STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

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REGISTERED MAIL

June 23, 2003

Colonel Richard W. Hobernicht
District Engineer
Portland District Corps of Engineers
P.O. Box 2946
Portland, OR 97208-2946

RE: Conditional concurrence letter for Coastal Zone Management and Section 401 Water Quality Certification (Order # 03SEAHQ-5603) for the proposed Columbia River Channel Improvement Project

Dear Colonel Hobernicht:

On November 22, 2002 the U.S. Army Corps of Engineers (Corps), Portland District, submitted a request to the Department of Ecology (Ecology) for a Section 401 Water Quality Certification (401 Certification) under the federal Clean Water Act and a Coastal Zone Management consistency determination for the proposed Columbia River Channel Improvement Project. The project proposes to deepen the lower Columbia River navigation channel from the current depth of 40-feet to the depth of 43-feet between Columbia River Mile (CRM) 3 and CRM 106.5. The dredging and disposal necessary to deepen the channel is to be carried out by the Portland District Corps and/or designated contractors over a continuous period of two years. After the initial deepening of the channel the Corps will continue to maintain the channel at a depth of 43-feet with advanced maintenance to the depth of 48-feet. The navigation channel and in-water disposal sites fall within the state boundaries of the State of Washington and the State of Oregon (Oregon).

Coastal Zone Management Consistency – Conditional Concurrence:

Ecology has reviewed the proposed Columbia River Channel Improvement Project with respect to the Federal Consistency requirements of Washington State's Coastal Zone Management Program (CZMP). Ecology's role in the federal consistency process is to agree or disagree with the Corps' determination that dredging and disposal at the Columbia River Channel Improvement Project is consistent with the enforceable policies of the CZMP.

Based upon review of the Corps Consistency Determination and other documentation provided by the Corps, public comments received during the public hearing or otherwise

submitted to Ecology, and input from coastal program partner agencies, Ecology has reached the following decision. **The Corps proposal to deepen the Columbia River can be carried out consistent with the Ecology's CZMP provided the following conditions are met.** This decision, including the following conditions, is based on the need to avoid and minimize potential impacts to uses and natural resources of Washington coastal zone per the CZMP.

1. The Corps shall develop and implement a communication and coordination program focused on avoiding and minimizing conflicts between dredging and disposal operations and in-river commercial fishing within Wahkiakum County. **Enforceable Policy -** Wahkiakum County Master program.

The Corps shall submit a supplemental consistency determination for activities encompassed within the Project that are, or are planned to be, modified in a manner such that the potential effect of the modified action on coastal uses or resources will be substantially different than those effects considered by Ecology in this 2002-2003 review of the Project. Substantially different coastal zone effects are reasonably foreseeable if:

- The Corps makes a substantial change in a proposed activity that is relevant to Ecology's enforceable policies and Washington's coastal zone management program; or
- There are significant new circumstances or information relevant to the proposed activity and the proposed activity's effect on any coastal use or resource.

Ecology reserves the right to require a supplemental consistency determination if, after consultation with the Corps, we determine that major modifications are proposed that would have substantially different coastal zone effects.

Federal CZMA and associated federal regulations mandate that federal projects be fully consistent with the enforceable policies of state coastal programs unless full consistency is specifically prohibited by other federal law or if found by the President of the United States to be in the paramount interest of the nation. If the Corps believes other federal law in any case precludes full consistency with the Washington CZMP, then the Corps must specifically explain in writing to Ecology those legal requirements and exactly how full consistency is precluded. The lack of appropriations is not a legal basis for non-compliance with the Washington CZMP. (See CZMA Section 307(c) (1) (B) and 15 CFR 930 Subpart C). Any cost associated with federal CZM compliance should be included in the overall project cost.

This letter is issued pursuant to 15 CFR part 930. If the Corps does not agree with the above determination this letter shall be treated as an objection pursuant to the applicable subpart and notice, under 15 CFR part Sec 930.

Section 401 Water Quality Certification/Modification:

The proposed Columbia River Channel Improvement project has been reviewed in accordance with all pertinent rules and regulations of the State of Washington. On behalf of the State of Washington, Ecology certifies under Section 401 of the Clean Water Act, 33 U.S.C. § 1341, that there is reasonable assurance the activity proposed in the Corps' November 22, 2002, request for 401 Certification and the Final Supplemental Environmental Impact Statement (FSEIS) issued January 2003, will be conducted in a manner that will not violate applicable State water quality standards. This Certification shall be withdrawn if the project is revised in such a manner or purpose that Ecology determines the project must obtain a new 401 Certification. The Corps will then be required to reapply for state certification under Section 401 of the Federal Clean Water Act.

This Certification is subject to the conditions contained in the enclosed Order and may be appealed by following the procedures described in the Order.

If you have any questions about this conditional concurrence letter or Certification, please call Loree' Randall at (360) 407-6068.

Sincerely,

Gordon White
Program Manager
Shorelands and Environmental Assistance Program

cc: Laura Hicks, Corps of Engineers
Judy Grigg, Port of Longview
Diane Perry, Port of Portland
John Malek, EPA
Russell Harding, DEQ
Carol Jolly, Governor's Office
Paul Isaki, Governor's Office
Mike Desimone, Pacific County
David Kaiser, OCRM
Christine Valentine, Oregon's DLCD
Public Participant

DEPARTMENT OF ECOLOGY

In the Matter of Granting a Water Quality Certification/Modification to: Portland District Corps of Engineers **In Accordance with 33 U.S.C. 1341 [FWPCA § 401], RCW 90.48.260, and WAC 173-201A**	))))))	**ORDER No.** # 03SEAHQ-5603 Deepen the existing navigation channel of the lower Columbia River from - 40 to -43 feet between river miles 3 to 106.5. Disposal of dredged material in flowlane, restoration sites, upland sites and ocean disposal.

TO: Colonel Richard W. Hobernicht,
District Engineer
Portland District Corps of Engineers
P.O. Box 2946
Portland, OR 97208-2946

On November 22, 2002, the Portland District Corps of Engineers (Corps) submitted a request for a 401 water quality certification (401 Certification) from the State of Washington Department of Ecology (Ecology) pursuant to the provisions of 33 U.S.C. 1341 (FWPCA § 401). The request sought a 401 Certification for the Corps' proposed deepening of the Columbia River navigation channel. The Corps submitted a similar request to the State of Oregon. The request for certification was made available for public review and comment, concurrent with the State of Oregon on November 27, 2002. Ecology also convened two joint public hearings with Oregon on January 6th 2003 and January 7th 2003 at which time additional comments were submitted pursuant to the analysis of the project under FWPCA § 401. In addition on May 16, 2003, the Corps submitted a request to Ecology asking the agency to consider the use of the ocean "Deepwater" disposal site. This request was made available for the public review and comment on May 19, 2003.

The proposed project involves the deepening of the lower Columbia River navigation channel from Columbia River mile (CRM) 3.0 at the mouth to CRM 106.5 at Vancouver, WA. The dredging and disposal of 105 million cubic yards (mcy) of sediment from construction and maintenance of the channel will occur in both Oregon and Washington.

The Corps is proposing to dispose of the dredged material at a combination of the following sites: [1] in-water sites, such as re-handling and flowlane sites located in or near the mainstem reaches of the river; [2] shoreline or beach nourishment sites, [3] restoration sites [4] upland sites and [5] as a last resort, ocean disposal.

The following element of the proposed project **<u>is not included</u>** in this certification for the reasons noted below:

1. Martin Island embayment habitat mitigation site – As a result of the following new information Ecology is <u>not authorizing the fill of the embayment</u> within this 401 Certification:

- During the 401 Certification public comment period Ecology received

significant comments that informed the agency of the importance of this open water site for recreational boaters. It was determined that this beneficial use of the embayment should be maintained; and

- Within the Corps FSEIS (page 4-2), the Corps reduced the mitigation action from the originally agreed upon 32 acres to 16 acres. The Corps provided insufficient analysis regarding habitat improvements resulting from the reduction in fill.

Based on this new information, the state resource agencies determined that the recreational use of the embayment should be maintained and that there was insufficient analysis regarding habitat improvements resulting from the reduction in fill. As a result, this Order does not authorize the Corps to fill any part of the Martin Island embayment.

Water Quality Certification Conditions:

In view of the foregoing and in accordance with 33 U.S.C. 1341, 90.48.260 RCW and Chapter 173-201A WAC, a combined certification/modification is granted to the Portland District Corps of Engineers subject to the following conditions:

I. Short-term Modification to the Water Quality Criteria:

The dredging and disposal needed to deepen the navigation channel may result in the temporary exceedance of certain state water quality criteria or special conditions specified in Chapter 173-201A WAC. Under WAC 173-201A-110, Ecology may grant a "Short-term Modification to allow for such exceedances of the criteria on a short-term basis when necessary or to otherwise protect the public interest." Ecology finds that deepening of the navigation channel is an activity essential for the safe and efficient movement of large commercial vessels to upriver ports. In granting the following modifications, Ecology finds that supporting information clearly indicates the granting of mixing zones would not have a reasonable potential to: (1) cause a loss of sensitive or important habitat; (2) substantially interfere with the existing or characteristic uses of the lower Columbia River; (3) result in damage to the ecosystem; or (4) adversely affect public health.

A. The project reach of the lower Columbia river is classified as Class A waters; thus, Class A water quality standards of 173-201A-030(2) apply, except as specifically modified by this order. Temporary dilution zones, or mixing zones, are authorized for dredging and/or disposal to allow for temporary exceedances of certain water quality standards as a result of disturbing in-place sediments. Within the mixing zones, except as noted, water quality criteria are modified as follows:

1. Turbidity: Class A water quality standards for turbidity are waived within the specified mixing zones as outlined within specific conditions of this Order.

2. Dissolved Oxygen: Class A water quality standards for dissolved oxygen are waived within the specified dilution zones, provided that total dissolved oxygen levels are not caused to drop below 6.0 mg/L.

B. Mixing Zones: Mixing zones and other applicable conditions are specified below under the separate categories of the project. The mixing zones are considered reasonably sufficient to allow for the temporary impacts of the project. All other applicable water quality standards shall remain in effect in the mixing zones and all water quality standards are expected to be met outside of the mixing zones.

C. Duration of the Modification: Per WAC 173-201A-110, a modification of a water quality criterion (such as turbidity) within a mixing zone is intended for short-term periods of time, *such as for hours or days rather than weeks or months*. In this case, Ecology finds that the effects of construction and maintenance dredging to be short-term in that dredging/disposal occurs at separate locations (the entire channel will not be dredged at the same time) and that dredging at each location is completed in a matter of days. However, within the context of this Order, no degradation of water quality will be allowed if such degradation is found to significantly interfere with, or become injurious to characteristic water uses or cause long-term harm to the environment of the lower Columbia River.

D. This modification does not authorize any in-water work during closure periods specified within this Order or the NMF's Biological Opinion. This modification is also granted on condition that all reasonable and appropriate "best management practices" are being undertaken to reduce the impacts that may cause exceedances of the water quality criteria.

E. Monitoring:

1. Turbidity shall be measured during in-water dredging and recorded at a minimum every two hours during periods of active dredging. The designated person attending the monitoring equipment shall be responsible for immediately notifying the project foreman of any exceedance of the turbidity standard. Monitoring points shall be 100 feet up stream (representative of background), at the outer

limit of the mixing zone and at the discharge point. A turbidimeter is to be used. If measurements taken at the outer limit of the mixing zone show (a) recorded turbidity is greater then 5 NTU over background where the background is less then 50 NTU, or, (b) if more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU, occurs at the outer limit of the mixing zone, the Corps is required to modify or stop the activity causing the problem and continue to monitor every two hours. The Corps cannot restart dredging operations until turbidity levels return to below background.

2. Dissolved oxygen levels shall be measured and recorded at a minimum, every two hours, during periods of active dredging. If dissolved oxygen levels fall below 6.0 mg/l, the Corps is required to modify the activity and continue to monitor every two hours. If dissolved oxygen levels fall below 6.0 mg/l as an instantaneous concentration, work shall stop until dissolved oxygen levels return above 6.0 mg/l. The designated person attending the monitoring equipment shall be responsible for immediately notifying the project foreman of any exceedance of the dissolved oxygen standard. Monitoring points shall be 100 feet downstream, and at the discharge point.

II. Dredging: The Corps shall conduct its dredging activities according to the following conditions:

A. The following general condition applies to all dredging activities between Columbia River Mile (CRM) 3 and CRM 106.5:

1. Dredging operations shall be conducted in a manner that minimizes the disturbance or siltation of adjacent waters and prevents the accidental discharge of petroleum products, chemicals or other toxic or deleterious substances into waters of the State.

B. The following specific conditions apply to the specific dredging activity or the area of the river being dredged:

1. Clamshell Dredging:

a. Dilution Zone: 150 feet radially and 600 feet downcurrent from the point of dredging.

b. Each pass of a clamshell bucket shall be complete with no

stockpiling done in the water. Dredged material shall not be stockpiled on a temporary or permanent basis below the ordinary high water line.

c. Large debris picked up by a clamshell dredge shall be removed from the dredged sediments prior to disposal at flowlane disposal sites. Large debris includes old pilings or sinker logs [longer then three feet or greater than one foot in diameter], tree stumps, and man-made materials such as scrap metals, car bodies, broken concrete or asphalt and the like.

2. Hopper and Pipeline Dredging:

a. Mixing Zone for Pipeline Dredging: 150 feet radially from the point of dredging and 300 feet downcurrent.

b. Mixing Zone for Hopper Dredging with Bin Overflow: 300 feet radially and 900 feet downcurrent from the point of dredging.

c. Hopper and pipeline dredges shall be operated with the intake at or below the surface of the sediments being removed during all periods of operation. Reverse purging of the intake line shall be held to an absolute minimum. Should purging be necessary, the intake line shall be raised no more than three feet above the bottom.

d. The dragheads on a hopper dredge shall be lowered to at least 20 feet below the surface of the river if water is pumped through the dragheads to flush out the hopper bins.

III. Dredged Material Disposal:

A. A qualitative assessment of sediments is necessary to determine the suitability of sediments for the disposal options resulting in discharges to waters of the State (of Washington). For the deepening project, the disposal options include flowlane, beach nourishment, upland disposal and ocean disposal. The disposal options that will result in discharges of effluent to waters of the state include beach nourishment and upland disposal.

The sediments to be dredged from the navigation channel have been determined to be suitable for the above disposal options based upon the results sediment sampling surveys. The most recent sediment survey of the channel was undertaken for the proposed Deepening Project (Siipola, 1997) and was done in

conformance with the sediment evaluation guidelines developed for application to the lower Columbia River, the *Dredged Material Evaluation Framework* dated December 1998.

B. Flowlane Disposal: The following conditions apply to disposal of dredged material in the flowlane of the Columbia River:

1. Mixing Zone [for disposal by hopper, bottom dump scow, or down spout]: 150 feet radially from the point of discharge and 900 feet downcurrent.

2. Disposal of material shall be conducted in a manner that prevents mounding of the disposed material.

3. Flowlane disposal by a hopper dredge or a bottom dump scow is approved provided the disposal sites are located:

   a. waterward of the minus 20-foot contour, Columbia River Datum (CRD) and
   b. to the greatest extent practicable, flowlane disposal sites shall be selected so that disposal material (i) disperses into or immediately adjacent to the mainstem navigational channel; (ii) is not likely to cause significantly increased shoaling in downstream side channels or to shoreline facilities such as docks, wharfs, vessel slips and marinas; and (iii) is not likely to cause a significant adverse alteration of bottom habitats critical to the life history of white sturgeon.

4. Ecology will consider the use of alternative methods for flowlane disposal, such as a flat-topped barge unloaded by a small earth mover; however, the use of an alternative disposal method shall require special review and approval by Ecology under this Order prior to usage.

5. Flowlane sites may be used for the disposal of sediments dredged by pipeline provided the dredged material is discharged through a downspout that is lowered at least 20 feet into the water column.

6. The Corps shall monitor the flowlane disposal to assess at a minimum: changes in estuarine sedimentation and bathymetry and potential direct and indirect effects of disposal on estuarine species. The Corps shall also monitor the effects of flowlane disposal at CRM 5 and 27 - 42 to ensure that in-water disposal does not have adverse hydraulic affects. The Corps shall use the adaptive management process under Condition IV.A if monitoring demonstrates that flowlane disposal is adversely affecting

estuarine species, or is creating an adverse hydraulic impact.

C. **Shoreline Disposal by Pipeline Dredge:**

The following conditions apply to pipeline dredging operations that involve the unconfined or partially confined disposal of dredged material on or immediately adjacent to the shoreline. Historically, this manner of disposal has been used primarily for erosion control, such as to protect property or structures, to nourish actively eroding beaches, and to fill fish stranding sites. Shoreline disposal may also be done to enhance, restore or create various riverine habitat features such as a spit or lagoon.

Beach nourishment is the most common shoreline disposal activity and is done by pumping a slurry of sand and water directly onto an actively eroding beach. The sand settles out on the beach while the turbid water or runoff flows back into the river.

1. Mixing Zone: 150 feet radially from the point of discharge and 900 feet downcurrent.

2. Shoreline disposal operations, and particularly beach nourishment, may result in the placement of dredged material waterward of the ordinary high water mark. In such cases, the disposal site shall be regraded to an approximate slope of 10 to 15 percent, with no swales.

3. Impacts to riparian vegetation at shoreline disposal sites shall be avoided or minimized whenever possible.

4. Erosion control measures shall be carried out to prevent the wind erosion of dredged material back into the channel.

5. Natural habitat features of Columbia River shorelines include large woody debris (LWD) such as trees, logs and stumps. Trees and logs are considered to be LWD if longer than 4 feet and greater than 12 inches in diameter. Whenever feasible, LWD shall be removed and set aside prior to the start of a shoreline disposal operation and then relocated on the shoreline or beach after the disposal area is regraded to a 9 to 1 slope or steeper. Consideration should be given to the placement of imported LWD to enhance habitat value and to help slow future erosion of the site.

D. **Upland Disposal by Pipeline Dredge:**

The following conditions apply to pipeline operations that pump dredged material to an upland site or confined disposal facility (CDF). Typically, a CDF consists of the following design features: [1] Earthen dikes that form the perimeter of the facility. [2] A weir structure that provides flow control and retention of the solid fraction of dredged material. [3] An outlet structure that conveys the turbid water fraction of dredged material [effluent] to a single point of discharge. The point of discharge may be a nearby surface water, wetland or bare ground.

1. Mixing Zone [for Single-point Effluent Discharge]: 150 feet radially from the point of discharge and 600 feet downcurrent.

2. The Corps shall maintain a 300-foot habitat buffer at all new upland dredged material disposal sites (e.g., Gateway 3, Fazio Bothers, Mt. Solo and Puget Island).

3. CDF Design and Operation. The following "best management practices" pertain to the design and operation of a CDF:

   a. The CDF should be designed to provide the maximum practical degree of solids retention during operation, and for the entire life of the site.

   b. The outfall should be located so as to provide the maximum amount of dilution or dispersion of the effluent and to minimize any potential scour or erosion effects to more sensitive aquatic resources such as small tributaries and sloughs, shallow tide flats, and wetlands.

   c. To the greatest extent practicable, CDF sites shall be stabilized to prevent significant offsite erosion of the dredged material by either water or wind transport.

4. The Corps shall monitor its use of upland disposal sites to ensure dredged material placement is within site boundaries such that estuarine aquatic areas are not converted to uplands. Monitoring shall be accomplished by comparing currently available information on site conditions with aerial photos taken periodically at the same tidal level and at a scale of 1:24,000 or larger. No measurable conversion of estuarine aquatic areas to upland is authorized under this decision.

E. **Ocean Disposal:**

The Corps shall continue to fully explore and implement other options and methods of disposal to decrease the amount of sand removed from the active transport system of the river, estuary and coast. Ocean disposal (Deepwater site) shall only be used in the absence of other available sites that use the sand beneficially. All material to be disposed of in the Deepwater site shall be disposed of in the following manner:

1. Use of the Deepwater site is limited to the disposal of construction and maintenance material from the lower Columbia River (i.e., up to CRM 30).

2. At least 5 days prior to any use of the Deepwater site, the Corps shall notify Ecology in writing of its intent to use the Deepwater site.

3. Use of the Deepwater site, whether designated under EPA's Ocean Dumping Act Section 102, 33 U.S.C. § 1412, authority or under the Corps Ocean Dumping Act Section 103, 33 U.S.C. § 1413, authority, the Corps shall implement the management and monitoring document currently proposed for the Section 102 site.

4. The Corps shall not dispose of any materials deemed unsuitable for in-river disposal (i.e. contaminated materials) at the Deepwater site.

5. Any disposal of materials within the Deepwater site shall be by repetitive, "pinpoint" dumping to minimize the footprint of the impacted disposal area.

IV. General Conditions for Additional Protection of Washington's Beneficial Uses: These conditions are to significantly reduce or eliminate impacts to the beneficial uses of the state of Washington.

A. **<u>ADAPTIVE MANAGEMENT PROCESS</u>:**

The Corps shall develop and implement an adaptive management program for the Project to address the potential effects to Washington's beneficial uses and to cooperatively ensure continued compliance with the state water quality standards over the life of the Project. The adaptive management program shall be implemented through the procedures specified below. The adaptive management process shall be used to address potential, long-term effects of dredging and dredged material disposal on estuarine habitats, and biological estuarine resources.

Where conditions of this Order require adaptive management, an Adaptive Management Team (AMT) will be used to review and/or develop data, information or issues, and to arrive at a consensus regarding how to respond. The AMT will consist of three teams: a technical team, a management team and a dispute resolution team.

1. The Technical Team: The technical team will review research, monitoring and other data, information and issues relevant to the adaptive management conditions, and determine actions to be taken in response to such data, information and issues. In addition, the technical team will coordinate with the federal adaptive management process created under the Biological and conference opinions. The technical team will act by consensus. In the event that the team is unable to achieve a consensus within a reasonable time under the circumstances, any member of the team may refer the matter to the management team.

2. The Management Team: The management team will review matters referred by the technical team and provide oversight to the technical team and the Corps in order to help coordinate the requirements of the state and federal agencies related to the Project. The management team will act by consensus. In the event that the team is unable to achieve a consensus within a reasonable time under the circumstances, any member of the team may refer the matter to the dispute resolution team.

3. The Dispute Resolution Team: The dispute resolution team will review matters referred by the management team. The dispute resolution team will act by consensus. In the event that the team is unable to achieve a consensus within a reasonable time under the circumstances, the matter in question shall be resolved by the federal or state agency or agencies with regulatory jurisdiction.

4. Membership of Teams: Each team will include one or more members from DLCD, Oregon Department of Environmental Quality (DEQ), Washington Department of Ecology (Ecology), and the Corps. The members of the dispute resolution team will be the Directors of the state agencies, and the Commander of the Portland District of the Corps. The members of the other teams will be designees of the state agencies and the Commander of the Portland District of the Corps. The state agencies will designate one person to coordinate the activities of the teams, which responsibility will be rotated between the two states over time. The teams will consult with local governments, Indian Tribes, other state and federal agencies, and involve the public, as appropriate under applicable state and federal laws and policies.

5. Consensus: A group may act by consensus where no member of the group formally opposes the particular action in question.

6. Savings Provision: No provision of this condition is intended to or does alter or supercede the authorities or duties of the DLCD, DEQ, or Ecology relating to the Project. In addition, this condition is not intended to, and does not alter, limit, or repeal any authorities of ODEQ, DLCD Ecology to revoke, suspend, modify or enforce their respective § 401 water quality certifications or coastal zone decisions, or to request remedial action, seek mediation, or to request supplemental coordination with respect to the construction and continued operation of the Project.

B. Adaptive management actions shall occur within the framework of the mitigation sequence: avoid impacts first, minimize impacts second, and compensate for any significant, unavoidable impacts. Impact thresholds that would trigger compensatory mitigation and appropriate and feasible compensatory mitigation options shall be established through the adaptive management process specified in Condition IV.A.

C. Progress on planned studies, monitoring, and other project-related data collection shall be discussed within the adaptive management process specified in Condition IV.A. The Corps shall provide at least 30-day notice of opportunities to comment on proposed studies, reports and/or actions. Final study results and data shall be assessed by the Corps for any implications with respect to entrainment impacts, disposal impacts, potential use of timing windows for maintenance dredging & disposal affecting sturgeon and Dungeness crab, effects of any salinity changes on Dungeness crab, and other potential impacts to estuarine habitats and species.

D. The Corps shall explain in writing to Ecology the significance of any new information developed or discovered in these efforts for potential project effects on estuarine species and habitats. All data and summary reports shall be made available to Ecology within a reasonable amount of time, not to exceed 30 days, after completion.

V. Specific Conditions for Protection of Washington's Beneficial Uses

Implementation of the following conditions shall be addressed through the adaptive management program specified in Condition IV.A.

A. In addition to the proposed assessment of monitoring data with respect to indicators for salmonids, the Corps shall to the maximum extent possible assess monitoring data generated under Corps monitoring actions MA-1, MA-2, MA-3,

MA-4, and MA-5 with respect to potential, long-term effects of dredging and dredged material disposal on other beneficial uses, such as sturgeon, smelt, and Dungeness crab. Ecology will be informed of such monitoring results or changes in monitoring recommended by the federal adaptive management team related to these monitoring actions. {The indicators listed in Term and Condition 4e are basic parameters that have relevance to issues broader than salmonid impacts.}

B. Dungeness Crab:

1. The Corps will conduct additional study of crab entrainment to assess seasonal variations and salinity influence on entrainment rates, and to assess differences among various class sizes (e.g. age O+, 1+, 2+).

2. The Corps shall continue with its efforts to develop a crab distribution and salinity model and shall use the best available model as a management tool for scheduling dredging and disposal in the lower estuary to avoid and minimize entrainment and adverse effects of disposal.

3. The Corps will develop and adhere to a crab mitigation strategy designed to avoid and minimize entrainment and burial of Dungeness crab. The strategy shall specify impact thresholds and compensatory mitigation contingencies for unavoidable impacts to Dungeness crab, and shall be developed through the adaptive management process specified in Condition IV.A., above.

4. Hydraulic dredging at Desdemona Sands and Flavel Bar shall be conducted during times of least Dungeness crab abundance. To determine times of least abundance, entrainment sampling as described in "Entrainment of Crab in the Columbia River Estuary: June 2002 measurements and status of Summer 2002 measurements" (Pearson, Williams, and Skalski, September 5 2002) shall be conducted at each site each time those locations are dredged using USACE equipment, for a minimum of 5 years or to the extent necessary to gather sufficient data. The resulting crab entrainment data, along with real-time flow and salinity data shall be utilized to develop a model to predict times of least abundance.

5. Flowlane disposal of sediment in areas supporting populations of Dungeness crab shall be limited to times of least crab abundance as determined by the model in condition B.2. The crab unavoidably buried by flowlane disposal shall be calculated. By conducting maintenance

dredging during low abundance periods, sufficient avoidance of Dungeness crab shall be accomplished to mitigate those unavoidably lost.

C. Sturgeon:

1. The Corps shall continue to utilize the bi-state sturgeon work group to identify and carry out appropriate mitigation measures pending various sturgeon study outcomes.

2. The Corps shall adjust dredging and disposal operations as appropriate, and as indicated utilizing the adaptive management process specified under Condition IV.A, if results of the on-going sturgeon telemetry studies indicate negative response in sturgeon behavior to dredging and disposal operations.

3. The Corps shall use the table below to identify measures to ensure that no-net-loss of sturgeon and productive habitat results from disposal from this project:

Potential Impacts	Responses
Direct Mortality 1) Immediate mortality of significant numbers of fish due to burial. 2) Delayed mortality of significant numbers of fish due to burial 3) Fish survive disposal action	1 & 2) Do not dispose in area or use additional sites in the future, and/or modify/schedule disposal to minimize impact. 3) No mitigation action.
Disturbance 1) Significant numbers of fish leave area permanently. 2) Significant numbers of fish leave area temporarily. 3) Fish do not leave area.	1) Do not dispose in area or additional sites in the future and/or modify/schedule disposal to minimize impact. 2) Schedule use of site for periods of low abundance. 3) No mitigation action.
Feeding Sturgeon feed in site: 1) Significant, long-term effects. 2) Minor, short-term effects. 3) Sturgeon not feeding in site.	1) Do not dispose in area or use additional sites in the future, and/or modify/schedule disposal to minimize impacts. 2) No mitigation action. 3) No mitigation action.
Loss of Habitat 1) Do not use habitat after disposal. 2) Return to area a short time after disposal. 3) Return to area a long time after disposal.	1) Do not dispose in area or use additional sites in the future, and/or modify/schedule disposal to minimize impact. 2) No mitigation action. 3) No mitigation action.

D. Eulachon (Smelt):
The following conditions shall be implemented by the Corps in order to mitigate adverse impact to Eulachon (smelt):

1. In-water (flowlane) disposal of dredged material shall not occur in areas shallower than 43 -feet between CRM 35 and CRM 75 along the Washington shoreline using the depths determined in the pre-construction bank –to-bank bathymetry supplemented by additional channel bathymetry to determine depth.
2. In-water disposal shall not occur during the period of peak Eulachon outmigration (between the 8th and 20th weeks of the year) downstream from the identified spawning areas (CRM 35 – CRM 75). If in-water disposal is essential during the period of peak outmigration, then the Corps shall further study the potential for Eulachon losses as a result of dredged material disposal impacts. Appropriate mitigation measures shall be developed based on the study outcomes, as determined through the adaptive management process required under Condition IV.A.

E. Salmonids:

1. To further avoid and minimize impacts to salmonids the Corps shall comply with the Best Management Practices, including timing windows, for dredging and disposal identified in the project Biological Assessment and referenced in the Biological Opinions issued by NOAA Fisheries and U.S. Fish and Wildlife for the project, and the Implementation Plan for the Biological Opinions, unless modified through the federal adaptive management process.

2. In the event that substantial, unauthorized deviations from the Best Management Practices occur during dredging and disposal operations, the Corps shall document the occurrence(s) along with the response and remedies implemented. This information shall be made available upon request and shall be shared through the adaptive management process.

3. The Corps shall provide Ecology with all reports, meeting notices, monitoring and research data, management findings, and other similar information generated under the federal adaptive management process outlined in the project Biological Assessment, the Biological Opinions issued by NOAA Fisheries and U.S. Fish and Wildlife for the project, and the Implementation Plan for the Biological Opinions.

4. The Corps shall provide written notice to Ecology at least 30 days prior to meetings, and workshop related to issues and actions coming before the

federal adaptive management team so that it is possible for the state to provide meaningful input to the federal adaptive management process outlined in the project Biological Assessment, the Biological Opinions issued by NOAA Fisheries and U.S. Fish and Wildlife for the project, and the Implementation Plan for the Biological Opinions. In addition, the Corps will report and send documents to Ecology in a timely manner on all issues considered and actions taken through the federal adaptive management process.

F. Fish Stranding:

1. The Corps shall mitigate effects of fish stranding through the following actions:

   a. Develop and implement a stranding study to be developed in conjunction with the adaptive management process specified in Condition IV.A, above.

      i. The study shall:

         (a) Include monitoring that encompasses the peak outmigration period for all species of salmonids that are listed under the Federal Endangered Species Act; and

         (b) Include evaluation of physical parameters that influence shipwake stranding (e.g., water level, bank configuration, wave height, type, size, draft, and speed of vessel, etc); and

         (c) Substantially follow the seven study recommendations prepared by S.P. Cramer and Associates, Inc. (FSEIS Exhibit K-3, Effects of Vessel Wake Stranding of Juvenile Salmonids in the Lower Columbia River, 2002, - A Pilot Study September 26, 2002); and

         (d) Include goals, milestones for completion, check-in points, and triggers for management change, sampling/testing protocols and proposed mitigation measures.

         (e) Identify and implement mitigation measures designed to avoid, minimize, and reduce losses of fish life from shipwake stranding.

   b. Provide compensatory mitigation for all unavoidable losses of fish life that are attributed to this project. Mitigation shall be based on extrapolation from scientifically-credible fish stranding studies. Potential compensatory mitigation actions should include habitat restoration activities (e.g., large woody debris placement, channel

improvements, riparian habitat restoration, etc.) in tributary streams designed to replace, through increased habitat capacity, those fish lost from shipwake stranding. Compensatory mitigation should take into account losses throughout the life of the project.

G. Sediment Budget/Habitat:

1. The Corps shall develop a regional sediment management (RSM) program that encompasses the construction, operations and maintenance of this project as well as other Columbia River navigation projects. High priority shall be given to development of nearshore dredge disposal sites that can be shown to effectively contribute to the littoral sediment budget. When available for use, the Corps shall fully integrate these nearshore sites into this project over estuarine in-water disposal and deepwater ocean disposal as a way to minimize potential disposal impacts to water quality and coastal zone resources.

2. Monitoring:

   a. The Corps shall implement a Monitoring Program that includes, at a minimum, the following tasks:

      i. Pre-construction bathymetry - Prior to project construction, a baseline estuary bathymetric (seafloor/riverbed) and topographic (inter-tidal beach/shoreline) survey shall be performed. These surveys shall meet or exceed the resolution (in terms of accuracy and data point density) of the 1958 and 1982 bathymetric surveys. The baseline survey shall cover the estuary from bank-to-bank from River Mile 3 to River Mile -40. Ecology recommends that the Corps collect multi-beam bathymetry at high tide and airborne topographic lidar at low tide to perform the surveys and adequately map the inter-tidal zones without data gaps.

      ii Post-construction bathymetry - Within two (2) years after completion of construction, a bank-to-bank bathymetric survey from River Mile 3 to River Mile 18 of at least the same accuracy and one-half the data density of the baseline survey listed in Condition VI.A.1. shall be completed. A corresponding minimum of 10 bank-to-bank bathymetric survey transects shall be collected from River Mile 18 to River Mile 40 (spaced at approximately two (2) mile intervals).

iii. Report - following completion of project construction in the estuary, a report shall be generated including the results of the bathymetric surveys, aerial photography, volumes of construction and maintenance dredging in the channel, and available information on river flow and sediment transport. These monitoring results shall be used to analyze the extent of the movement of marine sediments into the estuary. Should any unanticipated, negative impacts become evident, the Corps shall use the adaptive management program specified in Condition IV.A to determine an appropriate response.

VI. Wildlife and Wetland Mitigation:

A. General Conditions:

1. The mitigation site(s) shall be constructed as described in the Columbia River Channel Improvement Project Final Supplemental Integrated Feasibility Report and Environmental Impact Statement - Exhibit K-5, dated January 2003, except as noted or otherwise conditioned within this Order. Any modification of the mitigation plan shall be determined through the adaptive management process required under Condition IV.A.

2. The Corps shall submit a final mitigation plan to Ecology for review and approval at least 60 days prior to starting construction at the mitigation site(s). This plan shall include the proposed method of construction and an implementation plan for each site, including the goals, objectives of the mitigation, and performance standards for each element of the mitigation plan.

3. The Corps shall meet the success criteria outlined within the mitigation plan.

   a. Dead or dying plants shall be replaced during the first available planting season with the same species or an agreed upon alternative.

   b. All plantings shall be watered and maintained, (including weeding), and replaced as needed, for a period of at least five (5) years after completion of the mitigation site.

5. "As-Built" Report: an as-built report documenting the final design of the mitigation site(s) shall be prepared when the mitigation site is completed. The report shall include the following:

- final site topography;
- photographs of the area taken from established permanent reference points;
- a planting plan showing species, densities, sizes, and approximate locations of plants, as well as plant sources and the time of planting;
- habitat features (snags, large woody debris, etc) and their locations if any;
- drawings in the report shall clearly identify the boundaries of the project;
- locations of sampling and monitoring sites; and
- any changes to the plan that occurred during construction.

6. The "As Built" report shall be sent to Ecology's Federal Permit Manager (Loree' Randall) within sixty 60 days of completing project construction and mitigation and in no case, later than December 31, 2006.

7. The Corps shall monitor all mitigations sites for a period of 10 years after construction. Five monitoring events within that period; i.e., years 1, 3, 5, 7, and 10.

8. Permanent deed restrictions shall be placed on the mitigation sites, in addition to title to the land.

B. Specific Mitigation Site Conditions

1. Martin Island:

a. The Corps shall acquire Martin Island in its entirety for mitigation, including the 80 acres not identified as part of the final mitigation within the FSEIS.

i. The 80 acres shall be incorporated into the mitigation plan as riparian forest development.

b. This Order does not authorize the Corps to fill any part of the Martin Island embayment.

c. The Corps shall plant dense shrubs or thorny plants along the shoreline of the Martin Bay embayment to discourage access to the island. Also the Corps shall post signs along the shorelines stating that the island is a Wildlife Restoration Project.

d. Disposal of material excavated for regrading and reed canary grass

and black berry removal shall be done at offsite, upland location, or in a manner that will not contribute to the spread of nuisance species. .

2. Woodland Bottoms:

   a. The Corps shall construct the entire site as outlined within the FSEIS and final mitigation plan for this project

   b. Any modification of the mitigation site shall be reviewed and approved through the adaptive management process required under Condition IV.A.

3. Purple Loosestrife Control:

   a. The Corps shall obtain all necessary authorizations from Ecology prior to any use of herbicides for purple loosestrife control.

4. Tidegate Restoration:

   a. Final plans and engineering specifications for the tidegate work shall be submitted to Ecology. In the event that the sponsoring ports take the responsibility for the tidegate work, they will need to obtain any additional state and local permits prior to initiating the work.

VII. Emergency and/or Contingency Measures:

A. If dredging/disposal operations are found not to be in compliance with the provisions of this order, or result in conditions causing distressed or dying fish, the operator shall immediately take the following actions:

1. Cease operations.

2. Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage.

3. In the event of finding distressed or dying fish, the operator shall collect fish specimens and water samples in the affected area and, within the first hour of such conditions, make every effort to have the water samples analyzed for dissolved oxygen and total sulfides. Ecology may require

such sampling and analyses before allowing the work to resume.

4. Notify the Department of Ecology and the Department of Fish and Wildlife of the nature of the problem, any actions taken to correct the problem, and any proposed changes in operations to prevent further problems.

VIII. Spill Prevention and Control:

A. Any discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, is prohibited.

B. Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters. Proper security shall be maintained to prevent vandalism.

C. In the event of a discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, containment and cleanup efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Cleanup shall include proper disposal of any spilled substances and used cleanup materials.

D. Spills into state waters, spills onto land with a potential for entry into state waters, or other significant water quality impacts, shall be reported immediately to Ecology's Southwest Regional Office at (360) 407-6300 (a 24-hour phone number).

IX. Duration of Water Quality Certification (WQC) :

This WQC shall remain in effect for a period of five (5) years from date of issuance. Continuing maintenance dredging beyond the five year term of this Order will require separate certifications every five years:

A. Ecology reserves the option to reassess the terms of this Order and amend or revoke, as necessary, in the event that:

1. new sources of potential contamination are discharged or otherwise stand to significantly affect the quality of sediments dredged from the lower Columbia River navigation channel, or

2. new information indicates that dredging and/or disposal activities are having a significant adverse impact on water quality or characteristic uses of the lower Columbia River.

X. Notification:

A. The Portland District or their designated contractor shall notify Ecology at least 14 days prior to the scheduled start of dredging in any year. The Ecology person to contact is Loree' Randall at (360) 407-6068.

XI. Other Requirements:

A. Copies of this Order shall be kept on the job site and readily available for reference by the Corps of Engineers, Ecology personnel, the contractor, and other appropriate state and local government inspectors.

B. Ecology retains jurisdiction to make modifications hereto through supplemental order, if it appears necessary to protect the public interest during the construction and monitoring of this project.

C. This certification does not exempt and is provisional upon compliance with other statutes and codes administered by federal, state, and local agencies.

XII. Penalties:

Failure to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the terms of this Order.

XIII. Appeal Process:

Any person aggrieved by this Order may obtain review thereof by appeal. The applicant can appeal up to 30 days after receipt of the permit, and all others can appeal up to 30 days from the postmarked date of the permit. The appeal shall be sent to the Washington Pollution Control Hearings Board, PO Box 40903, Olympia WA 98504-0903. Concurrently, copies of the appeal shall be sent to the Department of Ecology, Enforcement Section, PO Box 47600, Olympia WA 98504-7600 and Department of Ecology, SEA Program, PO Box 47600, Olympia WA 98504-7600.. These procedures are consistent with the provisions of Chapter 43.21B RCW and the rules and regulations adopted thereunder.

Dated June 23, 2003 at Lacey, Washington

Gordon White

Gordon White, Program Manager
Shorelands and Environmental Assistance Program
Department of Ecology
State of Washington