



County of Monterey

Item No.4

Board Report

Board of Supervisors
Chambers
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Salinas, CA 93901

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Consider receiving an update on implementation of the Interim Operations Plan for San Antonio and Nacimiento Reservoirs and adopt a revised passage flow target for steelhead migration in the Salinas River. (Staff: Peter Kwick)

SUMMARY

On November 21, 2022, the Monterey County Water Resources Agency Board of Directors (BOD) adopted the Interim Operations Plan (IOP) for Nacimiento and San Antonio Reservoirs to address specific conditions where the Flow Prescription did not meet its intended goals over the first 13 years of Salinas Valley Water Project operation. The IOP was implemented beginning in 2023, but natural flows (2023 and 2024) and Flow Prescription triggered actions (2025) obviated the need for IOP support to meet Flow Prescription passage targets in the first three years of implementation.

In February of 2025, a release action based on Flow Prescription triggers provided an opportunity to test and verify a new steelhead migration flow threshold determined in a recent critical riffle study conducted in support of the development of the Habitat Conservation Plan.

The IOP has provided supplemental adaptive management to the existing Flow Prescription while the Salinas River Operations Habitat Conservation Plan (HCP) is under development.

Staff finds that the IOP continues to provide a flexible and effective mechanism to address shortcomings of the Flow prescription. Hydrologic conditions have effectively precluded the need for IOP actions since adoption. Staff recommends continuation of IOP implementation with modification of the steelhead migration flow target.

DISCUSSION:

IOP Development and Adoption

The *Salinas Valley Water Project Flow Prescription for Steelhead Trout in the Salinas River* (Flow Prescription), was incorporated into water rights licenses 7543 and 12624, and Permit 21089. It targets providing steelhead migration to and from the lower Salinas River Basin, which includes the Arroyo Seco and the lower Nacimiento River, and Monterey Bay, through the mainstem of the Salinas River. Steelhead Trout passage and habitat is known to occur in the upper Arroyo Seco. Spawning and rearing habitat in the Arroyo Seco is recognized to be the highest quality and most accessible in the lower Salinas River Basin. Releases of water from Nacimiento and San Antonio Reservoirs, in efforts to facilitate such passage, will provide benefits in and passage to the Arroyo Seco, lower Nacimiento River and other potential habitat areas of the upper Salinas River.

The Flow Prescription characterizes an adaptive management approach as being essential to ensuring the proposed actions achieve their desired effects for the following reasons. The natural hydrology and hydraulics of the system are highly variable, and the Agency has the ability to influence only a portion of this system. It was acknowledged that it will take time to fully understand the system. A typical steelhead life-cycle is on the order of 4 to 5 years, with a high degree of variability and finally, it will take time to fully understand how operations benefit one species of fish without severe harm being caused to other beneficial water uses within the system.

Agency staff developed the IOP in 2022 to address National Marine Fisheries Service (NMFS) concerns regarding steelhead migration flows during dry periods. Agency staff determined that flow enhancement triggers defined in the Flow Prescription and in effect since 2010 had fallen short of providing the anticipated passage opportunities during some hydrologic year types. Specifically, as documented in the Agency's SVWP Flow Monitoring Report 10-Year Review (included as an appendix to IOP), the target for dry-normal year types is 16 passage days. During the first 13 years of SVWP operations (2010-2022) no adult upstream passage days were recorded in any of the four dry-normal category years.

Incorporating nine months of stakeholder input through regular meetings with NMFS, USFWS and the Reservoir Operations Advisory Committee, the IOP was distributed and presented to the ROAC at its October 2022 meeting and was adopted by the Board of Directors at its November 21, 2022 meeting.

The adopted IOP provides Agency staff discretion to utilize adaptive management to supplement naturally occurring streamflow events that would provide multiple benefits, including: providing steelhead passage opportunities in the absence of currently existing operational flow enhancement triggers, while adhering to all existing water rights, operational agreements and adopted release schedules; supporting the ongoing development of the Salinas River Operations HCP through the gathering of pertinent supportive data and information; and providing enhanced recharge of Salinas Valley water supply aquifers through Salinas River percolation.

The IOP acknowledges the ongoing work being conducted in support of the HCP and was intended to be updated to reflect our increasing understanding of species needs and the development of more effective operational strategies. To gain a better understanding of flows needed to accommodate fish passage in the Salinas River, an analysis was performed on critical riffle features that had potential to inhibit fish passage under low flow conditions. The Critical Riffle Analysis incorporated drone photogrammetry, modeling of streamflow, and field verification of results. The analysis concluded that a flow of 80 cfs at the Salinas River near Chualar USGS gage was sufficient to allow the passage of all life stages of steelhead through the lower Salinas River. The results of the analysis were evaluated by the Technical Advisory Committee (TAC) that was convened to develop reservoir reoperation strategies for the HCP and were incorporated into the reoperation scenarios that were recommended by the TAC.

In February of 2025, a release action based on Flow Prescription triggers provided an opportunity to test and verify the revised steelhead passage flow target of 80 cfs. Field surveys verified that passage conditions were suitable for steelhead migration during the modified action. Furthermore, steelhead

presence was detected in eDNA samples taken in conjunction with the field verification, suggesting that steelhead may have been migrating through the lower Salinas at the time of the modified flow action.

Based on this increased understanding of conditions in the lower Salinas River, staff recommends that the IOP be updated to reflect a target flow of 80 cfs at the Salinas River near Chualar in place of the existing IOP target of 260 cfs. This change only applies to future actions triggered under the IOP and does not reflect a change to any other regulatory requirements or agreements held by the Agency, including State of California Water Rights permits and licenses.

2023 Implementation of IOP

In late December 2022, a combination of storm activity, streamflow, and forecasts indicated a strong potential to meet hydrologic triggers defined in the IOP that would warrant consideration of release actions aimed at enhancing steelhead migration opportunities. Accordingly, staff developed contingency plans to augment natural streamflow events in late 2022 and early 2023 while actively monitoring watershed conditions. A sequence of late December and early January atmospheric rivers resulted in attainment of all triggers beginning on January 5th. Also beginning on that date, natural flows brought about passage condition goals described in the IOP while forecasts and developing watershed conditions indicated a high likelihood that continued flows would amply provide for sustained passage conditions into late-January, without the operational assistance of executing an IOP action. Conditions continued to be monitored and no IOP action was taken. Persistent storm activity into mid-January resulted in exceedance of the IOP passage day goal (sixteen days), obviating the need for further consideration of IOP releases for the remainder of the water year. By April 1, 2023, following the conclusion of the January 1-March 31 upstream passage time window defined in the Flow Prescription, 85 consecutive upstream passage days had been achieved without IOP action.

2024 Implementation of IOP

Following the opening of the Salinas River Lagoon on January 4th, storms brought inflow to Nacimiento Reservoir in mid-January. On February 1st the final IOP hydrological trigger was met as stormflow connected the Arroyo Seco to the Salinas River. Staff determined that an immediate release action presented a high probability of meeting threshold flows in the lower Salinas River (260 cfs at the USGS gage, Salinas River near Chualar, as identified in the Flow Prescription) to successfully provide conditions favorable to upstream passage of adult Steelhead. A release of 300 cfs was initiated on February 1st. By February 3rd, weather and river forecasts indicated increased storm activity with imminent certainty that flows would provide and sustain passage flow targets. This prompted the immediate termination of the IOP release action after less than two days. By February 4th, lower Salinas River flows exceeded IOP passage thresholds and would remain well above 260 cfs for the next four months.

2025 Implementation of IOP

No IOP action was required in 2025. Flow Prescription triggers were met in February, resulting in fish migration releases meeting the Flow Prescription target flow of 260 cfs at the Salinas River near Chualar USGS gage for a minimum of 5 consecutive days for steelhead upstream migration. Agency staff identified this event as an ideal opportunity to test the reservoir reoperation protocols that were under development for the HCP. Following the Flow Prescription action, the Agency enacted

reoperation protocols targeting 80 cfs at the Salinas River near Chualar USGS gage to achieve the dry normal passage goal of 16 days. Staff engaged fisheries consultant FISHBIO to perform field verification of steelhead passage conditions during the release action and collect eDNA samples at multiple locations in the Salinas River. Sample results detected the presence of steelhead DNA, indicating that steelhead could have been migrating during the release action.

Conclusion

Staff finds that, in its first three years of implementation, the IOP, as written and adopted, has effectively precluded and minimized the need for supplemental release action, by application of IOP triggers as written, and through monitoring and evaluation of hydrologic conditions while providing a conditions-based mechanism to take advantage of opportunities to address identified Flow Prescription shortcomings through adaptive management. Staff recommends continuation of IOP implementation with the revised passage flow target of 80 cfs at the Salinas River near Chualar USGS gage.

Strategic Plan Goals and Objectives

Agency effort on this process aligns with Monterey County Water Resources Agency Strategic Plan Goal B (planning and new projects); Strategy 7 (Use data and analysis to make informed decisions) and Goal E (Community Relations) Strategy 4 (Provide information on Agency Operations to stakeholders).

OTHER AGENCY INVOLVEMENT:

National Marine Fisheries Service and U.S. Fish and Wildlife Service

FINANCING:

Staff time associated with reservoir operations are included in the FY26 approved budget in Fund 116 - Dam Operations.

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