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:

Government Plan (Washington)

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

14. (con't)

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.

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.

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.

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.

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.

Corps of Engineers Response

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.

19. This requirement will be addressed in the more detailed mitigation analysis that will occur during PED.

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.

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
21. 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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Corps of Engineers Response

1. Comments noted.

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).

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
2. 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.

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.

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.

Corps of Engineers Response

2. Comments noted.

3. Comments noted. See our responses to your specific comments.

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.

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.

Corps of Engineers Response

4. Comments noted.

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.

Corps of Engineers Response

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.

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.

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.

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.

Corps of Engineers Response

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. 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. 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

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

13.

Corps of Engineers Response

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.

Corps of Engineers Response

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.

Corps of Engineers Response

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.

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. 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 .

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

Corps of Engineers Response

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.

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.

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

24. 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. 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.

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

25. 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.

Corps of Engineers Response

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.

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.

Corps of Engineers Response

26. Comments noted.

Corps of Engineers Response

- 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.

26. (con't)

- 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 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.

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

27. Comments noted.

Corps of Engineers Response

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

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.

Corps of Engineers Response

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.

Corps of Engineers Response

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:

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
2. 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:

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
3. 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.

<u>Assessing Impacts to White Sturgeon</u>

Determining Long Term Population Impacts:

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
4. 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.

Corps of Engineers Response

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-

6. grained sediments from wetted perimeter of the shoreline to approximately 15 feet of water. 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.

Corps of Engineers Response

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

Corps of Engineers Response

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.

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.

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.

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.

Corps of Engineers Response

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. 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.

Corps of Engineers Response

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.

Corps of Engineers Response

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.

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
13. 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.

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
14. 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

The Corps does not consider state listed or WDFW Priority Habitats and Species (PHS) in its
15. 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)

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).

16.

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.

Each mitigation site should include a description of site specific baseline data for vegetation,
17. 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.

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.

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).

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.

Corps of Engineers Response

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.

19. See previous response. Property boundaries and infrastructure (e.g. roads) dictate levee alignment. Natural features will be integrated to the extent practicable.

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
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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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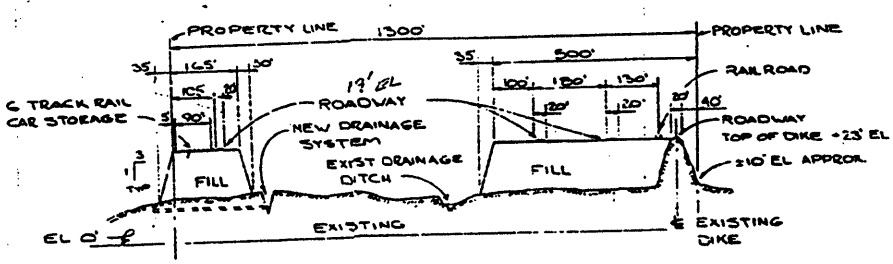
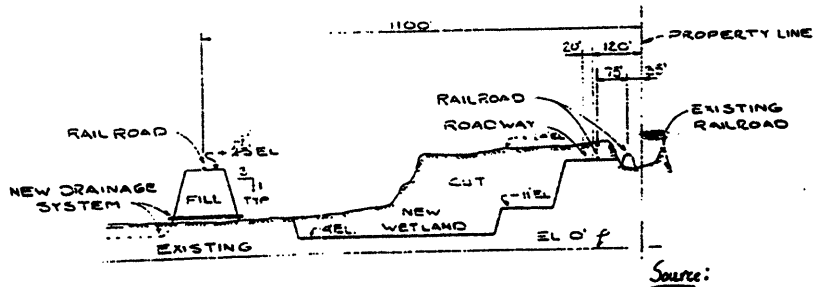


SECTION A-A

SCALE: HORIZ 1" = 200'
VERT 1" = 20'



SECTION B-B

SCALE: HORIZ 1" = 200'
VERT 1" = 20'

Source:
Letter to Martin County, Cowlitz Co. Dept. Comm. Devel. From R. Mack, WDOE. Re: Shoreline Conditional Use Permit. #3049-88-61-0387. 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

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.

3. 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

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
4. 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.

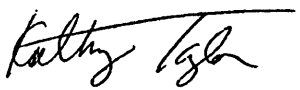
8. Not all container vessels in the future will be mega-ships, and not all container ports in the future will be mega-ports. Vessels in the mega-ship class exceeding 6,000 TEU capacity will indeed require channel and berth depths of 50 feet, but in the future most of the Pacific Northwest's container 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

1 Portway • Astoria, Oregon 97103

(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 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. Mellor, President & General Manager
S. C. Welsh-Enloe, Director of Marketing
R. K. Carskadon, Trainmaster - Director of Safety
R. D. Vincent, 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

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:

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.

1.

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)

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.

2.

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.

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.

3. 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.

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.

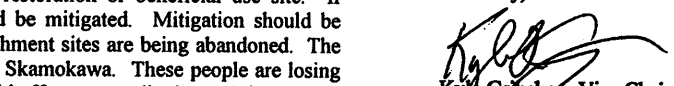
6. There is no ***mitigation*** planned for estuary or ocean impacts from dredged material disposal. Impacts from dredged material disposal in the estuary and for 80 square miles of the ocean need to be mitigated. This includes the proposed "beneficial use" at Millar/Pillar. We question this site as 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 Gibson, Vice Chair
Port Commission

cc: Senator Sid Synder
Representative Mark Doumit
Representative Brian Hatfield
Governor Gary Locke
Senator Patty Murray
Senator Slade Gorton

PORT OF ILWACO

P.O. Box 307
Ilwaco, Washington
98624

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.

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
3. 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 MB

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.

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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.

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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.

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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

3.

- The conclusion "no appreciable change" is simply not true
- Smolting time is critical for anadromous fish

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.

4.

- Blowing sand impacts not addressed

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.

- 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.

- 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.

- 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**

- 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

- "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**

- 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 upon 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.

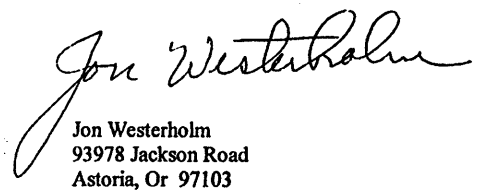
11. There may be a visual impact from use of new disposal sites. They would look similar to the barren sandy beaches common in the area.

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
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.

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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.

- 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 modern 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.

- 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.

- 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

C:\MANAGER\CC\CORPS OF ENGINEERS

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

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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

JON A. ENGLUND
PRESIDENT

February 2, 1999

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

II. Misrepresented crab information

2.

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
Past President C.R.C.F.A.

RNS/j

SEA RESOURCES, INC.
Post Office Box 187
CHINOOK, WASHINGTON 98614

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
2. 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
3. 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

Commissioners Meeting Room - 300 Memorial Ave
Commissioners Office - 1216 W. Robert Bush Drive
P.O. Box 187
South Bend, WA 98586
Willapa Harbor Area (360) 875-9337
Peninsula Area (360) 642-9337
Naselle (360) 484-7136 Ext 337
North Cove Area (360) 268-0891 Ext 337
FAX (360) 875-9335
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.

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

2. 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.

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

3. 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.

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

4. 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.

action minimizes impacts and provides ways to mitigate environmental impacts. The feasibility report, and the DEIS, both fail to adequately address, or even thoroughly
4. (con't) 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.

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.

5.

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.

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
6. 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

Corps of Engineers Response

5. See our response #3 and #4 to the CREST letter regarding Loadmax and the regional port analysis.

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.

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
9. 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.

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.

10. See response #7 to the CREST letter.

10.

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

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., Chairman

Pat Hamilton, Commissioner

Bud Cuffel, Commissioner

Corps of Engineers Response

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

Clatsop County

County Courthouse
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Board of
County Commissioners

Phone (503) 325-1000
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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

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,

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
1. 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:

• 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
2. 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.

• 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),
3. 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.

• 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
4. 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.

• 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 expecta-
5. tions, 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.

• 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
6. 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.

• 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
7. 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 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.

7. (con't)

• 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.

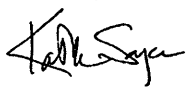
8.

• 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.

9.

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, 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.
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(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

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 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.

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 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 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 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.

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