

**National Marine Fisheries Service (NMFS)
U.S. Fish and Wildlife Service (FWS)
Columbia River Channel Improvements Project
Executive Summary of the Biological Opinions**

May 20, 2002

Jeopardy Determination

On May 20, 2002, the National Marine Fisheries Service and U.S. Fish and Wildlife Service transmitted final copies of the Columbia River Channel Improvements Project biological opinions to the Army Corps of Engineers. These biological opinions were the end products of a careful and thorough review of the best available science regarding the project's impacts to listed species in the lower Columbia River and estuary. The current state of scientific knowledge regarding project impacts has been greatly improved since 1999, when the two regulatory agencies originally transmitted biological opinions for the project. Using this new scientific base, the three agencies completely re-negotiated the project's activities, and re-analyzed its impacts. Therefore, the actions required in the 1999 biological opinions are different than those found in the 2002 biological opinions. The 2002 biological opinions, using best available information, have determined that the project, including dredging, disposal, monitoring, adaptive management, research, and ecosystem restoration, is not likely to jeopardize the continued existence of 12 listed and one proposed fish species, bald eagles, or Columbian white-tailed deer. Additionally, the fisheries service concurred that the project is not likely to adversely affect Steller sea lions

Activities Since 1999 that Led to the Final 2002 Biological Opinions

The August 25, 2000, withdrawal letter from the fisheries service indicated several areas of concern associated with the project. The agency indicated it had developed new information on contaminants and on impacts to important listed fish habitats in the Columbia River estuary. In addition, the agency was concerned that ecosystem restoration activities and monitoring projects were not proceeding. The Fish and Wildlife Service also indicated that the Corps of Engineers should address two additional trout species. Therefore, beginning in fall of 2000, the Corps, the two regulatory agencies, and sponsoring ports began collaboratively addressing these concerns, as well as re-assessing impacts to listed fish from the project.

The 1999 biological opinion for bald eagles and Columbian white-tailed deer remains valid. The only changes to this 1999 analysis were additional reviews of new ecosystem restoration projects, which were added to the 2002 project proposal.

The agencies and ports re-evaluated aquatic species issues via an independent, scientific panel

and a series of five public workshops; additional analysis by a multi-agency biological review team; thorough re-evaluation of contaminants data, and development and use of new analytical tools including two numerical models and an ecosystem-based conceptual model. During the process, the agencies and ports participated in a mutual analysis of project effects, and subsequently negotiated project modifications to minimize or avoid potential effects. To provide further assurances that the project was successful in minimizing or avoiding adverse effects to proposed and listed species, monitoring activities and adaptive management requirements were developed and incorporated into the proposed action as well as required in the biological opinions. Finally, during this collaborative process, the two regulatory agencies recommended numerous ecosystem research and restoration activities to help fulfill the affirmative conservation responsibilities under the Endangered Species Act.

Main Findings of Channel Improvements Project ESA Analysis

Analysis of impacts to listed fish and their habitats are divided into direct (immediate) and indirect (happening later in time) impacts.

Direct impacts to listed fish could occur during dredging, disposal, and blasting activities. Fish could be pumped into dredges, thereby causing injury or death. Fish could be harmed by dumping of dredged sediments, as these materials could smother food items, create turbidity in the water, or release contaminants into the ecosystem. Removal of a single, deep water rock formation would require underwater blasting, which could injure or kill fish.

Indirect impacts to fish habitat, especially shallow water marshes and swamps, could occur during dredging and disposal. Changes to river and estuary currents (velocity), changes in water depth, and changes in ocean salt water flow into the estuary could impact fish habitats.

In response to these project impact concerns, the agencies and ports collaboratively reviewed and updated their knowledge about the lower Columbia River and the effects of the Channel Improvements Project.

The two regulatory agencies carefully negotiated protective measures that will minimize and avoid direct impacts to listed fish. Monitoring and dredging restrictions, including keeping the dredge “cutterhead” in the river bottom where fish don’t occur, will ensure fish are not pumped into dredges. Blasting restrictions, including timing restrictions and minimizing the “blast zone,” will avoid impacts to fish. Disposing of dredged materials may create turbidity problems for fish, but turbidity “plumes” will be minimized by disposal of materials into deeper water areas that have fewer fish. Some fish prey will be harmed by disposal of materials.

Computer models indicate that the project’s indirect impacts to Columbia River and estuary water depth and velocity will mainly occur in the navigation channel, not in important marsh and swamp habitats. These predicted habitat changes in the navigation channel are small, and will have limited impacts to listed fish. Limited shallow water and shoreline habitat will be eroded;

however, these habitats do not currently provide important listed fish habitat. The models do indicate that ocean salt water will extend farther into the estuary than currently. Salt water extension will occur in the deep-water navigation channel, and the regulatory agencies believe this salt water extension will not impact listed fish, fish prey, or important marsh and swamp habitats.

Contaminants samples collected in the navigation channel, where project dredging will occur, have not exceeded current Environmental Protection Agency or National Marine Fisheries Service contaminant thresholds. The science panel carefully reviewed all available information on contaminants and project impacts to fish from these chemicals. As a result of these contaminants analyses, the two regulatory agencies have determined it unlikely that the project will risk the health and survival of listed species.

Careful monitoring of longer-term changes to shallow water beaches, marshes, and other important fish habitat features will occur. The long-term monitoring program will track project impacts and ensure that unanticipated effects can be rapidly addressed. An adaptive management program will be charged with altering or stopping the project, should any unforeseen impacts be discovered.

These limited impacts, and the long term monitoring and adaptive management programs, indicate the project will not jeopardize listed fish species. In addition, for fisheries service listed fish species, the project will not adversely modify or destroy designated critical habitat.

The Corps of Engineers recognizes its Endangered Species Act responsibility to assist with listed species conservation. Therefore, it has agreed to implementing numerous ecosystem restoration projects, which will directly benefit listed species' habitats in the Columbia River. The Corps will also fund several research projects, which will increase our knowledge of the Columbia River ecosystem. These restoration and research actions are integral components of the project. The regulatory agencies support the Corps' proactive efforts to restore important river and estuary habitats, and learn more about ecosystem function, which will benefit the conservation of listed species. The ecosystem restoration features of the project will restore 3,420 acres of habitat for listed fish; another 2,250 acres which will benefit ecosystem function but are not specific to listed fish species' habitat, and one project which will make available 38 miles of currently inaccessible salmonid habitat.

Roadmap of the Biological Opinions

The following table provides an overview of the National Marine Fisheries Service and Fish and Wildlife Service biological opinions. The documents can be found on the following web sites:

National Marine Fisheries Service: <http://www.nmfs.noaa.gov/>

U.S. Fish and Wildlife Service: <http://oregonfwo.fws.gov/> or: <http://pacific.fws.gov/>

Army Corps of Engineers: <https://www.nwp.usace.army.mil>

Port of Portland: <http://www.portofportlandor.com>

Issue	NMFS Chapter	FWS Chapter
Introduction and History of interactions between NMFS, FWS, and the Corps.	1 and 2	1
Full description of the Corps' proposed activities, including tabular and narrative descriptions of Corps' dredging, disposal, protective measures, monitoring, adaptive management, restoration, and research actions.	3	2
Full discussion of the status of listed species and use of habitats in the Project area. Discussion of the environmental conditions in the lower Columbia River and estuary.	4 and 5	3 and 4
Discussion of the Project's anticipated direct and indirect effects to listed species and their habitats.	6	5
Discussion of NMFS' critical habitat within the Project area.	7	n/a
The future, cumulative, non-Federal actions that are reasonably certain to occur in the future.	8	6
The concluding analysis, summarization of species status, Project effects, and jeopardy/critical habitat determinations.	9	7
Conservation recommendations that are provided for the Corps to consider. If implemented by the Corps, these actions would increase our knowledge of the Columbia River ecosystem and assist with recovery of listed species.	10	9
Concluding statements and specific rules that govern reinitiation of consultation.	11	10
The Incidental Take Statement that provides non-discretionary actions that the Corps must undertake to minimize "take" of listed species.	12	8
Essential Fish Habitat, Magnuson - Stevens Act	13	n/a
Literature and personal communication citations.	14	11