

1. INTRODUCTION

1.1 Introduction

The Endangered Species Act (ESA) (16 U.S.C. 1531-1544), establishes a national program for the conservation of threatened and endangered species of fish, wildlife, and plants and the habitat upon which they depend. Section 7(a)(2) of the ESA requires that Federal agencies consult with the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) to insure that any action funded, authorized or carried out by Federal agencies is not likely to jeopardize the continued existence of endangered or threatened species or to adversely modify or destroy their proposed and designated critical habitats.

1.2 Biological Opinion

On May 20, 2002, NMFS issued a biological opinion (Opinion) that was the product of a consultation pursuant to section 7(a)(2) of the ESA between NMFS and the U.S. Army Corps of Engineers (Corps) on the Columbia River Federal Navigation Channel Improvements Project (Project). The Corps issued a biological assessment (BA) for the Project, dated December 28, 2001, and amended that document in a letter dated April 15, 2002. The 2001 BA and amendment letter described the proposed action for the Project. These Corps documents are herein referred to as the 2001 BA.

On October 20, 2004, the Corps requested reinitiation of consultation on the Project to evaluate the Opinion in light of the recent Ninth Circuit Court of Appeals decision on critical habitat, *Gifford Pinchot Task Force, et al. v. U.S. Fish and Wildlife Service*, 378 F.3d 1059 (9th Cir. 2004). On October 28, 2004, NMFS agreed that while the 2002 Opinion properly analyzed the Project's impacts on the value of critical habitat for the recovery of the ESA-listed species, reinitiation of consultation was nonetheless warranted in light of the *Gifford Pinchot* decision; hence the development of the current Opinion.

This Opinion presents NMFS' review of the status of each evolutionarily significant unit (ESU)¹ considered in this consultation, the condition of proposed and designated critical habitat, the environmental baseline for the action area, all the effects of the action as proposed, and cumulative effects (50 C.F.R. 402.14[g]).

The proposed action covered by this Opinion consists of improvements to the main Columbia River navigation channel, ecological restoration features in the Lower Columbia River, and other associated activities. The channel improvements include the deepening of the main navigation channel in the Lower Columbia River and improvements to ship turning basins. Construction and maintenance of seven ship berths in the Lower Columbia River are considered interrelated and/or interdependent actions. The other activities include an ecosystem restoration initiative, a monitoring and evaluation program, a research program, and an adaptive management process

¹ 'ESU' means an anadromous salmon or steelhead population that is either listed or being considered for listing under the ESA, is substantially isolated reproductively from conspecific populations, and represents an important component of the evolutionary legacy of the species (Waples 1991). An ESU may include portions or combinations of populations more commonly defined as stocks within or across regions.

governing the implementation of the proposed action. The purpose of the proposed action is to remove existing depth constraints to vessel movements and thereby improve access to the ports of the Lower Columbia River for deep draft vessels, and to restore ecological functions in the Lower Columbia River for ESA-listed salmonids and other fish and wildlife species.

The purpose of this consultation is to evaluate whether the proposed action will jeopardize the continued existence of ESA-listed salmonids or result in the destruction or adverse modification of proposed or designated critical habitat. The species considered in this consultation are listed in Table 1.1. The Corps indicated in their 2001 BA that the Project is likely to adversely affect ESA-listed salmonids, and not likely to adversely affect northern sea lions (Steller sea lions). NMFS concurs with the Corps determination for Steller sea lions.

Table 1.1 Listing Status, Biological Information, Critical Habitat Elements, and Protective Regulations for the ESA-listed and Proposed Species Considered in this Consultation ('T' = Threatened, 'E' = Endangered, and 'P' = Proposed)

Species ESU	Listing Status	Critical Habitat	Protective Regulations
Chinook salmon (<i>Oncorhynchus tshawytscha</i>)			
Lower Columbia River	T 3/24/99; 64 FR 14308	P 12/14/2004; 69 FR 74572	7/10/00; 65 FR 42422
Upper Willamette River	T 3/24/99; 64 FR 14308	P 12/14/2004; 69 FR 74572	7/10/00; 65 FR 42422
Upper Columbia River spring-run	E 3/27/99; 64 FR 14308	P 12/14/2004; 69 FR 74572	ESA Section 9 applies
Snake River spring / summer run	T 4/22/92; 57 FR 14653	10/25/99; 64 FR 57399	7/10/00; 65 FR 42422
Snake River fall-run	T 6/3/92; 57 FR 23458	12/28/93; 58 FR 68543	7/10/00; 65 FR 42422
Chum salmon (<i>O. keta</i>)			
Columbia River	T 3/25/99; 64 FR 14508	P 12/14/2004; 69 FR 74572	7/10/00; 65 FR 42422
Coho salmon (<i>O. kisutch</i>)			
Lower Columbia River	P 6/14/04; 69 FR 33102	Not applicable	Not applicable
Sockeye salmon (<i>O. nerka</i>)			
Snake River	E 11/20/91; 56 FR 58619	12/28/93; 58 FR 68543	ESA Section 9 applies
Steelhead (<i>O. mykiss</i>)			
Lower Columbia River	T 3/19/98; 63 FR 13347	P 12/14/2004; 69 FR 74572	7/10/00; 65 FR 42422
Upper Willamette River	T 3/25/99; 64 FR 14517	P 12/14/2004; 69 FR 74572	7/10/00; 65 FR 42422
Middle Columbia River	T 3/25/99; 64 FR 14517	P 12/14/2004; 69 FR 74572	7/10/00; 65 FR 42422
Upper Columbia River	E 8/18/97; 62 FR 43937	P 12/14/2004; 69 FR 74572	ESA Section 9 applies
Snake River Basin	T 8/18/97; 62 FR 43937	P 12/14/2004; 69 FR 74572	7/10/00; 65 FR 42422
Steller Sea Lion (Northern Sea Lion)	T 11/26/90; 55 FR 49204	8/27/93; 50 FR 45296	January 8, 2002; 67 FR 956; amended & corrected; May 1, 2002; 67 FR 21600

1.3 Relationship to Other Biological Opinions

NMFS previously consulted with the Corps on the maintenance dredging activities in the Columbia River. These biological opinions demonstrate NMFS' involvement and understanding of Columbia River dredging issues, and serve as a record of issues that we have raised during consultations on previous dredging actions.

The consultations previously conducted on the Corps' Operation and Maintenance Dredging activities include:

- An August 1, 1991, informal consultation for use of Interim Area D Estuarine Disposal Site in Clatsop County, Oregon;
- A February 25, 1992, informal consultation for construction of the Wahkiakum Ferry Channel at Puget Island, Washington;
- A March 5, 1992, informal consultation for emergency dredging sites in the Columbia River;
- A December 11, 1992, informal consultation for expansion of Columbia River dredged material disposal sites;
- A November 5, 1993, informal consultation for Dungeness crab entrainment studies in Baker Bay, Washington;
- A December 22, 1993, formal consultation on Columbia River operation and maintenance dredging;
- A September 14, 1994, reinitiation of the December 22, 1993 formal consultation to address designated critical habitat;
- An April 6, 1996, informal consultation on hopper and pipeline dredging in the Columbia River;
- A September 22, 1995, formal consultation on repair of pile dikes in the Lower Columbia River;
- A July 25, 1996, reinitiation of the September 22 formal consultation to address additional pile dikes;
- An August 2, 1996, informal consultation on replacement of a navigational aid in the Lower Columbia River;
- A May 28, 1998, informal consultation for the maintenance dredging program to address listing of Snake River and Upper Columbia River steelhead;
- A May 27, 1999, informal consultation to begin dredging operations at the mouth of the Columbia River; and
- A September 15, 1999, formal consultation on operation and maintenance dredging from John Day Dam to the mouth of the Columbia River.

NMFS also previously completed a December 16, 1999, biological opinion on the Corps' proposed channel deepening project, which NMFS subsequently withdrew. That led to reinitiation of consultation on the revised Project, resulting in the May 20, 2002, biological opinion. This current Opinion supercedes our May 20, 2002, biological opinion. Further background on the earlier consultations associated with this Project is described in section 2.2 of this Opinion.

In November 2004, NMFS issued a biological opinion on the Corps' operation of the Federal Columbia River Hydropower System (FCRPS) that addressed that project's impacts to the primary limiting factors of flow, waterborne toxics, and habitat on ocean-type ESU viability (*i.e.*, Columbia River chum and Snake River Fall Chinook). This Opinion for the Columbia River Channel Improvements Project is consistent with the findings of the 2004 FCRPS Hydropower Biological Opinion.

1.3.1 Jeopardy and Adverse Modification Determination

NMFS determines whether the species can be expected to survive, under the effects of the proposed action, environmental baseline and cumulative effects; and whether the action will appreciably diminish the value of critical habitat for the survival or recovery of the species. For the jeopardy analysis, NMFS considers those combined factors to conclude whether the proposed action is likely to appreciably reduce the likelihood of both the survival and recovery of the affected ESA-listed species. In critical habitat analysis, NMFS determines whether the proposed action will destroy or adversely modify proposed or designated critical habitat for ESA-listed species by examining any change in the conservation value of the essential features of critical habitat. This analysis does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 C.F.R. 402.02, recently at issue in the *Gifford Pinchot* case. Instead, it focuses on the effects of the proposed action on critical habitat and on the role that proposed and designated critical habitat must play with respect to the recovery of each ESA-listed ESU. The analysis focuses on statutory provisions of the ESA, including those in Section 3 that define ‘critical habitat’ and ‘conservation,’ in Section 4 that describe the designation process, and in Section 7 setting forth the substantive protections and procedural aspects of consultation.

If the action under consultation is likely to jeopardize the continued existence of an ESA-listed species, or destroy or adversely modify proposed or designated critical habitat, NMFS must identify any reasonable and prudent alternatives for the action that avoid jeopardy or destruction or adverse modification of proposed or designated critical habitat and meet other regulatory requirements (50 C.F.R. 402.02).

2. BACKGROUND

2.1 Introduction to the Columbia River Channel Improvements Project

The Corps maintains the Federal Navigation Channel in the Columbia River through operation and maintenance dredging. Currently, the navigation channel is maintained at an average depth of 40 feet in depth including advanced maintenance dredging up to 100 feet over-width and 5 feet over-depth.

The Columbia River Channel Improvements Project (Project) includes two distinct types of activities: (1) Deepening of the navigation channel, which includes turning basin improvements and berths that are interrelated and/or interdependent to the Project; and (2) ecosystem restoration. Associated with the navigation channel improvements and ecosystem restoration and research activities are compliance, monitoring, and adaptive management actions.

Navigation channel improvements will require two main actions: dredging and disposal of dredged materials. Dredging and disposal will occur in two stages: an initial construction program to deepen the existing navigation channel, and a subsequent program to maintain the deepened navigation channel. The construction phase will last two years, and the maintenance phase will last the remainder of the authorized 50-year economic life of the Project (section 3.2 of this Opinion). The Project will continue beyond 50 years unless un-authorized by Congress.