BUREAU OF RECLAMATION

Bureau of Reclamation Peer Review Plan

Delta Stewardship Council Review for Water Year 2024 and 2025 Winter-run Chinook Salmon Annual Loss

10/8/2025

Bureau of Reclamation, California-Great Basin Region, Bay Delta Office, 801 I Street, Suite 140, Sacramento, CA 95814

Reclamation Roles:

- Delegated Manager: David Mooney, Area Office Manager, Bay Delta Office, California-Great Basin Region, Bureau of Reclamation
- Peer Review Lead: Elissa Buttermore, Fish Biologist, Science Division, Bay Delta Office, California-Great Basin Region, Bureau of Reclamation

Subject and Purpose:

Reclamation signed a Record of Decision for the Long-term Operations of the Central Valley Project and State Water Project (ROD) that describes Endangered Species Act commitments. The ROD includes loss thresholds for endangered winter-run Chinook salmon used to reduce impacts of Central Valley Project (CVP) and State Water Project (SWP) water export operations in the Delta. During Water Year (WY) 2024, Reclamation and California Department of Water Resources (DWR) operated to the 2020 ROD that included several thresholds to avoid exceedance of the winter-run chinook salmon incidental take limit. On March 20, 2024, the annual loss threshold for natural-origin winter-run chinook salmon was exceeded, and total winter-run loss for WY24 was 4,205 (89.5% of single-year incidental take limit).

On December 20, 2024, Reclamation signed a new ROD that includes a commitment to seek an independent peer review if facility loss of hatchery winter-run Chinook salmon exceeds 0.12% of the hatchery juvenile production estimate (JPE) entering the Delta. In water year 2025, hatchery loss was 242 (0.18% of the hatchery JPE). The 2024 Incidental Take Permit for the State Water Project contained a similar requirement for an independent peer review of actions and conditions related to winter-run Chinook salmon loss for both water years 2024 and 2025.

Reclamation and DWR requested the Delta Science Program's (DSP) established independent scientific peer review and advice processes to review the actions contributing to the loss trajectory that led to exceedance of the annual loss thresholds, and make recommendations on modifications to SWP and CVP operations, or additional actions to be conducted to stay within the threshold in

subsequent years including the use of indicators from in-season monitoring (e.g., existing/new monitoring data) and tools (e.g. modeling tools). The ROD calls for "Seasonal Reports" as the record of actions and outcomes to inform subsequent actions and these will be provided to inform the review.

Impact of Dissemination:

The topics included in this peer review are considered influential scientific information requiring peer review as defined by Office of Management and Budget Final Information Quality Bulletin for Peer Review (70 FR 2664-2677) and the Reclamation Manual Policy CMP P14 Peer Review of Scientific Information and Assessments. The nexus of this determination is that these topics have been the subject of: (1) public debate, (2) evidence submitted on prior National Environmental Policy Act (NEPA) and Endangered Species Act (ESA) documents, and (3) statements made in litigation related to the LTO consultation.

Peer Review Scope:

The review will utilize the DSP's established independent scientific peer review and advice processes to review the actions contributing to the loss trajectory that led to an exceedance of the annual loss threshold, and make recommendations on modifications to SWP and CVP operations, or additional actions to be conducted to stay within the threshold in subsequent years including the use of indicators from in-season monitoring (e.g., existing/new monitoring data) and tools (e.g. modeling tools).

Reviewers will address questions based on their expertise and are to provide comments solely on the scientific information being reviewed and the estimated magnitude, certainty, and frequency of impacts, not on agency decision or policy. The scope and Charter will be developed by the DSP through their policies and procedures for Independent Science Review.

Questions include:

1. Were there indicators in the current monitoring data or tools that could have been used proactively to predict an exceedance of the annual loss threshold?
    a. If so, how can that information or tool be used to change the loss trajectory to not exceed thresholds in the future?
2. What indicators could have been incorporated from WY 2024 and 2025 monitoring data or assessments that could have improved the prediction of winter-run detection trajectories at Central Valley Project (CVP) and State Water Project (SWP) export facilities?
3. Recognizing the different loss trajectories in 2024 and 2025, were there any actions that could have been implemented once the 50% threshold exceedance occurred to have prevented the annual loss threshold being exceeded?
4. Does evidence suggest changes to Old and Middle River Index (OMRI) or other operations would have resulted in changes to the observed loss trajectories in WY 2024 or WY 2025?
5. What information could have been incorporated into WY 2024 and 2025 monitoring data or assessments that could have informed routing, through-Delta survival, salvage loss, and other effects to the winter-run population from different export levels?

6. Were the conclusions of the assessments regarding export operations supported by the information available at the time the assessment was prepared?
7. What monitoring data and assumptions could have been incorporated into the Water Year (WY) 2024 and 2025 Juvenile Production Estimate (JPE) to improve the establishment of the winter-run threshold?
8. What is the best framework for incorporating relevant sources of information and data into real-time management decisions for the SWP to estimate and manage population impacts to the winter-run population, including but not limited to informing operational decisions to change the loss trajectory and avoid exceeding the annual loss threshold? Specifically, how can prediction tools such as the Winter-run Chinook Salmon Machine Learning (WRCML) Model be modified, adjusted, or used complimentary with relevant real-time data, including but not limited to, the juvenile production estimate (JPE), reach-specific survival, real-time acoustic data, non-physical barrier operations, river inflows, physical conditions, and other relevant information?
9. Are there new or alternate approaches to incorporate into assessments to inform real-time estimates on effects to fish from CVP and SWP export operations?

Timing of Review:

A Review Panel is anticipated to begin convening in October 2025. A draft report is anticipated in December 2025 and a final panel report is anticipated January 2026.

Methodology of Review:

The Peer Review will be conducted through the Delta Science Program by individuals selected through the DSP's policies and procedures for Independent Science Reviews. The Peer Review findings/comments will be attributed to the individual reviewer.

Number of Peer Reviewers:

Approximately three reviewers are anticipated to participate in the review.

Reviewer Selection Process:

The peer reviewers will have at least 10 years' experience in their field. Peer reviewers will have education, professional experience, and peer recognition in their field, and will have contributed to their field. Review Panel members will comprise experts from within and outside of California's Central Valley spanning multiple disciplines including experts on Delta hydrodynamics, State Water Project and Central Valley Project operations, salmon migratory behavior and survival in the Delta, and salmon population ecology. Committee members will be vetted for conflicts of interest and selected by DSP from a pool of nominees submitted by the Review Planning Committee its membership. DSP will ultimately facilitate a conversation among individual peer reviewers before the preparation of a single report of peer review comments.

Delivery of Findings:

A final report will be posted to the Delta Stewardship Council Review webpage and Reclamation's Quality of Information webpage.

Response to Peer Review:

The Peer Review Lead will submit a final Report to Reclamation's peer review website (http://www.usbr.gov/main/qoi/peeragenda.html), which will include the committee's report and a summary of the comments provided therein. Reclamation's responses to the comments and reasons the agency believes those actions will satisfy any key concerns or recommendations will be included.

Federal Register Notice:

Federal Register notices will not be provided announcing the formation of an ad hoc committee and completion of the biennial reports.

Applicability of the Federal Advisory Committee Act (FACA):

This peer review is not subject to the Federal Advisory Committee Act (FACA).

Agency Contact:

Peer Review Lead: Elissa Buttermore, Fish Biologist, Science Division, California-Great Basin Region, Bureau of Reclamation, ebuttermore@usbr.gov, 916-201-3009