

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.

2.2 Consultation History

The reinitiation of consultation by the Corps and NMFS of the May 2002, Opinion resulted in this current Opinion. The reinitiation of consultation by the Corps and NMFS on the December 1999, Opinion resulted in the May 2002, Opinion. Below is a brief synopsis of the history of the first and second phases of the 2001 to 2002 comprehensive re-evaluation process. A more complete description can be found in section 1.3 of the 2001 BA.

First Phase

In its April 5, 1999, BA, the Corps requested formal consultation for the proposed Project. NMFS worked with the Corps for several months to identify further information regarding the anticipated effects of the proposed action on ESA-listed salmonids. On August 25, 1999, upon receipt of the Final Environmental Impact Statement (FEIS), NMFS determined there was sufficient information to initiate formal consultation. On December 3, 1999, the Corps amended its proposed action and BA to include additional conservation actions, including research, ecological restoration, and monitoring. On December 16, 1999, NMFS issued a biological opinion for the proposed Project. The biological opinion determined that, based on the conservation measures proposed, the Project would not jeopardize the continued existence of ESA-listed salmonids found in the action area or adversely modify their proposed and designated critical habitat.

Second Phase

On August 25, 2000, NMFS officially withdrew the December 16, 1999, biological opinion and requested reinitiation of consultation (*see* Appendix A of the 2001 BA for withdrawal letter). NMFS requested reinitiation of consultation to fully assess the implications of new information associated with the Project impacts, to reach agreement on the specific studies and monitoring to be undertaken, to clarify the commitments and schedules for undertaking the restoration work, and to make any necessary refinements to the conservation measures associated with the proposed action. NMFS, FWS, the Corps, agreed the Corps should prepare a new BA (2001 BA) and re-evaluate the Project's effects on ESA-listed salmonids.

The objective of the 2001 to 2002 comprehensive re-evaluation was to improve the scientific understanding of the effects of the Project and to reduce the uncertainties associated with these evaluations through the use of multiple complementary modeling efforts and independent scientific review. The reinitiation of consultation resulted in a re-evaluation of ESA-listed salmonid issues by an independent, scientific panel; a series of five technical panel discussions open to the public; and a multi-agency Biological Review Team (BRT). These efforts resulted in the development and use of new analytical tools, including two numerical models and an ecosystem-based conceptual ecosystem model. During the reinitiation process, the Corps, NMFS, FWS, and the Ports participated in a mutual analysis of Project effects, and subsequently identified modifications to the Project to minimize or avoid potential Project effects. To provide further assurances that the Project would be successful in minimizing or avoiding adverse effects to ESA-listed salmonids, NMFS, and the Corps developed monitoring activities and adaptive management requirements that have been incorporated into the proposed action for the Project.

Finally, during this deliberative process, FWS and NMFS recommended ecosystem research to fulfill the Corps' responsibilities under Section 7(a)(1) of the ESA. The Corps, FWS, and the

Ports also identified additional ecosystem restoration features to fulfill the Corps' responsibilities under Section 7(a)(1) of the ESA, which were included in the proposed action for the Project. NMFS reviewed those ecosystem restoration features during the development of the 2001 BA.

3. PROPOSED ACTION

3.1 Introduction

Subsequent to NMFS' August 25, 2000, withdrawal of its December 1999 biological opinion, the Corps, sponsoring Ports, NMFS, and FWS developed a 'reinitiation framework' to address NMFS' major concerns and to re-define, as necessary, the proposed action. Several steps were involved in the development of the current proposed action, including a re-evaluation of potential Project effects, an analysis of these potential effects within the framework of an ecosystem-based conceptual ecosystem model, and the development of compliance measures and monitoring conditions based on the effects analyses. As part of the reinitiation process, the Corps, NMFS, FWS, and the Ports identified additional monitoring, research, and adaptive management components of the proposed action. The Corps, FWS, and the Ports also identified additional ecosystem restoration features to be included in the proposed action for the Project. NMFS reviewed those ecosystem restoration features as part of the development of the 2001 BA (section 1.3.2). The Corps' 2001 BA fully describes this reinitiation process, and those descriptions are incorporated herein by reference. The following is a brief overview of the steps that led to the current proposed action.

To facilitate discussion of the scientific questions raised by NMFS in their August 25, 2000, withdrawal letter, the Corps, NMFS, FWS, and the Ports retained Sustainable Ecosystems Institute (SEI), a public-benefit, science mediation group. Through a panel of seven nationally-prominent technical experts, SEI provided an independent, scientific process to evaluate the potential environmental issues surrounding improvement of the navigation channel. A series of SEI workshops helped frame major concerns raised in connection with the proposed Project and identify best available science for additional analysis of Project effects.

Beginning in early spring 2001, the Corps, NMFS, FWS, and the Ports formed a technical group called the BRT. The BRT engaged in regular meetings to further review and address technical issues associated with the proposed Project and its potential effects. These BRT technical meetings occurred during and after the SEI workshops, and the results were incorporated into the SEI workshop proceedings.

During the SEI workshop process, a conceptual ecosystem model was designed to provide an integrated description of the major ecosystem links that affect ecosystem structure and function as they relate to juvenile salmonid production and ocean entry (Chapter 5 of the 2001 BA). The specific objectives of the model were to:

- Provide an ecosystem-level scientific framework for evaluating the Project.
- Identify links among physical-chemical and biological indicators.
- Aid in the identification of ecosystem-based processes that link salmon and potential effects of the Project.