

Working Meetings on Draft Sacramento/Delta Updates to Bay-Delta Plan

Working Meeting #9: Monitoring and
Evaluation for Voluntary Agreement (VA)
Provisions



February 20, 2025

Attendees

Welcome to Today's Meeting

- Facilitator
 - Meagan Wylie, Zephyr Collaboration
- Presenter
 - Dr. Sam Bashevkin, Division of Water Rights
- Additional Board staff from the Division of Water Rights and Office of Chief Counsel providing support
- One or two Board members may attend this and other meetings to observe but are not otherwise planning to participate or provide input

Reminders

Format

- 2-hour staff-led virtual meeting
- Staff will present key questions (provided in advance) and slides relevant to today's topic to guide discussion
- Focus only on the major provisions relevant to today's topic
- Participants must raise hand by using hand icon in Zoom or dialing *6 on phone if calling in and wait to speak until you are called upon

Participation Guidelines

- Use appropriate and respectful dialogue
- Stay on topic
- Share speaking time considerately
- Be as concise and specific as possible
- Be open to listening to and understanding different perspectives
- Review relevant sections of draft plan in advance
- Designate point person to speak on group's behalf, if possible
- Provide constructive input
- Avoid general comments

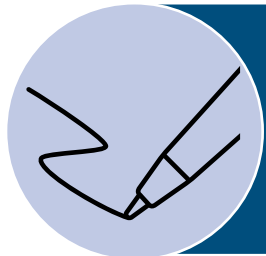
Purpose of Today's Meeting



Discuss monitoring and evaluation for VA provisions in the October 2024 draft Bay-Delta Plan* updates



Hear constructive input on whether and what changes should be made to specific provisions and concepts, if any



Share input with Board to inform development of revised draft Bay-Delta Plan for additional public review and comment

**Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Watershed*

Provisions to be Discussed Today

- Supplemental Science and Monitoring
 - VA Hypotheses, Metrics, Targets, and Monitoring Requirements
 - Harmful Algal Bloom (HAB) Monitoring
 - Habitat Suitability Assessments
 - Habitat Utilization and Biological Effectiveness Assessments

Guiding Questions

- 1) What, if any, modifications should the Board consider to the processes and timelines for development and approval of supplemental VA science and monitoring activities (pp. 98-100)?
- 2) What, if any, modifications should the Board consider to the provisions for development and approval of VA hypotheses, metrics, targets, and monitoring (pp. 98-99)?
- 3) What, if any, modifications should the Board consider to the minimum requirements for VA hypotheses, metrics, targets, and monitoring (pp. 99-100)?
- 4) What, if any, modifications should the Board consider to the provisions for VA habitat suitability and habitat utilization and biological effectiveness assessments (p. 100)?
- 5) What, if any, modifications should the Board consider to the VA reporting requirements (pp. 101-102)?

VA Supplemental Science and Monitoring

- VA parties will be required to conduct supplemental science and monitoring, in addition to any general monitoring processes and activities described in section 4.5, to inform assessment of compliance and effectiveness of the VAs, including developing VA hypotheses, metrics, targets, and associated monitoring
 - VA supplemental science and monitoring must be submitted for approval by the Executive Director
- **VA hypotheses** must address the hypothesized outcomes from the VAs and scientific questions that will be evaluated by VA parties related to those hypothesized outcomes, including the baseline for comparison and the scientific methods that will be used for the evaluations
- **VA metrics** must define the quantitative measurable outcome(s) and associated variables that will be assessed for the hypotheses
- **VA targets** must describe the expected value of the metrics resulting from implementation of the VAs
- **VA monitoring** must describe the monitoring that will be conducted to assess VA hypotheses, metrics, and targets

VA Supplemental Science and Monitoring cont.

- Within 60 days of Board approval of the Bay-Delta Plan, the VA parties will be required to submit proposed hypotheses, metrics, targets, and monitoring for approval by the Executive Director
- Executive Director will consider the conditional approval of the VA hypotheses, metrics, targets, and monitoring after opportunity for public review and comment within a year of adoption of the amendments of the Bay-Delta Plan
- VA monitoring as approved by the Executive Director will be required to begin within the first year of implementation of the VAs
- VA hypotheses, metrics, targets, and monitoring elements may be updated through annual or periodic review processes after opportunity for public review and comment

VA Hypotheses, Metrics, Targets, and Monitoring Requirements

- VA hypotheses, metrics, targets, and monitoring are required to address the following topics at a minimum:
 - i. Actual and, as feasible, forecasted future changes in abundance and condition of adult and juvenile Chinook Salmon and Steelhead in each tributary and the Delta, relative to pre-VA conditions
 - ii. Changes in the quantity of suitable Chinook Salmon and Steelhead spawning and rearing habitat, with suitability defined by the non-flow habitat accounting design criteria as well as the water quality conditions conducive for reproduction, survival, and growth, including temperatures
 - iii. Changes in the quantity of suitable estuarine habitat for native estuarine fishes
 - iv. Utilization of restored VA habitat by Chinook Salmon, Steelhead, and other native and non-native tributary fishes, native and non-native estuarine fishes, and invertebrates, relative to pre-VA conditions and reference sites

VA Hypotheses, Metrics, Targets, and Monitoring Requirements cont.

- VA hypotheses, metrics, targets, and monitoring are required to address the following topics at a minimum:
 - v. Actual and, as feasible, forecasted future effects of restored VA habitat and VA flows on the abundance and condition of Chinook Salmon, Steelhead, Green and White Sturgeon, and native estuarine fishes
 - vi. Actual and, as feasible, forecasted future effects of the VAs on the food web
 - vii. Effects of the VAs on pesticide concentrations in water, zooplankton and benthic invertebrate prey sources, and native fish species across the geographic area affected by the VA food production project and in bypass floodplain habitats that are included in the VA non-flow commitments
 - viii. Other relevant topics as identified by the Executive Director

Harmful Algal Bloom (HAB) Monitoring

- VA hypotheses and monitoring must include HAB monitoring provisions and support for the Delta CHABs Monitoring Strategy
 - Must include support for implementation of a coordinated, Delta-wide HAB monitoring program and special studies that ensure data are collected to understand HAB drivers, develop HAB models, and identify management and mitigation measures for HABs in the Delta
- VA monitoring plan must include commitments to monitoring for HABs on the VA tributaries by implementing HAB monitoring requirements for visual indices, cyanotoxins, phytoplankton identification and enumeration, and drivers, as described in section 4.5.1

Habitat Suitability Assessments

- VA parties will be required to conduct site specific assessments periodically following completion of construction of each habitat restoration project, for a minimum of eight years following completion of construction or for the term of the VAs, whichever is longer
- Assessments will evaluate:
 - The suitability of non-flow habitat restoration projects and their conformance to depth, velocity, substrate, inundation, cover, and any other applicable design criteria
 - Temperature and dissolved oxygen and their relationship to flow conditions
 - Conformance with best available science
- VA parties will assess any changes in the suitability of habitat restoration projects according to these criteria over the term of the VAs

Habitat Utilization and Biological Effectiveness Assessments

- VA parties will be required to assess VA non-flow habitat restoration projects over time to evaluate whether each project is effective in achieving biological outcomes and the narrative fish viability and salmon protection objectives
 - Based on empirical data and observations obtained through monitoring
- Assessments will:
 - Evaluate whether and the extent to which constructed non-flow habitat restoration sites are being used by target native species populations and life stages
 - Evaluate the effectiveness of VA flow and non-flow habitat restoration in increasing populations of native fishes, including assessment of near-term ecosystem indicators that would be expected to change over eight years, such as invertebrate populations and communities
 - Be conducted for a minimum of eight years following completion of construction or the length of the VAs, whichever is longer
- VA non-flow habitat restoration projects are required to be compared against adjacent, non-restored habitat areas, as well as the pre-restoration conditions at the project site

Guiding Questions

- 1) What, if any, modifications should the Board consider to the processes and timelines for development and approval of supplemental VA science and monitoring activities (pp. 98-100)?
- 2) What, if any, modifications should the Board consider to the provisions for development and approval of VA hypotheses, metrics, targets, and monitoring (pp. 98-99)?
- 3) What, if any, modifications should the Board consider to the minimum requirements for VA hypotheses, metrics, targets, and monitoring (pp. 99-100)?
- 4) What, if any, modifications should the Board consider to the provisions for VA habitat suitability and habitat utilization and biological effectiveness assessments (p. 100)?
- 5) What, if any, modifications should the Board consider to the VA reporting requirements (pp. 101-102)?

Next Meeting

Jan. 28	<i>Inflow Objective and Program of Implementation</i>	Feb. 13	<i>Provisions for Continuation, Modification, or Termination of VAs*</i>
Jan. 29	<i>Cold Water Habitat Objective and Program of Implementation</i>	Feb. 19	<i>VA* Habitat Commitments and Accounting Provisions</i>
Jan. 30	<i>Inflow-Based Delta Outflow Objective and Program of Implementation</i>	Feb. 20	<i>Monitoring and Evaluation for VA* Provisions</i>
Feb. 4	<i>Methodology to Determine Water Unavailability and Implement Bay-Delta Plan</i>	Feb. 27	VA* Flow Commitments and Accounting
Feb. 5	<i>Monitoring and Evaluation for Regulatory Provisions</i>	Mar. 4	<i>Tribal Provisions</i>




Register via links provided in January 3 letter:

www.waterboards.ca.gov/bay_delta/docs/2025/ltr-baydeltaplan-workmtgs.pdf

**Voluntary Agreements, also referred to as the Healthy Rivers and Landscapes Proposal*

Resources and Contact Information

- Sacramento/Delta Update to Bay-Delta Plan: waterboards.ca.gov/bay_delta/comp_review.html
- Proposed VAs: waterboards.ca.gov/bay_delta/proposed_voluntary_agreements.html
- Bay-Delta Watershed: waterboards.ca.gov/bay_delta/
- Email: SacDeltaComments@waterboards.ca.gov

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