COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION
COLUMBIA RIVER NAVIGATION CHANNEL IMPROVEMENT STUDY
OREGON AND WASHINGTON

Introduction

The proposed federal actions addressed in this consistency determination are described in the Final *Integrated Feasibility Report and Environmental Impact Statement* (IFR/EIS) dated August 1999 and Supplemental IFR/EIS. These actions include deepening the authorized 40- feet depth channel, with advanced maintenance to 45-feet, to an authorized depth of 43-feet with advanced maintenance to 48- feet; and disposal of the dredged material at Miller Sands and Skamokawa beach nourishment sites, disposal of dredged material at several upland sites, in-water estuarine (flowlane) disposal, disposal of dredged material in the Deep Water ocean disposal site, restoration via beneficial use of dredged material of tidal marsh habitat at Lois Island embayment and tidal marsh/intertidal flat habitat at the Miller-Pillar location, and restoration of tidal connection and intertidal habitat within Tenasillahe Island based on the recommendations in the Final *Integrated Feasibility Report for Channel Improvements and Environmental Impact Statement*, dated August 1999 (Final IFR/EIS) and the Supplemental IFR/EIS. The Final SEIS is expected to be released to the public no later than January 30, 2003.

The Supplemental IFR/EIS updates information, environmental analyses, and project modifications resulting from consultation of the Columbia River Channel Improvement Project under Section 7 of the Endangered Species Act (ESA). Additional ecosystem restoration features also have been incorporated into the Project. These features would be constructed using several different means. The Lois Island Embayment and Miller-Pillar habitat restoration efforts would be constructed via placement of dredged material to attain target depths at each location. Miller-Pillar would also require construction of a pile dike field (five pile dikes) to hold the dredged material in place.

This determination of consistency with the Coastal Zone Management Program is based on review of applicable Oregon Statewide Planning Goals and Guidelines, Washington Coastal Zone Management Program and policies and standards of the Clatsop County Comprehensive Plan and Pacific and Wahkiakum County (Washington) Shoreline Management Programs. Additional discussion of consistency with the Pacific and Wahkiakum County Shoreline Management Program is contained in the Technical Memorandum prepared under the Washington State Environmental Policy Act and is incorporated by this reference.

Proposed Actions

Dredging

Dredging would be accomplished by both hopper and pipeline dredge within the coastal zone. Bathymetric changes will include up to 3 feet of deepening in areas of the navigation channel that are currently shallower than -43 feet CRD, with an additional 5-feet of advance maintenance. The exact amount of riverbed lowering and the final dredging

locations will depend on river bathymetry just prior to construction. There will be no changes in bathymetry in the approximately 55% of the navigation channel in this reach that will not require dredging. There is a potential for 0-3 feet of deepening along the side-slopes adjacent to the dredge cuts in the 5-10 years following construction. The estimated total quantity of construction dredging (new work and 40-foot maintenance) in the estuary is 11 million cubic yards (mcy). The estimated maintenance quantities over the 20 years following deepening are estimated at 53 mcy.

Disposal

Proposed disposal within the area defined by the coastal zone boundaries of Oregon and Washington include:

Oregon
James River (upland)
Tenasillahe Island (upland)
Welch Island (upland)
Pillar Rock Island (upland)
Miller Sands Spit (shoreline)
Miller-Pillar Ecosystem Restoration Feature
Lois Island Ecosystem Restoration Feature

Rice Island in both States (upland)
Flowlane Disposal in both States

Washington
Brown Island (upland)
Puget Island (upland)
Skamokawa (shoreline)

This consistency determination will focus on the proposed new disposal sites at Puget Island, new flowlane disposal locations at CRM 5 and CRM 29-40, and disposal on Welch Island and an expanded area for Miller Sands Spit. The other sites within the coastal zone are designated disposal sites previously used for maintenance of the 40-foot channel. These sites have been reviewed and determined consistent with State and local plans for dredged material disposal. Use of all existing and proposed new sites will conform to the estuary standards described herein.

Disposal within the flowlane would raise the riverbed intermittently along the channel throughout the life of the Project. Flowlane disposal will generally be in portions of the river in or near the navigation channel between elevations -50 and -65 feet CRD. Two proposed flowlane locations (in the vicinity of CRM 5 and at various locations between CRM 29-40) are at elevations greater than -65 feet CRD. The sand will be spread out during disposal by keeping hopper dredges moving as they dump and by frequently moving the discharge pipe from a pipeline dredge. The disposal material will then be incorporated into the riverbed, forming sand waves and gradually moving downstream, mainly as bedload transport. Flowlane disposal in the estuarine reach is expected to be about 2 mcy during construction and about 24 mcy over the first 20 years of maintenance.

Both Welch Island and Miller Sands Spit would be used for maintenance disposal only. Disposal at Miller Sands Spit is estimated at 7 mcy over a 20-year period. Disposal at this location utilizes only a fraction of the total site area in any given year. Use of the entire 151-acre site would likely occur over a several year timeframe. Disposal at the 42 acre

Welch Island site is estimated at about 450,000 cy over a 5 year period. Use of this site would be for channel maintenance only.

The Draft SEIS describes two ecosystem restoration features, including restoration of tidal marsh and/or shallow water habitat at Miller-Pillar and Lois Island embayment. Construction of the Millar-Pillar and Lois Island embayment features would use dredged materials from construction and maintenance that otherwise would have been taken to the ocean. With the implementation of these two ecosystem restoration sites, the placement of dredge material in the ocean should not be necessary. In the event dredge material from the channel did go to the ocean it would be discharged into a site designated under Section 102 of the Ocean Dumping Act. Such discharge would be in accordance with the management and monitoring plan as require by the Ocean Dumping Act. At this point in time, we fully anticipate that the Deep Water Site would be the site designated under Section 102. A complete set of project documents, including project maps have been provided to WDOE staff.

Ecosystem Restoration Features

Lois Island Embayment

The area for the restoration is approximately 190 acres. It would occupy the northeastern portion of the embayment along Lois Island.

Restoration of the Lois Island Embayment would require about 6 mcy of material from initial construction. The initial construction material would originate from the navigation channel between CRM 3-30. Material dredged from the navigation channel would be transported via hopper dredge and temporarily placed in the flowlane (CRM 18-20) near the entrance of the Tongue Point channel. No deep draft vessels currently call at Tongue Point because industrial facilities requiring their service have not been developed. Consequently, placement of dredged material in the channel entrance would not compromise vessel traffic. After placement of dredged material in the temporary flowlane location, a pipeline dredge would be used to transfer the material into the embayment to the target elevations. These target elevations would be predicated on surveyed elevations for existing tidal marsh habitat at this location.

Miller-Pillar

This ecosystem restoration feature is located between Miller Sands and Pillar Rock Islands in the Columbia River estuary (CRM 25-26). Natural processes are currently eroding material south of the navigation channel and redepositing the material in the navigation channel. This erosive action has been occurring since 1958 at an average annual rate of approximately 70,000 cubic yards. The erosion is affecting productive, shallow water and flats habitat (0-6 feet CRD) and converting the area to less productive, deep subtidal habitat (a minimum depth of 25 feet). Restoration of the erosive area to tidal marsh and intertidal flats habitat can be accomplished by placement of dredged material at the location to mimic the existing elevation of the tidal marsh/intertidal flat complex at the upstream end of Miller Sands Island. Approximately 6 mcy of material would be required to develop the targeted habitats. Dredged material placed at this location would be

comparable to *in situ* materials. Dredged material retention will require the construction of pile dikes to reduce water velocities and maintain the desired substrate elevations. Three pile dikes would be constructed during the construction phase of the project to create suitable conditions for retention of dredged material placed at this location and establishment of tidal marsh and intertidal flat habitat. This ecosystem restoration feature will be monitored post-construction to assure that productive tidal marsh and intertidal flat habitat has developed. Upon that determination, additional tidal marsh and intertidal flat habitat would be developed at this location, to include the construction of two additional pile dikes.

The dredged material would be obtained from the deepened navigation channel during subsequent maintenance dredging operations. This restoration feature will be phased during O&M, with dredged material placed to the target elevation, beginning at the downstream border and moving upstream. This would create tidal marsh and intertidal flat habitat to benefit salmonids. The time frame to accomplish this restoration depends on the volume of maintenance dredging material that accumulates in the navigation channel. Pipeline dredges would supply the material from adjacent bars, as the area is too shallow for placement via hopper dredge. Barging of material to the location for placement is physically feasible, although unlikely from a cost standpoint.

Tenasillahe Island

Two restoration actions are anticipated for this location. The interim action would be directed at improving connectivity and water exchange between sloughs/backwater channels interior to the levees and the Columbia River. This would be accomplished through interim and long-term improvements to tidegates and provision of controlled inlets to improve water movement and accessibility for juvenile salmonids. Implementation of the interim action is contingent on hydraulic engineering analyses to ensure that any improvement will not compromise habitat integrity for Columbia white-tailed deer that inhabit Tenasillahe Island.

For the long-term action, the levees would be breached to restore full tidal circulation to approximately 1,778 acres of former intertidal marsh/mudflat and forested swamp habitat. The long-term action is contingent on delisting of the Columbia white-tailed deer and determination that such actions are compatible with the purposes and goals of the refuge, to include restoration of intertidal marsh/mudflat and forested swamp habitat for ESA Critical Habitat for salmonids.

Consistency Review

Oregon State-wide Planning Goals and Guidelines

Goal 16 - Estuarine Resources. The Columbia River estuary is classified as a "Development Estuary." This classification allows for uses such as navigation development and dredged material disposal in development management units. Implementation of estuary plans is the responsibility of local jurisdictions. Proposed new actions affecting the estuary will be reviewed by the state and local agencies having coastal zone jurisdiction. Actions occurring outside the coastal zone, including channel deepening

may have an effect on resources utilizing the Columbia River estuary such as marine mammals and anadromous fish. The EIS prepared for this action addresses direct, indirect and cumulative effects on these species and concludes that no significant impact would result from this action. See additional discussion regarding consistency with local plans.

Goal 19-Ocean Resources. This goal requires that agencies determine the impact of proposed projects or actions. Paragraph 1(c) of Goal 19 states that "agencies ... shall 1. protect and encourage the beneficial uses of ocean resources such as navigation ... provided that such activities do not adversely affect the resources protected in subsection 1., avoid, to the extent possible, adverse effects on or operational conflicts with other ocean uses and activities; and 2. comply with applicable requirements of the Oregon Territorial Sea Plan." According to the provisions of Goal 19 and the Oregon Territorial Sea Plan, decisions to take such an action, such as using an ocean disposal site, are to be preceded by "inventory information necessary to understand potential impacts and relationship of the proposed activity to the continental shelf and near shore ocean resources." In addition, there should be a contingency plan and emergency procedures to be followed in the event that the operation results in conditions that threaten to damage the environment.

Guidelines for ocean disposal of dredged material are specified by the U.S. Environmental Protection Agency (USEPA) in 40 CFR Part 227 (Ocean Dumping Regulations). Specification of suitable dredged material is based on evaluation of the potential impacts. An evaluation of suitable ocean disposal sites, demonstrating compliance with parts 227 and 228, is included as Appendix H and in the Section 103 Evaluation in Exhibit D of the IFR/EIS. The new site(s) will be selected upon completion of the EPA site designation process. Under the preferred option presented in the Supplemental IFR/EIS, construction of the Millar Pillar and Lois Mott ecosystem restoration features would use dredged materials from construction and maintenance that otherwise would have been taken to ocean disposal. With the use and implementation of the two estuarine restoration sites, the ocean disposal should not be necessary. In the event dredge material from the channel did go to the ocean, it would go to a site designated for ocean disposal under Section 102 of the Ocean Dumping Act. At this point in time, we fully anticipate that the site designated under the ODA for potential use on this Project will be the Deep Water Site. Compliance with Goal 19 and the Oregon Territorial Sea Plan, Part II Resource Inventory and Effects Evaluation, will be met once the requirements and criteria contained in parts 227 and 228 are completed. Remaining actions to be completed include a biological baseline study and further analysis of potential Dungeness crab impacts. Additional discussion of effects on ocean resources and activities is included in the following.

Other Oregon Revised Statutes Applicable to the Oregon Coastal Management Program

ORS Chapter 274 - Submersible and Submerged Lands. This statute applies to disposal of dredged material below ordinary high water of the Columbia River. The environmental impact evaluation and public review process provided by the Supplemental IFR/EIS, and the evaluation under Section 404 (b)(1) Evaluation satisfy the substantive federal requirements of this statute. ORS 274.550(1) specifically authorizes the "removal of material from submersible lands of any navigable stream . . . when the material is removed

for channel or harbor improvement." Any conflicts with existing state leases or uses will be resolved prior to in-water disposal.

ORS Chapter 496 - Wildlife Laws. The wildlife inventory and impact analysis contained in the Supplemental IFR/EIS, including analysis under the Endangered Species Act, addresses the requirements of this statute. All proposed actions have been or currently are coordinated with Oregon Department of Fish and Wildlife.

In addition to the species listed under the Endangered Species Act that were the subject of consultation with US Fish and Wildlife Service and NOAA Fisheries, the State of Oregon has requested that the Corps include Lower Columbia River native coho salmon listed as endangered under the State's ESA. Coho spawn in small, relatively low gradient tributaries in the lower Columbia River. Juveniles rearing in these tributaries for two years before migrating to the ocean. Adult coho return to spawn as three year olds. Lower Columbia River Coho are predominately of hatchery origin, with only the Clackamas and Sandy Rivers still having wild runs. Most of the coho juveniles in the Channel Improvement project area are of hatchery origin and are released from mainstream and tributary hatcheries as smolts. Coho juveniles are considered stream type since most of their rearing occurs in the tributary areas. Consequently, the analysis of the impacts to federally listed stocks with stream type juveniles by the Channel Improvement Project consultation would apply for coho as well. In additional all the monitoring and restoration actions proposed for the federally listed stocks would be beneficial for juvenile coho as well. Adult coho return in the same time frame as federally listed stocks of adult Fall chinook and would use the same habitat. Consequently, the assessment done for adult Fall chinook would be applicable for coho. As a result, the Biological Assessment and Biological Opinion prepared for the Channel Improvement Project for the Federally listed stocks in the Columbia River is considered adequate for the assessment of impacts to Lower Columbia River coho.

In that assessment the Corps and Services developed a conceptual model of the Lower Columbia River ecosystem relationships that are significant for salmonids. This model also applies to Lower Columbia River coho. Because the habitat requirements of adult salmonids are limited in the lower Columbia River, the model focuses on juvenile salmonids. The conceptual model incorporates the best available science for adult and juvenile salmonids. The basic habitat-forming processes-physical forces of the ocean and river-create the conditions that define habitats. The habitat types, in turn, provide an opportunity for the primary plant production that gives rise to complicated food webs. All of these pathways combine to influence the growth and survival and, ultimately, the production and ocean entry of juvenile salmonids moving through the lower Columbia River.

The conceptual model also demonstrates that the Project complies with the Survival Guidelines in ORC 635-100-135. Specifically, the analysis demonstrates that the Project should not degrade water quality, reduce stream flows, affect gravel in spawning areas, or adversely affect riparian habitat.

Although none of the changes identified in the conceptual model from the Channel Improvement Project are believed to have a measurable effect on existing habitat types, the

Corps is proposing to implement compliance measures to ensure effects will be minimized and will also monitor to confirm this conclusion. In addition, proposed ecosystem restoration and research actions will benefit Lower Columbia River coho. Based on the above, the project will not have a significant effect on native Lower Columbia River coho.

ORS Chapter 506 - Commercial Fishing and Fisheries. Although this statute does not apply directly to the proposed action, the proposed action may affect commercial fishing in the estuary and ocean. The Supplemental IFR/EIS describes the potential impact to these fisheries and means to avoid or minimize these impacts.

ORS Chapter 509 - General Protective Regulations. The Supplemental IFR/EIS describes minimizing or mitigating for habitat losses from the deepening Project.

ORS Chapter 468A - Air Quality. The Supplemental IFR/EIS addresses potential air quality impacts from the deepening Project. Essentially, all air quality standards would be met.

ORS Chapter 468B - Water Quality. The Supplemental IFR/EIS and Section 404 (b)(1) Evaluation prepared for this action address all water quality evaluations required by this statute.

Clatsop County Comprehensive Plan
Columbia River Estuary Land and Water Use Plan

Section P20, Estuary Shoreland and Aquatic Regional Policies

P20.5, Dredging and Dredged Material Disposal. As described in the report documents and elsewhere in the consistency determination, the proposed action complies with applicable policies with the possible exception of proposed disposal at Welch Island and expanded Miller Sands site and flowlane disposal at depths below 65 feet MLLW. See Standards, S4.232 below.

P20.6, Estuarine Construction. Proposed pile dike construction between Miller Sands and Pillar Rock Islands and installation of inlet structures at Tenasillahe Island apply under this policy. These actions are addressed under the estuary standards, S4.208 in compliance with this policy.

P20.8, Fish and Wildlife Habitat. The proposed action, as coordinated with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service, complies with this policy regarding protection of endangered or threatened species habitat and protecting nesting, roosting, feeding and resting areas used by resident and migratory bird populations. See Standards, S4.239. No major marshes, significant wildlife habitat, coastal headlands or exceptional aesthetic resources would be adversely affected by the proposed action.

P20.12, Mitigation. The proposed flowlane disposal at depths greater than 65 feet MLLW has been identified as an activity that may cause a loss of aquatic resources. Coordination with state and federal resource agencies resulted in an agreement to conduct

sturgeon, smelt and benthic invertebrate sampling to determine if significant numbers of these species occur in these areas. The results of these studies indicate minimal impact to smelt or benthic invertebrates from dredging or disposal. Behavioral research by the USGS, funded by the Corps, will be used to manage the dredging and disposal operations to minimize impacts to sturgeon populations. See further discussion under *Columbia River Aquatic Use and Activity Standards* and the Supplemental IFR/EIS, Chapter 6.

P20.19, Water Quality Maintenance. This policy does not address water quality effects from dredging and dredged material disposal activities. The proposed dredging and disposal actions, however, would not degrade estuarine water quality. See further discussion under standards Section 4.242.

P21.5, State and Federal Consistency. The proposed navigation channel deepening action is being reviewed for consistency with the regional policies, development standards and land and water use designations in the comprehensive plan.

Section P30, Estuary Subarea Plans

P30.3, Estuary Channels (deep water estuary from Columbia river miles 3.0 to 22.5). The navigation channel and adjacent flowlane area are designated Aquatic Development, which allows for dredging and dredged material disposal.

P30.5, River Channels (Harrington Point to western end of Puget Island). The main navigation channel and adjacent flowlane disposal areas are designated Aquatic Development.

Section P40, Columbia River Estuary Dredged Material Management Plan

P40.1, Purpose and Content. Describes the *Dredged Material Management Plan* prepared by CREST in 1979 and revised in 1986. The plan serves as a guide to dredging Projects sponsors and regulatory agencies. The plan lists some possible disposal sites; however, the plan explicitly notes that it "is not intended to be an exhaustive list of all possible disposal sites and it in no way restricts the disposal of dredged materials to designated sites only." The plan is incorporated by reference via Section P60, Appendices, to the County Comprehensive Plan and applicable plan policies have been fully incorporated into comprehensive plan policy 20.5, Clatsop County development standard S4.232 and other Clatsop County provisions addressed in this consistency determination. For the reasons discussed under these provisions, with the possible exception of the proposed actions described below, the proposal is consistent with the existing dredged material disposal plan.

The plan identifies a smaller site than is identified at Miller Sands and does not identify Welch Island as a disposal site (although it has been used since the 1970s). As noted above, the plan notes that it "no way restricts the disposal of dredged materials" to these sites. The plan also establishes the depth for flow lane disposal between 20 and 65 feet below MLLW. The CREST is currently updating the Dredged Material Management Plan. The updated plan recognizes that the Welch Island disposal site has been used for disposal

since the 1970's, was inadvertently not included in the original plan, and should reasonably continue to be used as a disposal site. The updated plan also recognizes that expanding the existing 98 acre Miller Sands beach nourishment site to 151 acres is warranted compared to other potential disposal alternatives, would not unreasonably degrade estuarine resources or uses and should be included in the revised plan. With the inclusion of these sites in the revised plan, the proposed disposal actions would be consistent with this policy.

The plan also identifies flowlane disposal at depths up to a maximum of 65 feet. The proposed disposal would extend beyond that depth at river mile 5 and between river miles 29 and 40. A plan exception under the procedures outlined in OAR 660-004-0020 is proposed for flowlane disposal at these greater depths. The request for a plan exception will be based on a "reasons" exception under OAR 660-004-0020(1). The exception will evaluate the reasons for the exception, consistent with OAR 660-004-0022(7), the lack of availability of exception areas to reasonably accommodate the material to disposed of through flow-lane disposal below 65 feet, the long-term environmental, economic, social and energy consequences resulting from the exception, and how the flow lane disposal will be rendered compatible with adjacent uses. The need for disposal at these locations is discussed in the IFR/EIS and demonstrates that other reasonable alternatives are not available. The resource analysis discussed in the Supplemental IFR/EIS includes studies conducted to determine potential impacts to smelt, sturgeon and benthic invertebrates. The studies have been completed for smelt and benthic invertebrates and have concluded that the flowlane disposal would not result in unacceptable or appreciable impacts to these species. Behavioral research by the USGS, funded by the Corps, will be used to manage the dredging and disposal operations to minimize impacts to sturgeon populations. Recent analysis also demonstrates that the disposal material would remain in the active sand transport zone and would migrate downstream as bedload material.

Columbia River Estuary Shoreland and Aquatic Zones

Section 3.740, Aquatic Development Zone. In-water disposal sites within or adjacent to the navigation channel are within the Aquatic Development Zone, which permits dredged material disposal in conjunction with navigation at designated sites. See additional discussion of flowlane disposal modification under Columbia River Estuary Aquatic Use and Activity Standards and Columbia River Estuary Land and Water Use Plan.

Section 3.760, Aquatic Conservation Two Zone. The ecosystem restoration feature at Lois Island embayment lies within an Aquatic Conservation Zone and is an approved use. The proposed restoration feature at Miller-Pillar also occurs within this zone and is therefore an approved use. Restoration is a permitted activity in this zone provided all standards for estuary work are met. The proposed ecosystem restoration features would comply with all applicable standards (See standards discussion below).

Section 5.125, Consistency Review Procedure for Federal Activities and Development Projects. This Coastal Zone Management Act consistency determination has been prepared for review by the States of Oregon and Washington.

Sections 5.810-5.840, Impact Assessment. Development activities that could potentially alter the estuarine ecosystem (i.e., dredged material disposal, riprap, fill, in-

water structures, etc.) require an impact assessment. An EIS and SEIS that discuss the effects of the proposed actions on the existing resources of the Columbia River has been prepared. The EIS and Supplemental EIS fulfill the requirement of a separate impact assessment. The results of the EIS and Supplement indicate that the proposed activities do not represent a potential degradation or reduction of significant fish and wildlife habitat and essential properties of the estuarine resource.

Columbia River Estuary Shoreland and Aquatic Use and Activity Standards

S4.208, Estuarine Construction. Applies to in-water structures including pile dikes; may be allowed only if the following criteria are met:

a. If a need (i.e., a substantial public benefit) is demonstrated; and
b. The proposed use does not unreasonably interfere with public trust rights; and
c. Feasible alternative upland locations do not exist; and
d. Potential adverse impacts, as identified in the impact assessment, are minimized.

Construction of pile dikes is proposed in conjunction with the proposed ecosystem restoration feature at Miller-Pillar.

The standards require that structural shoreline stabilization measures be coordinated with state and federal agencies to minimize adverse effects on aquatic and shoreline resources and habitats. Comments were received from agencies in the Draft and Final IFR/EIS review. Concerns were raised regarding the potential for increased predation of juvenile salmonids by piscivorous birds. Pile dikes have been used as perches by these birds, particularly cormorants. NOAA Fisheries recommended further studies to evaluate the effects of pile dikes on salmonid predation. These studies have been completed and concluded that the use of bird excluders on pile dike structures all but eliminated predator bird perching on the pile dikes. Any new pile dike construction would include installation and maintenance of bird excluders.

The proposed tidegate and circulation improvements at Tenasillahe Island also apply to this standard. These are minor construction activities that would benefit juvenile salmon feeding and rearing area within the estuary. This action has been coordinated with state and federal resource agencies. The construction would conform to all regulatory requirements to minimize impacts on aquatic resources.

S4.209, Deep-Water Navigation, Port and Industrial Development. The proposal is consistent with this standard for the reasons set forth in the discussion of S4.232, Dredging and Dredged Material Disposal, and in the 1999 IFR/EIS and SIFR/EIS.

S4.218, Mitigation and Restoration. The proposal is consistent with this standard for the reasons discussed above under Clatsop County Comprehensive Plan Policy 20.12, Mitigation.

S4.230, Bankline and Streambed Alteration. The proposal is consistent with this standard. Stream surface area will be maintained, existing deepwater channels will be used, undesirable hydraulic conditions will not be created, and adverse effects on estuarine

resources, if any will be minimized as discussed under Clatsop County Comprehensive Plan Policy P20.12 and Clatsop County Standard S4.232.

S4.232, Dredging and Dredged Material Disposal. Dredging is conducted for navigational purposes as allowed by the plan. Dredging, disposal site selection and the material to be disposed comply to the maximum extent practicable with appropriate sections of S4.232. The need for channel deepening is identified in Chapter 3 of the EIS, as well as receiving the support of the sponsoring lower Columbia River Port Districts.

Undesirable erosion, sedimentation, increased flood hazard and circulation changes are not expected based on the results of the hydraulic done as part of the salinity intrusion analysis conducted for this study. See Appendix F of the Final IFR/EIS and Draft Supplemental IFR/EIS, Chapters 4, 5, and 6. This analysis essentially concluded changes in flow patterns from a 3-foot channel deepening would be imperceptible.

Based on the conclusions described in Chapters 2 and 6 of the IFR/EIS, short-term dredging and disposal effects are expected to be minor within the estuary reach when compared to existing 40-foot channel dredging and disposal. Most of the work occurs in areas currently disturbed on an annual basis. Dredging and disposal would occur in deeper areas that are lower in benthic productivity. Some destabilization of near channel side slopes would occur for 5-10 years following initial deepening.

All relevant state and federal water quality standards will be met and sediments evaluated in accordance with the Regional Testing Manual. All Columbia River sediments from navigation channel dredging are suitable for unconfined in-water disposal.

Alternatives to reduce disposal in the estuary have been evaluated. Existing upland and any proposed new upland sites available within the estuary would be used to their capacity. Disposal area capacity has been determined to be adequate for initial dredging and at least 20 years of maintenance dredging for the Project.

Flowlane disposal would occur primarily in areas at depths greater than 50 feet. Chapters 4, 5 and 6 of the IFR/EIS describe these areas and identify resources that may be present at these locations. Disposal is proposed for depths greater than 65 feet downstream of CRM 5 and at various locations between CRM 29-40.

Disposal within these areas is expected to slightly change bottom elevations. This material would reform as sand waves and gradually move downstream with the river bedload. The actual change in bed elevations that would occur would depend on factors such as the total area used for disposal, the volumes disposed and the amount of material transported away from the sites. About 2 mcy of this material disposed within the estuary reach would be from construction of a deeper channel. Maintenance dredging material (estimated 24 mcy over 20 years) would increase slightly over existing 40-foot channel maintenance quantities. Estimated quantities proposed for disposal at locations below 65 feet are 8 mcy of maintenance material over 20 years in the vicinity of CRM 5, and 2 mcy construction material and 12 mcy 20-year maintenance material between CRM 29-40.

Resource agencies have expressed concern over potential impacts to juvenile sturgeon, smelt larvae and benthic invertebrates within areas proposed for flowlane disposal. Biological sampling has been conducted to determine the location and extent of these resources. The sampling results indicate that disposal at these locations would have minimal impact to smelt and benthic invertebrate populations. The sampling data indicates that there could be potential impacts to sturgeon from disposal within the sites. If ongoing baseline studies or monitoring indicate unacceptable impacts to sturgeon or sturgeon habitat, alternative disposal methods, disposal timing or other means to avoid or minimize impacts will be implemented. Overall sturgeon habitat or populations would not be significantly affected. See the Supplemental IFR/EIS, Chapter 6 for further discussion.

Concerns over continued disposal at Rice Island and its attraction to Caspian terns for nesting and feeding on juvenile salmon have also been raised. Recent actions by the Corps to discourage nesting on Rice Island have been successful and juvenile salmon predation has been significantly reduced. These current actions will continue. Long term Caspian tern management actions to address estuarine population levels and distribution of terns in the western U.S. are in progress by the U.S. Fish and Wildlife Service, Corps, NOAA Fisheries and other State and Federal resource agencies.

The Deep Water disposal site proposed for designation is beyond the limits of the Territorial Sea and is not within Clatsop County jurisdiction. Since this action may affect the resources of the states of Oregon, it would be applicable to Oregon Statewide Goal 19. Designation and use of that site is addressed in the IFR/EIS, Appendix H and the Section 103 Evaluation (Exhibit D). The current preferred alternative would utilize the Lois Island embayment and Miller-Pillar ecosystem restoration features for disposal of channel material, plus flowlane and existing disposal sites. This should eliminate the need for ocean disposal.

S4.235, Filling of Aquatic Areas and Non-Tidal Wetlands. The proposed actions affected by this standard is "flowlane disposal" in the vicinity of river mile 5 and between river miles 29 and 40 and implementation of ecosystem restoration features at Lois Island embayment and Miller-Pillar. Flowlane disposal at the proposed quantities and rates would slightly raise bottom elevations at these locations. Although this action is technically considered fill, it is not converting aquatic area into uplands as implied in this standard. Dredged material placed at flowlane locations would continue to slowly move downstream as bedload material. As previously stated, biological sampling has been conducted to identify areas where significant resources can be avoided or impacts minimized.

The two restoration areas are subtidal aquatic areas considered to have low biological productivity. Creating tidal marsh and intertidal flats habitat would increase biological productivity and would particularly enhance feeding and resting area for juvenile salmon. The proposed restoration features could potentially disrupt commercial salmon harvest at these locations. As discussed in the SEIS, about 19% of available area for gillnet fishing in the Tongue Point select area fishery would be displaced by the Lois Island embayment fill. A drift net fishery encompasses the Miller-Pillar ecosystem feature. The phased implementation of this feature will delay the level of impact to commercial fishing interests. We project at full development of this feature that 14% of the Miller Sands Drift would be impacted to the extent that drift fishing would be precluded.

S4.237, Riparian Vegetation Protection. The proposed dredging or disposal work would disturb no riparian vegetation.

S4.239, Fish and Wildlife Habitat. The proposed action is being coordinated with state and federal resource agencies. Comments and recommendations from those agencies have been and will continue to be considered in the development of the plan. Measures to avoid or minimize impacts to aquatic resources, such as timing, in-water disposal site depths and dredging methods would be incorporated into the proposed action. As noted in our response to S4.232 and S4.235, biological sampling has been conducted to determine presence of significant resources in this area. The data will be used to identify the preferred mitigation measures of avoiding or minimizing impacts to significant resources.

S4.241, Significant Areas. No significant areas as defined by this standard would be affected by the proposed action.

S4.242, Water Quality Maintenance. The potential adverse water quality effects have been addressed in the FEIS and SEIS prepared for this action. Dredging and disposal of Columbia River navigation channel sediments would not contribute to unacceptable levels of turbidity, dissolved oxygen, biochemical oxygen demand or contaminants. Salinity intrusion from deepening has been analyzed and determined to have no significant change. The proposed action has no effect on water temperature. Sediment distribution has been analyzed and would not significantly change from present conditions.

Washington Coastal Zone Management Program

Shoreline Management Act, chapter 90.58 RCW

The Shoreline Management Act ("SMA"), chapter RCW 90.58 RCW is the core authority of Washington's Coastal Zone Management Program.

State Policy

RCW 90.58.020 enunciates the following state policy:

- To provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses..

- To insure the development of shorelines in manner that promotes and enhances the public interest while allowing only limited reduction of rights of the public in the navigable waters.

- To protect against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights.

The Project is consistent with this broad statement of policy. As discussed in detail under the discussion of Shorelines of Statewide Significance, the Project improves the federal navigation channel enhancing the navigability of this water body and restores a number of areas. The navigation and restoration components promote the public interest in having an efficient means of transporting goods in the navigation channel and to have areas along the Columbia River restored. The Project employs many measures, to protect against or mitigate adverse effects.

Shorelines of Statewide Significance.

The SMA establishes use preferences for shorelines of state-wide significance. The Project is consistent with the criteria for activities within shorelines of statewide significance as follows:

1. Recognize and protect the statewide interest over local interest.

The Project furthers the interests of Oregon and Washington and recognizes the statewide, regional, and national interests in interstate commerce over local interests. The primary purposes of the Project are to improve the deep-draft transport of goods on the authorized 40-foot deep Columbia River navigation channel, and to provide ecosystem restoration for fish and wildlife habitats. The Project will enhance the efficiency of navigation on the Columbia River and improve navigational access for goods throughout Oregon, Washington and the region Navigation is one of the principal public uses recognized and protected under the public trust doctrine and the Washington Shoreline Management Act. (Johnson, The Public Trust Doctrine and Coastal Zone Management in Washington State, Washington Law Review July 1992). The Columbia River is an international gateway for waterborne cargo for the Pacific northwest region and the United States. More than 35 million tons of cargo are shipped annually on approximately 2,000 ocean-going vessels via the ports of Kalama, Longview and Vancouver in Washington, and Portland and St. Helens in Oregon. In 2000, cargo valued at $14 billion was shipped via lower Columbia River ports. The Columbia River corridor serves as a funnel for cargo moving from more than 40 states, which is then shipped from Columbia River ports.

Since the last improvement to the Columbia River navigation channel, authorized in 1962, the volume of cargo carried by deep-draft vessels to and from Columbia River ports has tripled. During the same period, the average tonnage per vessel has also tripled, while the number of deep-draft vessels calling at Columbia River ports declined slightly. Over the past 20 years, an increasing share of the Columbia River cargo tonnage has been carried on vessels that are Panamax class (the largest size vessels that can transit the Panama Canal) or larger. These larger vessels have design drafts that, after allowing for underkeel clearance requirements, exceed the depth allowed by the 40-foor channel; consequently, these ships must often come into the Columbia River ports “light loaded” (i.e., only partially loaded). Currently, more than 70 percent of the vessels deployed in the transpacific container trade are constrained by the 40-foot channel depth. This amount would be reduced to 39 percent with a 43-foot channel. By deepening the navigation channel, the Project will continue to support these water-dependent uses that are vital to the economies of Oregon and Washington.

Ecosystem restoration also recognizes the statewide interest. Proposed restoration focuses on habitat types that have been determined to be important to species listed under the Endangered Species Act, including Columbian white-tailed deer, bald eagles, and salmonids. This habitat will also benefit a variety of non-listed species.

2. Preserve the natural character of the shoreline and minimize man-made intrusions on shorelines.

The Project includes restoration features to help restore the natural function of shoreline ecosystems and minimize intrusions on shoreline areas. The Project's restoration components responds to a well-demonstrated need for ecosystem restoration and incorporates many restoration actions.

The Project uses dredging and disposal methods similar to those used for maintenance dredging that are designed to minimize man-made intrusions on shorelines. Dredging and flowlane disposal will occur at depths to minimize impacts. Dredging will use hopper and pipeline dredges to minimize turbidity. Flowlane disposal uses a "down pipe" with a diffuser plate at its end. The down pipe extends 20 feet below the water surface to avoid impacts to migrating juvenile salmonids. The diffuser and movement of the pipe help prevent mounds from forming on the river bottom. Upland disposal will use temporary pipelines extending from dredges. These temporary pipelines will be removed after dredged material disposal occurs for each event. The Project uses shoreline sites for upland disposal that have been previously used for this purpose. The new sites in Washington State are located at least 300 feet from the Columbia River to minimize intrusion on the shoreline.

3. Plan for long term over short term benefit.

The Project plans for the long-term benefits of enhanced navigational access. Over the past 20 years, an increasing share of the Columbia River cargo tonnage has been carried by Panamax class vessels or larger. These larger vessels have design drafts that, after allowing for underkeel clearance requirements, exceed the depth allowed by the 40-foot channel; consequently, these ships must often come into the Columbia River ports "light loaded" (i.e., only partially loaded). Currently, more than 70 percent of the vessels deployed in the transpacific container trade are constrained by the 40-foot channel depth. This amount would be reduced to 39 percent with a 43-foot channel. By deepening to 43 feet, the Project will be able to improve navigation infrastructure and maximize the efficiency of the vessels and waterborne cargo shipments for years to come.

The Project's restoration features also are intended to provide a long term benefit to the Columbia River. These features include tidal marsh and intertidal flats habitat important to salmonids including ESA stocks. Columbian White tailed deer will benefit from re-introduction on Howard and Cotton wood Islands. Waterfowl raptors and many other species will benefit from these restoration features.

4. Protect the resource and ecology of the shoreline.

Modeling of the Project has shown that it should have only minor, if any effects, on physical parameters such as salinity, stream flows, erosion and accretions. Habitat forming

processes and food chain effects have also been determined to be minimal. The Project uses dredging and disposal methods designed to protect the resources and ecology of the shorelines.

The Project will not reduce the available sand supply and the expected hydraulic changes are too small to measurably alter sand transport or erosion/accretion in the river of estuary. There will be no measurable change in hydraulic conditions or sedimentation processes at the Mouth of the Columbia River. There will continue to the transport of sand both landward and seaward at the mouth, with a small net discharge of sand from the estuary to the Mouth of the Columbia River. Large freshet will continue to have the potential to discharge larger volumes of sand from the estuary to the MCR, however flow regulation has made such freshets less likely to occur. The proposed deepening is not expected to impact the littoral sand budgets north or south of the MCR.

Dredging will be done at depths of more than 40 feet, while salmonids generally migrate at depths of less than 20 feet. The primary hopper and pipeline dredges generally do not produce large amounts of turbidity during dredging because of the suction action of the dredge pump and the fact that the drag arm or cutter head is buried in the sediment. Turbidity produced by clamshell dredges is minimal

Flowlane disposal generally will also be in depths ranging from 50 to 65 feet. The benthic invertebrates that provide a major food source for some fish are found at depths of less than 20 feet. Therefore, restricting the disposal of dredged materials to depths greater than 20 feet will minimize potential impacts from this activity. To avoid mounding during hopper-dredge disposal, material will be released while the dredge is in motion to disperse material over the flowlane disposal area. During disposal or placement of dredged material by pipeline dredge, the diffuser and movement of the pipe help prevent mounds from forming on the river bottom.

Upland disposal along the Columbia River channel has been reviewed by the National Marine Fisheries Service and Fish and Wildlife Service to avoid adverse impacts on listed fish species or proposed critical habitat. Upland disposal activities will employ measures to minimize potential impacts.

Sand will be placed at upland disposal sites with a temporary pipeline. The pipeline will be removed after the sand is in place, in order to minimize any interference with recreational boating and commercial fishing. Upland disposal sites are designed to contain the dredged material and hold the return water while allowing sand and suspended sediment to settle. Water is allowed to settle and clear through the retention pond drainage system before it runs back into the river. Weirs are used to regulate the return of water to the river. Water returned to the river through weirs is subject to applicable state water quality standards, after dilution, at an appropriate point of compliance.

Upland sites that have been used for past dredged material disposal are being used again. New upland disposal sites have been located 300 feet beyond ordinary high water. All proposed sites have been located to avoid wetlands to the extent practicable. Impacted wetlands will be mitigated as prescribed in the Mitigation Plan in the 1999 FIR/EIS, Appendix G.

5. Increase public access to publicly owned areas of the shorelines.

The beach nourishment at Skamokawa Beach helps to maintain a popular public park. A number of the sites are being acquired for restoration or mitigation and are currently planned to focus on their potential to enhance natural resources and help to recover fish and wildlife species, rather than significantly increase public access. Public access often can adversely affect natural resources in a manner that would be inconsistent with the basin wide priority for natural resource restoration.

6. Increase recreational opportunities for the public on the shorelines.

The Project will enhance recreational opportunity on the shorelines by restoring the erosive beach at Skamokawa beach. The ecosystem restoration features within the coastal zone of the Project will enhance passive recreational opportunities for studying and viewing wildlife on the shorelines. These Project features are located in Washington and Oregon and include tide gates retrofitted for salmonid passage at selected locations along the lower Columbia River; the Lois Island Embayment Habitat Restoration (Oregon); the Purple Loosetrife Control Program (Oregon and Washington), Miller/Pillar Habitat Restoration (Oregon); and the Tenasillahe Island Tidegate/Inlet Improvements and Dike Breach (long term).

General Use Preferences

RCW 90.58.020 also states that alterations of the natural condition of the shorelines of the state, in those limited instances when authorized, shall be given priority for single family residences and their appurtenant structures, port, shoreline recreations uses, and other improvement facilitating public access to shorelines of the state, industrial and commercial developments which are particularly dependent on their location on or use of the shorelines of the state.

The Project is consistent with this general use preference. The Project's navigation and restoration components are generally occurring in areas that have been previously altered. The dredging activity is occurring in the location of the existing channel. In-water disposal is likewise occurring adjacent to the channel in areas generally used for this purpose previously. Upland disposal is occurring primarily in sites that have been previously used for this purpose. The one new disposal site within the areas covered by the Coastal Zone Management Program is located more than 300 feet from the river, beyond the jurisdiction of the Shoreline Management Act.

Ocean Resources Management Act, chapter 43.143, WAC 173-16-064.

Under the preferred option presented in the Supplemental IFR/EIS, construction of the Millar Pillar and Lois Mott ecosystem restoration features would use dredged materials from construction and maintenance that otherwise would have been taken to ocean disposal. With the use and implementation of the two estuarine restoration sites, the ocean disposal should not be necessary. In the event dredge material from the channel did go to the ocean, it would go to a site designated for ocean disposal under Section 102 of the Ocean Dumping Act. At this point in time, we fully anticipate that the site designated under the ODA for potential use on this Project will be the Deep Water Site.

The Ocean Resources Management Act (ORMA), chapter 43.143 RCW establishes guidelines for the exercise of state and local management authority over Washington's coastal waters, seabed, and shorelines. RCW 43.143.020 defines "coastal waters" as "the waters of the Pacific Ocean seaward from Cape Flattery *south to Cape Disappointment*, from mean high tide seaward two hundred miles." (emphasis added). WAC 173-16-064(2), which implements the Ocean Resources Management Act, specifies that "[t]he guidelines apply to Washington's *coastal waters from Cape Disappointment* at the mouth of the Columbia River north one hundred sixty miles to Cape Flattery . . . including the offshore ocean area, the near shore area under state ownership, shorelines of the state, and their adjacent uplands." This section further states that "[t]he guidelines address uses occurring in Washington's coastal waters, *but not impacts generated from activities offshore of Oregon*, Alaska, California, or British Columbia or impacts from Washington's offshore on the Strait of Juan de Fuca or other inland marine waters." (emphasis added).

The Deep Water Disposal Site, which is the only ocean disposal site being considered for potential use under this Project, is located south of Cape Disappointment and in an area offshore of Oregon. Therefore, in accordance with the express language of the Ocean Resources Management Act and implementing administrative code, the ORMA does not apply to the Project.

Washington State Water Quality Requirements:

The Corps has submitted an application for water quality certification.

Washington Air Quality Requirements:

The Project does not require an Air Quality Permit.

Pacific County Shoreline Master Program

The Federal Coastal Zone Management Act requires Federal activities that may affect coastal resources or uses be evaluated for consistency with the applicable provisions of state Coastal Management Programs, including relevant local Shoreline Master Programs. As discussed below, the Pacific County Shoreline Master Program does not include policies that are applicable to this Project.

The Pacific County Shoreline Master Program includes a number of provisions that implement the Washington Ocean Resources Management Act. As discussed above, the Ocean Resources Management Act does not apply to the Project because the Deepwater Ocean Disposal Site is off the coast of Oregon and outside of the area explicitly regulated by the Act. The Pacific County SMP provisions regarding ocean resources are reviewed below.

Section 2. Definitions. The Pacific County SMP defines "coastal waters" as "waters of the Pacific Ocean seaward from Cape Flattery south to Cape Disappointment, from mean high tide seaward two hundred miles. For Pacific County, coastal waters include from mean high tide seaward three miles." This definition is similar to the definition in the ORMA, except that it limits Pacific County's definition of coastal waters to within three miles. The Pacific County SMP defines "ocean uses" as "activities or development involving renewable and/or nonrenewable resources that occur on Washington's coastal waters."

As discussed under the section on the ORMA, the proposed ocean disposal site is located below Cape Disappointment and is, therefore, not within the "coastal waters" covered by Pacific County's SMP.

Section 23. COLUMBIA RIVER SEGMENT

Section 23 of the Pacific County SMP applies to the area defined by the Columbia River Segment of the Pacific County's Shoreline Master Program. Appendix 5 of the SMP defines a part of the Columbia River Segment as including a specific area around Cape Disappointment. Subsection D of Section 23 identifies use and activity regulations for the Columbia River Segment. Subsection D provides tables identifying permitted uses and activities in seven management designations created by Subsection 25.B.1. through Subsection 25.B.8 of this Master Program. None of Subsections 25.B.1-8, cover the ocean. Subsection 25.B.9 designates an "Ocean Environment" and defines it as "waters of the Pacific Ocean from Cape Disappointment north to the border between Pacific County and Grays Harbor County; and from mean high tide, seaward three miles.

Section 23.D. provides use standards for activities in the environments of the Columbia River Segment defined in Subsections 25.B.1-8. As noted above, the Project has no activities in any of these environments. Therefore, the use standards in Subsection D do not apply to this Project.

Paragraph 23 of Section 23.D provides the use standards for dredge disposal in the Columbia River Segment. As discussed above, these standards only apply to specific environments that do not include the ocean. In addition, the Ocean Environment as defined by the SMP does not include the Ocean Disposal Site. Therefore, the standards in Section 23 do not apply.

S25.05.21, Dredged Material Disposal (DMD) Policies. No estuary sites are proposed within the jurisdiction of Pacific County. Therefore, this section does not apply to the Project.

S25.08.01, Permitted Development, Uses and Activities. The proposed action does not include disposing at any site within the jurisdiction of Pacific County. Therefore, this section does not apply to the Project.

Section 27 OCEAN RESOURCES, Subsection E. Ocean Environment

Section 27 of the Pacific County SMP applies specifically to the "Ocean Environment." As discussed above, Section 25 defines the Ocean Environment as being the area north of Cape Disappointment out to 3 miles. Therefore, Section 27 does not apply to the Deepwater Disposal site.

Wahkiakum County, Washington, Shoreline Management Master Program

Policies - Dredging. This policy refers to deepening of a navigation channel or use of bottom material for a landfill.

Standards - Dredge and Fill. Permitted Use Standards for Conservancy, Rural and Urban Environments.

Dredging: (1) Dredging in aquatic areas shall be permitted only for navigation or navigational access, and (2) dredging shall be the minimum necessary to accomplish the proposed use. The proposed action conforms to these applicable standards.

Fill: Fill in aquatic areas shall be permitted only in conjunction with a permitted or conditionally permitted water-dependent use for which there is a demonstrated public need and for which no feasible upland sites exist. The proposed action is water-dependent. There is, based on the economic analysis prepared for this action, a demonstrated public need for deepening and subsequent maintenance of the navigation channel. Upland sites including Puget Island, Browns Island and a small portion of Rice Island have been identified as available upland sites within the Wahkiakum County estuarine reach.

Dredged Material Disposal (the Deposition of Dredged Material in Aquatic Areas or Shorelands): The Corps complies with the Permitted Use Standards for Conservancy, Rural and Urban Environments (1-9, as applicable) to the maximum extent practicable. All estuarine disposal sites (flowlane and Skamokawa Beach) are in accord with the currently approved Dredged Material Disposal Plan. Browns Island is an existing upland disposal site within the county shorelands. Disposal at this location would conform to all shoreland use requirements. The Puget Island site is outside the 200-foot shorelands zone. Use of this site including placement of pipeline within the shorelands zone would conform to state and county requirements. Best Management Practices will be applied as follows for each type of disposal practice:

General Provisions for all Disposal – The contractor, where possible, will use or propose for use materials that may be considered environmentally friendly in that waste from such materials is not regulated as a hazardous waste or is not considered harmful to the environment. If hazardous wastes are generated, disposal of this material shall be done in accordance with 40 CFR parts 260-272 and 49 CFR parts 100-177. If material is

released, it shall be immediately removed and the area restored to a condition approximating the adjacent undisturbed area. Contaminated ground shall be excavated and removed and the area restored as directed. Any in-water discharge shall be immediately reported to the nearest U.S. Coast Guard Unit for appropriate response.

Flowlane Disposal – The discharge pipe of the pipeline dredge will be maintained at or below 20 feet of water depth during disposal. This measure reduces the impact of disposal and increased suspended sediment and turbidity on migrating juvenile salmonids, since they are believed to migrate principally in the upper 20 feet of the water column. Disposal of material will be conducted in a manner that prevents mounding of the material. The material will be spread, reducing the depth of the material on the bottom, which will reduce the impacts to fish and invertebrate populations. These actions will continue over the life of the contract or action and be maintained until new information becomes available that would warrant a change.

Upland Disposal - Upland disposal sites will be bermed, and settling ponds will incorporated, to maximize the settling of fines in the runoff water. This action reduces the potential for increasing suspended sediments and turbidity in the runoff water. A 300-foot habitat buffer will be maintained preserving important habitat functions. These activities will be continuous during disposal operations or over the life of the contract and be maintained until new information becomes available that would warrant a change.

Shoreline Disposal – There are no timing restrictions associated with shoreline disposal as consulted with NOAA Fisheries and US Fish and Wildlife Service. Ungraded slopes can provide conditions on the beach that will create small pools or flat slopes that can strand juveniles washed up by wave action. The disposal site will be graded to a slope of 10 to 15 percent, with no swales, to reduce the possibility of stranding of juvenile salmonids. These activities will be continuous during dredging and disposal operations and be maintained until new information becomes available that would warrant a change.

Suspended Particulate/Turbidity Determination - Short-term minor increase in turbidity would occur in the immediate vicinity of in-water disposal sites and in water work areas. This condition would temporarily inhibit light penetration through the water column and thereby affect aquatic organisms. Since the dredged material is primarily sand, the expected short-term increase in turbidity levels would not violate state water quality standards. Best management practices would be utilized for the dredge and fill actions associated within the permitted areas.

Impact Assessment

In addition to the impact assessments provided herein, the Final and Supplemental IFR/EIS along with the Ocean Disposal Site Evaluation Study (Appendix H) have been prepared in compliance with impact assessment procedures. The Washington Port Sponsors are participating with the Corps of Engineers in preparing a Supplemental Integrated Feasibility Report/Environmental Impact Statement. The Corps and Ports issued a draft Supplemental IFR/EIS on July 12, 2002. A final Supplemental IFR/EIS is scheduled for release in December 2002. These documents are prepared to comply with the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA).

Statement of Consistency

Based on the above evaluation, we have determined that the actions proposed in the *Columbia River Navigation Channel Improvement Study* and *Supplement 1* are, with the approval of the updated CREST Dredged Material Management Plan including Welch Island and expanded Miller Sands site, and, with the Clatsop County approval of flowlane disposal below 65 feet at two locations under the plan exceptions process, consistent with the enforceable policies of the approved coastal zone management programs of Oregon and Washington, including the enforceable policies as specified in the local planning documents for Clatsop County, Oregon, and Pacific and Wahkiakum Counties, Washington that are incorporated in the approved programs. Restoration of shallow water habitat at Lois Island embayment would require Type II review procedure if it is determined that the affected area lies within an Aquatic Development zone. If it is within an Aquatic Conservation Two zone, it is a permitted activity without further review.