by the USA Corps of Engineers, and others, and would appreciate your consideration of our following comments:

In Water Disposal

2.
- In water disposal of the dredge spoils may have a negative affect on beach nourishment and, in our opinion, is a "loser" from most standpoints, economics being at the top of the list.
- In water disposal postpones the financing to some hopefully future date.
- The mineral leaching process of river currents exists from the very sources of the river to the ocean depths, thus an every increasing deposit in proportion to the distance to the ocean from the source of leaching.

Corps of Engineers Response

1. Comments noted.

2. In-water disposal provides an economic disposal option where suitable sites are available and/or where no upland sites are available.

With the ever shifting of the pervasive shoals, the most economical disposal, in our opinion, is upland disposal. Upland disposal would avoid re-handling and would be a one-time expense. Presently much of the maintenance dredging involves re-handling the dredge spoils at least once and some of it numerous times. This is per past and present practices of in-water disposal.

3.

Upland Disposal

- Upland disposal provides property enhancement for a number of uses, including agriculture, residential, commercial, and industrial.
- Any of these uses contribute to the local economy greatly. Surely, as a whole, the Columbia River deepening (dredging) project is solely for the National economy.

Thus, environmental concerns appear pale in comparison to the National and local economic benefits of upland disposal.

Consideration

Please consider 1 square mile on each side of the hundred mile length of the deepening (dredging) project, plus the area at the cities on Oregon's riverfront total nearly 700 square miles. This is less than 1% of the total area of Oregon. Also 25% of Oregon's population is in the Columbia Riverfront cities. Washington's Columbia Riverfront population is 0.033% of Washington's population.

4.

Further, the balance of Oregon's population equals 20 persons per square mile on more than 99% of the total land. Most of these are inland cities. The population per square mile ratios for Washington state are approximately 45 persons per square mile.

There is a great need for commercial/industrial property in close proximity to the 100 plus river miles, particularly in areas in the vicinity of ports engaged in ocean shipping. Due to the most feasible locations for ship channeling, river bank and land types, much of the riverfront land will most likely remain pristine, except for housing development. This is probably more true of the Washington coast due to lack or need of port cities, our steep terrain, high banks, and soil types.

The town of Kalama, Washington, situated mainly on a half-mile wide strip of land between the river and steep hills is one of seven meaningful ports on this 100 mile stretch of the Columbia River. Kalama has a real need for flat land to accommodate the ever increasing need for industrial expansion.

Corps of Engineers Response

3. Comments noted. Upland disposal is most economical when the disposal site is located in the immediate vicinity of the dredging area.

4. Comments noted.

R.N.D.'s 142 acres lies approximately 300 feet east of the Kalama Port facilities (identified on the deepening study map, Reach 3, and designated as W.72.2). An over pass spanning I-5 and the Burlington Railroad connects the areas of R.N.D. and the Kalama Port Facilities.

We (R.N.D.) desire this property to be used for river dredge spoil disposal to any maximum height consistent with statutes and other practices. This property borders I-5 on the west nearly 4,000 feet, much of it hidden from view by Cottonwood trees. Old Highway 99 is the east boundary. Even though Appendix G (Page 59 Paragraph 2) indicates sites eliminated from further consideration as the most costly, the manager for the Port of Portland, in regard to dredge pipe filling, has labeled our property as "do-able". Appendix G does not give the HEP analysis
5. for our site, and there has not been a recent wetland delineation and/or site assessment performed on our property to determine its current environmental status and what the impacts would be should our property be used for dredge spoil. Your feasibility study has placed a greater emphasis on upland disposal and we believe the majority of our site, even though it has never been used as a dredge disposal site, is well suited for dredge spoil disposal. Other mining sites in the area have served as disposal sites successfully and while a portion of our site is wetland, we also have some upland areas within our property boundaries.

We believe upland disposal sites should be preferred over in water disposal for this project, and others, for environmental and economic reasons. The current conditions of our property would provide minimal impact to existing wildlife and mitigation for emergent wetland impacts that would occur on our site during dredge disposal could be accomplished within the same drainage as our site, possibly at Kress Lake, directly east of our property. Kress Lake is managed by WDFW for fish and wildlife habitat. The higher quality wetland and habitat area referred to by your agency in the southern part of our site could be exempt from impact.

We would appreciate your re-consideration of our 142 acres as an upland dredge spoil disposal site for the Columbia River deepening project and for maintenance. We would appreciate meeting with you at any time. Thank you. We look forward to hearing from you.

Sincerely,

A.A. (Spike) Maras
RND Development
115 S Baker St.
Centralia, WA 98531

Lloyd Nelson
RND Development
109 Kalama River Rd.
Kalama, WA 98625

AAM:kmc
CC: Interested Parties

Corps of Engineers Response

5. The RND property will not receive further consideration as a disposal site because of cost and mitigation considerations for wetlands impacts.

CC:

Evan Lewis
USA Corps of Engineers
Regulatory Branch
P.O. Box 3755
Seattle, WA 98124-2255

Laura Hicks
USA Corps of Engineers
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Ron Musser
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Manager/Navigation Division
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Portland, OR 97208

Port of Vancouver
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19th Legislative District
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Sam Kolb
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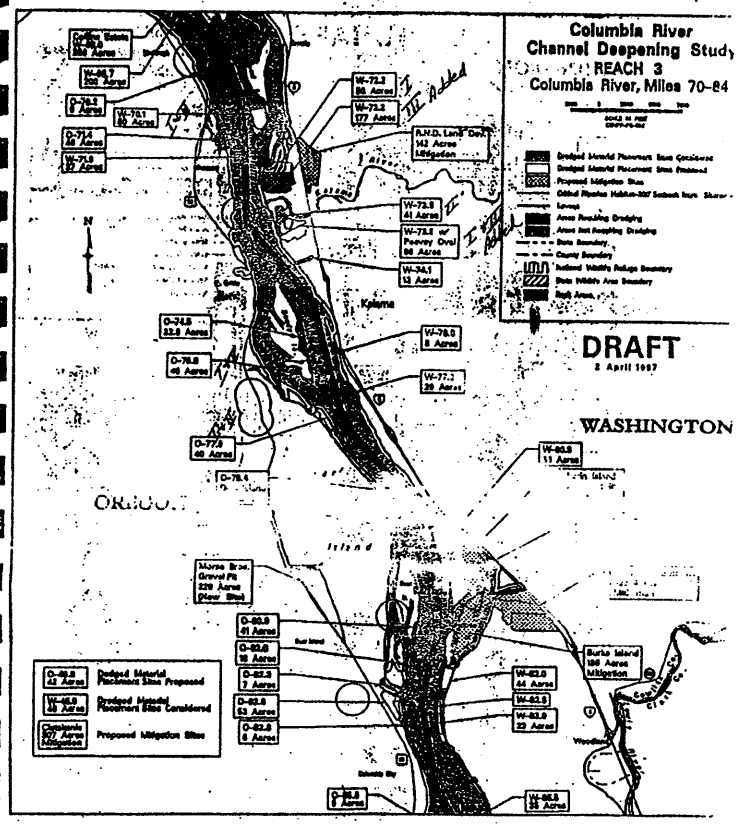

Columbia River
Channel Deepening Study
REACH 3
Columbia River, Miles 70-84
DRAFT
WASHINGTON
Kalama
Island
Dredged Material Placement Sites Proposed
Dredged Material Placement Sites Considered
Proposed Mitigation Sites

Jeffrey Hook
3313N.E. 70th Ave
Portland Oregon 97213

12/1/98

District Engineer
U.S. Army Corps of Engineer District, Portland
Attn.: CENWP-EC-E
P.0 Box 2946
Portland, Oregon 97208-2946

This letter is in response to the notification that our Sauvie Island property; Multnomah County Tax Lot # 1. Section 02 2N, 1W, was selected as an upland dredge spoils disposal site under the Integrated Feasibility Report for Channel Improvements and Draft Environmental Impact Statement under the "least cost disposal plan". Our family, who has owned this property for over sixty years, is staunchly opposed to this idea for a variety of reasons.

Deposition of dredge spoils on this site would impact key riparian wildlife habitat. We feel our property is significant in that it is one of the larger contiguous riparian areas along the eastern edge of Sauvie Island south of Reeder Beach. To the North and South much of the river frontage has been developed for river view homes and/or for agricultural purposes. Much of the riparian area is non existent or in a degraded state. We take pride in maintaining our property in as natural state as possible, and are frequently rewarded with spectacular wildlife viewing opportunities. The riverward, (east) side of the COE dike has been maintained for the past 60 years as a family picnic and recreation spot. Although we have been informed that the riverside portion east of the existing COE dike would not be filled, we fear that a pipeline-dredging project of this magnitude, (lasting up to twenty years or more) would severely impact terrestrial flora and fauna of the area.

The use of our property as a dredge spoils depository would severely devalue and limit the usefulness of our property. Our property is 20.64 Acres and is currently zoned is currently MUA – 20. Our family has spent both time and money researching the idea of building a home and/or farm structure on the property. Under current Multnomah County MUA 20 zoning, we may be able to realize this dream. However due to flood hazards, and setback regulations, any structure must be built on the inland (west) side of the COE dike. We have been informed that any dredge spoils would be deposited on the inland side of the dike, possibly to a depth of 28 feet and covering up

Corps of Engineers Response

Thank you for your comments. The dredging forecast has eliminated the need for using this site for disposal of dredged material.

to 48 acres in area, thus burring any hopes of utilizing our property in this way. Furthermore we have the understanding that the Federal agencies involved would want to acquire the property "fee title" to which we are also strongly opposed, and would fight to any extent possible to prevent that from happening.

The U.S.ACOE acquisition of this property would cause unnecessary economic hardship for our family, as well as for others. Most of our inland property is leased to Jerry Parson and family, and is currently under cultivation of raspberries and marionberries. The lease provides my retired parents with a modest supplemental income, which basically covers the property taxes with a little left over. The berry crops produced by the Parsons are costly to establish and are very labor intensive, however under good stewardship, can be quite profitable. It would be a shame to see years of hard work by the Parsons to go to waste. It is easy to see that if this site was selected as an upland disposal site, it would not only hurt my family economically, but it could potentially put the Parsons out of business as well.

Construction in this area could cause more unwanted traffic problems on the Island's small rural roads, and bridge. According to our U.S. COE contact Ron Musser, if the Sauvie island site was selected it would have the potential of being a sand quarry where sand cold be trucked to areas needing fill for construction. Transportation of this material from the Sauvie island site to other areas would be a nuisance to island residents, as well as a potential burden for Multnomah County. The island's roads are already bustling from congestion by an estimated 1.5 million visitors per year. Furthermore the island's only bridge constructed 48 years ago was designed with an 80,000 pound per lane load limit, which is currently under that of state highway standards. The weight limit would inevitably cause problems for truckers carrying heavy loads such as sand. There has been talk of replacing the bridge, but little if any funds are available to support the idea. If the bridge were replaced, it would be up to Multnomah County or even the island residents and visitors to carry the financial burden in the form of tolls or increased taxes.

This property has sentimental value, which cannot be valued monetarily. As mentioned, this property has been in our family for over sixty years, and is just a remnant of a much larger parcel of land which my grandfather Vern Everett once owned. To have this area selected as a disposal site would be a loss that could never be reconciled with money.

Our neighbor to the north Vira Springer, who's property is also selected under the least cost alternative, would stand to loose her quaint weekend cottage retreat, which we know is priceless to her as well. She is an avid wildlife enthusiast, and cherishes this land for it's natural beauty. Needless to say her loss would be substantial.

Our property is an asset to the pastoral and scenic nature of the island. Conversely, a government operated, twenty-eight foot high, 40 plus acre sandbox is not a visual, which will fit in with the island's pastoral and natural beauty. With all the activity, noise, dust, and disturbance involved, such a project would certainly have an effect on other nearby residents causing annoyance and decreased property values.

For all these reasons as well as more we haven't time to list, we urge you to please reconsider using our property as an upland disposal site for dredge spoils. The preferred alternative, to deliver the sand to the Port of Vancouver seems to be a much more reasonable alternative.

Sincerely: Jeffrey Hook

Jeffrey Hook

And the Hook family.

PORT OF ST. HELENS
P.O. BOX 650
ST. HELENS, OREGON 97051
OFFICE LOCATION:
100 "E" STREET
COLUMBIA CITY, OREGON 97018
PHONE: (503) 397-2888
FAX: (503) 397-6024

February 5, 1999

District Engineer
U.S. Army Corp of Engineers
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

RE: Columbia River Channel Deepening Feasibility Report

Dear Sir:

On behalf of the Port of St. Helens, I want to thank the Corp of Engineers for the work that is represented by the Columbia River Channel Deepening Feasibility Report. A wide array of issues and interests have been included in this work.

There are two areas of particular interest to the Port of St. Helens (Port) that we wish to emphasize. The placement of material at Port Westward and at the Railroad Corridor site.

1. Port Westward is an industrial site, zoned for heavy industry and currently hosting industrial use. The Corp of Engineers (Corp) plan to receive material in an area above the 500 year flood elevation with minimum wetland impacts will be an appropriate use of a portion of this property. The Corp has devised a plan which appears to minimize environmental impacts on site. This use also appears to minimize the need for alternative off site disposal sites which would have greater environmental impacts.

The Corp also has worked with the Port to maximize future industrial use at Port Westward.

2. The Corp worked with the Port to examine the placement of material at the "Railroad Corridor Site". This site was contaminated by past wood treating activities. The Port and Pope and Talbot, the prior owner, have voluntarily been working with the Oregon Department of Environmental Quality (DEQ). We are nearing the completion of the Remedial Investigation/Feasibility Study (RI/FS). At this point, the main feature of remediating the site and returning it to industrial use is the planned use of material from the channel deepening project. It is currently included in the sponsors plan. We believe the benefits of this plan merit its inclusion in the final Channel Deepening Project.

Corps of Engineers Response

1. Comments noted.

2. The Railroad Corridor site has been added to the final least cost plan contingent upon ODEQ/PSH RI/FS outcome.

February 5, 1999
District Engineer
U.S. Army Corp of Engineers

The site is industrial with infrastructure including rail. The plan we have developed allows receipt of the material in an area suitable for safe disposal and use of the material for remedial activities. The use of this area also awards impacts to wildlife habitat areas at both Ridgefield, Washington and Sauvie Island, Oregon.

2. We intend to continue to work cooperatively with the Corp to develop a final plan for use of the material from the channel project for the remediation of the "Railroad Corridor Site". However, we strongly request the inclusion of this important project element in the final Least Cost Plan.

If you have any questions or concerns please contact me at the Port office. Thank you for your cooperation anc consideration.

Sincerely,

Peter K. Williamson

FORT JAMES

January 29, 1999

Fort James Fiber Company
Lower Columbia River Fiber Farm
79114 Collins Road
Clatskanie, OR 97016

telephone 503 728 2171
facsimile 503 728 2721

Ms. Laura Hicks
US Army Corps of Engineers
Portland District
333 SW First Avenue
PO Box 2946
Portland, OR 97208-2946

RE: CENPP-PM - Crims Island dredge spoil placement

Dear Ms. Hicks,

We continue to be interested in having some spoils placed on the up stream end of Crims Island.

Since our last written comments to you, we received a letter clarifying the fact that Crims Island is not part of the National Refuge system.

1. We are continuing to plan with USFW to put some White Tailed Deer on the island. They believe that some spoils would be beneficial. Please check with Al Clark, at the Julia Butler Refuge 360-795-3915.

I met with your representatives on October 16, 1998. They indicated you could still use a disposal site in this part of the river.

Thank you for considering this upgrade to your plan.

If I can provide additional information please call 503-728-2171.

Sincerely,

Don Rice

Corps of Engineers Response

1. Crims Island will not be considered further for dredged material placement. A disposal site on Crims Island would encompass wetland habitats and ESA Critical Habitat (Snake River salmonids). Thus, the site has been dropped from consideration.

Draft IFR for Channel Improvements and EIS Document
Review COMMENTS (6 pages total)

February 5, 1999

TO: USACE, Portland District
CENWP-PE-E Attn: Steven J. Stevens
POB 2946
Portland, OR 97208-2946

FROM: Vance Fraser
POB 1426
Beaverton, OR 97075

SUBJECT: Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (Columbia and Lower Willamette River Federal Navigation Channel) October 1998

This is a brief review of and comments on the above document herein referred to as the Plan. This brief review focuses on Wildlife Habitat Mitigation, Dike or Levee Erosion, Economic Justification, with Alternatives and Suggestions.

Recommendations

From an engineering, safety, and health perspective, many problems are anticipated with the Plan, especially in regards to "Webb" Wildlife Mitigation Site. Deterioration of Flood and High Water Protection Dikes or Levees due to increased erosion is likely to result from the Columbia River Navigational Channel Deepening. Economic justification for the Plan is also in question. Therefore, I am against the Plan as it exists in its current form and recommend Alternatives as described herein to the US Army Corps of Engineers(USACE), Columbia River Ports, and to concerned and esteemed members of Congress. Reasons for this recommendation follow.

1. The expected responses to these valid concerns would be typical of USACE responses in the past and to be of the "hand waving" variety such as: "that is not what we expect", "is not expected to be significant", "that is not likely", "we don't find that to be true" or similar such responses should be considered non-answers and unsatisfactory. I do not fault any particular individual for attempting to do their assigned jobs within their instructed parameters, however, I do find misleading statements/answers offensive and unacceptable.

I. Summary

The proposed Webb Mitigation site is not a true mitigation but displaces listed and protected wildlife for other species at great expense. The site design is not engineeringly sound and would
2. create the threat of flooding to adjacent properties, homes, and to the site itself. The site could likely become a mosquito and Nutria(a water rodent) factory causing further health issues and damage to adjacent ditches and drainage systems by the large burrowing and nesting rodents.

Corps of Engineers Response

1. Comments noted.

2. The level of safety associated with the proposed 4-foot high levees and adjacent Westport Slough levees will be given careful consideration during final design. Water levels in the mitigation marsh will normally be maintained one foot below top of levee during the winter. Storm water will be discharged gradually through control structures. The Webb Diking District pump capacity will be evaluated during final design and upgraded if necessary. Nutrias and mosquitoes currently exist in the Webb Diking District; the proposed action should not exacerbate the existing condition. Also see our response #5.

Alternatively, true Mitigation could be implemented by reclaiming appropriate dredge material deposit sites with efficient site work over the life of the project.

Increased erosion of the Columbia River bank levees due to the deeper channel, deeper draft ships, and the larger and more intense attack to the river bank levees by their larger induced waves, swells, and suction is highly likely.

It is most difficult to trust in the USACE stated desire of reducing maintenance dredging costs associated with this project and those dollar amounts or "savings". In certain areas of the
3. Columbia River, a major factor causing erosion and rehandling of the dredged material, is vessel traffic. If the USACE were truly interested in reducing dredging quantities, rehandling, and thereby costs, they would facilitate the setting of an appropriate speed limit for large vessels on the Columbia River due to the significant erosion and dredged material rehandling they cause at speed. The need for Pile Dikes would likely be reduced since less eroded or previously dredged material would become river sedimentation. Speed limits were somehow enacted on Interstate or Federal Highways for safety and economy so I know this is possible.

The economics of the plan are not justified. Using the values from the Sensitivity Analysis which appear to be much more likely or at least just as probable, **the Benefit/Cost Ratio is only 1.01 and is not comfortably higher than the costs of dredging which could easily escalate** due to increased erosion and rehandling as well as required dike repairs, neither being considered nor included. Furthermore, the benefits do not go to the US Taxpayer who pays for them but more
4. likely into the pockets of the Foreign. US Taxpayers should not be paying for this Plan of Channel deepening, maintenance, nor this study.

It is likely that the Plan will Increase costs to the US Taxpayers, to the environment/wildlife, to recreational users(potentially in the form of their lives due to ship wakes) and the destabilization of river banks/levees in certain areas over time.

II. "Webb" Wildlife Mitigation Site

Designating the Webb site as a mitigation site does Not in fact make it a true mitigation but actually a false and negative mitigation. Removing habitat used by listed and protected species such as White tailed deer and Canada geese as well as pasture, by transforming it into a "duck pond" which will just as likely become a mosquito and nutria factory is false or negative mitigation. These ducks already exist throughout the region and other more sensible sites are available. If
5. drawing lines on maps and changing ownership to the USACE so they can go through the motions to satisfy the laws as they have interpreted them, is called mitigation, this could be done at a substantially lower cost of property: Property already owned by the gov't in the form of under-utilized Wildlife Refuge Land or Reclaiming into habitat, sites used over the course of this project as Dredged Material Deposit Sites.

Alternative 1

Under-utilized existing wildlife refuge area use would eliminate the site cost, travel cost, and much of the management costs to the government. The nearby Julia B. Hansen National Wildlife Refuge near Cathlamet, Washington contains areas that are similarly utilized pastureland with grazing cattle as in Webb District. Creating a duck pond within this refuge would be

Corps of Engineers Response

3. Sections 5.1.5.3, 6.2.2, and 6.2.3.1 of the report discuss ship wake caused erosion.

4. Section 4 of the EIS provides an economic comparison of the channel improvement alternatives and shows benefit-to-cost ratios well above unity. The sensitivity analysis presents a break-even scenario, which should not be confused with a worst-case analysis or even a lower-bound analysis.

5. The Webb Mitigation site is the most cost-effective mitigation site considered in the suite of sites analyzed (Appendix G, Section 7.4, Cost Effectiveness). No ESA listed species would be displaced. Rather, there would be a net increase in riparian habitat which would benefit Columbian white-tailed deer, the listed species that does occur in the area. Some tradeoffs for other wildlife species, such as Canada geese, would occur under the proposed mitigation plan. National Wildlife Refuge lands were not considered for mitigation purposes as they are managed for their own established objectives.

adding improvement to the refuge. Current refuge personnel could manage the improvements reducing costs further.

Alternative 2

Dredge material deposit sites or parts thereof, fully utilized during the course of the channel deepening project could be utilized without incurring additional property costs and would be the truest form of mitigation as well as site reclamation. Since the channel improvement project is
6. essentially a mining operation, it should fall under the same site reclamation guidelines as required of mining operations, which would automatically reclaim habitat as the project progresses with no additional site property costs.

Alternative 3

Properties adjacent to existing refuges would eliminate travel and much of the management costs to the government.

Alternative 4

Locating mitigation sites on Port of Portland properties in or near Portland would be a truer mitigation since that is the area in which the most wildlife habitat is being and has been consumed. This is not so outlandish as the USACE spending half a million dollars to Hopefully cause Caspian terns to relocate off Rice Island. They may very well succeed in this effort, causing them to move to an area where they can do just as much damage, or worse, to the little salmon... which presents another good case for Alternative 2 above. If not, why not? Why is it is imperative to ruin agricultural lands which also support endangered species as well?

It is clearly apparent that the relevant private enterprises, the Columbia River Ports, and the USACE would like to shift the burden or parts thereof, of Federal and Port mitigation costs onto the backs and pocketbooks of local landowners and other affected locals. These entities should take care of their own mess and not plop it on others, causing mayhem and destruction in their wake, as well as seen and unseen costs to those adjacent and affected landowners. It appears to be a "we have plans for our property so go find someone else's to screw up" scenario.

7.

When USACE personnel were questioned about potential problems they claimed they do not guarantee perfection, indicating that problems could occur. It is most apparent that their job is do what it takes to get the job done at as low a cost as practical, unless wildlife enter into the picture -- then spend wildly, and if it affects humans ... oh well...

It is interesting to note that government reports document the severe decline of agricultural lands as well as the small farmer. Some predict food shortages in the future. It is evident, and documented that small farms and farmland are threatened and endangered. Why have there not been USACE policies to mitigate farmland? If a food shortage were to occur when the employees of the same entities in favor of this Plan are retired and old, will they still be in favor of another channel deepening project then or to fill it in and keep the food at home? If not then and them, do they care about their children and what they might have to eat when they are old? Will it be worth eating with the burned out topsoil lacking the multitude of minerals and nutrients we need beyond the fertilizer to make it grow? Heck there is money to be made! Let's screw the future generations! Who believes those gov't reports anyway!?

Corps of Engineers Response

6. It would not be practicable, from the standpoints of cost and development of fully functional, natural habitats, to use fully utilized disposal sites for mitigation purposes.

7. Lack of property, high real estate values, and potentially high implementation costs preclude locating mitigation sites on Port properties or near Portland. However, a 1,200 acre ecosystem restoration measure adjacent to the Port of Vancouver is included in the proposed action.

Locating a mitigation site in the middle of agricultural lands creates an adverse relationship between wildlife and the adjacent agricultural purposes and practices. The wildlife will not remain in mitigation site borders. They will forage on and cause Damage to the adjacent succulent agricultural lands. The Webb mitigation site constructed as described will likely attract additional predators such as coyotes from the nearby hills to prey on the easy pickings of nesting waterfowl and when they are all gone they will likely turn to the other young livestock on our agricultural lands. USACE should and will be held liable for damages.

No mention was made in the mitigation criteria regarding a disturbance factor for the Mallard as there was for the Canada goose. Seasonal hunting by humans in adjacent properties and mostly
8. year-round hunting by local dogs and cats or other predators such as coyotes, weasels and other rodents, and certain birds of prey will be a disturbance to the mallard. This is not a park like setting as found in the Portland area where ducks swim about carefree.

The Webb mitigation site would most likely remove 181 acres of Canada goose habitat rather than the estimated 32.6, since the geese prefer the wide-open agricultural lands to feed on and to see perceived threats. This will concentrate the local and migrating goose populations onto the surrounding agricultural lands increasing its destruction by these geese.

I commend the attempt to put numbers to the mitigation sites preparation and operating costs. However, one must be careful to note that these are just estimates, which can vary widely from actual. For instance when many very similar properties exist along the Columbia River from Portland to Astoria and if the same types of site work were done to these properties for mitigation
9. purposes, logic would dictate that these site work costs would not very significantly. In many cases regarding site selection and cost effectiveness it was an apples to oranges comparison. More expensive types of mitigation operations were designated upon certain sites than others, so a true cost effectiveness comparison was not evident. These costs would likely be just as low for other locations as those stated for the Webb site.

Webb Mitigation Engineering Soundness Problems

The designated 21.87-acre wetlands portion appears to utilize the interior side of the existing dike which protects against Westport Slough. This dike is a soft dike, during high water conditions there is a potential for water to further soften and seep or boil through the dike. These dike weaknesses could easily become dike failures if not observed and repaired in time. The proposed plan would compound the problem of the soft dike by further softening the dike from the inside and also hindering the observation of any direct boils or weaknesses. This is not acceptable.

10.

The designated 70.13-acre wetlands portion appears to butt up against the interior side of the existing dike which protects against Westport Slough. Although this makes for wider cross section, a similar condition exists to that mentioned above where the dike could be further softened from the inside and also hindering the observation of dike seepage, boils, or weaknesses. This is not acceptable.

It is important to note that areas where water occurs on both sides of the dike have proven to be weak points; demonstrating dike boils and dike failures in the past.

Corps of Engineers Response

8. Wintering Canada goose populations are currently estimated at 350,000 birds, a magnitude increase since the mid-1970s. Depredation issues associated with wintering Canada geese exist and are being addressed by state and federal wildlife agencies. The scope of the proposed mitigation action at Webb would have no bearing on the level of goose depredation on adjacent lands given the size of the wintering Canada goose population. Farming practices, whether it is conversion to nursery operations, hybrid poplar plantations, fall fallowing of farmland, or herbicide treatment to prevent vegetative growth, far surpass in terms of acreage made unsuitable annually for goose foraging, the impact of the Webb or other mitigation sites on goose forage availability. One or two pairs of coyotes would be expected to inhabit the Webb Diking District at this time. The proposed mitigation action would not increase the number of coyotes present.

9. Mitigation measures were developed based upon individual site characteristics. Our intent was to develop the best habitat management practices conceivable for each site. Cost determinations and analyses were subsequent to biological decisions.

10. This safety contention will be given full consideration in PED to assure there is no diminishment of safety for Webb Diking District.

It is likely during the rainy months, for the site to reach accumulated water capacity. Further rains would go directly into the ditch and slough system, which does not have the capacity and would overflow onto adjacent lands. This is not acceptable. The fields as they exist now create a residence or lag time for rainwater to gradually enter the ditches and be pumped out over time at maximum pump capacity.

11. It is likely that the end result of all the efforts towards mitigation of targeted wildlife at the Webb site would be an over growth of nutria, a non-indigenous large water rodent species and mosquitoes. These rodents would further borrow and damage the ditch and slough banks. The mosquitoes a disease-carrying vector could do much damage in many scenarios.

III. Erosion of River Banks/Levees

Shoreline erosion will likely increase for at least two reasons: 1. Deeper draft ships pushing a higher wall of water attacking the shoreline along with greater suction created by the larger amount of water displaced. 2. River pilots in the slightly lesser draft ships traveling at higher speeds knowing that they have greater margins of safety beneath and beside, pushing an even higher wall of water attacking the shoreline. Also the deeper channel itself in areas of close proximity to the shoreline or riverbanks will cause erosion which will be significant to those affected. Not including provisions for this erosion or incorporating a remedy into the project plans is totally irresponsible. One can conclude that this will likely increase their sediment budget and that together with the erosion control measures could easily make this project economically unviable.

NOTE: A specific ship's wake is proportional to the square of that ship's speed. NOT ship wakes are proportional to the square of speed. Meaning larger displacement = larger wave.

12. Alternative 5

If the USACE were truly interested in reducing maintenance dredging costs associated with this Plan, they would facilitate the setting of a speed limit for large vessels on the Columbia River. The erosion created and subsequent Rehandling of dredged materials would be reduced. The need for Pile Dikes would be reduced since there would be less sediment load in the river.

Again the USACE avoids this and their typical hand waving answers similar to "increased erosion is not expected to be significant" are unsubstantiated. However, individuals who have seen how much dredged material is dragged into the river after a ship passed at speed would tend think erosion could very well be a problem, especially with the configuration of the new upland disposal sites. If it were somehow true, baseline erosion in itself is significant and would be just cause for a speed limit for the same reasons.

It is also interesting to note that in a historical USACE engineer's report it states, "Because of the improvements in Columbia River by the United States government for navigation purposes the effects along the shore upon applicant's lands in increasing erosion is particularly manifest and should be stopped by appropriate works." Which is in direct opposition to what USACE personnel claim in the Plan. One can only speculate that this was a flood control engineer rather than a ship channel engineer.

Furthermore, the approx. 210 mile round trip on the Columbia River is almost insignificant

Corps of Engineers Response

11. Water management will be given full consideration in the next phase of design (PED) to assure there is no increase in flooding of adjacent lands in the Webb Diking District.

12. Comments noted. See our response #3.

compared to the 11,500 mile round trip total for a typical vessel used in the Plan. This would indicate that it is not even remotely necessary for these larger vessels to travel at the higher speeds in which they do, while in the Columbia River.

IV. Lack of Economic Justification

Implementation of this Plan will likely create NO significant increases in:
National Security
National Economic Benefits
Regional Employment
Regional Economic Benefits

With the conservative Benefit/Cost Ratio (using Sensitivity Analysis figures) of 1.01, the Plan does not appear justified. The Taxpayers funds could be put to a much better use at a much higher Benefit/Cost Ratio in those Taxpayer's pockets. This would add to the economy and give National Economic Benefit in multiples beyond this Plan.

13. The true accounting is that the majority of the exports are grain which goes to Japan in a vessel with limited depth and this is not expected to change. It is time to face facts, the US Taxpayers are going to be required to pay out an amount approaching $100 million for this project and they are going to get less than zero benefit, being burned out topsoil. All dollar benefits go to a handful of companies, likely foreign shippers or buyers. This does not make the United States or this region more competitive. It is simply a gov't authorized robbing of the many to give to the few who don't need it.

Furthermore, there is no guarantee that dredging will not increase rather than the claimed decrease due to rehandling, thereby driving the project cost up further. Not to mention that in general, costs could easily creep upwards, and often do.

Although a great deal was written to justify a projected increase in container business to further justify deepening the channel there is no way to know what the future holds for containers in this region and I commend the Sensitivity Analyst who gave it a more reasonable look.

V. Conclusions and Suggestions

Reclaim Dredged Material Deposit Sites or use under-utilized nearby Wildlife Refuge areas for Mitigation to reduce project costs. Additional land costs would be eliminated. Some of the equipment utilized for the Dredge Depositing work could be used for some of the Mitigation Site work in the Dredged Material Deposit Site reclamation scenario.

14. Facilitate appropriate speed limits on large vessels to reduce erosion, rehandling and dredging costs. The need for Pile Dikes would likely be reduced since less eroded or previously dredged material would become river sedimentation. This should be done regardless of the Plan being implemented or not.

Ultimately, this project does not have a significantly comfortable Benefit/Cost Ratio and should not be implemented.

Corps of Engineers Response

13. See our response #4. The analysis assumes that wheat shipments to Japan would not benefit from a deepening.

14. Comments noted.

February 3, 1999

To: U. S. Army Corps of Engineers, Portland District
CENWP-PE-E ATTN. Steven J. Stevens
P.0. Box 2946
Portland, OR 97208-2946

From: Scott Fraser
P.O. Box 611
Clatskanie, OR 97016
ph. (503) 728-4318

RE: Draft Integrated Feasibility Report for Channel Improvements and DEIS. October 1998.

FOCUS OF THIS LETTER; An alternative to the use of existing farmland and wildlife habitat for mitigation (creating new wetlands).

PROPOSAL; Create new wetlands on top of existing and future dredge spoils. (see attached drawing).

ADVANTAGES:

1. Will save taxpayers money.
   a. No purchase and excavation of land necessary.
   b. Work at site can be completed while equipment from dredging is still there
   c. Land would not be removed from the tax roles, thereby not placing a greater burden on remaining property.

2. Aesthetically appealing.
   a. Will turn an unsightly sand pile into nice duck habitat.
   b. Will stop blowing sand.

3. Will solve the problem of the Caspian Tern using dredge spoils for nesting.
   a. This will save many juvenile salmon.

4. Will keep land viable for the threatened Columbian white-tailed deer and Dusky goose which currently utilize the "Webb" mitigation site.

5. Will keep land in agricultural use.
   a. Agricultural land is disappearing at an alarming rate now.

Corps of Engineers Response

Thank you for your assessment. Wetland development on top of dredged material consisting of well-drained sand would not be practicable in terms of cost and wetland function.

DISADVANTAGES;

1. None apparent.

SITE PREPARATION;

I understand that the Corps deliberately levels the dredge spoil piles so ponding will not occur. If ponding does occur the area gets designated a wetland and no further work can be done in that location.

So when the dredge spoil sites are nearing their final height, it would be easy and cost effective, for the Corps equipment to make a pond rather than leveling the top.

At the same time a barge load of bentonite clay (to seal the pond bottom or a pond liner) and dirt (to grow duck food and trees) could be spread.

A windmill pump to fill the pond should be sufficient and an overflow pipe to keep the water level constant.

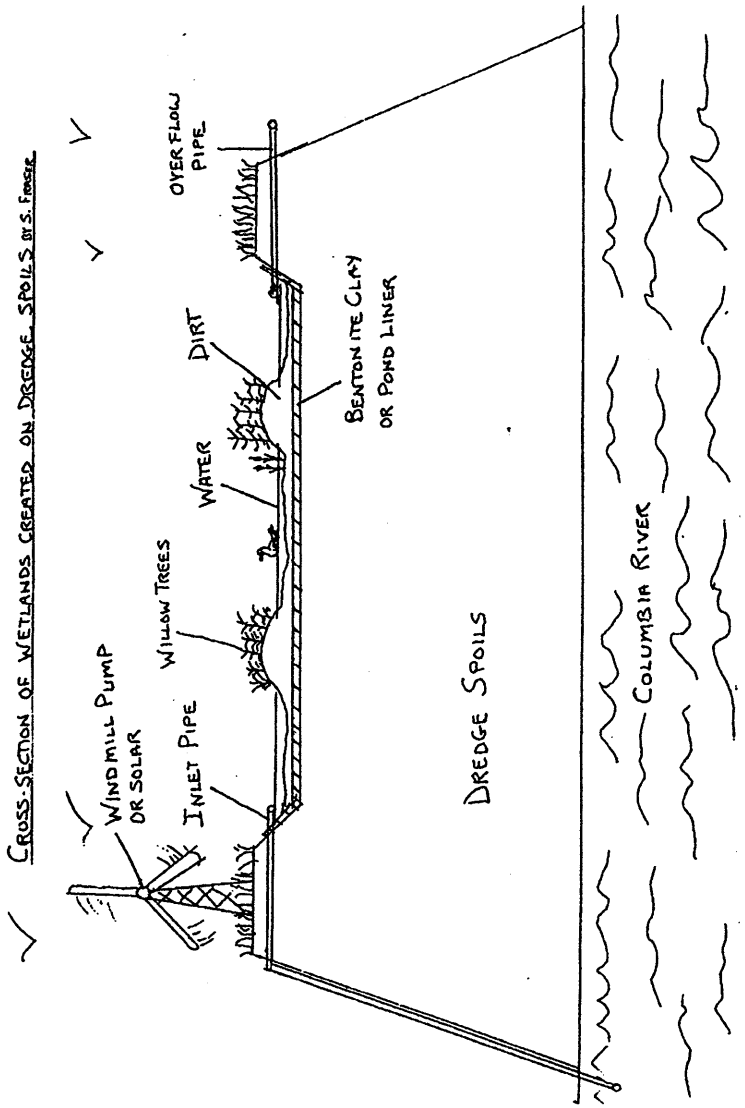
The rim of the pond should be 6 to 10 ft. in height to provide a windbreak and should be planted with grass.

Please consider this alternative and feel free to call and discuss it.

Sincerely,

Scott Fraser

Scott Fraser
A concerned agricultural land owner.



MEMORANDUM

February 2, 1999

To: U.S. Army Corps of Engineers, Portland District
CENWP-PE-E ATTN: Steven J. Stevens
P.O. Box 2946
Portland , OR 97208-2946

From: Scott Fraser, President
Webb District Improvement Co.
ph. (503) 728-4318

RE: Draft Integrated Feasibility Report For Channel Improvements and DEIS, October 1998.

1. Webb District Improvement Co. is the local entity having authority over matters affecting Webb District. This Memorandum is to notify the USACE that Webb District Improvement Co. cannot be in cooperation with and must prohibit the proposed "Mitigation" plan for the "Webb" site as referenced in Appendix G of the plan for the reasons as follows and suggests the USACE find a more suitable alternative or follow the recommendations as described herein:

Does Not Comply With The Purposes Of Webb District Improvement Co.:

1. The formation of this State of Oregon authorized corporate district under the provisions of ORS 554.010 to 554.340 was and is a proper method of accomplishing the improvement and protection of the lands within the Webb District.

2. As stated in the corporate articles: "The purpose and intent of the corporation is to improve the lands of the members thereof by draining, irrigating, and protecting said lands from floods and high water." "The improvements set forth in these articles are, and will be, for sanitary and agricultural purposes,"

2. 3. The USACE "Webb" Mitigation plan does not comply and is inconsistent with the purpose and intent Webb District Improvement Co.

a. The USACE "Webb" Mitigation plan is not for agricultural purposes.

b. The USACE "Webb" Mitigation plan is not sound engineering: could and would likely cause flooding to adjacent lands within Webb District, promotes the weakening of the dikes or levees, and hinders the ability to monitor weaknesses in these dikes.

4. Of the Webb District Improvement Co., a majority of the vote carried the motion to exclude the USACE "Webb" Mitigation plan for the above stated reasons.

5. It is highly likely that the effects of the USACE "Webb" Mitigation plan is also inconsistent with the Flood Control Act.

Is Not Sound Engineering:

3. 1. During periods of heavy rains when the "mitigation" pond(s) are at maximum water height, additional rains would flow immediately and directly into the sloughs and ditches within Webb District which are not designed for and do NOT have the capacity to handle this amount of flow and would overflow onto adjacent landowners properties, potentially flooding barns and homes as well, regardless of the USACE typical response that they don't think that would happen.

Corps of Engineers Response

1. Comments noted.

2. The Webb Mitigation site is the most cost-effective mitigation site considered in the suite of sites analyzed (Appendix G, Section 7.4, Cost Effectiveness). No ESA listed species would be displaced. Rather, there would be a net increase in riparian habitat which would benefit Columbian white-tailed deer, the listed species that does occur in the area. Some tradeoffs for other wildlife species, such as Canada geese, would occur under the proposed mitigation plan. National Wildlife Refuge lands were not considered for mitigation purposes as they are managed for their own established objectives.

The project sponsor (Ports) are responsible for acquiring lands required for project implementation. Any legal issues regarding whether lands in the Webb Diking District can be used for mitigation purposes will be resolved by the Ports.

3. The level of safety associated with the proposed 4-foot high levees and adjacent Westport Slough levees will be given careful consideration during final design. Water levels in the mitigation marsh will normally be maintained one foot below top of levee during the winter. Storm water will be discharged gradually through control structures. The Webb Diking District pump capacity will be evaluated during final design and upgraded if necessary. Nutrias and mosquitoes currently exist in the Webb Diking District; the proposed action should not exacerbate the existing condition.

2. In drier months or periods, if it is the intent for the USACE to pump water from these sloughs and ditches into their holding ponds, this would rob water available to the adjacent agricultural lands for which it was intended as well as other fish and wildlife which naturally occur there and also those that benefit from the agricultural lands such as the listed and
3. endangered species which utilize them.
3. The Webb District Dikes are made of a soft material which has been shown to readily weaken and to more readily weaken in areas where water occurs on both sides of these dikes.
4. Creating the condition of water on both sides of these dikes would make monitoring dike weaknesses, seepage, and boils through the dike from the water side to the interior side, where water is intended to be guarded against and kept out of, much more difficult if not impossible.

Recommendations:

1. To avoid additional purchases of property and to perform true mitigation rather than displacing listed and protected wildlife in favor of other wildlife.
2. To avoid creating an adverse relationship between the "mitigated wildlife" and the adjacent agricultural purposes and practices since the mitigated wildlife will not remain with in the mitigation site borders by placing a "mitigation" site in the middle of agricultural lands when other more appropriate and more sensible sites are available.
3. Reclaim and utilize in an efficient manner, suitable and appropriate Dredge Material
4. Deposit Sites which will have been purchased for the Channel Improvement Project and is the cause for the "mitigation". We would be happy to discuss efficient methods of site reclamation and mitigation with you; such as pond or land fill liners or bentonite clay to enable ponding for "puddle ducks"
4. Utilize nearby US Fish & Wildlife game reserve properties since they have similar type of land and agricultural practices occurring on those lands as in the Webb District and could easily be considered under-utilized for game purposes.

Please contact me if you would like to discuss the matter further.

Corps of Engineers Response

3 (continued). Provision of water for the mitigation site, if determined to be necessary, will require a water right from the State of Oregon. Provisions of the water right will determine where water will be obtained and in what quantities.

Your concern about soft dike material and other dike safety concerns will be given full consideration in the next phase of design (PED) to assure there is no diminishment of safety for the Webb Diking District.

4. Comments noted. It would not be practicable, from the standpoints of cost and development of fully functional, natural habitats to use fully utilized disposal sites for mitigation purposes.

1425 N.W. 48th St.
Vancouver, WA 98663

February 5, 1999

Portland District
U.S. Army Corps of Engineers
ATTn: Laura Hicks, Project Manager
P.O. Box 2946
Portland, OR 97208-2946

Dear Ms. Hicks:

I am writing you regarding the proposed Columbia River Channel Improvement Project. Specifically, I am interested in the disposal of the resulting spoils.

At one time a site on our property to the east side of the road, I believe identified as 96.5, was considered as a propsed disposal area. In the meantime we have sold the property to the State of Washington Fish & Wildlife Dept. This property is in the area of the Shillapoo Eco System restoration project, and probably would have been inappropriate anyway.

May I offer, and suggest, a "one more time" look at our other sites identified as 96.6 and 96.7 on the Dec. 19, 1996 draft map. This property lies between the road and the river, and would be a much more appropriate place to deposit dredge spoils. It provides marginal habitat and agricultural use at best, and at the same time would offer an excellent opportunity to return cleaner dredging run-off water to the river, of itself a concern of wildlife interests.

The material placed there could also be available to Diking District 14, to repair or re-inforce dike sections, should the need arise sometime in the future. This has been done in the past.

The site received dredge spoils in the 70's, and was also on the Port of Vancouver's list of propsed disposal sites into the 80's.

In closing I hope you can find some merit in my concern and proposal, and would welcome the opportunity to discuss it further with you or any member of your staff.

Very truly yours,

Hans Egger

Hans Egger

Phone 360-693-4139
FAX 360-750-7949

P.S.- I would be available for a possible on site inspection, if it would be helpful.

Hans Egger

Corps of Engineers Response

Thank you for your comments. We will not be using these sites for dredged material disposal.

February 2, 1999

U.S. Army Corps of Engineers
Portland District
CENWP-PE-E, Attn: Steven S. Stevens
P. O. Box 2946
Portland, OR 97208-2946

Dear Sirs:

We, the undersigned property owners along the riverfront on Ostervold Road on the West end of Puget Island, would like to express our opinions and register our requests concerning the dredging of the Columbia River and the placing of dredged sand in our area. We wish to go on record against the proposed deletion of spoils on our beach. We will be adversely impacted, if our beach area is no longer a disposal site or "beach nourishment site." (W38.7)

We must point out that dredged material has been placed on our beach area for many years, and the property owners have appreciated the sand and have come to depend on this periodic dumping of the spoils to maintain the presence of a desirable sandy beach. The property owners in this area have signed long-term easements, permitting the Corps of Engineers to access our properties with heavy equipment and materials to maintain the beach nourishment site. To put it simply, we have come to expect that the beach would continue to be enhanced and protected by periodic dredging. To date, this has been beneficial to the Corps as a convenient disposal site for dredged materials.

It should be noted substantial amounts of dredged sand have been hauled away for commercial use and for use by Wahkiakum County for dike and road maintenance. This most certainly is a desirable "beneficial" use of the material.

The criteria for selection in the DMMP are met for this site for all six environmental criteria and for five of the six engineering criteria. (W38.7) The factor that apparently led to the deletion of this site was it would result in rehandling of material or creation of a shoal.

We are aware of the fact that beach erosion is a problem. Extensive personal observation of this by many people lead us to believe that the waves from the many ship wakes is the major factor causing this erosion although wind waves and currents also contribute. This statement is at odds with the four percent-to-twenty-four percent estimate contained in the DMMP. We believe

Corps of Engineers Response

Disposal site W-38.7 is a highly erosive site. Most of the material placed there in the past has eroded and much has returned to the navigation channel shoals requiring repeated dredging. Continued use of this site would be very expensive to the Corps and not in the best interests of the Federal Government.

The estimate that ship wakes cause 4 to 24 percent of he beach erosion comes from a study conducted by Abbe (1990) at W-38.7. The study measured erosion at W-38.7 and two other beach nourishment sites. This is the only ship wake erosion study conducted on the Columbia River.

Local residents could act as a sponsor for a potential beach nourishment action and would be responsible for obtaining a fill permit for the site. The Corps would then work to provide the dredged material, with the sponsors paying the incremental cost. The incremental cost would be the difference in cost between using beach nourishment disposal and the government's least cost disposal alternative.

that further study done in an adequate long-term time frame--representing the varying conditions of the river--would support our contention. The erosion problems could perhaps be alleviated by pile dikes in this area, by reduced vessel speed--within the limits for navigational safety--during high water levels, or by other erosion barrier methods.

If the proposed channel deepening to 43 feet takes place and larger ships use the channel, this will cause an even greater erosion problem. Channel deepening would, of course, result in a greater need for dredged-material disposal sites.

We feel that disposal site selection should not be based solely on cost and efficiency factors. The effect on the human factors and on the quality of life should be given greater weight. There is significant use of this beach area for recreational activities by a great many people other than the property owners. These activities include fishing, boating, kayaking, beach combing, sailing, swimming, etc. The aesthetic value of sandy beaches is so well known it requires no comment. Great efforts are being made throughout our nation to save our beaches. So should such efforts be made in this case.

It should be noted that the economic losses to our community, as well As, to the property owners would be significant, if the sand on this beach were to disappear.

On reviewing some of the earlier comments which are attached to the DMMP we note the State of Washington Department of Ecology in their comment letter of February 23, 1998, states: "While recognizing the need to be as cost effective as possible in developing an optimum disposal plan, we believe it would be an unnecessary and premature decision to drop certain disposal sites that have been used in the past.

The occasional placement of relatively small quantities of dredged material at key locations may no longer seem warranted to the Corps, but may be of significant importance to the party(ies) impacted by the lack of available dredged material or the monetary means to carry out such work on their own."

The Port of Portland in their comment letter of February 24, 1998, recommends an alternative to the proposed Corps plan as follows: "All beach nourishment sites which meet agency criteria should remain as designated disposal areas subject to whatever restrictions may be imposed. Corps of Engineers dredging and disposal practices will utilize these sites based on economic, operational, beneficial use and other criteria. It is anticipated that circumstances may change over time and the retention of the maximum number of beach nourishment sites will provide the greatest flexibility while at the same time addressing the goals of the channel maintenance program."

We hereby request that the above beach nourishment site (W38.7) be included as a disposal site as it has in the past and that all appropriate measures to decrease beach erosion at this site be undertaken.

Very truly yours,

Please see attached signature pages.

Arthur Hauge

195 Ostervold Road
Puget Island
Cathlamet, WA 98612
Telephone: 360-849-4157

Marie Hauge

Frans Eykel

199 Ostervold Road
Puget Island
Cathlamet, WA 98612
Telephone: 360-849-4254

Mieke Eykel

Paul Aldinger

197 Ostervold Road
Puget Island
Cathlamet, WA 98612
Telephone: 360-849-4484

Nadine Aldinger

George Wilde

205 Ostervold Road
Puget Island
Cathlamet, WA 98612
Telephone: 360-849-4170

Judy Wilde

Robert Ohrberg

249 Ostervold Road
Puget Island
Cathlamet, WA 98612
Telephone: 360-849-4323

Patti Ohrberg

Lorene Lee Glass

191 Ostervold Road
Puget Island
Cathlamet, WA 98612
Telephone: 206-706-1817

Ward Glass

FAX

Jeff Bollen

189 Ostervold Road
Puget Island
Cathlamet, WA 98612
Telephone: 360-786-0549

Sherrill Bollen

FAX

Richard A. Siltanen

181 Ostervold Road
Puget Island
Cathlamet, WA 98612
Telephone: 800-547-8245

Carol Siltanen

FAX

Garland Budd

195 Ostervold Road
Puget Island
Cathlamet, WA 98612
Telephone: 360-849-4009

Ida Budd

Stevens, Steven J NWP
From: Hicks, Laura L NWP
Sent: Tuesday, November 17, 1998 12:17 PM
To: Stevens, Steven J NWP
Subject: FW: 43 Ft Channel Comment

----- Original Message -----
From: Robert Johnson [SMTP:realjohn@pacifier.com]
Sent: Tuesday, November 17, 1998 11:13
To: Laura.L.Hicks@usace.army.mil
Subject: 43 Ft Channel Comment

Dear Sir:

I attended the Astoria channel deepening meeting on the evening of Nov. 12 and would like to add a strong voice of support to moving forward with the project. I am a Columbia River Bar Pilot and a deep draft user of the waterway and well know the safety and commercial value of increased draft potential. We have already lost calls of the larger container ships due to draft restrictions. We are moving into the next generation of these ships, those of 6,000 plus TEUs and second tier ports, of which Portland is an important one, are going to have to absorb the ships which are being pushed down the size chain. To allow the larger ships to call and load increasing cargo amounts more depth is required. On the bulk carrier side I see panamax ships routinely sailing about 5,000 tons short of their capacity. This diseconomy hurts local shippers, ship owners and the competitive position of the River. Now it is mostly grain ships that are affected but we will be seeing more potash and in the future inbound gypsum moving in these size ships. The number of ships being restricted is becoming greater all the time.

Maximizing the competitive position of the Columbia River system is of critical importance to the local, regional and to a lesser extent the national economy. Locally we are all benefiting from the economy the River affords local importers and exporters. The discount stores would not be nearly as discount without a viable port to handle the products they sell. The Northwest is resource oriented and the ability to get our products to the world market efficiently is critical to our competitiveness. The Columbia River's influence is felt on the corn and wheat fields of the midwest and we all benefit in either big or small ways.

As it is not a perfect world, there will be some for whom this will have negative affects. The project should be done with care and all that is possible done to mitigate these negative influences but they should not be allowed to scuttle moving forward on what is good for the majority of the people and the nation.

Capt. R. Johnson
Columbia River Bar Pilot

Corps of Engineers Response

Comments noted. Thank you for your comments.

Nov. 5, 1998

Jerome J. Parson
23000 NW Gillihan Rd.
Portland OR 97231

Davis G. Moriuchi
Deputy District Engineer
Corps of Engineers
Box 2946
Portland Or. 97208

I received a letter from the Port of Portland on May 14 1997, Subject TEN YEAR CHANNEL DEEPENING STUDY- TEMPORARY PERMIT FOR SURVEY AND EXPLORATION. Attached to the letter was two enclosures, one the Legal Document to be signed, if permission were to be granted (which all sounds very benign), and a second enclosurea DRAFT dated Dec. 19, 1996, which showed the Eastern part of my property, 48 acres as a **New Proposed Site** for dumping Dredging.

So 6 months ago some Dullard made the proposal to destroy 48 acres of some of the most fertile farm land in the Valley by dumping dredging on it and the rest of the bureaucracy agreed with it.

This was almost as stupid an idea as proposing the property adjacent to my South property line as a site for a 1600 bed Prison on Sauvie Island.

Apparently two years ago when I gave the U. S . Army Corp. of Engineers permission to enter my property last year, just as you have requested, they must have thought that was like a license to consider my property as a dump site.

1. First of all I would like to explain that I am in favor of dredging the River Channel to 43 feet.

Second- I find it some of the proposals presented in the study flawed and in some cases giving an appearance of not only ignorance of agriculture and lack of investigation, but an arrogance in regard to private property.

In the study my property was identified as 0-98.5, Sauvie Island Page 6-27, under Item 6.6.2.5 titled " Least Cost Disposal Alternative", "This site occurs on Sauvie Island, Interior to the dike and just upstream of Dairy Creek. Lands at this location are used for agricultural crops; presently the site is in Caneberries. The balance of the paragraph goes on to talk about Wildlife.

In the case of my property, I own 48 acres at the site identified, 36 acres which are in Caneberries and 12 acres on which is my personal residence, my House and Garage, my Barn, my Employees house, my Garden and a small Orchard exist.

The 36 acres of Caneberries are Marion Berries and have underground Tiling, underground Irrigation piping, Posts, and Wires. Marion Berry plants have a 20 to 25 year life and looking at the total investment in Caneberries not only do you have to consider the costs of the investment in tiling irrigation, posts and wires, both material and installation costs but the opportunity costs of losing the income of the berry fields of the next 15 to 20 years. At an average of $.80/lb and an average of 8000 lb./ acre. the loss is about 230,000.00/yr or between $3.5 to 4.6 Million Dollars.

I lease 4 acres between my Marion field and the Dike from Mr. & Mrs Hook, and that is planted in Rasberries and is similar to the Marion Field in investment, and at 7500lbs @ $.60/lb.is a loss of about $18,000.00/yr or $360,000.00. So this " Least Cost Proposal " Should reimburse me for the cost of my House, Barn, and 48 acres of land, the investment in the fields and the loss of income of over 4.5 Million Dollars.

Corps of Engineers Response

1. Comments noted. The Sauvie site has been dropped from further consideration as a disposal site.

The 48 acres identified also include small parcels of land that belong to Mr. & Mrs. Hook, Mrs. Vera Springer, and the Mc Farlands. Other than the Hooks' the Springer and Mc Farland properties are less than an Acre, however the Fill would also destroy the Mc Farlands' garage.

Item 6.8.2.5 Prime and Unique Farmlands on Page 6-45 says, The Farmland Protection Act (Subtitle 1 of Title XV of the Agriculture and Food Act of 1981) requires the Corp to contact the Natural
2. Resource Conservation Service for Identification of prime or unique farmland potentially impacted by the Corps action. Nowhere in the report do I see reference to such identification of 0-98.5 and the only reference is to the 107 acre dairy site in the scappose bottoms.

As to my earlier comment as to the Arrogance in regard to private property, it appears to me that their is a total disregard as to the importance and value to the owner of private property.

In the State of Oregon 86% of all of the land in the state is owned or controlled by some form of government; National Forest, State Land, BLM, Parks, County, City, Port of Portland, other Ports etc. Every time a big project comes along there is a concerted effort to buy or condemn or confiscate private property. Prison Siting or dredging is a prime example.

When I asked if the Corps had considered putting dredging on the Federal Wild Life land the said they could not do it. The same went for Smith and Bybee Lake, which since the Corps filled the area to become Rivergate and Terminal 5-6, Smith and Bybee Lake have existed as a Mosquito bearing swamp and not a Gateway to Nature regardless of what the signs say. The Shillapoo Lake project would compensate for the approximate area and be truly usable to wildlife.

3. I have come to understand that the evaluation of land to determine the least cost method include all of the costs to obtain the site for dredging and the cost to do the actual dredging ie the cost of pumping barging and so on, but does not evaluate the cost of the land disposal after the dredging is completed. In the case of my property (0-98.5) the 48 acres would be worthless. Without top soil it would not be farmable, and because the zoning is EFU 50 acres it would not be able to be used as a building site and would stand as a monument to the Corps actions just like the piles of sand off I-5 at the Toutle River.

If the Corp filled in Smith or Bybee Lake or any other potential Industrial site, the disposal of the land after the completion of the dredging would bring in an income of about $9.00 to $10.00 per square foot and that income should be calculated into the least cost alternative. So the evaluation should include the cost of procurement, cost of dredging incremental increase, less the income received from disposal of the land. I do not see where any of this is addressed in this report in determining the Least cost proposal and must conclude that the study looked where and how much we must dig, where we can put, and how to comply with the environmentalists, and the endangered species. The only endangered species that was not addressed was the Farmer.

Had someone from the Corps contacted directly, I would have explained the details of berry farming and most likely avoided my property being considered as a potential site. However when the Port of Portland send me legal documents to sign in such a cavalier manner all it does is make me think its another land grab by the government, and makes me really upset. My property should not be considered to be used for Dredgings and is certainly not the least cost.

As for THE PORT OF PORTLAND, I hereby refuse to grant permission to enter my property and any representative of the Port of Portland, its contractors or assigns, entering my property will be guilty of **Criminal Trespass and treated accordingly.**

Yours Truly

Jerome J. Parson

Corps of Engineers Response

2. You are correct. However, in the FEIS, the Sauvie site has been dropped from further condiseration as a disposal site.

3. Comments noted.

Davis G Moriuchi
Deputy Dist. Engr.
Portland Dist Corps of Engineers
P. O. Box 2946
Portland Ore. 97208-2946

Oct 8, 1998

Dear Mr. Moriuchi;

I received your letter of Sept 29 1998 and this is the first information I received from the Corps or from Metro since I wrote to Metro and copied the letter to the Corps of Engineer.

At that time I indicated that it was it was an ignorant idea to consider my property as a suitable disposable site for dredging of the Columbia River.

The 48 acres you have identified includes the property the land that my personal residence occupies, along with the house for my workers, Barn, and several outbuildings.

The 36 acres just north of my property is planted with Marion Blackberries with underground Tiling and Irrigation piping. Between my property and the Sauvie Island Dike is approximately 4 acres of Raspberries with similar Irrigation and Tiles as are in the Marionberries. This property belongs to Mr.and Mrs. Hook and I currently lease from them. The surrounding land that is of the same level as my Marion field is owned by several other owners.

Farmland is limited (as they currently are not making any more of it) and very valuable. Not only is fertile Sauvie Island Farmland valuable for row crops it is very valuable for high value crops such as Berries.

I don't understand why you can possibly identify my property as a suitable disposal site considering all of the investment in a Berry field including the Plants, underground irrigation, underground tiling, posts and wires. This does not include the value of my house , Barn, and Outbuildings.

I recommend that you remove my property from consideration as a viable dump site for dredging, as discussion regarding the selection and identification of my property would most likely be an embarrassment to the Corp at the public hearing.

Please give this your consideration.
Yours Truly:

Jerome J. Parson
23000 NW Gillihan Rd
Portland Ore 97321

May 19, 1997

L. M. Patella
Manager, Navigation Division
Box 3529
Portland Or. 97208

I am in receipt of your letter of May 14 1997, Subject TEN YEAR CHANNEL DEEPENING STUDY-TEMPORARY PERMIT FOR SURVEY AND EXPLORATION. Along with your letter was two enclosures, one the Legal Document to be signed if permission were to be granted (which all sounds very benign), The second enclosure was DRAFT dated Dec. 19, 1 996, which showed the Eastern part of my property, 48 acres as a **New Proposed Site** for dumping Dredging.

So 6 months ago some Dullard made the proposal to destroy 48 acres of some of the most fertile farm land in the Valley by dumping dredging on it and the rest of the bureaucracy agreed with it.

This was almost as stupid an idea as proposing the property adjacent to my South property line as a site for a 1600 bed Prison on Sauvie Island.

Apparently when I gave the U. S . Army Corp. of Engineers permission to enter my property last year, just as you have requested, they must have thought that was like a license to consider my property as a dump site.

In the last several years thousands of dollars have been invested in improvements to the berry fields alone. These 48 acres have underground Tiling, underground Irrigation, 36 acres of Marionberrys and my personal residence as well as Barns and Outbuildings.

By copy of this letter to the Chief, Real Estate Division, U.S. Army District, Portland, Permission Granted in 1996 to enter my Property is Hereby **Rescinded** and retracted and specifically **Denied.**

As for THE PORT OF PORTLAND, I hereby refuse to grant permission to enter my property and any representative of the Port of Portland, its contractors or assigns, entering my property will be guilty of **Criminal Trespass and treated accordingly.**

Yours Truly

Jerome J. Parson
23000 NW Gillihan Rd
Portland Ore 97231-1503

CC: Chief, Real Estate Division
U.S. Army Engineer District Portland
333 SW First Avenue
Portland Oregon 97208-2946

CONSOLIDATED DIKING DISTRICT NO. 1
of Wahkiakum County
PO Box 624
Cathlamet, WA 98612

January 29, 1999

Mr. Steven J. Stevens
U.S. Army Corps of Engineers, Portland District
PO Box 2946
Portland, OR 97208-2946

Re: Columbia and Lower Willamette River
Navigation Channel Improvement Study

Dear Mr. Stevens:

Consolidated Diking District No. 1 of Wahkiakum County lies between river mile 39 and river mile 45 in the lower Columbia River basin. We have a problem near river mile 40.

We have three (3) 72-inch tide boxes (located at WK station 546 + 08.7) that will not function due to river sand which has filled their outlets and Grove Slough. This sand has come into Grove Slough from the Columbia River due to the hydraulic action of the water moved by passing ships. These tide boxes were installed in 1976 and at that time there was very little river sand in the Grove Slough outlet area.

We, the Commissioners of Consolidated Diking District No. 1 of Wahkiakum County, feel that the function of these tide boxes is important to our internal drainage system and that any navigation channel improvements should include maintenance of the Grove Slough outlet.

Sincerely,

John G. Oman
John G. Oman
Commissioner-Chairman

Philip A. Vik
Philip A. Vik
Commissioner

Charles F. Emerick
Charles F. Emerick
Commissioner

Corps of Engineers Response

The present deposition in the Grove Slough channel is not related tot he proposed channel improvement project. Maintenance of the local flood control project is a local responsibility.

Feb 4, 1999

District Engineer:

The following is my feedback on the Corps of Engineers / Port of Portland plan to deepen 115 miles of shipping channel to 43 feet from the Pacific to Portland.

(1) You did not consider seriously the option for a regional Port bellow Portland. This violates NEPA. You state you will only be dredging sand and sediment. Not true ... Solid rock in several areas was removed to get the Columbia to 40'. In several areas rock will have to be removed to get the Columbia to 43'. Plan for rock removal needs to be in EIS. How are
1 you going to get the solid basalt rock out around Warrior Rock? Blast? We need to know. With a regional Port in Astoria, for example, it could soon be made to handle the 50+foot draft vessels existing today (43 feet is not enough). Is Oregon going to participate in deep draft shipping? Not in Portland. The Port of Portland and the Corps of Engineers are too tight possibly clouding Army Corps of Engineers judgement + objectivity. Just curious does the Corps plan to rent the Port of Portland Dredge to do work if deepening the Columbia / Willamette goes foreward?

Corps of Engineers Response

1. Please refer to our response to CREST and others regarding the regional port concept. Rock removal, potentially through blasting, is discussed in the EIS.

(2) Please do something useful with dredge spoils in the future. Creating the 200 acre Sand Island and the largest colony of Salmon-eating Caspian Terns
2 in the World is not useful. Neither is spreading sand over 80 square miles of ocean killing ocean life. How about creating land for an Astoria Port with docks parallel to river flow?

I see more flaws with the current
3 plan. I think this 115 mile project should be killed now and our time/money should be spent doing something better for Oregon's future.

Please contact me if you have any questions.

Shaun Maki

SHAUN MAKI
PO Box 247
Warrenton, OR 97146

P.S. where does a possible declaration
4 of endangered species of salmon next month (March) fit into this plan? For example Blasting will not be permissable ... how will rock be removed?

Corps of Engineers Response

2. Alternatives for disposal of dredged material, including potential for beneficial uses of the material has been thoroughly addressed in the report. Ocean disposal sites have been modified particularly in response to concerns of the crab fishing industry.

3. Comments noted.

4. The effects of the proposed action, including potential blasting, on listed salmonids are addressed in the EIS.

a - 7 - 77
U.S. Army Corp. Eng.

re: dredge spoil dumping

Dear Steve:

My name is Dwight Eager. I am a crab fisherman who has fished crab out of the port of Chinook for 25 yrs. I am the owner/operator of a 38 foot crabboat and fish primarly from the Ship Channel north to Long Beach from 4 fathom to 40 fathom.

Prior to the mounding problems our best and most accessible crab grounds in Dec. & Jan. were those which lie within Dump site B. We've been forced to change our fishing routine as a results of this problem & feel we suffered severe economic impact as a result of the irresponsible destruction of these crab grounds. This mound has not only caused us to lose a large area of our safest most accessible crab grounds in the winter months, but has also raised the danger and risk factors involved when attempting to fish when ocean swells are over the 10 ft level.

Needless to say I 'am very skepttical of any dumping plan that allows dumping on our crab grounds. We have seen first hand the destruction it can cause, and felt the economic hardship which reckless dumping can cause.

Corps of Engineers Response

1. One of the primary reasons for revising ocean disposal practices, including the need for larger sites, is to eliminate any further potential for site mounding and creation of the unsafe navigation conditions you have described.

We have also experienced the terror one feels on a small boat when
1 an ocean swell begins to crest off shore in an area which should be a safe haven.

My personal feeling is that a direct placement onto Benson Beach allows the best Alternative. The only site which doesn't interfere
2 with our crab fishery and would Allow ocean dumping in the close proximity to where site B is now would be South West of site B in an area named site 8 (mid channel By the Columbia River Buoy.

Please excuse the rough draft form but since time is of essence I'm forwarding my comments in this state.

Thank you for the opportunity to testify.

Sincerely,

Dwight Eager

Dwight Eager

PH. 360-777-8430

Corps of Engineers Response

2. The proposed new ocean disposal sites have been selected particularly in response to concerns of the crab fishing industry.

From MARK CHARITON Date 2-1 78
F/V KUBY SEA.
20+ YEARS CRABBING
(503) 861-2429 BOAT PH. 338-0569
Subj: Comments on Draft EIS/Feasibility Report - Columbia River Navigation project

I WOULD LIKE TO START BY SAYING I'M AGAINST SPREADING THE SPOILS OVER A LARGE AREA VERSES SMALL. THE CRAB INDUSTRY IS ONE OF THE LAST INCOME FISHERIES WE HAVE, TO TAKE A CHANCE SPREADING DISPOSALS ALONG THE BEACHES (WHERE SOFTSHELL CRAB COME TO MOLT DURING SPRING & SUMMER AND SOMETIMES FALL IS A DEVASTATING MISTAKE.

I HAVE FISHED ON THE SOUTH SIDE OF THE RIVER FOR YEARS, I HAVE HAD CRABPOTS RIGHT ON THE DREDGE SPOIL AREA SOUTH OF BOUY NO. 4. EVERY YEAR. IN FACT MY CRAB STRINGS HAVE LAID OVER THE SPOIL HUMP THAT HAS BEEN BUILT UP. ON EITHER SIDE OF THE SPOIL AREA THERES BEEN CRAB, BUT ON THE AREA ITSELF THERES NOT! WHICH TELLS ME TWO THINGS, THAT THE DISPOSALS HAVE MADE A DEAD ZONE WHERE THE CRAB DONT WANT TO BE, OR THE FEED HAS BEEN CHANGED.

TO SPREAD THESE SPOILS OVER A BIGGER AREA MAY, AND IN MY OPINION, WILL WIPE OUT OUR FISHERY. YOU CAN'T TAKE THE CHANCE ON BANKRUPTING US FISHERMAN.

Corps of Engineers Response

1. The larger North and South sites proposed in the draft report are no longer being considered as disposal sites. The proposed new site is smaller and located further offshore. This change was made primarily in response to concerns of the crab fishing industry.

THE TEST THAT WAS CONDUCTED ON THE AFFECTS OF SPOILS ON CRAB ISNT GOOD ENOUGH, TO THINK THAT 30% MORTALITY
1 WASNT TO BAD IS ABSOLUTLY UNEXCEPTABLE.

ITS MY PERSONAL OPINION THAT THE DISPOSAL AREA NEEDS AND MUST BE IN DEEP WATER, AND ALSO IN A SMALL AREA, SO IT CAN BE REGULATED TO CHECK PROBLEMS WHICH MAY ARISE FROM IT.

MARK CHARLTON
OREGON CRABBER
11/27/98

February 3, 1999

The District Engineer
U.S. Army Corps of Engineers
Portland District

Attention: CENWT-EC-E
P.O. Box 2946
Portland, OR. 97208

Note to Colonel Robert T. Slusar:

This is an urgent request to reconsider deepening channel to 43'. The extra 3 feet will not accomplish very much in the long run. Ships will be getting bigger and will need deeper water; so it will just be an expensive exercise in futility. There must be a better way, such as a Lower Columbia Port Authority.

Signed: Concerned citizens

Nancy Grimberg
2551 Irving Ave.
Astoria, OR. 97103
and
Walt Larson
35704 Lindberg Lane
Astoria, OR 97103

Comments noted. See previous responses to CREST and others.

Colonel Robert Slusar,

We are strongly opposed to dumping of dredge spoils on the crab grounds around the Columbia River. Many livelyhoods are at stake, most of which are displaced salmon fishermen, who have already payed for past mistakes with jobs already.

With a little vision and ambition, all concerned could be satisfied with the obvious choice of expanding the Astoria port to accomidate the larger vessels. Instead of being Portland's doormat this area could actually get an economic boost instead of taking in the shorts for their gain.

The only other possibility is to take the spoils as far offshore as possible to minimize the damages that will only become obvious to the Corps over time. This is how the Army Corps of Engineers has gotten it's education in the past and we have payed it's tuition.

Thank you,
George Merrin

Corps of Engineers Response

The proposed ocean disposal sites have been revised particularly in response to concerns of the crab fishing industry. See previous responses to CREST and others regarding the regional port concept.

To Steven J. Stevens, Jan 23, 1999

IN REGARDS TO The USACE Plans to Deepen 115 Miles of the Lower Columbia Rivers and Willamette Rivers including the Portland Harbor.
I am opposed whole heartedly to this issue.

There is no possible way that you can convince me that these projects will Benefit the Rivers, The Fish and the Ecosystems of These Waterways.
To Deepen a river is an absurd idea.

I Strongly Recommend that the USACE cancel ANY Plans to Deepen the Willamette and Columbia Rivers.

Sincerely,

Scott Metzger

P.O.BOX 999
CORDOVA, AK
99574

Corps of Engineers Response

Comments noted

Corps of Engineers Response

The following responses are offered to address the comments in the form letters that follow.

Paragraph 1. Comments noted. All conclusions in the EIS are based on the best scientific information available for a given issue.

Paragraph 2. The material proposed to be dredged from the Columbia River is the same material that is currently dredged for maintenance of the existing 40-foot channel. This material has been tested and evaluated, and is primarily sand and has a low percent of fines and organic material due to the constant reworking of the sediments by large flows in the Columbia River. Deepening of the channel in the Columbia River will not uncover or expose any material that is different from the material now dredged.

A Tier I evaluation was made regarding radionuclides in the project area. Based upon this analysis no testing at higher tiers was considered warranted. A "reason to believe" was not established that current levels of radionuclides pose a threat. The Bi-State found that there were similar levels of radiation in lower river sediments as in sediment above Hanford. Bioassays (Tier III) would be conducted on all sediments that contained contamination above screening levels if proposed to be dredged and placed into open-water unconfined. No sediment in the Columbia River had any contaminant at levels above screening levels so biological testing of these sediment is not necessary to determine the suitability if the material. Sediment in the Willamette River does have contamination above screening levels. Prior to dredging, these materials would require higher levels of testing if the material were to be dredged and placed in an unconfined open-water disposal site.

Resuspension and redistribution of contaminants would be of concern in only limited areas of the Willamette River which contain high levels of contamination. The local sponsor has requested that dredging of the Willamette River be delayed in order to allow coordination with the ODEQ investigation and remediation planning for the Portland Harbor. No further Corps studies of Willamette River sediments are anticipated prior to completion of the remediation plan. Further sediment quality evaluations will be required and conducted prior to any dredging and disposal activities. The Corps has and will continue to participate in USEPA's and ODEQ's efforts to clean up the Willamette River.

Paragraph 3. Alternative dredging methods are discussed in the EIS. The final dredging plan for construction will be developed to minimize impacts to species of concern. See our response #2 to the US Department of Interior letter regarding LoadMax. Additional information has been added to the FEIS concerning LoadMax and the regional port analysis.

Paragraph 4. Legal requirements under NEPA, the Clean Water Act, the ESA and many others were thoroughly addressed in the EIS. A detailed discussion of the impacts of the proposed project on listed species, especially salmonids, was provided in both the EIS and Biological Assessment submitted to the NMFS under the Endangered Species Act requirements. This includes discussion of work outside of the normal in-water work windows. The NMFS determines Section 7 compliance of the proposed project. As described in the EIS, the project is not expected to have a significant impact on salmonid populations in the river. The Corps coordinated with both WDFW and ODFW to determine appropriate salmon restoration measures to be implemented under ecosystem restoration. We have prepared a Biological Assessment for salmonid species and are currently seeking concurrence from the NMFS through their Biological Opinion. The USFWS, in cooperation with WDFW, ODFW, and NMFS, has prepared a Coordination Act Report with specific recommendations on natural resources and project-related impacts.

The proposed action does not involve treaty lands. Treaty Tribes and non-treaty Tribes potentially affected by the proposed action were contacted and their comments requested.

Dioxin testing was conducted as part of the October 1991 Columbia River Channel Deepening Reconnaissance Report and a P450 dioxin screening test was conducted during this feasibility study. See response in paragraph 2 regarding radionuclides. Sediments were chemically tested for PAHs, see Appendix B.

Paragraph 5. Additional information has been added to the FEIS on Dungeness crab and the commercial crab fishery. Further workshop meetings have been conducted for ocean disposal since release of the DEIS, and the disposal plan in the FEIS has been changed to minimize impacts to the commercial fishery, including crabs. The EIS has been revised to reflect this information.

The EIS addresses impacts to sturgeon and salmon in detail. The Corps has agreed to conduct a study of the deep disposal site to assess the benthic productivity in this area. Additional information on sturgeon use of deep water areas in the lower river also will be obtained during the benthic invertebrate study. This study also will determine sturgeon use by season and age group in one of the deeper areas of the Columbia. This information will be used to design a disposal plan that minimizes disposal impacts to larval and juvenile sturgeon.

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

January 29, 1999

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Sincerely, Dave Frouh

Address: 384 Hemlock
Goldendale, Wa. 98620

Other Comments: Serious Stuff here guys. Lets get it together, facts that is, and who benefits. Not the general populace

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Sincerely, JAY CARROLL

J Carroll

Address: P.O BOX 323
BINGEN, WA

18 YEARS ON THE COLUMBIA

Other Comments: A DEEP WATER PORT IN ASTORIA IS A MUCH MORE ECOLOGICAL AND ECONOMICAL ALTERNATIVE. TO DREDGE FOR DREDGING SAKE IS A WASTE OF NEEDED DOLLARS.

THANK YOU

J Carroll

District Engineer, U.S. Army Corps of Engineer District, Portland
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P.O. Box 2946
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Sincerely, [illegible]

Address: [illegible]
6083 Hwy 35
Mt. Hood, OR 97041

Other Comments: Wetlands need to be protected and created – not destroyed. Please explore all options and even try them before any major dredging or blasting begins.

District Engineer, U.S. Army Corps of Engineer District, Portland
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Sincerely, Jeff Olson

Address:
PO Box 196
Husum, WA 98623

Other Comments:

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

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Sincerely,
Deidre Duffy
Michael Kohnle

Address: Box 152
Husum, WA
98623

Other Comments:

Think about the future - look @ what not thinking about it has brought us → Y2K bug - nuclear wastes we dont know what to do with - etc ... etc. etc.

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Sincerely,

Mary Preston

Address:

7 Pearce Rd
White Salmon, WA 98672

Other Comments:

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

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Sincerely,

Kent Olson

Address:

PO BOX 196
Ilwaco WA 98673

Other Comments:

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Sincerely, Raymond E. Mitchell
Director - Sacred Earth Foundation

Address: 401 Ekone Ranch.
Goldendale, WA.
98620 -

Other Comments: Please do what is best for public & environmental health. It is past time that this becomes our main concern.

Thank you!

sacred earth foundation

A Community Stewarded Land Trust
Preserving and Protecting our Earth with Reverence

Save our Fish!
Save our life!
Do what is Right!
We the people, thank you!

Blessings
Ray

Inspired Living - Amidst the Trials of Time

401 Ekone Ranch Road • Goldendale, Washington 98620
Phone: (509) 773-4536 • Fax: (509) 773-5554
www.zerocircles.com/ekone.htm.

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Sincerely, James A. McCormick

Address: 53 Little Mountain Rd.,
Port Lake WA 98658

Other Comments: The points raised above are extremely important and must be addressed to the satisfaction of all effected parties. Wildlife, environmental legal, treaty issues all must be addressed thoroughly and satisfactorily before this project goes forward. Rushing ahead will only bring about legal action and needless expense. Please carefully look into the issues being raised here.

Sincerely, James McCormick

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

January 29, 1999

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Sincerely,
Terry Haba

Address:
PO Box 151
Mosier, OR 97040

Other Comments:

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

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Sincerely,

Joanne Smoller Rockwell

Address:

PO. 324
White Salmon. WA. 98672

Other Comments:

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

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Sincerely, Meredith Hart
Meredith Hart

Address: 2112 Proctor Rd.
Mosier, OR 97040

Other Comments:

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

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Sincerely, Mike Moshofsky

Mike Moshofsky

Address: 2112 Proctor Rd.
Mosier, OR 97040

Other Comments: One more opposition letter to this madness.

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
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Sincerely,

Adrienne Burton-Jones

Address:

1702 ESTHER WAY
The Dalles, OR 97058

Other Comments:

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
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Sincerely, Joseph R. Kelsey

Address: 1405 TAYLOR ST
HOOD RIVER OR
97031

Other Comments:

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
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Sincerely, Susan Rae Hartford
Patrick J. Hartford
Edith M Hartford

Address: 3580 THOMSEN RD
HOOD RIVER, OR. 97031

Other Comments:

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Sincerely,

Mark H. Hickman

Address: 500 May St
Hood River, OR 97031

Other Comments:

District Engineer, U.S. Army Corps of Engineer District, Portland
Attn: CENWP-EC-E
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Sincerely, Jane Camero
Jane Camero

Address: 1027 Columbia St
Hood River, OR 97031

Other Comments:

Stevens, Steven J NWP
From: md [md@gorge.net]
Sent: Thursday, February 04, 1999 3:50 PM
To: Steven.J.Stevens@usace.army.mil
Subject: Channel Depening Project

I have just finished reviewing the Columbia River Channel Deepening Summary sheets and feel that the environmental impact caused by the proposed deepening would be too severe. There are also many concerns relating to local economies that I do not feel have been adequately addressed. This project should not go forward!
Thank you for your attention,
Margo Dameier
Hood River, OR
md@gorge.net

Corps of Engineers Response

The following letters support the 43-foot channel deepening alternative citing the cost savings achieved through increased shipping efficiency and its importance to the regional economy, comments noted.

Port of Portland
Columbia River Channel Coalition
Interstate Columbia River Improvement Project
Port of Vancouver
Port of Woodland
Port of Pasco
Port of Longview
Port of Coos Bay
Port of Kalama
Washington Public Ports Association
Cowlitz Economic Development Council
Portland Chamber of Commerce
Columbia Pacific Building and Construction Trades Council
Kalama Export Company
Gard Strang Edwards & Aldridge, Inc.
Lower Columbia Contractors Association
Cowlitz-Wahkiakum Counties, Washington Labor Council
Columbia River Economic Development Council
Oregon Wheat Commission
Pacific Coast Metal Trades District Council
Stevedoring Services of America
Edward M. Jones and Company
Diatect International Corporation
Oregon Wheat
Clayton-Ward Co.
Menasha Corporation
Anderson Hay & Grain Co.
Pacific Rim Trade Association
Geo. S. Bush Co., Inc.
Sharp Microelectronics Technology, Inc.
Columbia Corridor Association
BHP Coated Steel Corporation
Columbia Grain, Inc.
Columbia River Customs Brokers & Forwarders Association
Jones Stevedoring Company
Bernert Barge Lines
Vancouver Chamber of Commerce
Oregon Potato Commission
United Grain Corporation
Oregon Public Ports Association
Pacific Northwest Waterways Association
Schnitzer Steel Industries, Inc.
W.G. Moe & Sons
Building and Construction Trades Council
Peterson & Associates, P.S.

Port of Portland

Box 3529, Portland, Oregon 97208, U.S.A.
503/231-5000

February 5, 1999

District Engineer
U.S. Army Corps of Engineers District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

Dear Sir:

The Port of Portland is a limited-purpose regional government charged with facilitating the maritime, shipping, aviation, commercial and industrial demands of residents in Multnomah, Washington, and Clackamas Counties, Oregon. The Port's primary mission is to provide competitive cargo and passenger access to regional, national, and international markets. Its secondary mission is to respond to rapid growth and promote stability in industrial and commercial enterprise in the region, and in so doing, to help create and retain quality jobs. Deepening the Columbia River Navigation Channel is a key improvement that will allow the Port to meet its mission into the future.

Located at the only point in the Pacific Northwest where deep-water shipping, upriver barging, two water-grade rail lines and the interstate highway system meet, Port marine terminals, rail lines, roadways, and airports provide a superior, seamless, and free-flowing transportation environment that serves the Portland/Vancouver region and much of the North American continent. The existing deep-draft navigation channel, constructed and maintained by the U.S. Army Corps of Engineers, with the Port of Portland as a local sponsor, is the infrastructure that enables international trade to flourish in our region.

In terms of cargo tonnage handled, the Port's seaport is the second largest of its kind on the U.S. West Coast, after Los Angeles/Long Beach, and the largest in the Pacific Northwest. Its prominence is based on bulk grain and mineral exports (64 percent of Port's total tonnage), containerized agricultural, forest product, and manufactured goods (29 percent of total tonnage), breakbulk steel and forest products (4 percent of total tonnage), and automobile export/import traffic (4 percent of total tonnage). These cargoes originate from or are destined to nearly every northern tier American state and Canadian province. Portland is the largest wheat export port in the U.S. and, combined with other Columbia River ports, constitutes the second largest grain export center in the world. On average, 7 million tons of grain—mostly wheat and barley—flow through Portland annually to markets throughout Asia and the rest of the world. Portland's significance as a bulk mineral export location is also growing as bulk mineral exports from producers in Wyoming and other mountain states and Canada have increased ten-fold in the past decade

Since its creation more than a century ago, the navigation channel and adjacent marine facilities of the Port of Portland have contributed to the economic well being of Oregon and the Columbia-Snake River region. The community benefits derived from Port-related business maritime activities include:

- Influencing the creation and/or maintenance of more than 60,000 regional jobs.
- Generating $723 million annually in business revenues for firms providing goods and services related to Port business activities.
- Supporting some $232 million annually in worker salaries.
- Producing an estimated $54 million annually in state and local income tax revenues.

Portland has become a manufacturing and exporting center that far surpasses its relative population. This fact is demonstrated by comparing Portland with other U.S. cities:

- 10th largest exporter in the U.S.
- 20th largest manufacturing center.
- 2nd largest wholesale/distribution center on the West Coast behind Los Angeles in value of wholesale trade.
- Portland has three times the value of L.A.'s wholesale trade on a per capita basis.

The economic base of the Portland/Vancouver region is highly transportation/trade dependent. Access to the global marketplace for both Washington and Oregon businesses is critical for the economic vitality of the region. One in five jobs in the region are export dependent. Firms engaged in export trade pay their employees 12 percent to 18 percent more than firms not engaged internationally.

COMPETITIVE MARKET ACCESS

In a recent survey, over 900 companies in Oregon and Washington that export or import products used the Port of Portland's marine container, grain, and breakbulk facilities to reach their international markets. Of these, 625 were located in the Portland/Vancouver metro area and 212 were in the Willamette Valley and Oregon's eastern, southern, and coastal areas (54 could not be assigned a specific location).

Large and small companies alike, such as Lamb Weston (french fries exporter), Pendleton Grain Growers (wheat and barley exporter), Avison Lumber (lumber products exporter), International Paper (paper products exporter), Pacific Seed (grass seed exporter), and West Salem Machinery (machinery parts importer) used Port transportation facilities to support their business throughout the state and region.

Portland's role in the container trade is particularly critical to keeping Oregon companies competitive. Of the 836 Oregon firms using the Port, most rely specifically on the container services provided at Terminal 6. Currently, Terminal 6 handles 60 percent to 85 percent of Oregon's container traffic. The balance is diverted over the road to Seattle or Tacoma. The Port has heard from shippers as well as carriers that a deeper-draft channel isn't simply a competitive concern, but is vital to their livelihoods and continued operating presence in Oregon. On an annual basis, Portland's presence in the container business saves Oregon companies about $50 million per year on extra over-the-road truck and rail costs. Draft restrictions in the existing 40-foot channel have already caused the loss of some service from Terminal 6 since this feasibility study began in 1994. In order to remain competitive, the Port must be able to provide for the deeper-drafting vessels in the container trade. Consequently, we strongly support the Corps' findings contained in the Feasibility Report to deepen the navigation channel to 43 feet.

ASIAN ECONOMIC CHALLENGES

The Asian "flu" that began last year has significantly reduced demand for many traditional Pacific Northwest exports, especially its top three categories: forest products, grain, and high technology. This has had a large short-term effect on cargo volumes originating from the harbor, due to our role as export gateway to the pacific rim.

- Approximately 76 percent of waterborne trade from the Columbia-Snake River Customs District by tonnage, and 92 percent by value, is with Asian Pacific Rim nations.
- $1 billion of exports generates 15,000 jobs. In 1997, $13 billion worth of goods to foreign markets passed through the Columbia/Snake Customs District. These figures don't include the growing volume of service exports, such as software and environmental technology.
- In terms of oceanborne trade, the top five nations or market areas most important to the Columbia/Snake Customs District importers and exporters, in order of priority, are: Japan; China/Hong Kong; the ASEAN nations (Indonesia-Malaysia-Philippines-Singapore-Thailand); Korea; and Taiwan.

We believe that the current economic difficulties in Asia, while having a discernible impact on recent trade volumes, will not be long-lasting. This viewpoint is shared by virtually every economic forecasting group. Indeed, there are strong indications that the worst of the crisis has already passed and that the decline in export trade has ceased and perhaps trade has even started to grow again. This trend is reflected in the performance of the lower Columbia River container and grain businesses in the latter part of 1998.

Waterborne cargo growth has been steady in the Portland harbor and is projected to increase dramatically as the region grows. As part of its 2040 planning, the Metropolitan Service District has recently developed freight forecasts for the Portland Metropolitan Region which anticipate a tripling in the volume of international exports and imports by the year 2030. Channel deepening will allow the Port to meet that need by allowing vessels in service today and those not yet built, to transit the river and call our port in the years to come.

WEST HAYDEN ISLAND

Comments were made at the public hearing on the DEIS that deepening the channel will somehow promote or cause the Port of Portland's West Hayden Island marine terminal development to proceed. The Port of Portland acquired West Hayden Island in 1993 based upon studies showing a need for marine waterfront land in the Portland Harbor . This need exists whether or not the channel is deepened. In addition, if West Hayden Island is developed it will not change in any way the environmental impacts of the proposed channel deepening project. As you know, the impacts are being addressed in a separate environmental impact statement for which the scoping notice was published in October 1998.

ENVIRONMENTAL CHALLENGES

The Port of Portland understands that protecting the environment is more than a matter of meeting regulatory requirements. Sound environmental practices include being a good neighbor in the community and the region, meeting customer needs and fulfilling the Port's business mission in an environmentally responsible manner.

We have worked with the Portland District of the Army Corps of Engineers to assure that the channel deepening can be undertaken in a way that meets these environmental challenges. In most areas the proposed project as described in the draft EIS has met our requirements, and where we have differed, we have developed alternative sites (the sponsors' plan) with two primary objectives:

1. To avoid impacts to farmland and natural resources, if possible, by moving the dredged sand further distances to appropriate sites
2. To move the dredged sand to locations where it can be beneficially used.

As a result, the sponsors' plan will have less impact on wetlands and about half the impact on wildlife resources and the corresponding mitigation requirement of the government's least cost plan. We recommend that the Corps adopt the sponsors' plan in the final EIS because of its reduced impact on the environment.

THE FUTURE

The region will be grappling with tough economic and environmental challenges for some time to come. But the region will face opportunities as well.

By 2040, there will be 720,000 new residents in the region. Exports are projected to triple. Capacity at Terminal 6 for containers will be exceeded in about 2010. The need for modernization and rail efficiencies could require new grain and mineral export facilities as soon as 2005.

The Portland/Vancouver region has been dealt one of the best possible hands for playing the game of international trade:

- A deep-draft navigation channel to the ocean that is the most direct doorway to Asia.
- Land capacity for future marine terminals adjacent to the channel.
- River-grade rail and interstate routes through the Cascade mountains.
- Competing national railroads calling on the region, both also competing with barge operators.
- A 400-mile waterway link to inland sources of traded products.
- North-South and East-West intestates intersecting here.
- Considerable rail, barge, and ship capacity to handle cargo growth with minimal additional environmental impacts.
- A healthy trade-sector manufacturing and services base.

WILLAMETTE RIVER

Exports from grain elevators on the Willamette River make the Portland Harbor the single largest wheat port in the U.S. Additionally, several major facilities importing and exporting other bulk cargoes are located in the Portland Harbor. With the trend towards moving all bulk shipment in Panamax-sized bulk vessels due to their greater efficiency, we are certain that deepening the Willamette section of the navigation channel will provide significant navigation benefits and such a deepening supports investments already in place. However, sediment issues in the Portland Harbor are currently under review and remain unresolved.

Phasing the deepening of the Willamette River segment would allow time for careful examination of the management of Willamette River sediments without delaying the Columbia. Providing added time for a more comprehensive approach on the Willamette segment of the channel may also present an opportunity to link Portland Harbor River cleanup efforts by the state of Oregon with the deepening of the Willamette River portion of the channel.

The region urgently needs to move ahead with deepening the Columbia River segment to match the increasing size of vessels moving in today's waterborne commerce. We see this as a key to improving the competitiveness of U.S. products in world markets. Similarly, we need to assure that agreement is reached with our stakeholders on how to improve navigation on the Willamette, so that the significant navigation benefits from implementing this project can be realized.

Before developing a recommendation on the manner in which the Willamette segment should be incorporated into the overall project, we request that we be allowed to review comments received by the Corps on the Willamette River deepening plan contained in the DEIS so that we may work with you to address public concerns and project needs.

DREDGE OREGON

The authorizing language for the existing 40-foot channel requires that the Port of Portland provide a pipeline dredge, on a reimbursable basis, to the Corps of Engineers for maintaining and improving the navigation channel. The Port of Portland's hydraulic, cutterhead, pipeline dredge OREGON is used to fulfill this requirement. The OREGON is used primarily for maintaining the navigation channel under contract to the Corps of Engineers although the dredge is also used for land reclamation which has resulted in creation of many of the port and industrial lands on the Columbia and lower Willamette system for port and public agencies on both the Oregon and Washington sides of the river.

Paragraph 2.4.1.2 in the feasibility report states that "About 2mcy of material per year are dredged by pipeline dredges, nearly all by the Port of Portland's 30-inch dredge OREGON." Initial results from an independent study commissioned by the Port of Portland, using current data generated by the Corps of Engineers, shows that for the last four years (July 1, 1994 - June 30, 1998) the OREGON dredged approximately 16 mcy from the channel under its contract with the Corps for an annual average of 4 mcy. In addition, the Port's study indicates that the OREGON unit dredging costs are at least 21 percent less than unit dredging costs in the Corps' cost estimating dredging program for a similar sized dredge. This reinforces the fact that the OREGON continues to be the most-cost effective pipeline dredge for the Columbia River. With the shift to more upland disposal in channel maintenance and channel deepening, there will be an increased role for pipeline dredging in the future. For these reasons we recommend that the requirement for the Port of Portland to provide a pipeline dredge to the Corps be carried forward into the authorizing language for the new 43-foot channel.

ECOSYSTEM RESTORATION

In addition to our commitment to the region's economic future through channel deepening, the Columbia River ports are also committed to completing the ecosystem restoration component of the project. From the initial planning stages we recognized our responsibilities as project sponsors to demonstrate a commitment to not only mitigate for environmental impacts but also, where practical, improve or restore the natural environment. We are pleased with this opportunity to show our commitment and to move forward in a partnering effort with the Corps of Engineers on this important environmental project.

In conclusion, we urge the Corps to move forward expeditiously and incorporate the sponsors' plan in the final EIS so that this critical project can be authorized and constructed as quickly as possible.

Yours very truly,

Mike Thorne
Executive Director

February 3, 1999

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E Attn: Steven J. Stevens
P.O. Box 2946
Portland, Oregon 97208-2946
FAX: 503 808 4805

RE: Comments on Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement (DEIS)

These comments are on behalf of the Columbia River Channel Coalition, representing over 70 organizations in Oregon, Washington, Idaho, Montana and states east, who are working to build public consensus for an economically viable and environmentally sound plan to deepen and maintain the Columbia and Willamette deep-draft federal navigation channels. As ships become larger, it is vital to our future to be able to accommodate these vessels. Our trade base not only helps grow existing industries and companies, it provides current and future workers with the opportunity to prosper with quality jobs. Looking to the future, the channel improvement project will help the Northwest retain and attract businesses compatible with our environment and community objectives while providing efficient infrastructure to move regional products to world markets.

The Columbia River port system provides a strategic trade corridor for the nation to move products to world markets. As the second largest grain handling and shipping system in the world, it is vital to providing continued competitive access for U.S. producers, manufacturers and shippers. In 1997, the lower Columbia handled 40% of U.S. wheat exports totaling approximately 13 million tons. Trade plays an integral role in the economy of Oregon and Washington and the ripple effects of trade extend throughout the Northwest and into surrounding states.

Support for the 43-foot alternative.
For all of the reasons cited above, we support deepening the channel to 43 feet as the best alternative in the DEIS. This option would provide the draft necessary to meet the requirements of ships now leaving light-loaded from the Columbia River as well as assure adequate depth needed for the new larger bulk, breakbulk and container vessels being built to meet changing needs in the import/export business. Over time, if we lose the ability to accommodate more efficient vessels, we will see our economy atrophy. The DEIS estimates annual transportation savings for the 43-foot alternative at $39 million. This transportation efficiency will help U.S. growers, producers, manufacturers and shippers to be competitive in world markets.

Support for the strategy of reduced environmental impacts.
The DEIS outlines new strategies to meet environmental concerns throughout the project area. The proposed reduction in beach nourishment to meet environmental objectives including protection of fish habitat, while providing long-term reduction in the overall dredging and maintenance required for the

Columbia River Channel Coalition

Founded by Lower Columbia River Maritime Ports

Oregon
Port of Astoria
Port of Portland
Port of St. Helens

Washington
Port of Kalama
Port of Longview
Port of Vancouver
Port of Woodland

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shipping channel, is a sound approach. This strategy contributes to regional efforts to protect endangered fish species. With this strategy, there are environmental benefits over current practice and reduced maintenance and costs over the life of the project. Additionally, we recognize the importance of environmental sensitivity to meet community concerns in a project of this magnitude and appreciate the efforts by the Corps of Engineers to involve the public in the feasibility study.

Support for the Sponsors' Preferred Alternative Disposal Plan.
We urge adoption of the Sponsors' Preferred Alternative Disposal plan. This alternative set of disposal sites would reduce impacts on farm and resource lands, substituting transportation costs for environmental costs and impacts. The sponsors' preferred alternative would make beneficial use of a majority of the material from construction of the project, utilizing Columbia River sand for port purposes and other beneficial uses. Ninety percent of the new upland sites proposed by the sponsors are industrially zoned or are active aggregate sites. Even though this alternative costs the sponsors an additional $5 million over the statutorily required Least-Cost Plan, it achieves additional environmental benefits and is responsive to community concerns that have arisen over the course of the Feasibility Study.

Support for Additional Site to be included in the Sponsors' Preferred Alternative Plan. We respectfully request the Corps consider the addition of a beneficial use site to the Sponsors' Preferred Alternative Plan at W33.4. This site has been operated and managed by the Port of Wahkiakum 2 and provides beneficial uses to the community. The Port recycles and sells the material providing benefits to the district as well as providing quality material for construction in the area. The addition of this site would add flexibility to maintenance and operation of the channel over time as well as beneficial use of the material in the community.

Support for Advancing Construction of the Proposed Project.
We respectfully urge the Corps to move ahead with the Columbia River segment of the project and portions of the Willamette which are not in the area of environmental concern as early as possible. Prompt action here is a key to enhancing the competitiveness of U.S. products. The proposed 43-foot alternative with the Sponsor's Preferred Alternative Disposal Plan provides a sound, environmentally sensitive, project proposal that meets national and regional economic objectives.

Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project. If it is possible to move ahead with deepening portions of the Willamette as part of the early construction of the project without jeopardizing the comprehensive effort to clean up the Portland Harbor we urge you to do so. For example, Columbia Grain is adjacent to Kelly Point Park, approximately .1 to .2 miles from the Columbia River. The contaminated sediments identified in certain sections of the Willamette River are not associated with Columbia Grain. Adding the non-affected stretch of the Willamette to the proposed channel construction project would be a

sensible approach that meets community objectives while not penalizing particular operations that aren't in the area of concern.

Support for Ecosystem Restoration Proposals.
The ecosystem restoration proposals associated with this project add value to the proposed project. In addition to the mitigation requirements associated with construction, these ecosystem restoration efforts benefit the entire region and provide significant enhancement to the river system. These projects were added to the Feasibility Study as it progressed based on input from state and federal resource agencies. These additions to the proposed project are an important initiative to contribute to the restoration of the ecosystem and we urge their inclusion in the final project proposal

Deep Water Disposal Plan
We urge additional opportunity for public involvement for the offshore disposal sites. A management plan for the sites that are finally selected, which clarifies the Corps' plans to manage the sites to minimize mounding and resource impacts and meet safety concerns, would be a useful addition to the FEIS. The Corps has expressed the intention of developing such a work plan. It is clear that public understanding and input into the Corps' plans for management of the sites that are finally selected would help meet community concerns, particularly the fishing and crabbing community.

Support for Advancing the Project.
Advancing this project is one of the most important and strategic opportunities we have to enhance economic opportunities throughout the Northwest and for states shipping through this trade corridor. The proposed project builds upon our existing infrastructure investments and enhances the ability to maximize intermodal transportation efficiencies. It knits the rural and urban communities of the region and the nation together with common objectives for prosperity while assuring minimal environmental impact. While concerns have been raised about the economic downturn in the Pacific Rim, virtually every economic forecasting group believes the current economic difficulties in Asia will not be long lasting. The proposed project has been framed over a 50 year span. Short-term economic fluctuations should not influence the expected long-term trends.

For all of these reasons, we urge the Corps of Engineers to expeditiously resolve any outstanding questions raised in the initial public review of the DEIS so the project proposal can be advanced. Thank you for the opportunity to comment.

Sincerely,

C. Dianne Perry

C. Dianne Perry
Executive Director

Port of Longview

February 5, 1999

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E ATTN: Steven J. Stevens
P.O. Box 2946
Portland, OR 97208

Dear Sir:

My name is Ken O'Hollaren and I am the Executive Director of the Port of Longview. I appreciate the opportunity to submit these comments on the U.S. Army Corps of Engineers "Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement for the Columbia and Lower Willamette River Navigation Channel."

As one of the seven Columbia River sponsoring ports, and as one of your partners in this project, we are proud of the cooperative efforts put forth by the ports, the state governments of Oregon and Washington, and the Corps of Engineers, which have resulted in the successful completion of this report. You, too, should be proud of the professional skills displayed by your staff in the preparation of this document. It is clear to any reader that the various technical, economic, and environmental issues associated with this project have been thoroughly, and fairly, examined by the Corps.

Recent developments and decisions at the Port of Longview underscore the importance we attach to an improved navigation channel. This month the Port will commission its new multi-commodity bulk import facility at Berth 7. This will be the only facility of its kind in the Pacific Northwest designed to unload a variety of bulk cargoes in an efficient, and environmentally safe manner. It is a $4 million investment which reflects our optimism on the growth of these cargo volumes to the Columbia River. The ultimate success of this investment, however, depends largely on the ability of the navigation channel to serve the vessels of the future.

For 1999, the Board of Commissioners has approved a $20 million capital budget to fund a variety of port infrastructure needs, most notably a new general purpose dock for forest products. Again, we would not be undertaking such investments if we did not see tremendous opportunities for growth in our region. An improved navigation channel has to be a part of that infrastructure as well.

P.O. Box 1258 Longview, WA 98632-7739 Tel (360) 425-3305 FAX (360) 425-8650

Port of Longview

Integral to the achievement of maximum benefit from this project is the adoption of the sponsors' alternative plan for disposal of dredged material. Perhaps no other community on the River can place a higher value on the beneficial uses of dredged material than Longview, which owes its very existence to the levee system constructed originally by river dredges. To this sponsors' plan, we are asking the Corps to include a site at river mile W-33.4, which will provide substantial economic benefit to Wahkiakum Port District No. 2 and the surrounding communities, as well as providing a long-term site to the Corps for channel maintenance.

Again, we commend the Corps of Engineers on the feasibility study, and pledge our continued cooperation toward a successful completion of the project. We encourage you to move ahead expeditiously to conclude this phase of the process so that congressional authorization can be obtained this year.

Respectfully,
PORT OF LONGVIEW

Kenneth B. O'Hollaren
Executive Director

cc: Board of Commissioners

GARD, STRANG EDWARDS
& ALDRIDGE INC.

February 5, 1999

via facsimile and mail

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

Dear Mr. Stevens,

Re: Lower Columbia River Channel Deepening Project — Comments On Draft Environmental Impact Statement

On behalf of Gard Strang Edwards & Aldridge Inc., I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

For over two decades, our communications and issues management firm has represented clients in matters of energy, natural resources, economic development, transportation and business trade. Our diverse mix of clients includes environmental groups, forest products companies, manufacturers, public and private utilities, government agencies — all the way to health care organizations, port authorities and maritime shippers. As private and corporate residents of the Pacific Northwest, these clients support and pursue the core values that reflect understanding of balanced economic and environmental stewardship. Further, our 20 years of vast public opinion and market research on behalf of these clients demonstrates that these values are upheld by the great majority of all Northwesterners. In our view, and abased upon our experience, the Columbia River Channel Deepening Project is essential to our place in a global trade economy while also responsibly addressing environmental concerns — not just for the Northwest, but for the nation.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products

1200 S.W. MARLO PARKWAY, SUITE 220 PORTLAND, OREGON 97200
503-226-2721 1-800-336-2674 FAX 503-226-4854

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system, will not expand the transportation capacity as needed to support shippers

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Paul Vogel
Senior Vice President

KPV/[illegible]

OREGON INTERNATIONAL
Port of Coos Bay

February 5, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
PO Box 2946
Portland, OR 97208-2946

RE: Lower Columbia River Channel Deepening Project - Comments on Draft Environmental Impact Statement (DEIS)

On behalf of the Oregon International Port of Coos Bay, I am writing to express our support for deepening the lower Columbia River deep-draft channel from 40 to 43 feet. This channel improvement project is important to the region, the State of Oregon and the nation, because it serves as an important competitive corridor for ocean transportation access to key markets in Asia.

The national importance of the lower Columbia River channel is evident in a number of ways. It is the nation's largest export gateway for wheat and the second largest grain export port in the world, with agricultural commodities originating in the Pacific Northwest, as well regular shipments from many Midwest states. Container cargos from more than 40 states regularly pass through the Port of Portland. As the Corps' study notes, annual transportation savings for these shippers amount to an estimated $39 million--a measurement of enhanced competitiveness for United States export products.

I believe that deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system, were examined, but these options will not expand the Columbia River's transportation capacity. The disposal plan alternative suggested by the project sponsors offers a practical approach to this navigation improvement project. Important agricultural lands would be preserved, and dredging disposal impacts would be minimized under the sponsors' preferred plan. This project should be able to be completed in conformance with this region's environmental standards, and beneficial uses of the dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan would minimize disposal impacts.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Given the Coos Bay harbor's experience, I urge the Corps of Engineers to expedite completion of this important navigation improvement project.

Sincerely,

Allan E. Rumbaugh
General Manager

AER:dcb

cc C. Dianne Perry, Columbia River Channel Coalition

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JAMES T. KLINDWORTH

JAMES E. TOOMEY
Executive Director

June 3, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT – COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

On behalf of the Port of Pasco, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

The Port of Pasco's container terminal is an integral component of the Columbia-Snake River transportation system, providing transportation service for industries in the region to get their product to the deep water Port of Portland facility. Approximately 75,000 tons are shipped annually from the Port of Pasco terminal to the Port of Portland for domestic and international markets.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

James E. Toomey
Executive Director

COLUMBIA SNAKE RIVER SYSTEM

COLUMBIA PACIFIC BUILDING
AND
CONSTRUCTION TRADES COUNCIL
AFL-CIO

February 5, 1999 SENT VIA FAX

Steve Stevens
US Army Corps of Engineers
Portland District
PO Box 2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT—
COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

On behalf of the Columbia Pacific Building & Construction Trades Council, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

The Columbia Pacific Building and Construction Trades Council's interest in this project is both for the employment during the project and employment opportunities due to the deepening of the river. Economic development of this region is paramount to the needs of this Council

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 miller, a measurement of enhanced competitiveness for US export products.

We offer these specific views of the Draft Environmental Impact Statements (DEIS):

1 Deepening the channel to 43 feet is the best alternative of the options reviewed b the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2 The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agricultural lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan

3535 S.E. 86th Avenue • Portland, Oregon 97266 • Phone (503) 774-0546 • FAX 774-2816

3 Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative disposal Plan to minimize disposal impacts are key steps to proceeding in a sensitive manner.

4 We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of US products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

William W. Mehrens

William W. Mehrens
Executive Secretary

WWM:mjl
opeiu #11
afl-cio

Kalama Export Company LLC

2211 N. Hendrickson Drive
Kalama, WA 98625
Phone: (360) 673-3900
Fax: (360) 673-3910

February 5, 1999

U.S. Army Corps of Engineers
Portland District
CENWP-PE-E
P.O. Box 2946
Portland Oregon 97208

Att: Steven J. Stevens

Dear Mr. Stevens,

On behalf of Kalama Export Company, I am writing to express our support for deepening the lower Columbia River channel from 40 to 43 feet. This channel improvement project is of great importance to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to Asian markets.

Kalama Export Company was formed in 1998 when ConAgra (peavey) entered into a joint venture with Archer Daniel Midland Company. Over the past five years our volume has ranged between 3,788,000 and 8,780,000 metric tons. Although we load virtually every type of bulk grain, the facility handles predominantly corn. This means that the vast majority of vessels we load are Panamax size vessel's. Our normal ratio of Panamax vessel's to Handy size vessel's is 3 to 1. It is these Panamax size vessel's that will benefit from a deeper channel the most. Loss of corn export's in the region would be devastating. Based on a study done for ConAgra in 1993 the corn export's from this facility stimulates the regional economy with over $54 million dollars of activity and over 760 jobs.

On average these vessel's sail with 5700 metric tons of slack space. When calculated on the basis of Kalama Export Co. loading 100 Panamax vessels per year. An additional 570,000 metric tons of grain could be loaded onboard ships presently calling on our facility. This additional cargo would make us more competitive for present and future business.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate primarily in the Pacific Northwest, But also include large shipments from Nebraska, North and South Dakota, Iowa, and Minnesota.

I offer these specific views of the Draft Environmental Impact Statement

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the **Sponsors' Preferred Alternative Disposal Plan.**

3. Environmental considerations are central to a project of this nature and I believe this project can be completed in conformance with this region's environmental standards Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. I strongly recommend moving ahead with the Columbia River segment of this project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing in the improvements work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share my views on the Columbia River Channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Steve Oakes
Plant Manger

Port of Kalama

February 5, 1999

District Engineer
U.S. Army Corps of Engineers, Portland District
Attn: Steven J. Stevens CENWP-EC-E
P.O. Box 2946
Portland, OR 97208-2946

Dear Sir:

The purpose of this letter is to provide comments on behalf of the governing board of Commissioners of the Port of Kalama regarding the U.S. Army Corps of Engineers *Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement for the Columbia and Lower Willamette Rivers Navigation Channel* (report).

The Commissioners of the Port of Kalama support the findings of the report to deepen the navigation channel to 43 feet. The Commission supports expeditiously moving ahead with work on the Columbia River Channel but prefers a more careful analysis of the problems and solutions relating to the Willamette River Channel.

The Commissioners of the Port of Kalama request that the Corps incorporate the sponsor's plan in the final EIS in order to further maximize the economic benefits of the project while reducing negative environmental impacts. The Commission also supports efforts to minimize negative economic "side effects" of the project such as possible degradation of commercial crab fisheries. As a project sponsor, the Port of Kalama is willing to help develop solutions to reduce negative impacts on the crab fisheries.

The Port of Kalama serves clients that are large players in international trade. The Port is the third largest dry bulk exporter on the West Coast and provides marine terminal services for a 400,000 ton per year steel mill with an annual payroll of over $10 million. The steel mill imports steel commodities from all over the world, including Australia, Japan, China, Korea and South America, all by way of the navigation channel. Port clients employ over 1,000 workers, most of which are dependent on the Columbia River Channel.

Therefore, the Commissioners of the Port of Kalama urge the Corps to move forward as expeditiously as possible with the authorization for and construction of the Columbia River Channel.

Sincerely,

ON BEHALF OF THE COMMISSIONERS OF THE PORT OF KALAMA

Lanny H. Cawley
Executive Director

LHC:mw
By FAX on February 5, 1999 @ (503) 808-4805
followed by Hard Copy

380 W. Marine Dr. • P.O. Box 70 • Kalama, WA 98625-0070 U.S.A. • (360) 673-2325 • Fax (360) 673-5017

WASHINGTON PUBLIC PORTS ASSOCIATION

February 4, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, OR 97208-2946

RE: Lower Columbia River Channel Deepening Project - Comments on the Draft Environmental Impact Statement

On behalf of Washington public ports, I am writing to express strong support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. Specifically, I would like to register our strong support for the Sponsors' Preferred Alternative Disposal Plan.

Washington's ports play a pivotal role in moving goods through the Columbia-Snake Rivers system, and if our region is to remain competitive, this corridor for ocean transportation access to key Asian markets must be accessible to today's deep draft vessels.

Washington is the most trade-dependent state in the nation with one in four jobs directly tied to international trade. It is vital for the economic health of the state to improve navigation through this channel. However, the state's transportation needs must be balanced with concerns for natural resources, and we believe the Sponsors' Preferred Alternative Disposal Plan offers the best approach. Through the preferred plan, important agricultural lands would be preserved, beneficial uses would be made of the dredged materials, and extensive habitat improvements would offset disposal impacts. We strongly recommend proceeding with the Columbia River segment of the project, and phasing the Willamette River portion.

Thank you for considering our view on the Draft Environmental Impact Statement. We appreciate the efforts of the Corps of Engineers to expedite completion of this important navigation improvement project.

Sincerely,

WASHINGTON PUBLIC PORTS ASSOCIATION

PATRICK JONES
Executive Director

98507-1518 • (360) 943-0766 • Fax 753-6176 • 1501 Capitol Way • Suite 304

Lower Columbia
CONTRACTORS ASSOCIATION
P.O Box 2306 Longview, WA 98632 • Telephone: (360) 425-8820 • Fax: (360) 425-6609

February 2, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, OR 97208-2946

SUBJECT: **LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT - COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Dear Steve Stevens:

On behalf of Lower Columbia Contractors Association, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Dave Roewe
Executive Director

CHARTERED BY
AFL-CIO

AFFILIATED WITH
WASHINGTON STATE
LABOR COUNCIL

COWLITZ-WAHKIAKUM COUNTIES, WASHINGTON LABOR COUNCIL

P. O. BOX 420
LONGVIEW, WASHINGTON 98632

February 1, 1999

Steve Stevens
U.S. Army Corp of Engineers
Portland District
P.O. Box 2946
Portland, OR 97208-2946

RE: Lower Columbia River Channel Deepening Project-Comments on Draft Environmental Impact Statement

On behalf of the Longview-Kelso Central Labor Council, we are writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

The workers that live and work along the Columbia River have been devestated by the decline in the timber industry and wood products. It appears that Cowlitz County is becoming a small steel producing community with its access to shipping on the Columbia River. The ports have diversified their commodities and have been able to provide jobs in the community. The next step is to deepen the channel so the ports can remain competitive as the markets in Asia.

National importance of the channel is evident in a number of ways. The Columbia River Port system is the nation's largest export gateway for wheat, and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more that 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1 Deepening the channel to 43 feet is the best alternative to the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2 The disposal plan alternative suggested by the project sponsor offers the best approach to the navigation improvement project. Important agricultural lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan

3 Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4 We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Dan Buell

Dan Buell
President

COLUMBIA
RIVER
ECONOMIC
DEVELOPMENT
COUNCIL

100 E. Columbia Way
Vancouver, Washington 98661-3816
Phone 360-694-5006
Fax 360-694-9927
www.credc.org

February 4, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

Re: LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT
COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

I am writing on behalf of the Columbia River Economic Development Council (EDC), to express our support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel project is important to our local economy, the region, and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

EDC members include dozens of businesses operating in the international marketplace. The net production value of these employers is expected to exceed $7.6 billion by 2006.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Iowa, Nebraska, and Colorado. Container cargoes from more than 40 states regularly pass through our Ports. The Corps study notes an annual transportation savings for these shippers at an estimated $39 million. This measurement represents the enhanced competitiveness for U.S. export products.

With respect to the DEIS, I would like to offer the following:

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps.

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agricultural lands would be preserved and dredging disposal impacts would be minimized under the Sponsor's PADP.

3. Environmental considerations are central to a project of this nature and I believe this Project can be completed in conformance with our regions environmental standards.

4. I strongly recommend moving ahead with the Columbia River segment of the project as soon as possible. Prompt action here is key to enhancing the competitiveness of U.S. products.

Thank you for the opportunity to share my views on the Columbia River channel improvement project. Corps efforts to expedite this navigation improvement will be greatly appreciated

Sincerely,

Robert A. Levin
President

PC: Mark Brandon, CREDC Chair

OWC

OREGON WHEAT COMMISSION

Celebrating years of service to the *Wheat Industry*

February 4, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT-
COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr.Stevens:

On behalf of the Oregon Wheat Commission (OWC), I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

The OWC represents wheat producers in the state of Oregon. Over 90 percent of the wheat grown in the state is exported to Asia, Africa and the Middle East. The continued movement of grain through the Columbia River System is of vital importance to the economic and social health of rural Oregon

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

The OWC offers these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. Environmental considerations are central to a project of this nature and this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

1200 Northwest Naito Parkway • Suite #520 • Portland, OR 97209-2800 • (503) 229-6665
FAX (503) 229-6584 • TDD # (503) 986-4762

3. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

4. The OWC strongly recommends moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River Channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Richard Fritz

Richard Fritz
Administrator

RF:rp

PACIFIC COAST METAL TRADES DISTRICT COUNCIL

8130 BALDWIN STREET
OAKLAND, CALIFORNIA 94621-1970
(510) 636-0500

FAX: (510) 636-0501

February 3, 1999

Mr. Steve Stevens
U. S. Army Corps of Engineers
Portland District
P. O. Box 2946
Portland, Oregon 97208-2946

Subj: Lower Columbia River Channel Deepening Project - Comments on Draft Environmental Impact Statement

Dear Sir:

On behalf of the Pacific Coast Metal Trades District Council, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

We are engaged in ship repair; and we believe that deepening the lower Columbia River deep draft channel from 40 to 43 feet will help us in achieving more opportunities to obtain additional ship repair work.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature, and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Richard E. Harden

Richard E. Harden
Executive Secretary

For and on Behalf of Ten International Unions Involved in Ship Repair Along the Columbia River

REH:lb
ope29aflcio

cc: Jack Sloan, Pres.
P.C.M.T.D.C.

January 21, 1999

PORTLAND
Partners in Quality

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING—COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

On behalf of Stevedoring Services of America, I am writing to express strong support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation because the channel serves as an important competitive corridor for ocean transportation access to key markets in Asia. In addition, enhanced international trade is a positive generator for a more favorable balance of trade.

Stevedoring Services of American operates at all Lower Columbia River ports. Our Company supplies labor and equipment to load and discharge bulk, break bulk and containerized cargoes.

In the case of loading bulk grain, the current forty foot channel restricts the size of vessel that can load in the Lower Columbia; thus, increasing the freight rate per ton which is paid by the exporter. Unfortunately, many exporters have opted for Canadian and/or US Gulf Ports due to the ability to load larger vessels at cheaper freight rates.

Secondly, the worldwide fleet of container vessels has increased in size and many of vessels require more that a forty-foot channel (up to 43 feet). Many vessels that have called at Portland, Oregon have been required to call subsequently at Puget Sound Ports to complete full loading of their containerized cargo. This additional port visit is very expensive and will eventually lead to these Companies cancelling their Columbia River call. If so, then our valued local shippers will be required to pay additional drayage to Puget Sound Ports: thus, making them less competitive in the international marketplace.

National impacts for the channel are evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland.

3556 N.W. Front Ave., Suite 360
Portland, OR 97210-1302
(503) 248-0848
FAX (503) 222-3070

As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

I would like to offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The alternatives suggested by the project sponsors also offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' alternative.

3. Environmental considerations are central to a project of this mature and I believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredge materials, extensive habitat improvements and selection of project options to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. I strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of the U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share my views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely yours,

STEVEDORING SERVICES OF AMERICA

Bruce Whisnant
Senior Vice President

Edward M. Jones and Company
7804 NE Airport Way
Portland, OR 97218
PH:503 249 1400 FX: 503 249 3950
Email: toms@emjco.com

Edward M. Jones and Company

January 22, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box2946
Portland, Oregon 97208-2946

I am writing to express our company's support for deepening the lower Columbia River draft channel from 40 to 43 feet. We believe this project is very important to the Northwest region since the channel serves as an important service corridor for ocean transportation access to Asia and the rest of the world.

As a customs broker and freight forwarder, Edward M. Jones & Company has strong ties to Taiwan and China. We are agents for the Orient Express Corporation which one of the largest forwarders in that region. Customs brokerage or import services are very significant to our business and our clients. Since direct call shipments provide competitive service to our clients, we completely support of deepening the channel. We must assure that the Columbia River can service the ocean traffic well into the millenium.

You have certainly heard that the Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These commodities originate in the Pacific Northwest, but also include regular shipments from North Dakota, Colorado, Nebraska, Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. Annual transportation savings for these shippers are an estimated $39 million. We think that deepening this waterway is critical to the region and a competitive advantage to the United States.

Therefore, we have drawn the following conclusions about the draft environmental impact statement:

A. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity needed to support shippers.

B. The alternatives suggested by the project sponsors also offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' alternative.

Welcome to our sphere of influence!

C. We understand that environmental considerations are central to a project of this nature and believe it can be completed in conformance with this region's environmental standards. We believe that reuse of dredge materials, habitat improvements and efforts to minimize disposal impact are key steps to success.

D. We completely support prompt action on the Columbia River segment of the project. Phased improvement work in the Willamette River will allow creative efforts to manage dredged materials.

Thomas M. Stanton

Sincerely,
Thomas M. Stanton
Vice President

DIATECT INTERNATIONAL CORPORATION

November 17, 1998

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E ATTN: Steven J. Stevens
PO Box 2946
Portland, OR 97208-2946

Dear Mr. Stevens:

As a company which relies upon export trade, it is important that we lend our support to the dredging program to deepen the shipping channels on the Columbia River.

If larger vessels can be utilized to help to minimize the freight cost component of our business, we consider the dredging program to be a very necessary action, money wisely spent.

Sincerely,

George H. Henderson
President & CEO

cc C. Dianne Perry
Executive Director
Columbia River Channel Coalition

221-A West 37th Street * Boise, Idaho 83717 * (208) 342-2273 * fax (208) 343-3451

OREGON WHEAT

November 6, 1998

U.S. Army Corps of Engineers, Portland District
CENWP-PE-E
ATTN: Steven J. Stevens
PO Box 2946
Portland, OR 97208-2946

RE: Channel deepening

Dear Mr. Stevens:

The analysis process for deepening the Columbia River Channel was started nearly ten years ago. As you know, the U.S. Army Corps of Engineers has completed its draft Environmental Impact Statement (DEIS) and is sending it out for final public review.

Channel deepening is an important step the region must take to remain competitive in international trade. In the case of the wheat industry, each sacrificed foot of draft equates to 2000 tons of wheat that couldn't be loaded on a vessel common to the lower Columbia ports. Even at today's dismal wheat price of $3.10 per bushel, three feet of additional draft — 6,000 tons of wheat — translates to $620,000 worth of wheat that could be loaded in a deeper channel. Light-loading vessels costs money, and makes us less competitive than would be the case with a deeper channel. As freight economics drive vessel owners to larger and larger ships, this disadvantage will grow.

Since the lower Columbia handled 40% of US wheat exports (13 million tons) in 1997, freight competitiveness is an important priority. The lower Columbia serves several western states, reaching beyond the borders of the Pacific Northwest to become an important national trade gateway. The deeper channel, coupled with continued inbound barge transportation to the lower ports, will play pivotal roles in our region's international trade competitiveness and prosperity.

The lower river ports are committed to getting the project done in an environmentally sensitive manner. Trade will benefit substantially from the deeper channel, with ripple effects extending through the northwest and into the surrounding states. It's time to move forward with deepening the lower Columbia River channel; we request that the Corps move with deliberate speed toward completion.

Sincerely yours,
OREGON WHEAT GROWERS LEAGUE

Daren Coppock
Executive Vice President

cc: Dianne Perry, Columbia River Channel Deepening Coalition
Tom Decker, Port of Portland
Lynne Chamberlain Buchanan
OWGL Board of Directors

G:\USERS\CAROLYN\DARENCOR\DEEPEN.WPD

Oregon Wheat Growers League • P.O. Box 400 • Pendleton, OR 97801
Phone (541) 276-7330 • Facsimile (541) 276-1723 • http://www.owgl.org/

CLAYTON–WARD CO. AN OREGON CORP.
3500 MAINLINE DRIVE NE
SALEM, OR 97303
PHONE (503) 393–8700
FAX (503) 393–5931

RECEIVED
OCT 26 1998
REGULATORY BRANCH

DATE: 10/24/92

TO: Army Corp of Engineers

FROM: We support the dredging of the Columbia to 43' feet. In addition you should consider dredging the Willamette as far as Salem for navigation and recreational purposes. Sincerely

W E Purtney President

PAGES, INCLUDING THIS COVER LETTER.

IF PROBLEMS WITH TRANSMISSION, PLEASE CONTACT

(503) 393–8700.

Please include this as public testimony

FAX TRANSMITTAL COVER LETTER

November 25, 1998

LAND & TIMBER DIVISION

THE MENASHA CORPORATION

U. S. Army Corps of Engineers, Portland District
CENWP-PE-E Attn: Steven J. Stevens
PO Box 2946
Portland, OR 97208-2946

Dear Mr. Stevens:

The Portland District of the Corps of Engineers is currently soliciting public comment concerning a channel deepening project on the Columbia River. The proposed project would deepen the river to 43 feet from the mouth to Portland. Menasha Corporation would like to go on record in support of the proposed project.

Menasha is actively engaged in the log export business at the port of Longview. Availability of the most cost effective transportation from our loading port to our customers' destination in Japan is critical to the survival of our business. Ship size is a key factor in maximizing cost savings. Deepening the channel to 43 feet would allow our customers to use larger ships than are currently being used and thus load a larger cargo at Longview. At a time when log supplies from other parts of the world are severely competing with our logs, any cost advantage that can be gained for our customers is especially important. Ours' is just one of many businesses in the area that depend on the Columbia River as a cost effective transportation system. The entire region needs this project to maintain its position as a key trading partner with Asian markets.

From a preliminary review of the Corps feasibility study, it appears that the environmental impacts of the project have been considered. Assuming that all environmental issues are satisfactorily resolved, we see no reason why the project should not be undertaken.

In summary, Menasha as a company and the region as a whole, needs this project. We strongly urge the Corps to proceed as soon as possible.

Sincerely,

Richard D Hirschberg

Richard D. Hirschberg
Marketing Manager

RDH/cab

xc: Mike Aller
Bill Lansing
Rolf Glerum
Diane Perry

Portland Chamber

January 26, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT-
COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

On behalf of the Portland Metropolitan Chamber of Commerce, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Donald S. McClave
President and
Chief Executive Officer

Portland Metropolitan Chamber of Commerce
221 N.W. Second Avenue
Portland, Oregon 97209-3999
503 228 9411 *Fax 503 228 5126*
Internet *http://www.pdxchamber.org*
e-mail *chamber@pdxchamber.org*

ANDERSON

WORLD WIDE SUPPLIERS OF PREMIUM
QUALITY HAY, GRAIN AND LIVESTOCK FEED

January 29, 1999

Mr. Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT--
COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Stevens,

On behalf of Anderson Hay and Grain Co., Inc., I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

We ship over 4,000 containers per year of Oregon grass seed STRAW to Asian cattle markets. We are part of an industry that ships about 14,000 containers per year of grass seed straw out of the Port of Portland via the Columbia. 10 years ago this straw was being burned, polluting the Willamette Valley. Now, our industry ships 200,000 acres worth of straw out the Columbia River to Asia instead of burning that very acreage. In addition, our industry ships many more containers of alfalfa from the Upper Columbia Basin. Our industry depends on progressive and reliable container service to compete in our overseas markets. We are a high bulk, heavy weight cargo that depends a great deal on the Columbia River channel.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million.

ANDERSON HAY & GRAIN CO., INC
23261 Hubbard Cut Off Road
Aurora, OR 97002
Phone: (503) 678-2390 FAX: (503) 678-3321

I would like to offer the following views on the DEIS:

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers such as ourselves.

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are a few steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products, especially agricultural products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Steve VanMouwerik
General Manager, Anderson Hay Oregon Division

Cc Mark Anderson

PACIFIC RIM TRADE ASSOCIATION

526 N.W. MARLBOROUGH STREET, PORTLAND, OREGON 97210
PHONE/FAX: (503) 241-4259
EMAIL: ROLFGLERUM@MSN.COM
ROLF D. GLERUM, EXECUTIVE DIRECTOR

January 26, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING—COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

I am writing on behalf of the members of Pacific Rim Trade Association to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation because the channel serves as an important competitive corridor for ocean transportation access to key markets in Asia

PRTA is a 27-year-old organization whose membership consists of companies and individuals engaged in the export of forest products, in addition to maritime transportation issues related thereto.

The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North and South Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amounts to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

- Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system, will not expand the transportation capacity as needed to support shippers.

- The alternatives suggested by the project sponsors also offer the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' alternative.

- Environmental considerations are critical to this project. PRTA believes this project can be completed in conformance with this region's environmental standards. Beneficial use of dredge materials, extensive habitat improvements and selection of project options to minimize disposal impacts are key steps in proceeding in a sensitive manner.

- We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our members' views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated

Sincerely,

Rolf D. Glerum
Executive Director

COWLITZ ECONOMIC Development COUNCIL

1452 Hudson Street
U.S. Bank Building, Suite 208
P.O. Box 1278
Longview, WA 98632

(360) 423-9921
Fax (360) 423-1923
CEDC@AOL.COM

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

Dear Mr. Stevens:

On behalf of the Cowlitz Economic Development Council, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

Cowlitz County has seen a significant need for the channel deepening project. Organizations such as Reynolds Metals, Longview Fibre, BHP Steel, and others rely on the Columbia River to export their product thus making it necessary for the River to support their shipments. This project is also of importance to business interested in the Cowlitz County area.

Deepening the Columbia River is not only beneficial at the local level, but at a national level as well. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

Thank you for the opportunity to share my views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Clint Page

Clint Page
CEDC President

CELEBRATING OVER A CENTURY OF SERVICE
FOUNDED 1888

GEO. S. BUSH & CO., INC.
P. O. Box 8829
Portland, Oregon 97208-8829 U.S.A.

January 27, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, OR 97208-2946

Re: LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT-
COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

On behalf of George S. Bush & Co., Inc., I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia

Our collective client base represents hundreds of millions of dollars worth of imports and exports over the Columbia River.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this Navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsor's Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is the key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

FREIGHT FORWARDERS
OCEAN AND AIR CABLE "BUSH"
FMC NO. 162 IATA NO. 38-5-7837

TELEPHONE 503-228-6501
FAX 503-294-0432
TELETYPE 910 464-1527

CUSTOMS BROKER
CHB LIC. NO. 38

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Stephen M. Craig
President

HAR

SHARP MICROELECTRONICS TECHNOLOGY, INC.
5700 NW Pacific Rim Boulevard
Camas, Washington 98607
Telephone (360) 834-8700
Facsimile (360) 834-8611

January 27, 1999

Mr. Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, OR 97208 – 2946

RE: Lower Columbia River Channel Deepening –
Comments on Draft Environmental Impact Statement

Dear Mr. Stevens,

On behalf of SHARP Microelectronics, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation because the channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

As a subsidiary of a Japanese company, our firm chose its current site based in large part on the transportation advantages of being in the Portland area. We rely on direct transportation connections with Japan to provide us with the raw materials, parts and equipment necessary to our continued operation. In addition, our finished products are distributed to other SHARP companies around the globe. As new vessels continue to increase in size, a deeper channel becomes a necessity for the Columbia River. Failure to deepen the river will result in a reduction of steamship activity in the region. This can only have a negative impact on companies such as SHARP.

National impacts for the channel are evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views on the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The alternatives suggested by the project sponsors also offer the best approach to this navigation improvement project. Important agricultural lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' alternative.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredge materials, extensive habitat improvements, and selection of project options to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamete River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Richard J. Housman
Import-Export Administrator

COLUMBIA CORRIDOR
ASSOCIATION

Sustaining Sponsors
Bit-Tel Investment
Boeing Portland
PacifiCorp
Portland Development Comm.
Portland General Electric
Port of Portland
Sivers Companies
Three Oaks Development

Board of Directors
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Columbia Steel Casting Co.
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Ossey Patterson Co.
Tony Reser
Cushman & Wakefield
Paul Shirey
Port of Portland
Eric Sparro
Spieker Properties
Claudia Steinberg
TRI-MET
Anne Nickel
Executive Director

January 27, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING - COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

On behalf of the Columbia Corridor Association (CCA), I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation because the channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

The Columbia Corridor, home to over 2900 businesses and 40 % of the regions vacant industrial land, is the transportation hub for the State of Oregon and this region of the country. The Corridor has Portland International Airport, 4 marine terminals, two transcontinental railroads, 3 highways (I-5, I-205, I-84), and is the terminus for the 2nd largest river barge system (Columbia / Snake Rivers) in the country. Shipping is a critical intermodal connection in this transportation hub. With an estimated 14 % (and growing) of the gross state product in import/export activities, shipping continues to play vital role is the success of our economy. "All roads lead to the Columbia Corridor" because we are the gateway to the world and nation.

National impacts for the channel are evident in a number of ways. The Columbia River port system in the nation's largest grain export in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS)

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

P.O. BOX 55651 · PORTLAND, OREGON 97238 · 503/287-8686 · FAX 503/287-0223

2. The alternatives suggested by the project sponsors also offer the best approach to this navigation improvement project. Important agriculture lands would be preserved and dreading disposal impacts would be minimized under the sponsors' alternative.

3. Environmental considerations are central to a project of this mature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredge materials, extensive habitat improvements and selection of projects options to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of the U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Anne Nickel

Anne Nickel
Executive Director

cc: CCA Board of Directors

BHP

BHP Coated Steel Corporation
BHP Steel Products

January 27, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P O Box 2946
Portland, OR 97208-2946

Re: Lower Columbia River Channel Deepening Project—
Comments on Draft Environmental Impact Statement

Dear Mr. Stevens:

On behalf of BHP Coated Steel Corporation I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important corridor for ocean transportation access to key markets in Asia.

Our business success depends upon being able to import semi-finished steel by ocean-going vessel. We currently consume approximately 250,000 tons of steel per year and expect that to increase to 360,000 tons per year within two years.

Because steel is so dense, vessels supplying our company are often weight rather than volume limited. It is our expectation that in future years our suppliers will need to take advantage of the economies offered by greater keel depth.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

BHP Coated Steel Corporation, 222 West Kalama River Road, Kalama, WA 98625, USA
Telephone (360) 673-8200 Facsimile (360) 673-8250
BHP Steel Products is a business group of The Broken Hill Proprietary Company Limited, incorporated in Australia

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsor's Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of the U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Very truly yours,
BHP Coated Steel Corporation

RICHARD L. WECHSLER
President

RLW:clm

BHP Coated Steel Corporation, 222 West Kalama River Road, Kalama, WA 98625, USA
Telephone (360) 673-8200 Facsimile (360) 673-8250
BHP Steel Products is a business group of The Broken Hill Proprietary Company Limited, incorporated in Australia

COLUMBIA GRAIN, INC.
15660 N. Lombard
Portland, Oregon 97203

CGI

Terminal #5
Portland, Oregon
Area Code 503-286-9681

January 26, 1999

Mr. Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING—COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

On behalf of Columbia Grain, Inc., I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation because the channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

Columbia Grain, Inc. is a regional grain company located in Portland, Oregon CGI operates approximately 30 facilities located in the states of Oregon, Washington, Idaho and Montana. Our export facility is located in the City of Portland on the Willamette River in the Rivergate Industrial Park area. We export approximately 3 million metric tons of wheat, barley and canola annually. CGI handles 10-12% of all U.S. wheat exports. Additionally we ship commodities such as dry green peas, lentils and Austrian winter peas for export by containers from the Columbia River system.

As I said CGI is located on the Willamette River very close to the mouth of Willamette River. We are adjacent to Kelly Point Park approximately .1 to .2 miles from the Columbia River. I am concerned about the discussion to delay proceeding with lowering the Willamette River to 43 feet. While I am concerned about the toxic materials in certain sections of the Willamette, the Columbia facility is not located in those areas. I can see no reason why dredging could not proceed in the lower sections of the Willamette. For Columbia Grain to not have access to a 43 foot channel would present us with a serious competitive problem with other grain operators located on the Columbia River.

In the longer term, Columbia Grain would desire to reenter the corn and soybean export business. We must have competitive freight rates to maintain and expand our existing business. Competitive rates are achieved through the

maximum use of panamax and larger size vessels. The deepening of the channel to 43 feet is vital in maximizing the use of these vessels. Corn and soybean exports move almost exclusively in the larger size vessels. The use of these vessels is becoming much more prevalent in the wheat trade also.

The health of our regional economy is linked to a competitive river transportation system. The U.S. faces intense competition from other grain exporting countries. Transportation has long been a key advantage for the U.S.

National impacts for the channel are evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

I would like to offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The alternatives suggested by the project sponsors also offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' alternative.

3. Environmental considerations are central to a project of this mature and I believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredge materials, extensive habitat improvements and selection of project options to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. I strongly recommend moving ahead with the Columbia River and lower Willamette segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of the U.S. products. Phasing the improvement work in the affected sections of the Willamette River would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share my views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Bert Farrish
President, Columbia Grain, Inc.

COLUMBIA RIVER
CUSTOMS BROKERS & FORWARDERS ASSOCIATION, INC.

Air Express Int. (AEI)
Allports Forwarding, Inc.
Byrnes
Circle International, Inc.
Edward M. Jones & Co., Inc.
Expeditors International
Fritz Companies, Inc.
Fujitrans U.S.A. Inc.
Gallagher Transport International
Geo. S. Bush & Co., Inc.
Global Trading Resources, Inc.
James J. Boyle & Co.
Kintetsu World Express (USA) Inc.
Kyocera Industrial Ceramics
Lindsey Forwarders, Inc.
Nippon Express USA, Inc.
Oregon International Airfreight Co.
Ronald D. Stribling Co.
Summit Trade Specialists (U.S.)
The Myers Group
TLR - Total Logistics Resource
Western Overseas Corp.
William Stringfield
Yusen Air & Sea Service, Inc.

January 29, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, OR 97208-2946

Re: *Lower Columbia River Channel Deepening – Comments on Draft Environmental Impact Statement*

On behalf of the Columbia River Customs Brokers & Forwarders Association, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation because the channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

National impacts for the channel are evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

The CRCBFA offers these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The alternatives suggested by the project sponsors also offer the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' alternatives.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredge materials, extensive habitat improvements and selection of project options to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U. S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

J L Haggin

Judith L. Haggin
President

P.O. Box 1180, Vancouver, WA 98666 • (360) 693-3611 • Portland (503) 289-8824 • Fax (360) 735-1565 • Portland (503) 285-6091

PORT OF VANCOUVER USA

February 4, 1999

District Engineer
U S Army Corps of Engineer District , Portland
Attn: CENWP-EC-E
PO Box 2946
Portland, OR 97208-2946

RE: Integrated Feasibility Report for Channel Improvement and EIS

Dear Sir:

Thank you for allowing us the opportunity to comment on the draft Integrated Feasibility Report for Channel Improvement and EIS. The CORPS has done an excellent job in conducting this study and documenting the findings, as well as providing the opportunity for public comment.

From a navigation and shipping perspective, the $39.7 million annual transportation efficiency benefit across the system with minimal environmental impact, is a critical factor to the Ports. This cost savings reflects a measurement of enhanced competitiveness for U.S. export products for the region as well as national interests.

It is vital that this project move forward as expeditiously as possible. The Columbia River navigation channel provides a strategic trade corridor to the Pacific Rim, especially for bulk commodities. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port system in the world. These agricultural commodities originate not only in the Pacific Northwest but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland.

The draft EIS has identified the economic benefits, offered the most environmentally sound options for construction of the project, proposed mitigation for any impacts, and includes approximately $8 million in added ecosystem restoration projects. The Sponsors Preferred Alternative Disposal Plan addresses the concerns of farmers and landowners on the

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PORT OF VANCOUVER USA

costs for environmental costs and putting approximately 60% of the material to beneficial use.

Need for a Deeper Channel

We support the Corps findings contained in the Feasibility Report to deepen the navigation channel to 43 feet because of the regional and national need for the project. The Columbia River is the region's link to world markets. In 1997 more than 32 million metric tons of waterborne cargo valued at $13 billion moved via lower Columbia River ports. The volume of waterborne international trade is significant locally in terms of jobs, important regionally in terms of the contribution of trade to the regional economy, and of national significance as an export gateway for U.S. products being shipped abroad.

Sponsor's Disposal and Mitigation Plan

To implement the government's least cost plan contained in the draft EIS, the Corps considered more than 157 upland disposal sites along the 114 mile navigation channel. Environmental and engineering screening criteria, coordination with the National Marine Fisheries Service and other resource agencies, and input from public meetings have reduced the list to 31 proposed upland disposal sites, of which eight have not previously been used.

The federal planning process allows local port sponsors the option to propose a "sponsors' plan" as an alternative to the federal "least cost plan" provided that the incremental cost increase of the sponsors' plan is paid for by the sponsors. Consequently the port sponsors developed an alternative plan with the objective of avoiding and minimizing impacts. This sponsors' alternative substitutes transportation costs for environmental costs by moving sand longer distances to appropriate sites where dredged sand can be put to beneficial use, such as industrially zoned sites, remedial activities, or for aggregate use and reclamation. The proposed sponsors' plan contained in the draft EIS relies on 29 upland disposal sites, of which only three are new. At an incremental cost of approximately $5 million over the government's least cost plan, the

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PORT OF VANCOUVER USA

sponsors' plan minimizes the use of farmland and puts much of the sand to beneficial uses. As a result, the sponsors' plan will have less impact on wetlands and about half the wildlife impact as the corresponding mitigation requirement of the government's least cost plan. As an aside, a statement should be included in the Executive Summary referencing the appendices regarding the sponsor's preferred plan

The use of dredged sand to fill future development areas at the Port of Vancouver is a most critical aspect of the project, and allows the port to move forward in developing new industrial areas which provide new jobs and economic benefits to the region. We recommend that the Corps adopt the sponsors' plan in the final EIS because of its orientation to beneficial uses of Dredge material and the reduced impact on the environment.

In conclusion we strongly urge moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Sincerely,

Lawrance L. Paulson
Executive Director

LLP:ld

ESTABLISHED 1858

JONES STEVEDORING COMPANY

SERVING AMERICA'S WEST COAST

P.O. BOX 10167 • PORTLAND, OREGON 97296-0167 • 2323 N.W. SUFFOLK STREET, 97210

February 1, 1999

Mr. Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, OR 97208-2946

RE: Lower Columbia River Channel Deepening Project
Comments on Draft Environmental Impact Statement

Dear Mr. Stevens:

On behalf of Jones Stevedoring Company, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia. It requires the depth that the new large bulk, breakbulk and container vessels need in order to provide for these changing needs in the import/export shipping business.

Jones Stevedoring Company is the oldest established stevedoring company, doing business in the Columbia River District since 1908. We load and unload all commodities in this area. It is in the interest of our customers, owners, and employees to have a deep channel serving this area to permit us to compete with other ports and provide competitive services to the users of the channel from Oregon, Washington, most other states, and trading partner nations.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate int he Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimate $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

TELEPHONE (503) 228-6601 • FAX: (503) 228-0273

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature and we believe this project will be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Very truly yours,

JONES STEVEDORING COMPANY

B. Turrell

Captain Brian Turrell, Director

CBT/pag
cc: Ms. C. Dianne Perry, Executive Director
Columbia River Channel Coalition
6208 N. Ensign Street
Portland, OR 97217

BBL
BERNERT BARGE LINES

421 HIGH STREET, SUITE 108
OREGON CITY, OR 97045
PHONE: (503) 656-8288 FAX: (503) 657-3922

29 January 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2926

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT-
COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

On behalf of Bernert Barge Lines, I am expressing support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. The channel deepening project is vital to the Northwest and the entire nation. The channel is an integral part of a major competitive corridor for ocean transportation access to key markets in Asia, South America, and Australia.

The Columbia River port system is the nation's largest export gateway for wheat and the largest grain export port in the world. 15 container lines call Portland and provide shipping services literally anywhere in the world. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, increasing competitiveness for U.S. export and import products.

I offer these specific opinions of the Draft Environmental Impact Statement (DEIS)

1 Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers
2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.
3 Environmental considerations are central to this type of project and I believe this project can be completed in conformance with the region's environmental standards. Alternative use of dredged materials, continued habitat improvements, and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive and efficient manner.
4 I strongly recommend moving ahead with the Columbia River segment of the project rapidly. Prompt action is crucial to enhancing the competitiveness of U.S. products in the changing international marketplace. Phasing the improvement work in the

Willamette River segment would allow for careful examination of options to address the management of dredged materials in that portion of the project

Thank you for the opportunity to comment on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this critical navigation improvement will be greatly appreciated.

Sincerely,

Mike Henry

Mike Henry
Traffic Mgr.

GREATER VANCOUVER CHAMBER OF COMMERCE

SINCE 1890

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Fax (360) 693-8279
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Street
Suite 11
Vancouver
Washington
98663

Community Choices 2010

Identify Clark County

Leadership Clark County

January 28, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT--COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Stevens:

On behalf of the Greater Vancouver Chamber of Commerce, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

Here at home, the Port of Vancouver USA generates an estimated $180 million in local business revenue each year. It annually handles more than 440 ocean-going vessels and river barges with total tonnage exceeding five million tons. The Port is one of the largest grain exporters in the United States with industrial tenants employing 3,000 people with a payroll of $72 million a year.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

Specifically, we have the following comments regarding the Draft Environmental Impact Statement:

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Charles W. "Bill" Fromhold
PRESIDENT / CEO

cc: U.S. Representative Brian Baird
U.S. Senator Slade Gorton
U.S. Senator Patty Murray
Larry Paulson, Executive Director, Port of Vancouver USA
John White, Chair, GVCC Board of Directors
Joe Pinzone, Chair-Elect, GVCC Board of Directors
Catherine Rich-Daniels, Chair, GVCC Transportation Business Interest Group

Oregon POTATOES

Oregon Potato Commission

February 2, 1999

Mr. Steve Stevens
U.S. Army Corps of Engineers - Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

Re: Lower Columbia River Channel Deepening Project – Comments on Draft Environmental Impact Statement

On behalf of the Oregon Potato Commission, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

The Oregon Potato Commission represents 400 growers around the state. Approximately 75% of the potatoes produced in Oregon now go for processing into products such as frozen french fries, chips, and dehydrated potato flakes. We have seen tremendous export growth for these products over the past decade, and feel that the channel deepening would lower our export costs and help make us even more competitive in the international marketplace.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat, and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, and also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

The Oregon Potato Commission offers these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.
2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.
3. Environmental considerations are central to a project of this nature, and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvement, and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.
4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Thank you for your attention to these comments

William N. Wise
Administration & CEO

700 N.E. Multnomah, Suite 460 • Portland, Oregon 97232-4104
(503) 731-3300 • FAX (503) 239-4763

UNITED GRAIN CORPORATION

200 S.W. Market Street
Suite 1700
Portland, OR 97201-6281
(503) 228-6124

February 3, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
PO Box 2946
Portland, Oregon 97208-2946

RE: LOWER COLMBIA RIVER CHANNNEL DEEPENING PROJECT—
COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Stevens,

On behalf of United Grain Corporation, I am writing to express support for the deepening of the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important corridor for ocean transportation carrying U.S. goods and commodities to key markets in Asia and elsewhere, and we may be placed at a competitive disadvantage if this step is not taken to improve vessel access to the port.

United Grain has been in the export business for nearly 30 years, exporting wheat and other grains to customers in Asia and beyond from our facility in Vancouver, Washington. As you may know, the Columbia River port system is the largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate mostly in the Pacific Northwest, but we also regularly purchase shipments from Midwest states such as North Dakota, Colorado, Nebraska and Iowa.

The grain business is highly competitive and operates in an integrated international market, and we regularly find ourselves in direct competition with suppliers from Canada, Australia, Argentina and Europe. In recent years, we have seen our export volumes decline, as overseas buyers have replaced their Northwest purchases with grain purchased from our competitors. Our current inability to service larger vessels with deeper drafts in effect puts us at a competitive disadvantage as many of our customers are looking to maximize economies of scale and charter larger vessels with deeper drafts.

Deepening the channel will place us back on a more even playing field. The per-unit cost savings that shippers realize will reduce their cost of imports, in effect increasing their purchasing power for Northwest grains, and will allow this region to maximize its other comparative advantages, effectively attracting increased volumes to this port. In a year such as this, with low export volumes already a topic of great concern, and with the government considering aid packages to farmers to address the declines in farm income resulting from low grain prices, anything to enhance the competitiveness of U.S. grain exports will certainly be well received throughout the farm belt.

In addition, container cargoes from more than 40 states regularly pass through the Columbia River system. As the deeper channel will be of benefit to all commercial traffic in the Columbia River district, this region will be prepared for any unforeseen market demand that may emerge in the future. Moreover, a deeper channel will add to the safety of vessel movement, as tidal or river level changes will present less of a danger to navigation.

With regard to your Draft Environmental Impact Statement (DEIS), I would like to offer the following specific views:

1 Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are, of course, central to a project of this nature and I believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4 I strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share my views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely yours,

William Cormack
President,
United Grain Corporation

OREGON PUBLIC PORTS ASSOCIATION

February 2, 1999

Mr. Steve Stevens
U.S. Army Corps of Engineers
Portland District
PO Box 2946
Portland, Oregon 97208-2946

SUBJECT: Lower Columbia River Channel Deepening – Comments on Draft Environmental Impact Statement

On behalf of the Oregon Public Ports Association, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation because the channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

National impacts for the channel are evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps of study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The alternatives suggested by the project sponsors also offer the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' alternative.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredge materials, extensive habitat improvements and selection of project options to minimize disposal impacts are key steps in proceeding in a sensitive manner.

565 Union Street NE, Suite 209 • Salem, Oregon 97301 • (503) 585-1250 • FAX (503) 585-8993

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

OREGON PUBLIC PORTS ASSOCIATION

Kenneth W. Armstrong
Executive Director

KWA:adr

PORT OF WOODLAND
141 Davidson Avenue
P.O. Box 87
Woodland, Washington 98674

(360) 225-6555
FAX 360-225-6556

February 3, 1999

District Engineer
U.S. Army Corps of Engineers District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Or 97208-2946

Dear Sir:

This letter provides comments from the Port of Woodland on the Corps of Engineers' Draft Integrated Columbia and Lower Willamette Rivers Channel Improvement Study and Environmental Impact Statement.

The Port of Woodland fully supports the Corps' findings contained in the Channel Improvement Study to deepen the navigation channel to 43 feet. The Columbia River is the region's link to world markets. The volume of waterborne international trade is significant locally in terms of jobs, important regionally in terms of the contribution of trade to the regional economy, and of national significance as an export gateway for U.S. products being shipped abroad. For example, 43% of all U.S. wheat exports and 25% of all U.S. grain exports move through the Columbia River system.

The Port recommends that the Corps adopt the sponsors' plan for disposal of dredged material in the final EIS because of its reduced impact on the environment. The sponsor's plan attempts to avoid or minimize impacts by substituting transportation costs for environmental costs and planning for beneficial uses of dredged material where possible.

The Columbia River navigation system is a major part of the economy in the Pacific Northwest and is vital for supporting jobs in Cowlitz County. Deepening the Columbia River to 43 feet will help sustain our competitiveness and support job growth into the future.

The Port of Woodland urges the Corps to include the sponsors' plan in the final EIS and to expedite authorization and construction of this critical project. .

Sincerely,

David R. Ripp
Port Manager

PNWA
PACIFIC NORTHWEST
WATERWAYS ASSOCIATION

February 1, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box2946
Portland, Oregon 97208-2946

**LOWER COLUMBIA RIVER CHANNEL DEEPENING—
COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT**

On behalf of the Pacific Northwest Waterways Association, I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet We also support the sponsors' preferred plan. This channel improvement project is important to the region and the nation because the channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

Established in 1934, the Pacific Northwest Waterways represents 120 ports, energy providers, manufacturers, tug, barge, and steamship operators, agricultural and forest products producers, irrigation districts, municipalities and consultants from the States of Idaho, Oregon and Washington, and Washington, DC on issues related to transportation, energy, trade, and resource use.

The Columbia River channel deepening to 43 feet was unanimously endorsed as a PNWA priority issue by our membership at our Annual Meeting held last November. This endorsement means that the project is supported by a wide range of interests from Oregon, Washington and Idaho. It is supported by the steamship operators that carry the cargo to and from international markets, the deep draft ports on the Columbia that handle the cargo, the tug and barge operators and the inland ports that feed the cargo to the lower Columbia, the wheat growers, other agricultural producers and forest products producers who ship the cargo and who, since 1986, have paid for the maintenance of the deep draft channel through the Harbor Maintenance Tax. It is also supported by public and investor-owned utilities in the region who understand the positive impact of the deepening to the long term economic health of the region. Furthermore, the Columbia River channel deepening is supported by ports in Puget Sound, who are concerned about potential negative impacts on congestion and freight mobility in Puget Sound if the project is not completed.

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National impacts for the channel are evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

We offer these specific comments on the Draft Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The alternatives suggested by the project sponsors also offer the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' alternative.

3. Environmental considerations are central to a project of this mature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredge materials, extensive habitat improvements and selection of project options to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of the U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to comment on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated by a wide range of interests throughout the region.

Sincerely,

Glenn Vanselow, Ph.D.
Executive Director

SCHNITZER STEEL INDUSTRIES, INC.
3200 NW Yeon Avenue P.O. Box 10047 Portland, Oregon 97296-0047
Phone (503) 224-9900 Telex 289875 FAX (503) 299-2277

February 1, 1999

Mr. Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING--COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Stevens:

This is to provide comments on the draft environmental impact statement and to express support for the Columbia River navigation channel from minus 40 to minus 43 feet. We strongly believe the proposed channel deepening improvement is critical to the region and to the nation, serving as a key competitive trade/transportation corridor for U.S. shippers to world markets.

Schnitzer Steel Industries, Inc., with corporate headquarters in Portland, Oregon, is a scrap metal recycling and steel manufacturing business, with eleven scrap collection and processing yards in Oregon, Washington, California and Alaska (with deep draft marine terminals in Tacoma, WA; Portland, OR; and, Oakland, CA) and an electric arc furnace steel manufacturing "mini-mill" in McMinnville, Oregon. Through joint venture operations, Schnitzer is also involved in twenty-nine additional scrap metal recycling collection and processing yards in southern California, the southwest U.S. and most New England states (including deep draft marine terminals in Los Angeles, CA; Portland, ME; Providence, RI; Everett, MA; and, Jersey City, NJ).

From these many different locations, we well understand and value the important role the transportation system has not only on our business, but the economic vitality of entire regions of the country. Moving ahead with the Columbia River channel deepening project is vital to assuring continued freight mobility and competitiveness of U.S. shippers and manufacturers.

Certainly an important matter to appropriately study and evaluate are the environmental impacts the channel deepening project might have locally. We believe there have been fairly broad reviews of reasonable and feasible alternatives to dredging that might address other ways to meet our regional and national transportation needs. From our perspective, the alternatives suggested by the project sponsors appear to be quite sensitive to

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environmental issues, provide sensitivity to preservation of lands for agriculture, and minimize potential adverse impacts associated with dredging and dredge spoils disposal while encouraging beneficial uses. Although perhaps difficult to quantify, the report should also be sensitive to the additional environmental benefits the channel deepening project might have by better serving the U.S. transportation needs of shippers and manufacturers, who might otherwise be forced to ship less competitively through other ports -- which could actually encourage increased environmental degradation through greater reliance on existing transportation alternatives that might generate added pollution elsewhere.

Please move this project forward quickly. The need for the deeper channel is already here....and we believe multiple beneficial uses of the dredged materials could also foster speedier habitat improvements and restoration/recovery efforts.

Very truly yours,

SCHNITZER STEEL INDUSTRIES, INC

Tom Zelenka

Tom Zelenka
Manager
Legislative/Environmental
and Public Affairs

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G:\TZ\coldredge

W.G. MOE & Sons

February 2, 1999

Steve Stevens
U.S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2946

RE: LOWER COLUMBIA RIVER CHANNEL DEEPENING PROJECT

On behalf of W. G. Moe & Sons, Inc, and representing my position with the Oregon Columbia Chapter of AGC I am writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

I am aware of the financial and economic boom this will bring to our states and I think it is really a necessary step.

National importance of the channel is evident in a number of ways. The Columbia River port system is the nation's largest export gateway for wheat and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more than 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million, a measurement of enhanced competitiveness for U.S. export products.

AGC and I offer these specific views *of* the *Draft* Environmental Impact Statement (DEIS):

1. Deepening the channel to 43 feet is the best alternative of the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2. The disposal plan alternative suggested by the project sponsors offers the best approach to this navigation improvement project. Important agriculture lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3. Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4. I strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share my views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

William H. Moe
W. G. Moe & Sons, Inc.
AGC Oregon Columbia Chapter Representative

WHM/ls

CC: Craig Honeyman AGC Executive Director
C. Dianne Perry Executive Director CRCC

8850 S.E. 76TH DR. • PORTLAND, OR 97206-9767 TELEPHONE 503-775-8051 • FAX 503-775-1069

Building and Construction Trades Council

IN AFFILIATION WITH
BUILDING AND CONSTRUCTION TRADES DEPARTMENT
AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS
P.O. BOX 2393
LONGVIEW, WASHINGTON 98632

February 1, 1999

Steve Stevens
U.S. Army Corp of Engineers
Portland District
P.O. Box 2946
Portland, OR 97208-2946

RE: Lower Columbia River Channel Deepening Project-Comments on Draft Environmental Impact Statement

On behalf of the Longview-Kelso Building Trades Council, we are writing to express support for deepening the lower Columbia River deep draft channel from 40 to 43 feet. This channel improvement project is important to the region and the nation. The channel serves as an important competitive corridor for ocean transportation access to key markets in Asia.

The channel deepening is key to the economic development for all of the employers and workers along the river. The new generation cargo ships are entering and exiting the ports with partial loads, as they require the deeper draft channel. We feel that the only way to make the Columbia River Ports competitive in the Pacific Rim is to deepen the Columbia River.

National importance of the channel is evident in a number of ways. The Columbia River Port system is the nation's largest export gateway for wheat, and the second largest grain export port in the world. These agricultural commodities originate in the Pacific Northwest, but also include regular shipments from Midwest states such as North Dakota, Colorado, Nebraska, and Iowa. Container cargoes from more that 40 states regularly pass through the Port of Portland. As the Corps study notes, annual transportation savings for these shippers amount to an estimated $39 million. a measurement of enhanced competitiveness for U.S. export products.

We offer these specific views of the Draft Environmental Impact Statement (DEIS):

1 Deepening the channel to 43 feet is the best alternative to the options reviewed by the Corps. Other options, such as enhancing the existing Loadmax river level monitoring system will not expand the transportation capacity as needed to support shippers.

2 The disposal plan alternative suggested by the project sponsor offers the best approach to the navigation improvement project. Important agricultural lands would be preserved and dredging disposal impacts would be minimized under the Sponsors' Preferred Alternative Disposal Plan.

3 Environmental considerations are central to a project of this nature and we believe this project can be completed in conformance with this region's environmental standards. Beneficial use of dredged materials, extensive habitat improvements and selection of the Sponsors' Preferred Alternative Disposal Plan to minimize disposal impacts are key steps in proceeding in a sensitive manner.

4 We strongly recommend moving ahead with the Columbia River segment of the project quickly. Prompt action here is a key to enhancing the competitiveness of U.S. products. Phasing the improvement work in the Willamette River segment would allow for careful examination of strategies to address the management of dredged materials in that portion of the project.

Thank you for the opportunity to share our views on the Columbia River channel improvement project. Efforts by the Corps of Engineers to expedite completion of this important navigation improvement will be greatly appreciated.

Sincerely,

Tom Harris

Tom Harris
President

Peterson&Associates, P.S.
CERTIFIED PUBLIC ACCOUNTANTS

February 1, 1999

Mr. Steve Stevens
U. S. Army Corps of Engineers
Portland District
P. O. Box 2946
Portland, OR 97208-2946

Dear Mr. Stevens:

Re: Lower Columbia River Channel Deepening Project--
Comments on Draft Environmental Impact Statement

I am writing to support deepening the lower Columbia River deep draft channel from forty to forty-three feet. The channel serves as an important corridor for transportation access of northwest products to world markets.

The environmental impact will be minimal and in some ways beneficial.

1. Deepening the channel is a better alternative for transportation than building highways or railroads. The deepened channel leaves no visible impact. Some consider roads and highways to be a scar on the landscape.

2. The material, generally sand, that will be removed from the river is a very useful product. It is useful as a building material for dikes, concrete ingredient, fill material, etc. It is also very useful as a mixture in topsoil. Where can material for these purposes be acquired with less damage to the environment?

3 I strongly recommend prompt action on the Columbia River segment of the project.

Thank you for the opportunity to share my views on the Columbia River channel improvement project.

Sincerely,

Vernon F. Peterson

VFP:psm
e:\w\v\ss

7917 NE Hazel Dell Avenue ■ P.O. Box 65009 ■ Vancouver, WA 98665 ■ FAX (360) 573-4499 ■ (360) 574-0644

INTERSTATE COLUMBIA RIVER IMPROVEMENT PROJECT
P.O Box 3529 Portland, Oregon 97208

Port of Kalama Port of Longview Port of Portland
Port of St. Helens Port of Vancouver
Port of Woodland

February 4, 1999

District Engineer
U.S. Army Corps of Engineers District, Portland
Attn: CENWP-EC-E
P.O. Box 2946
Portland, Oregon 97208-2946

Dear Sir:

This letter provides consolidated comments from the lower Columbia River ports (non federal sponsors) on the U.S. Army Corps of Engineers "Draft Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement for the Columbia & Lower Willamette River Navigation Channel."

We wish to commend the Corps of Engineers on the clarity of the draft Feasibility Report / EIS (DEIS). One seldom finds a government document of this magnitude that is as well organized and easy to read. The DEIS is clear, concise and is written in language that can be easily understood by the public. The Corps is also to be commended for completing the draft on schedule. The regional and national importance of this project fully justified the additional effort required by the Corps to work through competing priorities in order to get the report out on time.

As sponsoring ports, we are committed to finding the most cost effective and environmentally sound method of deepening the Columbia / Willamette River navigation channel and preserving the region's position as a gateway for international trade. This commitment was formally stated in a resolution signed by John Fratt, former Chairman of the Interstate Columbia River Improvement Project, former Senator Mark Hatfield of Oregon and Senator Slade Gorton of Washington on September 6, 1994. This commitment continues today.

Need for a Deeper Channel

We support Corps findings contained in the Feasibility Report to deepen the navigation channel to 43 feet because of the regional and national need for the project. The Columbia River is the region's link to world markets. In 1997 more

than 32 million metric tons of waterborne cargo valued at $13 billion moved via lower Columbia River ports. The volume of waterborne international trade is significant locally in terms of jobs, important regionally in terms of the contribution of trade to the regional economy, and of national significance as an export gateway for U.S. products being shipped abroad. Portland, for instance is the largest wheat port in the U.S. The sponsoring lower Columbia River ports comprise the second largest grain exporting system in the world.

The lower Columbia River navigation channel has been actively dredged for more than 100 years. The existing 40 foot channel, which was authorized by Congress in 1962, has become inadequate to handle fully loaded dry bulk ships as well as calls from the larger container vessels. Because of the region's position as a national export gateway, the channel depth limitation increasingly threatens the nation's ability to provide competitively priced transportation compared with the international competition. The lower Columbia River ports have been actively engaged in the channel deepening project for over ten years. With each passing month the competitive disadvantage to the region and the nation increases. The channel needs to be deepened now. The DEIS in its conservative analysis offers a $39,700,000 annual transportation efficiency benefit across the system with minimal environmental impact. This cost savings is a measure of the enhanced competitiveness for U.S export products from a deeper channel.

Commodity Forecasts

Suggestions that the long-term commodity forecasts contained in the Feasibility Study be revised downward to reflect the recent economic difficulties now being experienced by Asian countries are misguided. We believe that any revisions based on this premise would be unjustified.

While long-term economic forecasts are typically presented as sequential trends with growth or decline occurring in steady increments, actual economic behavior is far more erratic. This is particularly true in international trade where periods of explosive growth are often followed by short-term retractions. It is because short-term trends can be erratic and misleading that economic forecasts relating to long-life infrastructure projects are based on long-term perspectives. Care must be given to avoid giving undue weight to current economic conditions when making such forecasts.

We believe that the current economic difficulties in Asia, while having a discernible impact on recent trade volumes, will not be long-lasting. This viewpoint is shared by virtually every economic forecasting group. Indeed, there are strong indications that the worst of the crisis has already passed and that the decline in export trade has ceased and perhaps trade has even started to grow again. This trend is reflected in the performance of the lower Columbia River container and grain businesses in the latter part of 1998.

For example, the commodity forecast for corn severely understates probable future corn exports from the Columbia River. Table 11, page 26, Appendix C, of the Report shows projected corn tonnage at 4.7 million tons in 2004, increasing to 5.4 million tons in 2014 and 6.4 million tons in 2024. To understand how extremely conservative this forecast is, one need only observe that historical Columbia River corn volumes have exceeded the 2024 forecast on three occasions in the last 9 years.

The Corps' corn forecast implies that the market share of U.S. corn exports for the Columbia River relative to the Gulf will decline in the coming decades. We believe that the opposite is true, that the Columbia River's share will increase over time. The assumption for increasing market share is confirmed by the comments and analysis of industry experts, and is stated in Faucett's 1996 projections.

The underlying long-term strength of U.S. corn exports was recently restated in the "USDA Agricultural Baseline Projections to 2007" (February 1998). This report can be viewed at the following web address:
http://www.econ.ag.gov/Briefing/baseline/index98.htm

We believe that the Corps' forecast has been unduly influenced by the short-term declines caused by the recent Asian economic crisis. We believe that corn forecasts should be adjusted upwards to more closely represent the original projections prepared by Jack Faucett Associates in 1996. The 1996 projections showed 10 million tons in 2004, 11.6 million tons in 2014, and 13.4 million tons in 2024.

While we have yet to recover to pre-crisis trade export volumes, most forecasts predict this may take only another year. When put in the context of the 50 year forecasting period used in the Feasibility Study, a period that does not even begin till the year 2004, the error of revising the forecasts because of a two to three year downturn becomes obvious.

It is reasonable to forecast that the 2000-2004 period will see healthy westbound trade growth in the transpacific trades, and that 2004 tonnage presently shown in the Feasibility Report will be met or exceeded.

In addition, please note the following correction that should be made in the Report. Table 6, title Columbia River Tonnage History, contains an error for 1997 wheat volumes. The table shows 9,634,800 shorts tons. The correct volume, according to Merchant's Exchange, should be 12,432,000 short tons This error no doubt resulted from an incorrect report that the Merchants Exchange issued. This error has since been corrected and the new figure may be confirmed by contacting the Merchant's Exchange directly. The same error should also be corrected in Table 9, page 23.

Sponsor's Disposal and Mitigation Plan

To implement the government's least cost plan contained in the DEIS, the Corps considered more than 157 upland disposal sites along the 114 mile navigation channel. Environmental and engineering screening criteria, coordination with the National Marine Fisheries Service and other resource agencies, and input from public meetings have reduced the list to 31 proposed upland disposal sites, of which eight have not previously been used.

The federal planning process allows local port sponsors the option to propose a "sponsors' plan" as an alternative to the federal "least cost plan" provided that the incremental cost increase of the sponsors' plan is paid for by the sponsors. Consequently the port sponsors developed an alternative plan with the objective of avoiding and minimizing impacts to natural resources. This sponsors' alternative substitutes transportation costs for environmental costs by moving sand longer distances to appropriate sites where dredged sand can be put to beneficial use, such as industrially zoned sites, remedial activities, or for aggregate use and reclamation. The proposed sponsors' plan contained in the DEIS relies on 29 upland disposal sites, of which only five are new. At an incremental cost of approximately $5 million over the government's least cost plan the sponsors' plan minimizes the use of farmland and puts much of the sand to beneficial uses. As a result, the sponsors' plan will have less impact on wetlands and about half the wildlife impact and the corresponding mitigation requirement of the government's least cost plan. We recommend that the Corps adopt the sponsors' plan in the final EIS because of its reduced impact on the environment.

In this vein we request that the Corps consider adding one additional existing beneficial use site to the sponsors' plan for evaluation in the FEIS. The site is managed and operated by the Port of Wahkiakum 2 at W 33.4.

Willamette River

Exports from grain elevators on the Willamette River make the Portland Harbor the single largest wheat port in the U.S. and deepening this section of the navigation channel would provide significant navigation benefits. However, sediment issues in the Portland Harbor are currently under review and remain unresolved.

The region urgently needs to move ahead with deepening the Columbia River segment to match the increasing size of vessels moving in today's waterborne commerce. We see this as a key to improving the competitiveness of U.S. products in world markets. Phasing the deepening of the Willamette River segment would allow time for careful examination of the management of Willamette River sediments without delaying the Columbia. Providing added

time for a more comprehensive approach on the Willamette segment of the channel may also present an opportunity to link Portland Harbor River cleanup efforts by the state of Oregon with the deepening of the Willamette River portion of the channel.

Before developing a recommendation on the manner in which the Willamette segment should be incorporated into the overall project we request that we be allowed to review comments received by the Corps on the Willamette River deepening plan contained in the DEIS so that we may work with you to address public concerns and project needs.

Proposed Non-Structural Alternative

The purpose of the proposed project is to improve the deep-draft transportation of goods on the Columbia and Lower Willamette Rivers navigation channels. In our view, the non-structural alternative described in the feasibility report does not provide sufficient potential for transportation benefits in order to be carried forward as an alternative to deepening the channel.

Continuous improvement of the existing river stage forecasting system (LOADMAX) is an important priority for the ports, the pilots, and the steamshipline customers that utilize the system's projected and real-time tide and river-stage information. However, in reviewing the data presented in the report, and in consultation with the NW River Forecast Center and the Columbia River Pilots, it is our conclusion that informational improvements only, would not allow any greater utilization of the existing channel than is already taking place.

LOADMAX is provided as a navigation planning tool for use on the Columbia and Willamette River systems. It has been in use since 1984 and is particularly accurate during low flow periods, when it is needed most by vessel operators, according to a study by the National Weather Service. Several significant improvements have been undertaken in the last two years by the NW River Forecast Center, which operates the model under agreement with the Port of Portland, and with these changes we believe that the current forecasts are as accurate as the science allows.

Since 1997, the hydrologists at the NW River Forecast Center have expanded the geographic boundary of the Dynamic Wave Operations Model that is used to forecast river stage to capture additional inputs into the system above Oregon City and on the Lewis and Cowlitz Rivers and updated the dynamic wave calculations. Frequency has been increased on use of Willamette flow forecasts and National Oceanic Service Tidal predictions at Astoria. New channel cross sections have been added and the model has been recalibrated with the benefit of the data from extreme high water conditions in 1996 and 1997. Several automatic adjustment procedures have been implemented to remove biases

between predicted and actual tides. These changes have enhanced the accuracy of the forecasts under all flow conditions.

The Port has worked extensively with the National Weather Service to improve the data transfer to the users, as well as to improve the forecast delivery by sending the forecast out as an E-mail. The reliability and frequency of the data transfer has increased between all parties, yet the forecast frequency is still limited to once per day under normal conditions. The reason for this pattern is to allow the River Forecast Center to do the time intensive work of coordinating with river regulators and basin managers, review boundary conditions, and provide quality control. When necessary, the new communication network allows the forecasts to be updated and delivered as required in response to significant changes, such as during flooding or unplanned regulation activity at Bonneville Dam. Ultimately the navigation forecast will be posted on the Internet to enhance access for mariners. In view of the work involved in developing each forecast, it is unlikely that the "entire forecast can be computerized so those forecasts could be obtained in a few minutes" as suggested in the Engineering Appendix.

These improvements notwithstanding, beyond the 3rd day, the current forecast is only accurate to within plus or minus one foot, due to the impacts of precipitation, adjustments to the regulation of dams, and wind conditions on the tides. It is extremely unlikely that these model inputs can be forecasted with any degree of accuracy far enough in advance to allow for the more efficient cargo scheduling as proposed in the alternative. Most cargo decisions are made weeks in advance, scheduling the arrival by barge and rail and truck far ahead of the sailing date, but with actual arrival at the export facilities within days. A long-range forecast with a bias of a foot or more will not improve vessel loading in a significant way- the costs of delays in port, demurrage, and terminal inefficiencies will maintain loading to within the range of drafts available with certainty.

Finally, the proposed non-structural alternative relies on significant improvement in the ability to assess the condition of shoaling areas in the Columbia. Inclusion of hydrographic survey data at three month intervals has the potential to add additional error to any forecast, as river conditions change on a monthly basis on many of the bars. In spite of congressional direction, it is not possible for the Corps to maintain the current 40' channel to its full 40 feet of depth at all times, and there are constant changes in the conditions which the Columbia River Pilots must take into consideration as they navigate the vessels. The only certain way to provide additional capacity for deeper draft vessels is to physically increase the depth of the channel

We see the need to make ongoing improvements in LOADMAX to enhance navigation safety and improve efficiencies. We are equally convinced that

marginal improvements in the forecasting system alone will not be sufficient to provide significant transportation benefits to the region's shippers and the nation.

Dredge OREGON

The authorizing language for the existing 40 foot channel requires that the Port of Portland provide a pipeline dredge, on a reimbursable basis, to the Corps of Engineers for maintaining and improving the navigation channel. The Port of Portland's hydraulic, cutterhead, pipeline dredge OREGON is used to fulfill this requirement. The OREGON is used primarily for maintaining the navigation channel under contract to the Corps of Engineers although the dredge is also used for land reclamation which has resulted in creation of many of the port and industrial lands on the Columbia and lower Willamette system for port and public agencies on both the Oregon and Washington sides of the river.

Paragraph 2.4.1.2 in the feasibility report states that "About 2mcy of material per year are dredged by pipeline dredges, nearly all by the Port of Portland's 30-inch dredge OREGON." Initial results from an independent study commissioned by the Port of Portland, using current data generated by the Corps of Engineers, shows that for the last four years (July 1, 1994 - June 30, 1998) the OREGON dredged approximately 16 mcy from the channel under its contract with the Corps for an annual average of 4 mcy. In addition the Port's study indicates that the OREGON unit dredging costs are at least 21% less than unit dredging costs in the Corps' cost estimating dredging program for a similar sized dredge. This reinforces the fact that the OREGON continues to be the most cost effective pipeline dredge for the Columbia River. With the shift to more upland disposal in channel maintenance and channel deepening, there will be an increased role for pipeline dredging in the future. For these reasons we recommend that the requirement for the Port of Portland to provide a pipeline dredge to the Corps be carried forward into the authorizing language for the new 43 foot channel.

Ecosystem Restoration

In addition to our commitment to the region's economic future through channel deepening, the Columbia River ports are also committed to completing the ecosystem restoration component of the project. From the initial planning stages we recognized our responsibilities as project sponsors to demonstrate a commitment to not only mitigate for environmental impacts but to also, where possible, to improve or restore the natural environment. We are pleased with this opportunity to show our commitment and to move forward in a partnering effort with the Corps of Engineers on this important environmental project.

In conclusion, we urge the Corps to move forward expeditiously and incorporate the sponsors' plan in the final EIS so that this critical project can be authorized and constructed as quickly as possible.

Port of Kalama

Port of St. Helens

Port of Longview

Port of Vancouver

Port of Portland

Port of Woodland