

Charge for the California WaterFix Aquatic Science Peer Review – Phase 2B

Background

The California Department of Water Resources (DWR) and the Bureau of Reclamation (Reclamation) coordinate the operations of the Central Valley Project (CVP) and the State Water Project (SWP). As a part of California WaterFix (CWF), DWR proposes to construct and operate new water conveyance facilities in the Sacramento-San Joaquin River Delta, including three intakes, two tunnels, associated facilities, and a permanent Head of Old River gate; as well as operate existing south Delta facilities in coordination with these new facilities.

DWR intends to obtain California Endangered Species Act (CESA) authorization under Fish and Game Code Section 2081(b) for incidental take related to the construction and operation of the CWF water facilities and modified operations of the SWP. DWR submitted an Incidental Take Permit (ITP) application to California Department of Fish and Wildlife (CDFW) on October 5, 2016. This application includes analyses of the effects of the proposed action on CESA-listed species. CDFW is reviewing the analyses of perceived impacts on state-listed species and may issue a permit if conditions in Fish and Game Code sections 2081(b) and (c) are met.

Reclamation is consulting with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) pursuant to Section 7(a)(2) of the Endangered Species Act (ESA) on the construction and operation of the new dual conveyance facilities. As a part of these consultations, Reclamation and DWR have written a Biological Assessment (BA) that summarizes the effects of the action on ESA-listed species and their designated critical habitats. A draft of the BA analyses and draft NMFS analytical approach to the Biological Opinion (BiOp) were reviewed in Phase 1 of this review.

Current CVP/SWP operations require scientific research and monitoring to support real-time operations, decision making, and more complete understanding of the relationship between the CVP/ SWP operations and ESA- and CESA-listed fish species. Moving forward, adaptive management will be used to integrate real-time operations, ongoing scientific research, monitoring, and long term operations of CWF for the SWP and CVP. The draft adaptive management framework has been included as part of the CWF proposed action and was reviewed in Phase 2A.

The purpose of this independent scientific peer review is to obtain the views of experts not involved in the CWF ESA consultation on the use of best available scientific information as it pertains to the analyses of effects on ESA-listed aquatic species during construction and operations of CWF.

Panel charge

The panel will review NMFS' analytical approach and FWS' analytical framework, status of the species and critical habitat, environmental baseline, and effects analysis sections of the draft BiOps on CWF for all ESA-listed aquatic species and their critical habitat. The Panel members will have at least 30 days to familiarize themselves with the materials. The Panel will also be given relevant background information and supplemental materials to consider and will receive presentations from the relevant agencies at the public meeting.

Phase 2B: Specific questions for review of sections of the draft NMFS and FWS BiOps on CWF:

Overarching objective: Identify to what extent the analyses for aquatic species in the draft BiOps on CWF are scientifically sound and defensible, with consideration of the following questions:

1. How well does the analytical approach used in the NMFS BiOp respond to the panel's comments provided in Phase 1 of this review? Is the approach well applied in the determination of effects on individuals and the species?
2. How well do the draft BiOps use best available scientific and commercial information?
Specifically:
 - a. Do the status of the species and critical habitat and environmental baseline reflect the best available scientific and commercial information?
 - b. How well is the best available science used in the effects analysis and findings sections?
3. Do the draft BiOps adequately address data gaps and uncertainties? Specifically:
 - a. Are assumptions in the effects analysis clearly stated and reasonable based on current scientific thinking?
 - b. How extensively are gaps in aquatic species life history information considered and appropriately addressed?
 - c. How well are statistical uncertainties considered when assessing effects to individual survival (e.g., loss from predation, entrainment, impingement, etc.)?
4. Given the preliminary design specifications for the construction of CWF, how adequate are the analyses of effects for the various construction activities on the considered species in the draft BiOps? Considering the extended construction time frame, specifically:
 - a. Have the BiOps identified which construction-related effects pose a repeated and considerable effect to the species?
 - b. Which construction-related effects will be most challenging to mitigate either by the methods proposed by the BA or other methods?
5. How adequately do the draft BiOps address the key operational effects of the proposed action? Specifically:
 - a. How well do the analyses provide sound information to adequately characterize the effects of north Delta diversion operations on outmigrating salmonids and sturgeon?
 - b. Do the analyses appropriately use novel techniques for assessing effects in the vicinity of the north Delta diversions? What improvements could be made to the developing methods to better inform management of the new infrastructure?
 - c. How thoroughly do the data, analyses, and findings presented in the BiOps capture the risks to individuals and populations from the proposed action? Are there significant risks that have been overlooked or other scientific information that should be considered?
6. How clear is the proposed approach to establish Longfin Smelt outflow criteria for assuring spring outflow as modeled in the CESA permit application and presented as part of Phase 2A of the CWF Aquatic Science Peer Review?

Materials for Independent Science Panel Review

Review materials

1. NMFS Draft BiOp (Selected sections from Ch.1 and 2)
 - i. Analytical Approach
 - ii. Status of the Species/Status of Critical Habitat
 - iii. Environmental Baseline
 - iv. Effects of the Proposed Action

2. FWS Draft BiOp (Selected sections)
 - a. Delta Smelt and its Critical Habitat Analyses
 - i. Analytical Framework for the Jeopardy and Adverse Modification Analyses
 - ii. Status of the Species/Status of Critical Habitat
 - iii. Environmental Baseline
 - iv. Effects of the Proposed Action
 - v. Project-level Reinitiation Triggers and Programmatic Approach with Subsequent Consultation

3. Proposed approach to establishing Longfin Smelt outflow criteria

Supplemental materials

1. CWF BA Chapter 3
2. CWF BA Chapters 5 and 6
3. CWF BA Appendices 5A, B, C, D; 3D, E, G
4. FWS Draft BiOp
 - a. Description of the Proposed Action
 - b. Description of the Action Area
5. NMFS Draft BiOp
 - a. Introduction and description of the Proposed Action
6. NMFS Central Valley Chinook Salmon Life-Cycle Model Documentation
7. USGS Entrainment Model Manuscript and CWF Operations Report
8. USGS Flow-Survival Model Manuscript Abstract