

Peer Review Plan

National Academies of Sciences, Engineering, and Medicine's Review of the Long-Term Operation of the Central Valley Project and State Water Project

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Originating office: 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: Kristi Arend, Biologist, Science Division, California-Great Basin
Region, Bay Delta Office, 801 I Street, Suite 140, Sacramento, CA 95814

Subject and Purpose:

The Central Valley Project (CVP) stores nearly 12 million acre-feet of water and delivers nearly 7 million acre-feet of water a year to support California's farms, urban centers, and wildlife refuges comprising about 20% of the state's water supply while supporting the needs of fish on the Trinity River, Sacramento River, Clear Creek, American River, Stanislaus River, and San Joaquin River and in the Sacramento-San Joaquin Delta. Reclamation's power program provides the nation with a reliable and renewable source of energy that plays an integral role in national security, electrical grid stability, and renewable energy self-sufficiency. The CVP provides hydropower for 650,000 people, Native American tribes, and not-for-profit entities such as the Beale and Travis Air Force bases and NASA Ames Research Center. The water supply commitments of the CVP are outlined in more than 270 legally binding contracts and must also comply with multiple and sometimes conflicting statutory responsibilities at the state and federal level, including flood control responsibilities, water quality control plans, the Endangered Species Act (ESA), and specialized legislation (e.g., The Central Valley Project Improvement Act, San Joaquin River Restoration Program, CALFED Bay-Delta Program). The coordinated long-term operation of the CVP and State Water Project (SWP) describes how Reclamation, in coordination with the California Department of Water Resources, will operate the CVP to meet its project purposes. Section 3402(f) of the Central Valley Project Improvement Act (Public Law 102-575) summarizes the objectives of the LTO well, "to achieve a reasonable balance among competing demands for use of Central Valley Project water, including the requirements of fish and wildlife, agricultural, municipal and industrial and power contractors."

At the request of the U.S. Bureau of Reclamation, an ad hoc committee of the National Academies of Sciences, Engineering, and Medicine (NASSEM) will conduct two biennial reviews of the monitoring, modeling, and other relevant scientific activities and initiatives that support the long-term operations of the CVP and SWP. The needs of species listed under the ESA drive the operation of the CVP including: the southern distinct population segment of North American green sturgeon, California Central Valley steelhead trout, Central Valley spring-run Chinook salmon, Sacramento River winter-run Chinook salmon, and Delta Smelt.

As a federal action, Reclamation complies with the National Environmental Policy Act (NEPA) and prepares an environmental impact statement (EIS) for the operation of CVP as well as the associated State Water Project (SWP). The EIS evaluates multiple alternatives, each of which may

take a different approach to the operation of the CVP and SWP. The Preferred Alternative is approved in the subsequent Record of Decision and referred to as the “Proposed Action”. Under the ESA, Reclamation must consult with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) on actions within the “Proposed Action” that may affect listed species and their habitats and must obtain a waiver on the prohibition against the harm, harassment, or killing (“take”) of listed species. ESA consultation results in USFWS and NMFS providing biological opinions to Reclamation, the most recent being completed in 2019. Operations under the CVP have numerous complex components, most of which fall under the category of reservoir and system operational changes and flow-related actions. These include storing water in reservoirs and reducing downstream flows, releasing water from reservoirs and increasing downstream flows, diverting water for beneficial uses, routing water for water quality purposes, and managing the selective withdrawal of water from different reservoir elevations to blend together and create temperature regimes that benefit species. Other components include habitat restoration projects, facility improvements, intervention measures like the use of hatcheries, and directed scientific studies. Many of these components are supported by real-time biological and physical monitoring and modeling of the system, the results of which are used in decision-making. Seasonal and annual reports are provided to describe progress on each component.

Given changing climate, changing landscapes, and variable hydrology, and the large number of well informed and engaged interested parties and associated intense public scrutiny on CVP operations, Reclamation has asked the NASEM to serve as an independent review panel for the CVP. Similar to the NASEM ‘s review of the Greater Everglades Restoration Program, this review will entail biennial reports that assess the progress of the CVP to meet its goal to develop a long-term operation plan that supports fish and wildlife, delivers water to communities, and generates hydroelectric power. The first cycle of the proposed review tackles three specific topics of importance to Reclamation: Old and Middle River flow management; Shasta cold-water pool management; and summer-fall Delta smelt habitat. Subsequent cycles of the study will include one to three scientific topics selected after consultation with the Bureau of Reclamation and input from other agencies and stakeholders that are timely for improving CVP management and decision-making.

Impact of Dissemination:

The topics included in the review of the long-term CVP operations have been the subject of: (1) public debate; (2) comments submitted on prior National Environmental Policy Act (NEPA) and Endangered Species Act (ESA) documents; and (3) statements made in litigation related to consultation on the long-term operations of the Central Valley Project (CVP) and State Water Project (SWP). Therefore, the scientific information and assessments of independent review of the long-term operations of the CVP and SWP and publication of the peer review report meet the definition of highly influential scientific assessment 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 Peer Review of Scientific Information and Assessments Policy (CMP P14).

Peer Review Scope:

Two cycles of independent reviews of the monitoring, modeling, and other relevant scientific activities and initiatives that support the long-term operations of the CVP and SWP will be conducted over five years. Each approximately 2-year cycle will generate reports that assess the progress of the CVP in meeting its operational and other goals. Reviewers will focus on the scientific information and approaches that inform decision-making but will not consider agency decision or policy.

The objectives of the first cycle are to:

1. Assess the state of science for the following topics as they relate to long-term operations of the CVP and SWP:
 - a. Old and Middle River (OMR) flow management
 - i. Salmonid route selection and survival
 - ii. Delta and Longfin Smelt entrainment and recruitment
 - b. Shasta cold-water pool management
 - c. Summer-fall Delta Smelt habitat
2. Provide recommendations on how modeling and monitoring strategies and decision-support tools can be changed, improved, or replaced to more accurately assess the impacts of the CVP operations described above.

The objectives of the second cycle are to:

1. Evaluate progress toward meeting the CVP's long-term operational goals.
2. Discuss significant accomplishments of the CVP during the biennial report period.
3. Discuss 1-3 selected scientific topics (based on consultation with Reclamation and input from other agencies and stakeholders) that are timely for improving CVP management and decision-making. For each of these topics, the committee will consider the best available science along with relevant monitoring and synthesis, modeling and decision support tools, and adaptive management strategies, and it will recommend the highest priorities for improvement.

Timing of Review:

The first cycle of the review will occur July 2023 through October 2025; the second cycle will occur between December 2025 through January 2028. Biennial reports are expected to be available on the Peer Review public website by November 2025 and January 2028, respectively.

Methodology of Review:

Both cycles will be undertaken by an *ad hoc* committee of approximately 16-18 volunteer members. The identities of the reviewers will be disclosed as they will participate in three to five information gathering meetings each cycle that will include field trips, public meetings, and expert presentations. Review findings and comments are not expected to be attributed to individual committee members. Each biennial report will be subject to external review.

Number of Peer Reviewers:

Approximately 16-18 reviewers are anticipated to participate in each review cycle.

Reviewer Selection Process:

Committee members will comprise experts from within and outside of California's Central Valley spanning multiple disciplines including fisheries, aquatic ecology, habitat restoration, hydrology, water quality, climate, water resources management, and endangered species and related federal, state, and regional regulations. Committee members will be vetted for conflicts of interest and selected by NASEM from a pool of nominees submitted by its membership, Reclamation, and Reclamation's partners, stakeholder, and other interested parties. Reviewers for the biennial reports are expected to be selected using a similar process.

Delivery of findings:

For each cycle, the independent, *ad hoc* committee will publish a report of their review and recommendations. Both prepublication and final reports will be delivered digitally to the Peer Review Lead. Digital copies of the reports will also be available on NASEM's website.

Response to Peer Review:

At the conclusion of receiving each report, the Peer Review Lead will submit a final Biennial 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 review, actions the agency anticipates undertaking regarding the review, 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) because it is created by the NASEM (§3(2)(C)).

Agency contact:

Peer Review Lead: Kristi Arend, Biologist, Science Division, California-Great Basin Region, Bureau of Reclamation, karend@usbr.gov, 279-234-1571.