

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**MEETING OF OCTOBER 2, 2024  
MAMMOTH LAKES, CA**

**ITEM #5**

**HOT CREEK FISH HATCHERY AND WATER QUALITY OBJECTIVES UPDATE**

**CHRONOLOGY**

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| March 10, 2021   | The Water Board adopted Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) Order No. R6V-2021-0014 (Permit) with new total nitrogen effluent limitation and rescinded Board Order No. R6V-2006-0027 for Hot Creek Fish Hatchery (Hatchery). The Water Board also adopted Time Schedule Order (TSO) No. R6V-2021-0015, to accompany the order. The TSO established interim total nitrogen effluent limitations, required investigation of total nitrogen in influent source water, and required compliance with total nitrogen effluent limitation at expiration of TSO. |
| August 1, 2021   | Deadline in the TSO to complete a <i>Groundwater Monitoring Well Installation and Sampling Workplan</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| January 29, 2022 | The Hatchery domestic wastewater ponds were enrolled in the Water Board's <i>General WDRs for Limited Domestic Wastewater Treatment Systems</i> , Board Order No. R6T-2020-0015 (Limited Domestic Order).                                                                                                                                                                                                                                                                                                                                                                                                            |
| March 10, 2022   | The Water Board adopted Resolution No. R6T-2022-011 to approve the 2022 Triennial Review of the Water Quality Control Plan of the Lahontan Basin and the 2022 Triennial Review List. The high priority category of issues within the resolution includes investigating and considering a total nitrogen water quality objective update for Hot Creek.                                                                                                                                                                                                                                                                |
| February 1, 2023 | Deadline in the TSO to complete preliminary analysis of dilution credit and mixing zone or water quality variance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| February 1, 2025 | Deadline in the TSO for CDFW to submit a report determining whether the domestic wastewater ponds are adversely impacting groundwater quality and propose remedial measures and a time schedule for implementation.                                                                                                                                                                                                                                                                                                                                                                                                  |
| April 30, 2026   | Order Nos. R6V-2021-0014 and R6V-2021-0015 expire.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## BACKGROUND

The California Department of Fish and Wildlife (CDFW) owns and operates the Hatchery located at the headwaters of Hot Creek (121 Hot Creek Hatchery Road, Mammoth Lakes, CA). The influent spring water at the Hatchery typically exceeds the downstream water quality objective and the corresponding permit effluent limitation of 0.30 mg/L annual average for total nitrogen (as N). Historically, these influent concentrations resulted in effluent noncompliance, mandatory monetary penalties, and temporarily adjusted effluent limitations.

Four primary springs produce a flow of approximately 1.3 to 2.5 million gallons per day for the Hatchery. This water is directed into the raceways and hatchery buildings, flowing through the structures with no recirculation or storage. Hatchery operations generate waste, including used food, fish excrement, and aquaculture drugs and chemicals. These wastes undergo primary treatment in three flow-through settling ponds before discharging to Hot Creek. A fourth discharge point originates from a hatchery building into a small tributary to Hot Creek. Without the Hatchery, the springs would feed Hot Creek directly at the current Hatchery influent water quality

The cause of the elevated total nitrogen in spring water is unknown. Therefore, the TSO required CDFW to construct groundwater monitoring wells. The TSO also requires quarterly groundwater sampling beginning in the fourth quarter of 2022. In addition to the TSO requirements, ongoing research in the vicinity of the Hatchery intends to improve understanding of the local groundwater flow directions and connectivity. The study of potential upgradient groundwater sources will extend beyond permit and TSO expiration in 2026.

The most proximal potential upgradient source of nitrogen is domestic wastewater generated at offices and employee housing. Two septic tanks treat that wastewater before it discharges into four percolation ponds. This domestic wastewater system was not identified or regulated until the most recent permit development.

Consequently, the TSO required CDFW to evaluate whether the onsite domestic wastewater ponds contribute to the total nitrogen exceedances in the influent springs and to propose remedial activities if necessary. Additionally, the TSO required CDFW to enroll this discharge in the Limited Domestic Order. CDFW's evaluation and order enrollment will provide Water Board staff with insight into the potential impact of the domestic wastewater.

Beyond groundwater investigation, Water Board staff are evaluating the current total nitrogen water quality objective for Hot Creek. The project was prioritized by the Water Board in the 2022 Triennial Review and is intended to both evaluate the nitrogen inputs originating from the Hatchery and determine whether a site-specific objective for nitrogen should be developed for Hot Creek. A revised, or new, site-specific objective would then be used to develop a new effluent limit in the Hatchery's permit. As part of the evaluation, staff are collecting data on the vegetative growth in the Hot Creek stream channel at different locations and have requested surface water quality monitoring be provided by CDFW. Staff intends to develop a recommended revision to the total nitrogen water quality objective for Hot Creek using USEPA methods.

## ISSUES

The Facility exhibited reasonable potential to exceed the new total nitrogen (as N) effluent limitation imposed by Board Order R6V-2021-0014. Therefore, the TSO establishes an interim effluent limitation and requires CDFW to evaluate whether the onsite domestic wastewater ponds are contributing to total nitrogen concentrations in the Hatchery's influent spring water. The TSO requires CDFW to install groundwater monitoring wells to determine the influence that the domestic wastewater ponds may be having on the Hatchery's influent spring water. If there is an impact from the domestic wastewater ponds, then the CDFW must propose remedial measures.

## DISCUSSION

Presenters will provide a status update of the CDFW's efforts on the requirements of the TSO, preliminary groundwater water quality results, and possible next steps.

## SUSTAINABLE GROUNDWATER MANAGEMENT ACT BASINS

For purposes of the Sustainable Groundwater Management Act, the California Department of Water Resources identifies and prioritizes the following groundwater basin in Mono County near the discharge location within the Lahontan Region.

| Priority | Groundwater Basin   |
|----------|---------------------|
| Very Low | Long Valley (6-011) |

Source: [Sustainable Groundwater Management Act Basin Prioritization](#)

## CLIMATE CHANGE RESPONSE

Requirements and prohibitions incorporated in Order Nos. R6V-2021-0014 and R6V-2021-0015 and the associated Monitoring and Reporting Program are consistent with [Resolution R6T-2019-0277](#) (Resolution), the Water Board's Climate Change Mitigation and Adaptation Strategy, in the following key resources areas: (1) Protection of Wetlands, Floodplains, and Headwaters; and (2) Protection of Groundwater Quality and Supply.

## PRESENTERS

Trevor Miller, Lahontan Water Board, Senior Water Resource Control Engineer.  
Russell Black, California Department of Fish and Wildlife  
Jennifer Watts, Lahontan Water Board, Environmental Scientist.

## RECOMMENDATION

This is an informational item only. No Water Board action is requested for this item; however, the Water Board may provide direction to staff.