

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

Introduction

The proposed federal actions applicable to 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 existing federal navigation channel from 40 to 43 feet Columbia River Datum, 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 and disposal of dredged material in the Deep Water ocean disposal site, restoration of shallow water habitat at Lois Island embayment and an area between Pillar Rock Island and Miller Sands and restoration of tidal connection and intertidal habitat within Tenasillahe Island.

The Supplemental IFR/EIS updates information, environmental analyses, and project modifications resulting from re-consultation of the Columbia River Channel Improvement Project under Section 7 of the Endangered Species Act (ESA). As a result of the re-consultation process, only one (Deep Water site) of the two authorized ocean disposal sites will be used for the project. 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 estuarine reach. Bathymetric changes will include up to 3 feet of deepening in areas of the navigation channel that are currently shallower than -48 feet CRD and some rise in the riverbed at shoreline and flowlane disposal sites. 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. In addition, there is a potential for 0-3 feet of deepening along the side-slopes adjacent to the dredge cuts. The estimated total quantity of construction dredging in the estuary is 7 million cubic yards (mcy). The estimated maintenance quantities over the 20 years following deepening are estimated at 30 mcy.

Disposal

Proposed disposal within the estuary area defined by the coastal zone boundaries of Oregon and Washington include: three flowlane locations; Rice Island, Pillar Rock Island, Tenasillahe Island, Puget Island, Welch Island and Browns Island upland disposal sites; and Skamokawa Beach and Miller Sands shoreline disposal sites. This consistency determination will focus on the proposed new disposal sites at Puget Island, new flowlane disposal locations, and disposal on Welch Island and an expanded area of Miller Sands. 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 3 mcy during construction and about 24 mcy over the first 20 years of maintenance.

Both Welch Island and Miller Sands would be used for maintenance disposal only. Disposal at Miller Sands is estimated at 1.4 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. If the proposed ecosystem restoration measure at Lois Island embayment is implemented, ocean disposal at the Deep Water site would not be required for initial channel deepening and for the first 10 years of maintenance. Once initiated, estimated annual maintenance dredging quantity for ocean disposal would be about 0.5 mcy.

Restoration

Lois Island Embayment

The area for the restoration is approximately 389 acres. It runs from the southwest corner of the embayment off the John Day River mouth on a northwest-bearing line to the corner of the embayment south and east of Mott Island (CREDDP 1983).

Restoration of the Lois Island Embayment would require about 8 mcy of material. It is estimated that 7 mcy from initial construction could be placed at Lois-Mott Island embayment. The initial construction material would originate from the navigation channel between CRM 3-30. The remaining 1 mcy of material needed to complete the restoration action would come from the navigation channel between CRM 3-20. It is estimated that 2-3 years of maintenance dredging would be needed to complete the restoration action. Material dredged from the navigation channel would be transported via hopper dredge and initially placed in the flowlane at 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 the historical bathymetry of the area. The following actions will be taken as part of the Lois Island Embayment habitat restoration effort:

- Fund and implement construction effort.
- Monitor post-construction benthic productivity and fish species composition and density on the restoration site and an adjacent control site.

Miller Sands-Pillar Rock Islands

This ecosystem restoration action 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 (0-5.9 feet CRD) and converting the area to less productive, deep subtidal habitat (a minimum depth of 24.9 feet). Restoration of the erosive area to a productive, shallow water and flats habitat can be accomplished by placement of dredged material at the location to mimic historical depths. Assuming that the restoration area had a historical average depth of 2.95 feet CRD and currently has a minimum depth of 24.9 feet CRD, an increase of 22 feet of depth or 5,750,000 cubic yards of material would be required to retain historic subtidal depths. 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. Five pile dikes, which make up the Miller-Pillar pile dike field, would be constructed during the initial construction phase of the project.

The dredged material would be obtained from the deepened navigation channel during subsequent maintenance dredging operations. This restoration action would be phased during construction, with fill placed to the target depth, beginning at the upstream border

and moving downstream. This would create shallow water habitat so that benefits to salmonids would begin accruing as soon as dredging materials become available. 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. River and tidal currents, in conjunction with wave action, are expected to re-establish bathymetry at the location comparable to historical conditions once the dredged material has been placed.

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. Ocean disposal of dredged material with a 43-foot channel deepening project would include: approximately 0.5 mcy average annual dredged material from maintenance of the Columbia River channel. This is in addition to the average annual 4.5 mcy from maintenance from the mouth of the Columbia River entrance channel, which is currently disposed at existing ocean sites. 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 would apply to this statute. 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. Any state listed species would be generally addressed through this analysis and coordination.

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.

Washington Coastal Zone Management Program

WAC 173-16-064, Ocean Management. Appendix H, the Section 103 Evaluation and other provisions of the proposed action demonstrate that the proposed ocean disposal is consistent with the criteria and guidelines contained in the state code. Subsection 11 of WAC 173-16-064 specifically addresses ocean disposal.

Subsection (a) provides: *“Storage, loading, transporting and disposal of materials shall be done in conformance with local, state and federal requirements for protection of the environment.”* The ocean disposal site designation process and all other aspects of the proposed ocean disposal will be conducted in conformance with all pertinent laws and regulations.

Subsection (b) provides: *“Ocean disposal shall be allowed only in sites that have been approved by the Washington Dept. of Ecology, the Washington Dept. of Natural Resources, the U.S. Environmental Protection Agency and the U. S. Army Corps of Engineers as appropriate.”* The Deep Water ocean disposal site was selected based on a thorough process involving Washington Department of Ecology, other federal and state agencies as well as the commercial crab fishing associations.

Subsection (c) provides: *“Ocean disposal sites should be located and designed to prevent, avoid and minimize adverse impacts on environmentally critical and sensitive habitats, coastal resources and uses, or losses of opportunity for mineral resource development.”* The site evaluation study in Appendix H applies the 5 general and 11 specific MPRSA site selection criteria which are based on minimizing or avoiding impacts to aquatic resources, aesthetics, and uses such as navigation, mining and commercial and recreational fishing. Impacts to sensitive or critical habitats, which may exist in the vicinity of the sites, will be minimized through disposal management practices, such as location and timing of disposal. Baseline and monitoring studies conducted for existing sites would indicate that use of any new sites would likely not significantly impact these uses or resources. Additional physical and biological baseline studies have been completed or are underway to confirm this assumption. The preferred alternative would defer use of the Deep Water ocean disposal site during the first 10 years following deepening. This would further minimize or

avoid impacts to coastal resources. Additional discussion of ocean disposal sites is included in Appendix H and the Section 103 Evaluation in Exhibit D.

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 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. Although follow-up studies are underway, the sturgeon studies indicate potential impacts from disposal. 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 would be implemented. Any subsequent disposal would avoid or minimize impacts to significant resources so as to avoid the need for compensatory mitigation. 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 be 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. Preliminary results of the sturgeon studies indicate that disposal at these deeper locations would not likely have unacceptable impacts on these species or their habitat. The completed studies will discuss means to avoid or minimize impacts. Recent analysis also demonstrates that the dredged material would not accumulate to an appreciable degree 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. According to an early version of the Clatsop County Comprehensive Plan, the proposed aquatic restoration work at Lois Island embayment may be within an Aquatic Development Zone. Aquatic restoration is a use or activity that may be permitted in this zone as Review Uses under a Type II procedure. Section 3.746. Review Developments, includes activities such as estuarine enhancement, active restoration measures and fill in conjunction with the proposed activity.

Section 3.760, Aquatic Conservation Two Zone. The proposed restoration activity between Pillar Rock and Miller Sands Islands occurs within this zone. A more recent version of the Plan also shows the Lois Island embayment within this zone. It is not clear at this point if this is the currently approved version. Until this is clarified, this consistency review will evaluate the restoration action under both Aquatic Development and Aquatic Conservation procedures. Restoration is a permitted activity in this zone provided all standards for estuary work are met. The proposed estuary restoration 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 that discusses 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 aquatic restoration between Pillar Rock and Miller Sands Islands.

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. The National Marine Fisheries Service 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 IFR/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. Timing of activities has been and will continue to be coordinated with state and federal resource agencies as well as commercial fishing groups.

Undesirable erosion, sedimentation, increased flood hazard and circulation changes are not expected based on the results of the salinity intrusion analysis conducted for this study. See Appendix F of the Final IFR/EIS and Supplemental IFR/EIS, Chapters 4, 5, and 6. This analysis essentially concluded that even under the most conservative conditions, 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 a year or so 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. Ocean disposal is proposed for future (10 year) maintenance.

Disposal area capacity has been determined to be adequate for all initial dredging to 43 feet and at least 50 years of maintenance dredging. Some of the estuarine dredged material would be placed at designated ocean disposal sites after 10 years from initial deepening.

Flowlane disposal would occur primarily in areas at depths greater than 40 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 in the vicinity 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 3 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 not substantially increase over existing 40-foot channel maintenance quantities. Estimated quantities proposed for disposal at locations below 65 feet are 6 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 and larval stage 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. 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 actions will continue and long term Caspian tern management to further reduce this problem is proposed by the U.S. Fish and Wildlife Service and the Corps.

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 would likely affect the resources of the states of Oregon and Washington, it would be applicable to Oregon Statewide Goal 19, the Washington State Coastal Management Program and Pacific County Shoreline Management Program. 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 defer disposal at the Deep Water site for 10 years.

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 restoration measures at Lois Island embayment and between Pillar Rock Island and Miller Sands. 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 these 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 shallow subtidal area would increase biological productivity and would particularly enhance feeding and resting area for juvenile salmon. The proposed

restorations could potentially disrupt commercial salmon harvest at these locations. As discussed in the SEIS, about 35% of available area for gillnet fishing in the Tongue Point terminal fishery would be displaced by the Lois Island embayment fill. Coordination is ongoing to determine how this impact may be reduced. Although a drift net fishery has been identified in the Miller-Pillar reach, the extent of recent fishing at this location is not evident. Additional coordination with commercial fishermen will help determine if there is a conflict and, if so, how it may be resolved.

S4.237, Riparian Vegetation Protection. No riparian vegetation would be disturbed by the proposed dredging or disposal work.

S4.239, Fish and Wildlife Habitat. The proposed action is being coordinated with state and federal resource agencies. Comments and recommendations from those agencies are being 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 measurable change. The proposed action has no effect on water temperature changes. Sediment distribution has been analyzed and would not significantly change from present conditions.

Pacific County Shoreline Master Program

Section 23. DREDGE MATERIAL DISPOSAL

Subsection b. states that in-water estuary and ocean disposal of dredged material shall:

- i. Demonstrate the need for the proposed action and the availability and desirability of alternate sites and methods of disposal;
- ii. Demonstrate that the sediment size and chemical characteristics of the material proposed for in-water disposal is substantially the same as the substrate in the disposal area

The need for ocean disposal in general and use of the Deep Water site in particular was described in Appendix H of the Final IFR/EIS. Since preparation of that document, the proposed action has been revised so that the preferred alternative would not require ocean disposal until 10 years following channel deepening. The revised alternative is discussed in the Supplemental IFR/EIS.

The dredged material to be placed at the site is clean sand of marine origin, similar to the substrate at the site.

Pacific County, Washington, Section 25.05, Columbia River Estuary Policies, S25.05.03 Habitat Policies; A, B, E

Policies include preservation of fish-food production and resting areas, such as shallow submerged lands and wetlands; control of uses of adjacent shoreland; and protection of endangered wildlife species. The proposed action, as coordinated with federal agencies responsible for listing threatened and endangered species, is in accord with these policies.

S25.05.21, Dredged Material Disposal (DMD) Policies. A. Disposal on a vegetated site should occur on the smallest land area consistent with sound disposal methods; clearing land should occur in stages as needed; reuse of existing DMD sites is preferred to the creation of new sites. The proposed action utilizes existing DMD sites and avoids, when possible, sites with established vegetation not a result of revegetation efforts. However, no estuary sites within the jurisdiction of Pacific County are included in the proposed action.

S25.08.01, Permitted Development, Uses and Activities. Dredged material disposal is an allowed use where designated in Appendix 5, Section 2 of the Comprehensive Plan. These sites are from the currently approved CREST Dredged Material Disposal Plan. The proposed action does not include disposing at any site within the jurisdiction of Pacific County. Dredge and disposal activities in Baker Bay are covered under a separate action/environmental assessment.

The Deep Water site is located outside the limits of the Territorial Sea and is not directly within the jurisdiction of Pacific County or the State of Washington Shoreline Management Program. However, the Federal Coastal Zone Management Program requires Federal activities that may affect coastal resources or uses be evaluated for consistency with local plans. This review addresses those elements of the Pacific County Shoreline Master Program that apply based on substantive compliance with the local plan.

Section 27 OCEAN RESOURCES, Subsection E. Ocean Environment

7. Ocean Disposal. Ocean disposal shall be allowed in the Ocean Environment as a Conditional Use, subject to the following provisions:

a. Ocean Disposal shall only be allowed at sites approved by Washington Dept. Of Ecology, Washington Dept. of Natural Resources, the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.

b. Not applicable.

Under the site selection process conducted for the feasibility phase and documented in the 1999 Integrated Feasibility Report and Environmental Impact Statement, the U.S.

Environmental Protection Agency has concurred with the report findings that the Deep Water site is suitable as an ocean disposal site.

12. Permit Review Criteria. Pacific County may permit ocean and associated upland or coastal uses and activities if the criteria listed below are met or exceeded.

Although Pacific County cannot require a permit for this federal activity, the following responses are provided to substantively address the criteria.

a. There is a demonstrated significant local, state or national need for the proposed use or activity;

The need for channel dredging has been previously established. The need for ocean disposal in general and use of the Deep Water site in particular was described in Appendix H of the Final IFR/EIS. Since preparation of that document, the proposed action has been revised so that the preferred alternative would not require ocean disposal until 10 years following channel deepening. The revised alternative is discussed in the Supplemental IFR/EIS.

b. There is no reasonable alternative to meet the public need for the proposed use or activity;

Alternative disposal sites have been evaluated in the Final IFR/EIS. The Supplemental IFR/EIS describes beneficial use of dredged material from channel deepening to restore two areas of the Columbia River estuary to historic shallow water conditions. This alternative would preclude the need to use the Deep Water ocean disposal site for initial channel deepening, would reduce the quantity of material to be disposed in the Deep Water site, and would postpone placement of Columbia River dredged material at the site for 10 years. Evaluation of potential ocean disposal site locations resulted in selection of the Deep Water site as one of two primary ocean disposal site locations, which would avoid or minimize adverse effects on ocean resources and uses.

c. There will be no likely long-term significant adverse impacts to coastal or marine resources or uses;

As described in the Final and Supplemental IFR/EIS, the effects of disposal in the Deep Water site would be long term but not necessarily significant to marine resources and uses. The primary issues raised regarding use of this site are potential impacts to the Dungeness crab fishery and removal of sediments from the littoral system with associated loss of beach nourishment sand. The Final and Supplemental IFR/EIS concluded that, although some crab mortality would occur from disposal anywhere off the MCR, the effects would be limited and not significant compared to the overall MCR crab populations. The Corps is conducting additional crab studies off MCR and expect to have the results from that study available during the summer of 2002. The issue of retaining sediments within the littoral system is being addressed under the MCR entrance channel maintenance plan. The current Management and Monitoring Plan calls for placement of the maximum possible quantity of dredged material at nearshore sites and only using the Deep Water site when these sites have reached capacity.

d. All reasonable steps are taken to avoid and minimize adverse environmental impacts, with special protection provided for the marine life and resources of the Columbia River and Willapa Bay estuaries;

In addition to the above discussion, the ocean disposal site selection process required under the Marine Protection, Research and Sanctuaries Act, evaluates all potential alternatives in a matrix format to minimize conflicts with other uses and resources. The Deep Water site was selected as one of the sites, which would minimize or avoid conflicts.

e. All reasonable steps are taken to avoid adverse social and economic impacts, including impacts on aquaculture, recreation, tourism, navigation, air quality, and recreational, commercial, and tribal fishing;

As stated above, the Deep Water site was selected based on avoidance or minimizing effects on these uses. This site does not significantly impacts the crab resource, it minimizes the impact to the fishery and it will not induce coastal erosion.

f. Compensation is provided to mitigate adverse impacts to coastal resources or uses;

As previously stated, selection of ocean disposal sites requires minimizing or avoidance of important resources and uses. The management plan developed for the ocean disposal sites addresses further means to avoid or minimize impact. No significant effects requiring compensatory mitigation have been defined.

g. Plans and sufficient performance bonding are provided to ensure that the site would be rehabilitated after the use or activity is completed;

This criteria would not apply to ocean disposal sites.

h. The use or activity complies with all local, state and Federal laws and regulations.

The proposed disposal action would comply with all laws and regulations as applicable.

14. All proposed activities and uses with potential to significantly affect any of the shorelines or waters under the jurisdiction of Pacific County may at the discretion of the Shoreline Administrator require a socioeconomic assessment and the development of mitigation measures to analyze and describe the long and short-term effects of the proposed action to directly stimulate or drain the local economy.

As previously stated, the Final and Supplemental IFR/EIS states that the effects of disposal in the Deep Water site would be long-term but not necessarily significant to marine resources and uses. The primary issues raised regarding use of this site are potential impacts to the Dungeness crab fishery and removal of sediments from the littoral system. The Final and Supplemental IFR/EIS concluded that, although some crab mortality would occur from disposal anywhere off the MCR, the effects would be limited and not significant compared

to the overall MCR crab populations. The effects would likewise apply to the fishery and the local economy. The Corps is conducting additional Dungeness crab studies off MCR and expects to have the results from that study available during the summer of 2002. The proposed quantity of material to be placed in the Deep Water site is not expected to have any appreciable effect on coastal erosion.

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.

The following summarizes the proposed conformance to state and local requirements: sediments are adequately characterized; timing is coordinated with state and federal agencies; adverse short-term effects are minimized; relevant state and federal water quality standards are met; consideration is given to the need for disposal; alternative sites and methods of disposal have been considered; undesirable changes in circulation and adverse effects on wetlands and disposal near public water intakes are avoided; flow lane disposal generally occurs downstream of dredge sites and avoids flow conditions which would transport material upstream; beach nourishment is conducted so that erosion or deposition occurs downstream and shallow productive areas are not smothered.

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.

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.

