

Appendix E

Combined Conditions

Columbia River Channel Improvement Project Adaptive Environmental Management Plan

March 2006

E.1 Adaptive Management

The Adaptive Environmental Management Plan developed for the Columbia River Channel Improvement Project (CRCIP) was motivated in part by issues of concern to the states of Washington (Department of Ecology) and Oregon (Department of Environmental Quality, Department of Land Conservation and Development). The following tables outline the issues of concern and specify actions and conditions addressed by adaptive management in support of the Section 401 Water Quality Certification.

The first set of tables list the state’s issues that should be addressed through adaptive management. The second set of tables list those issues that must be complied with in relation to the Section 401 Certification.

Table E.1. List of Oregon and Washington issues, concerns, and evaluation criteria to be addressed through adaptive management in relation to channel improvement.			
COLUMBIA RIVER CHANNEL IMPROVEMENT PROJECT STATES' CONDITIONS evaluated through the adaptive management process; number in this document is not the same as the number in the decisions			
	WDOE	DEQ	DLCD
ADAPTIVE MANAGEMENT			
ADAPTIVE MANAGEMENT COMPOSITION	X	X	X
PROCESS	X	X	X
COORDINATE WITH FEDERAL AMT	X	X	X
FLOWLANE DISPOSAL			
WDOE B.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.	X		X
<i>This condition will be monitored using the surveys collected for the NOAA Bi-op. Information will be provided to WDOE and brought to the State AMT.</i>			
DEQ: Flowlane disposal within Oregon waters in areas deeper than 65 feet around River Mile 5 and between River Miles 27 and 42 is not allowed. The Corps shall not conduct flowlane disposal of materials from the construction of this project, or of subsequent maintenance materials from this project, in estuarine waters deeper than 65 feet until the results of ongoing sturgeon studies have been obtained, have been fully evaluated by the Adaptive Management Team, and a determination made as to whether these areas may be used.		X	
DLCD: (4) Flow-lane disposal shall be restricted as follows: a) Flow-lane disposal within Oregon waters in areas deeper than 65 ft. around Columbia River Mile 5 and between Columbia River Miles 27 to 42 is not authorized. The Corps shall not conduct flow-lane disposal of materials from the construction of this Project, or of subsequent maintenance materials from this Project, in estuarine waters deeper than 65 ft. until and unless an exception or change to the Clatsop County depth policy has been granted by the county.			X
b) Flow-lane disposal within Washington waters in areas deeper than 65 ft. between Columbia River Miles 27-42, 54-56, and 72-73 shall not be conducted unless it is carried out in accordance with applicable regulatory decisions of the State of Washington. Flow-lane disposal in this vicinity shall be modified or halted if monitoring or research findings indicate negative impacts to sturgeon, an Oregon coastal zone resource, through direct disposal impacts or long-term changes in bottom habitats. If such impacts are documented, modified flow-lane disposal shall be allowed only as determined through the adaptive management process specified in Condition I (1).		X	X
c) All flow-lane disposal shall be monitored to assess at a minimum: changes in estuarine sedimentation and bathymetry and potential direct and indirect effects of disposal on estuarine species.		X	X
<i>This condition will be monitored using the surveys collected for the NOAA Bi-op. Information will be provided to the State AMT.</i>			

Table E.1. List of Oregon and Washington issues, concerns, and evaluation criteria for consideration in adaptive management in relation to channel improvement. (Continued).			
SALMONIDS			
WDOE: 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.	X		X
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.	X		X
3. The Corps shall provide Ecology/DLCD 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.	X		X
4. The Corps shall provide written notice to Ecology/DLCD 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.	X		X
FISH STRANDING			
WDOE: 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.	X		
i. The study shall: (a) Include monitoring that encompasses the peak out migration period for all species of salmonids that are listed under the Federal Endangered Species Act; and	X		
(b) Include evaluation of physical parameters that influence ship wake stranding (e.g., water level, bank configuration, wave height, type, size, draft, and speed of vessel, etc); and	X		
(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	X		
(d) Include goals, milestones for completion, check-in points, and triggers for management change, sampling/testing protocols and proposed mitigation measures.	X		
(e) Identify and implement mitigation measures designed to avoid, minimize, and reduce losses of fish life from ship wake stranding.	X		
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 ship wake stranding. Compensatory mitigation should take into account losses throughout the life of the project.	X		
REGIONAL SEDIMENT MANAGEMENT and SEDIMENT BUDGET			
DLCD: (iv) The Corps shall pursue a regional sediment management program that encompasses the Project as well as other Columbia River navigation projects. High priority will be given to development of near shore dredge disposal sites that can be shown to effectively contribute to the littoral sediment budget. When available for use, such near shore sites should be given priority over estuarine in-water disposal and deepwater ocean disposal as a way to minimize potential disposal impacts to coastal zone resources.			X
WDOE: 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 near shore 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 near shore 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.	X		
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.	X		
WDOE will notify COE by 2 July 04 if the bathymetric survey conducted satisfies this condition.			
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).	X		
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.	X		
UPLAND DISPOSAL:			
DLCD: (3) 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.			X

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SMELT																																							
WDOE: 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.	X																																						
2. In-water disposal shall not occur during the period of peak Eulachon out migration (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 out migration, 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.	X																																						
DLCD: c) Eulachon (Smelt): (i) No in-water disposal should occur during the period of peak eulachon out migration (between the 8th and 20th weeks of the year) downstream from identified spawning areas (river miles 35-75). If in-water disposal is essential during the period of peak out migration, then the Corps shall further study the potential for eulachon losses as a result of dredged material disposal impacts as determined through the adaptive management process required under Condition I (1). Appropriate mitigation measures shall be developed based on the study outcomes, as determined through the adaptive management process required under Condition I (1).		X	X																																				
Sturgeon																																							
WDOE 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:	X																																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Potential Impacts</th> <th style="width: 50%;">Responses</th> </tr> </thead> <tbody> <tr> <td>Direct Mortality</td> <td></td> </tr> <tr> <td>1) Immediate mortality of significant numbers of fish due to burial.</td> <td>1 & 2) Do not dispose in area or use additional sites in the future, and/or modify/schedule disposal to minimize impact.</td> </tr> <tr> <td>2) Delayed mortality of significant numbers of fish due to burial</td> <td>3) No mitigation action.</td> </tr> <tr> <td>3) Fish survive disposal action</td> <td></td> </tr> <tr> <td>Disturbance</td> <td></td> </tr> <tr> <td>1) Significant numbers of fish leave area permanently.</td> <td>1) Do not dispose in area or additional sites in the future and/or modify/schedule disposal to minimize impact.</td> </tr> <tr> <td>2) Significant numbers of fish leave area temporarily.</td> <td>2) Schedule use of site for periods of low abundance.</td> </tr> <tr> <td>3) Fish do not leave area.</td> <td>3) No mitigation action.</td> </tr> <tr> <td>Feeding</td> <td></td> </tr> <tr> <td>Sturgeon feed in site:</td> <td></td> </tr> <tr> <td>1) Significant, long-term effects.</td> <td>1) Do not dispose in area or use additional sites in the future, and/or modify/schedule disposal to minimize impacts.</td> </tr> <tr> <td>2) Minor, short-term effects.</td> <td>2) No mitigation action.</td> </tr> <tr> <td>3) Sturgeon not feeding in site.</td> <td>3) No mitigation action.</td> </tr> <tr> <td>Loss of Habitat</td> <td></td> </tr> <tr> <td>1) Do not use habitat after disposal.</td> <td>1) Do not dispose in area or use additional sites in the future, and/or modify/schedule disposal to minimize impact.</td> </tr> <tr> <td>2) Return to area a short time after disposal.</td> <td>2) No mitigation action.</td> </tr> <tr> <td>3) Return to area a long time after disposal.</td> <td>3) No mitigation action.</td> </tr> </tbody> </table>				Potential Impacts	Responses	Direct Mortality		1) Immediate mortality of significant numbers of fish due to burial.	1 & 2) Do not dispose in area or use additional sites in the future, and/or modify/schedule disposal to minimize impact.	2) Delayed mortality of significant numbers of fish due to burial	3) No mitigation action.	3) Fish survive disposal action		Disturbance		1) Significant numbers of fish leave area permanently.	1) Do not dispose in area or additional sites in the future and/or modify/schedule disposal to minimize impact.	2) Significant numbers of fish leave area temporarily.	2) Schedule use of site for periods of low abundance.	3) Fish do not leave area.	3) No mitigation action.	Feeding		Sturgeon feed in site:		1) Significant, long-term effects.	1) Do not dispose in area or use additional sites in the future, and/or modify/schedule disposal to minimize impacts.	2) Minor, short-term effects.	2) No mitigation action.	3) Sturgeon not feeding in site.	3) No mitigation action.	Loss of Habitat		1) Do not use habitat after disposal.	1) Do not dispose in area or use additional sites in the future, and/or modify/schedule disposal to minimize impact.	2) Return to area a short time after disposal.	2) No mitigation action.	3) Return to area a long time after disposal.	3) No mitigation action.
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Sturgeon: (iv) 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.	X	X	X																																				
The Corps shall adjust dredging and disposal operations as appropriate, and as indicated utilizing the adaptive management process specified under Condition I (1), if results of the on-going sturgeon telemetry studies indicate negative response in sturgeon behavior to dredging and disposal operations.	X	X	X																																				
(vi) The Corps shall study the long-term response of sturgeon to habitat changes in deepwater habitat areas (>50 ft. depth) generated or reasonably likely to be generated from planned flow-lane disposal.		X	X																																				
The State AMT will review the findings of the Sturgeon research and decided upon next steps.																																							
ASSESS MONITORING DATA GENERATED UNDER MA-2, MA-3, MA-4, AND MA-5																																							
WDOE: 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/DLCD 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.)	X		X																																				
DLCD: e) Sediment Budget/Habitat: (iii) Bathymetric data collected by the Corps as part of project monitoring (Corps monitoring action #MA-3) shall be assessed for temporal and spatial bathymetric changes in the estuary region with respect to potential impacts on sediment budget and estuarine habitats. The cross-sectional and longitudinal coverage of the data collection shall be sufficient to allow for analysis of these potential impacts. The Corps shall report in writing on its findings at least once during construction and after completion of data collection in year 3 after construction. Should any unanticipated, negative impacts become evident, the adaptive management program specified in Condition I (1) will be used to determine an appropriate response.			X																																				
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SEDIMENT SAMPLING AND DREDGING			
DEQ: Sampling of sediments throughout the entire depth of dredging and analysis for toxic and metal contaminants shall be conducted prior to dredging for those areas to be dredged outside the 600-foot wide federal navigation channel, including turning basins and berthing areas. Sampling and analysis shall be conducted in accordance with the Dredged Material Evaluation Framework (DMEF). Results shall be provided to the Adaptive Management Team (AMT) detailed below. Dredging and disposal of sediments from these areas shall be conducted in accordance with the directions of the AMT. Any such sampling and analysis shall be conducted such that the Adaptive Management Team receives the results not less than 30 calendar days prior to dredging in the area sampled.		X	
Information to be provided to DEQ to develop additional sampling Plan			
Dredging of the Astoria turning basin shall occur during the standard in-water work window of November 1 through February 28 unless a waiver of the standard timing window is approved by DLCD after consultation with relevant agencies.		X	In Mandatory list
Sediments from within the Astoria turning basin shall be tested in accordance with the Dredged Material Evaluation Framework (DMEF) prior to dredging. Sediment testing results shall be provided to DLCD, DEQ, City of Astoria, and Port of Astoria prior to dredging. Any materials exceeding DMEF thresholds shall be disposed of at an upland site approved by DEQ and in accordance with any other applicable local, state, and federal requirements.		X	In Mandatory list
Information to be provided to DEQ.			
Dredged materials from the Astoria turning basin that are deemed suitable for in-water disposal shall not be disposed of in a location or manner that is contrary to the conditions of this concurrence decision.		X	In Mandatory list
OCEAN DISPOSAL			
DLCD: (2) Use of the "deepwater" ocean disposal site ("103" or "102") by the Corps shall be in compliance with the following CZM conditions regarding ocean disposal. These conditions are based on DLCD's previous responses to ocean disposal as found in the December 1, 1999 decision for channel deepening and April 4, 2002 decision for maintenance dredging at the river mouth:			X
(a) Any use of the "deepwater" ocean disposal site shall be limited to materials dredged as part of the channel deepening and subsequent maintenance of the lower Columbia River (i.e., up to river mile 30).			X
(e) The Corps shall continue with biological data collection for the "deepwater" site to confirm its expectations about biological impacts and to further establish scientific understanding of the ocean area to be impacted by dredged material disposal. The Corps shall provide at least 30 day written notice of opportunities for comment on matters that are related to data collection for the "deepwater" site. All data and summary reports shall be made available to DLCD within a reasonable amount of time, not to exceed 30 days, after completion.			X
(f) The Corps shall develop, in consultation with the State, a monitoring program that addresses potential physical and biological impacts associated with any use of a "deepwater" disposal site for the project. The monitoring program shall be implemented no later than 1 year after site use occurring in conjunction with the project.			X
(g) The Corps will coordinate with DLCD regarding site management and shall acknowledge the need for periodic re-evaluation of this coastal zone decision for ocean disposal. (DLCD previously determined that a one-time coastal zone consistency decision for long-term use of ocean disposal off the Columbia River cannot be made due to a lack of sufficient information to assess resource and use impacts over the 20 to 50 year timeframes referred to in Corps project documents.)			X
(h) The Corps shall implement procedures for coordinating ocean disposal work with fishermen and other mariners. The Corps should also compensate fishermen for gear losses resulting from interaction with Corps or contract dredges.			X
(i) The Corps shall condition dredging orders and contracts to ensure that it can adequately control the location and manner of dredged material placement and will receive the data necessary to determine when disposal site use criteria and response thresholds have been met. Copies of these conditions and all data generated in association with these conditions, including the geographic locations given to the dredges for disposal areas and the GPS coordinates of actual dumps performed by the dredges, shall be provided to the OCMF when available. Real-time sharing of information should continue as necessary as should the Corps preparation of a consolidated, yearly report including recommendations for the next year.			X
DUNGENESS CRAB			
WDOE: 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 0+, 1+, 2+).	X		
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.	X		
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.	X		
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.	X		
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.	X		
DLCD: a) Dungeness Crab:		X	X
(v) 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 0+, 1+, 2+).		X	X
(vi) 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.		X	X
(vii) The Corps will develop and adhere to a crab mitigation strategy designed to avoid and minimize entrainment 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 I (1), above.		X	X
(viii) Hydraulic dredging and flow-lane disposal occurring below river mile 17 and in known or suspected areas of overall high crab abundance, shall be conducted during seasons or river conditions of least crab abundance. The seasons or river conditions of least abundance shall be determined through entrainment sampling at dredging sites correlated with real-time flow and salinity data or through application of a salinity-crab model once a final, scientifically rigorous model is available.		X	X
UPDATE THE CORPS DREDGED MATERIAL MANAGEMENT PLAN EVERY 5 YEAR			
DLCD: (B) After construction of the deepened channel has been completed and no later than the 5 th year of Project maintenance, the Corps shall update its dredged material disposal plan. The Corps dredged material disposal plan will then be updated at least ever 5 years there after for the life of the Project unless DLCD and the Corps agree to an alternative schedule.			X
Disposal plan updates shall cover: disposal site use to date in terms of volumes placed and locations used, verification that disposal of dredged material has occurred within site boundaries and in accordance with the conditions of this concurrence decision remaining disposal site practices, estimated disposal volumes for the upcoming 5-year interval, any relevant monitoring and research data regarding disposal impacts to estuarine habitats and species, and changes in disposal plans resulting from the federal or state adaptive management processes.			X
WELCH ISLAND AND MILLER SANDS			
DLCD: (B) The Welch Is. and Miller Sands disposal sites shall be addressed as follows: Welch Is. may not be used as sites for disposal of dredged material as a result of this Project until Clatsop County has completed the update of the Columbia River Dredged Material Management Plan (CRDMMP) to designate the site as an upland disposal site. Miller Sands shall not be utilized as a result of the Project beyond the footprint of the currently designated site until Clatsop County has completed the update of the CRDMMP to fully designate the site as an upland disposal site.			X

Table E.1. List of Oregon and Washington issues, concerns, and evaluation criteria for consideration in adaptive management in relation to channel improvement. (Continued).			
COORDINATION AND REPORTING:			
DLCD: (vi) Progress on planned studies, monitoring, and other project-related data collection shall be discussed within the adaptive management process specified in Condition I (1). The Corps shall provide at least 30-day notice of opportunities to comment on proposed 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.			X
(vii) The Corps shall explain in writing to DLCD 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 DLCD within a reasonable amount of time, not to exceed 30 days, after completion.			X
(2) The Corps shall provide copies of final dredge contracts and orders to DLCD upon request. Copies shall be provided in a reasonable amount of time (not to exceed 30 days) after receipt of the DLCD request			X
DLCD: (5) 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 and recreational fishing. A copy of the communication and coordination program shall be provided to DLCD for its review, prior to construction of the Project.			X
DLCD: (6) The Corps shall obtain a final §401 water quality certification for the proposed project from the Oregon Department of Environmental Quality (DEQ). The Corps shall comply with any conditions placed on the §401 certification. The Corps shall not proceed with any part of the proposed project that requires §401 certification prior to receipt of a final certification from DEQ, including project maintenance after year 3.			X
DLCD: (10) 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 DLCD 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 the policies of Oregon's coastal 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.			X
DLCD reserves the right to require a supplemental consistency determination if, after consultation with the Corps, we determine that major modifications are proposed that could have substantially different coastal zone effects.			X
(11) The Corps shall keep DLCD informed of the initiation of and outcomes of other state and federal regulatory reviews for channel maintenance actions. The Corps shall specifically address any implications of these reviews and associated regulatory decisions in terms of the anticipated coastal zone effects of the project or the Corps compliance with this decision.			X
(12) In the event that any condition of this concurrence decision is found to be invalid by a court or agency with jurisdiction to review this concurrence decision, the concurrence decision is revoked when the order of such court or agency becomes final and any pertinent appeal periods have ended.			X
(4) The Corps shall notify DLCD and Clatsop County in writing if and when it determines that the long-term phase of the Tenasillahe Is. restoration project will proceed. Additional coordination with DLCD and Clatsop County may be required prior to implementation of long-term phase to ensure long-term functions and values of shoreland habitats are maintained or enhanced.			X
MEET ANNUALLY			
DLCD: (7) The Corps and DLCD shall meet annually to review implementation of the Project and the status of compliance with the conditions of the CZM decision. The agencies may mutually agree to an alternative meeting schedule.			X

E.2 Mandatory Conditions

The previously tabulated issues will be addressed within the context of the CRCIP Adaptive Management Plan. The following conditions are presented mainly as compliance issues for the Section 401 Certification.

Table E.2. Oregon and Washington compliance issues in relation to channel improvement.			
COLUMBIA RIVER CHANNEL IMPROVEMENT PROJECT STATES' CONDITIONS			
	WDOE	DEQ	DLCD
MANDATORY CONDITIONS			
Dredging			
Timing			
Dredging may be conducted year-round in the existing federal navigation channel. However, dredging in areas outside the 600-foot designated navigation channel including turning basins, berthing areas and any overwidth dredging outside the 600 foot channel must adhere to ODFW in-water work periods approved by state and federal fishery management agencies. These periods are described in: Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources.		X	
No obstruction or impediment to fish passage is to occur.		X	
Turbidity			
All dredging of sediments shall be conducted so as to minimize siltation and turbidity in the Columbia River. Turbidity shall not exceed 10 percent above natural stream turbidities, except where allowed by OAR 340-41-0205(2)(c). This rule states, in part, that limited duration activities necessary to accommodate essential dredging, and which cause the turbidity standard to be exceeded may be authorized provided all practical turbidity control techniques have been applied and a Section 401 water quality certificate has been granted.		X	
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 notifying the project foreman of any exceedance of the turbidity standard. Monitoring points shall be 100 feet upstream (representative background), 100 feet downstream, and at the discharge point. A turbidimeter is to be used. Recorded turbidity of greater than 10 percent at a point 100 feet below the discharge point is an exceedance of the standard. If a 10 percent exceedance of the background level occurs at 100 feet below the project site, the applicant is required to modify or stop the activity causing the problem and continue to monitor every two hours.		X	
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 than 5 NTU over background where the background is less than 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.	X		
Class A water quality standards for turbidity are waived within the specified mixing zones as outlined within specific conditions of this Order.	X		
Dissolved Oxygen			
During dredging activity in areas outside the bounds of the 600-foot wide navigation channel, including turning bays outside the 600-foot channel, side slopes of the channel, and the 100 foot overwidth dredging area, 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 6.5 mg/l, the applicant 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 notifying the project foreman of any exceedance of the dissolved oxygen standard. Monitoring points shall be 100 feet downstream, and at the discharge point.		X	
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.	X		
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.	X		
Clamshell Dredging:			
Dilution Zone: 150 feet radially and 600 feet downcurrent from the point of dredging.	X		
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.	X		
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 than three feet or greater than one foot in diameter], tree	X		
If a bucket dredge of any type, including but not limited to grab or clamshell, dipper, dragline, or backhoe bucket, is used, all digging passes of the bucket shall be completed without any material, once in the bucket, being returned to the wetted area. No dumping of partial or full buckets of material back into the project area will be allowed. No dredging of holes or sumps below maximum depth and subsequent redistribution of sediment by dredging, dragging, or other means will be allowed. All large man-made debris observed in dredged materials shall be removed prior to flow lane disposal and transported to an appropriate disposal site.		X	

Best Management Practices			
Dredging operations shall be conducted employing Best Management Practices (BMP's) which minimize disturbance or siltation to adjacent habitat or waters.		X	
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.		X	
Hopper and Pipeline Dredging:			
Mixing Zone for Pipeline Dredging: 150 feet radially from the point of dredging	X		
Mixing Zone for Hopper Dredging with Bin Overflow: 300 feet radially and 900 feet downcurrent from the point of dredging.	X		
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,	X		
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.	X		
In order to help control turbidity, hopper and pipeline dredges shall be operated with the intake head at or below the surface of the sediments being removed during all periods of operation. Reverse purging of the intake line shall be kept to an absolute minimum. Should purging be necessary, the intake line shall be raised no more than three feet from the bottom. If water is pumped through the dragheads to flush out the hopper dredge bins, the heads shall be at least 20 feet below the water surface.		X	
Spills			
Any discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, is prohibited.	X		
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.	X		
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.	X		
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).	X		
Petroleum products, chemicals, or other deleterious waste materials shall not be allowed to enter waters of the State. All fuel hoses, oil drums, oil or fuel transfer valves and fittings, shall be checked regularly for drips or leaks, and shall be maintained in order to prevent spills into State waters. In the event of any discharge of oil, fuel, or other chemicals into State waters, or onto land with a potential to enter State waters, containment and cleanup shall begin immediately and be completed as soon as possible. Spills into State waters, or onto land with a potential to enter State waters, shall be reported immediately to the Oregon Emergency Response System, phone (800) 452-0311.		X	
Dredging by Others			
The conditions in this certification are binding upon the Corps and any agent or contractor that the Corps may retain to undertake any or all parts of this project.		X	
Dredging Astoria Turning Basin			
(1) Dredging of the Astoria turning basin shall occur during the standard in-water work window of November 1 through February 28 unless a waiver of the standard timing window is approved by DLCD after consultation with relevant agencies.		In AMT List	X
(2) Sediments from within the Astoria turning basin shall be tested in accordance with the Dredged Material Evaluation Framework (DMEF) prior to dredging. Sediment testing results shall be provided to DLCD, DEQ, City of Astoria, and Port of Astoria prior to dredging. Any materials exceeding DMEF thresholds shall be disposed of at an upland site approved by DEQ and in accordance with any other applicable local, state, and federal requirements.		In AMT List	X
(3) Dredged materials from the Astoria turning basin that are deemed suitable for in-water disposal shall not be disposed of in a location or manner that is contrary to the conditions of this concurrence decision.		In AMT List	X
(4) The Corps shall coordinate the final dredging and disposal plans, including the work schedule, for the Astoria turning basin with DLCD, DEQ, City of Astoria, and Port of Astoria prior to the work commencing.		In AMT List	X
Disposal			
Upland Disposal			
The following conditions are provided to protect outmigrating juvenile salmonid smolts.		X	
Upland disposal sites shall be large enough to accommodate the quantity of material and water to be placed there in order to allow adequate settling. Return water turbidity from any constructed cell or upland site shall not exceed 10 percent above the turbidity in the Columbia River immediately adjacent to the disposal site. If the disposal cells contain weirs, they shall be maintained at a height that allows no more than three inches of overflow water from the cell.		X	
Adequate settling time is to be allowed in the upland settling basins to ensure that turbidity levels in-river are maintained at or below the ten percent water quality standard.		X	
Use filter bags, sediment fences, silt curtains, leave strips or berms, or other measures sufficient to prevent movement of spoils. These measures shall be inspected and maintained daily to ensure their proper function.		X	
Mixing Zone [for Single-point Effluent Discharge]: 150 feet radially from the point of discharge and 600 feet downcurrent.	X		
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).	X		
CDF Design and Operation. The following "best management practices" pertain to the design and operation of a CDF:	X		
The CDF should be designed to provide the maximum practical degree of solids retention during operation, and for the entire life of the site.	X		
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.	X		
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.	X		
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.	X		

In-River Disposal/Flowlane			
In-River disposal shall be conducted in accordance with the turbidity, dissolved oxygen and best management practices detailed above.		X	
Flowlane disposal within Oregon waters in areas deeper than 65 feet around River Mile 5 and between River Miles 27 and 42 is not allowed. The Corps shall not conduct flowlane disposal of materials from the construction of this project, or of subsequent maintenance materials from this project, in estuarine waters deeper than 65 feet until the results of ongoing sturgeon studies have been obtained, have been fully evaluated by the Adaptive Management Team, and a determination made as to whether these areas may be used.		X	
No in-river disposal is to occur between River Miles 35 and 75 during peak eulachon (smelt) outmigration downstream from the eulachon spawning areas.		X	
No bottom accumulation of sediments shall be allowed outside designated disposal or ecosystem restoration projects. The Corps shall ensure that sediments disposed in-river disperse in a uniformly thin layer.		X	
Mixing Zone [for disposal by hopper, bottom dump scow, or down spout]: 150 feet radially from the point of discharge and 900 feet downcurrent.	X		
Disposal of material shall be conducted in a manner that prevents mounding of the disposed material.	X		
Flowlane disposal by a hopper dredge or a bottom dump scow is approved provided the disposal sites are located: waterward of the minus 20-foot contour, Columbia River Datum (CRD) and	X		
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.	X		
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.	X		
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.	X		
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.	X		
Beach Nourishment			
Mixing Zone: 150 feet radially from the point of discharge and 900 feet downcurrent.	X		
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 graded to an approximate slope of 10 to 15 percent, with no swales.	X		
Impacts to riparian vegetation at shoreline disposal sites shall be avoided or minimized whenever possible.	X		
Erosion control measures shall be carried out to prevent the wind erosion of dredged material back into the channel.	X		
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 graded 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.	X		
Ocean Disposal			
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).	X		
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.	X		
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.	X		
The Corps shall not dispose of any materials deemed unsuitable for in-river disposal (i.e. contaminated materials) at the Deepwater site.	X		
Any disposal of materials within the Deepwater site shall be by repetitive, "pinpoint" dumping to minimize the footprint of the impacted disposal area.	X		
(1) DLCD shall be notified in writing of any use of the "deepwater" ocean disposal site, whether the current "103" site or a future "102" site, to occur in association with construction for channel deepening or maintenance of the deepened navigation channel.			X
(b) The Corps shall not dispose of any materials deemed unsuitable for in-river disposal (i.e., contaminated materials) at the "deepwater" ocean disposal site. Additional CZM review shall be required prior to disposal of any contaminated materials at the "deepwater" ocean disposal site.			X
(c) Use of "deepwater" ocean disposal for this project in no way removes the Corps responsibility to comply with coastal zone management conditions previously placed on ocean disposal associated with the maintenance project at the mouth of the Columbia River (MCR). (The Corps shall continue to give top priority to use of the shallow water, North Jetty, and Benson Beach sites for disposal of MCR materials with the deepwater site used only as a contingency site for disposal of MCR materials.)			X
(d) Any disposal of channel deepening materials (construction or maintenance) within the deepwater site shall be by repetitive, "pinpoint" dumping to minimize the footprint of the impacted disposal area.			X
(j) An ocean disposal taskforce or some alternative, comparable form of stakeholder involvement shall be used for discussion of the information requested above as well as other dredged material disposal issues potentially impacting on the MCR and channel deepening projects.			X

Table E.2. Oregon and Washington compliance issues in relation to channel improvement. (Continued).			
Wildlife and Wetland Mitigation:			
General Conditions:			
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.	X		
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.	X		
The Corps shall meet the success criteria outlined within the mitigation plan.	X		
Dead or dying plants shall be replaced during the first available planting season with the same species or an agreed upon alternative.	X		
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.	X		
"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.	X		
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.	X		
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.	X		
Permanent deed restrictions shall be placed on the mitigation sites, in addition to title to the land.	X		
Specific Mitigation Site Conditions	X		
Martin Island:			
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.	X		
The 80 acres shall be incorporated into the mitigation plan as riparian forest development.	X		
This Order does not authorize the Corps to fill any part of the Martin Island embayment.	X		
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.	X		
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. .	X		
Woodland Bottoms:			
The Corps shall construct the entire site as outlined within the FSEIS and final mitigation plan for this project	X		
Any modification of the mitigation site shall be reviewed and approved through the adaptive management process required under Condition IV.A.	X		
Purple Loosestrife Control:			
The Corps shall obtain all necessary authorizations from Ecology prior to any use of herbicides for purple loosestrife control.	X		
(5) The Corps shall coordinate with the DEQ and obtain any necessary state approval prior to initiating herbicide application as			X
Tidegate Restoration:			
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.	X		
General Conditions			
The certification is valid for five years from the date of issuance. DEQ assumes this will cover initial construction for two years and three years of maintenance dredging. Continuing maintenance dredging beyond the five year term of this certification will require separate certifications every five years, as in the past.		X	
DEQ reserves the right to modify, amend or revoke this certification, as necessary, in the event new information indicates that dredging/disposal activities are having a significant adverse impact on State water quality or critical fish resources.		X	
A copy of this certification letter shall be kept on the job site and be readily available for reference by the Corps, DEQ, contractors, and other appropriate state and local government inspectors.		X	
This certification is provided in respect to the project represented in the above letters of application. It remains valid for the dredging and disposal activities associated with the project as specified. The certification is invalid if the project is operated in a manner not consistent with the project description.		X	
Failure to comply with the conditions of this certification may lead to revocation of the certification.		X	
DEQ requires site access on day of request.		X	
The applicant shall notify DEQ of any change in the ownership, scope, or construction methods of the project subsequent to certification.		X	
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:	X		
Ecology reserves the option to reassess the terms of this Order and amend or revoke, as necessary, in the event that: 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 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		
(7) The Corps and DLCD shall meet annually to review implementation of the Project and the status of compliance with the conditions of the CZM decision. The agencies may mutually agree to an alternative meeting schedule.			X

Emergency and/or Contingency Measures:			
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: Cease operations. Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage. 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. 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.	X		
Other Requirements:			
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.	X		
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.	X		
This certification does not exempt and is provisional upon compliance with other statutes and codes administered by federal, state, and local agencies.	X		
(8) After construction of the deepened channel has been completed and no later than the 5 th year of Project maintenance, the Corps shall update its dredged material disposal plan. The Corps dredged material disposal plan will then be updated at least ever 5 years there after for the life of the Project unless DLCD and the Corps agree to an alternative schedule. Disposal plan updates shall cover: disposal site use to date in terms of volumes placed and locations used, verification that disposal of dredged material has occurred within site boundaries and in accordance with the conditions of this concurrence decision, remaining disposal site capacities, estimated disposal volumes for the upcoming 5-year interval, any relevant monitoring and research data regarding disposal impacts to estuarine habitats and species, and changes in disposal plans resulting from the federal or state adaptive management processes.			X
Reporting			
The Corps shall develop and maintain a publicly accessible web page upon which data collected as a result of the conditions in this certification relating to turbidity, dissolved oxygen and toxics shall be posted. Data shall be posted in as close to real-time as possible. The web page should be constructed similarly to the Corps' web page that reports hourly total dissolved gas and associated data from the various Columbia River hydropower projects.		X	
At the discretion of the Director, the Corps shall provide such reports to the Environmental Quality Commission, or such other forums as the Director shall determine appropriate, on the progress and execution of this project. The Director will provide adequate notice of such reports, which shall be not less than 30 days.		X	
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.	X		