



Eagle Lake Grazing and Water Quality

A Newsletter from the Lahontan Regional Water Quality Control Board

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Welcome

The Lahontan Regional Water Quality Control Board developed this newsletter to communicate our efforts to protect water quality in Eagle Lake. For more information visit our [webpage](#).

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2021 Grazing Management Plans and Inspections

All large lakefront property managers and owners, who maintain livestock on their land, are required per the 2019 California Water Code section 13267 Investigative Order to submit annual grazing plans to the Water Board by May 15 before the start of grazing operations each year. Federal land managers submit Annual Operation



Eagle Lake near Shrimp Island in 2019

Instructions (AOI) for each allotment while private property owners submit Rangeland Water Quality Management Plans (RWQMP) each season. The grazing management plans should demonstrate an overall reduction of animal waste to the shore of Eagle Lake through application of management techniques. The U.S. Forest Service, Lassen National Forest, the Bureau of Land Management, Five-Dot Ranch, Mapes Ranch and McClelland Ranch all submitted compliant plans. In general, due to drought conditions, grazing was reduced this season compared to previous years.

The Water Board received a total of four complaints or inquiries from three concerned citizens seeking information about livestock in contact with Eagle Lake or not following guidance contained in the submitted grazing management plans. Two of the concerns were investigated and found to be activities that fit within the parameters of the grazing management plans. The third and fourth complaints are identical form letters and express an opinion that all grazing around Eagle Lake should be banned. A response was sent explaining actions the Water Board is taking to reduce grazing related impacts to the lake.

Overall complaints and reports of cattle in unauthorized areas and in contact with Eagle Lake were fewer this season than past seasons.

Water Board staff did not inspect any Eagle Lake grazing land this past season due to a reduction in field presence as a result of the pandemic, smoke and wildfires. Next season staff plans to meet with land managers in the field.

Partner Update

Eagle Lake Fishing News:

The California Department of Fish and Wildlife (CDFW) reported that the 2021-22 fishing season was best in the early season (opening weekend to mid-Jun).

A season extension implemented this year as part of the statewide regulation changes has provided additional angling opportunities; however, the snow and cold weather kept angling pressure low. Trout growth rates are good with trout growing 1.5-2.0 pounds per year (i.e. 0.5 pound stocked trout are averaging 2.0-2.5 lbs after one year and 3.5-4.0 lbs after their second year). Typically, the CDFW annually conducts a survey of anglers (creel) which produces data that can be compared year over year to assess how good the fishing has been. Creel was not conducted Aug 10 through Sept 30 due to the Dixie Fire and smokey conditions. Creel data is currently being analyzed.

2021 Spawning Efforts: Due to drought conditions, tributary streams did not flow into Eagle Lake. Trout were captured in the lake via electrofishing to collect and fertilize eggs for the artificial spawning program.

CDFW captured and released over 1,800 trout and spawned 444 individual pairs collecting an est. 1.6 million fertilized eggs over a six-week period in Mar and Apr.

2021 Water Quality Monitoring Results

Monthly sampling has continued since 2019 at up to five in-lake stations. The locations sampled correspond with historic Department of Water Resources (DWR) water quality monitoring sites. Due to low lake levels, the routine sample locations in the North Basin and Middle Basins were replaced with an alternate site in the Middle Basin near Delta Bay that allowed easier access. Results of this year's program will be publicly available once the data passes the rigorous quality control required for posting on the California Environmental Data Exchange Network (CEDEN). However, some general data trends can be reported: the total nitrogen and total phosphorus concentrations remained relatively consistent in 2021 compared to 2020 data. The 2021 levels measured for both nutrients remain above the established water quality objectives for Eagle Lake at all sampling locations during the sampling period.



Clear skies and calm waters at Eagle Lake



Image provided by the California Nonpoint Source Pollution Control Program

Statewide Grazing Guidance

In September 2015, the State Water Resources Control Board adopted [Resolution No. 2015-0062](#). At that public meeting, the State Water Board instructed staff to engage with the University of California to update tools

and documents related to grazing best management practices and water quality. In accordance with this instruction, the State Water Board is developing a non-regulatory Statewide Grazing Guidance. The purpose of this document is to:

- Promote effective grazing management practices through a non-regulatory approach
- Educate on potential impacts to water quality from grazing
- Update the 1995 Rangeland Water Quality Management Plan (RWQMP)
- Provide the grazing community tools to assist in compliance with the Regional Water Boards' actions on grazing

In 2021, State Board coordinated robust stakeholder meetings with three diverse groups (academic and government, livestock industry, and environmental sectors) to better inform the updated RWQMP. State Board staff have been researching topics that arose during the 2021 stakeholder meetings and that information will be compiled into the draft guidance that is anticipated to have a public release in spring/summer 2022.

For more information see the [California Grazing Water Quality Guidance](#) webpage.

More Information on HABs

HABs can make water unsafe for swimming and other recreational activities. The toxins they produce can harm pets, livestock, and people.

Observations of HABs and algal toxins have increased globally in recent years.

During 2021, in coordination with regional partners, the Lahontan Water Board collected 160 samples at 36 different waterbodies across the Region, resulting in 22 advisories including three danger and one warning. Advisories occurred as far north as Donner Pond, Nevada County and as far south as Lake Gregory, San Bernardino County.

Advisory signs (Caution, Warning, Danger) are placed to protect human and animal (dogs and livestock) health from HABs. The most restrictive Danger Level Advisory recommends no water contact recreation, no ingestion of fish, and no drinking of water, because toxins present in the affected waterbody may harm humans and kill animals.

For more information visit the [California HAB Portal](#).

Harmful Algal Blooms

Eagle Lake was sampled for harmful algal blooms (HABs) prior to Memorial Day, Independence Day, and Labor Day as part of the State Pre-Holiday Assessment. The sampling involves testing for harmful algal blooms at popular lakes and streams throughout California in time for the latest data to be posted ahead of the busy holiday weekends, when many Californians seek guidance about which waterways offer a safe and healthy recreation option. Cyanobacteria were found in the samples taken before Independence Day and Labor Day. Though the Independence Day sample contained cyanobacteria, no cells contained genes capable of producing harmful toxins. The Labor Day sample contained a small amount of the toxin Microcystin, but the level present was below the California Cyanobacteria and Harmful Algal Bloom Network cautionary trigger level established for protection of human and animal health. For more information regarding harmful algal blooms please visit the [California HAB Portal](#).



Spaulding Ramp in 2019



2021 Caldor Fire smoke haze

Wildfires and Water Quality

Wildfire smoke is a mixture of gas and tiny bits of material, called particulate matter. The smoke can have various impacts to humans, animals, and the environment. One way smoke impacts waterbodies is through the contribution of ash, sediment, and nutrients. The material ends up in waterbodies through atmospheric deposition when the particulate matter lands directly on the lake surface and through rain events that transport ash that has deposited on the landscape into water systems or surface runoff. After wildfires, burned landscapes are more conducive to erosion and flooding which has the potential to increase nutrient inputs into streams and lakes. Increasing nutrient inputs can change the ecology of lakes and prompt algal growth. Due to the large fire activity in 2021, wildfire smoke may have impacted waterbodies across the state, including Eagle Lake. Two of the five days sampled this year were collected when smoky conditions were present. Though the sampling conducted during the smoky conditions did not indicate an increase in nutrients concentrations, we cannot conclude that there were no wildfire related impacts to water quality based on this limited sampling. The Water Board's Surface Water Ambient Monitoring Program has proposed bioassessment monitoring in several locations within the watershed that were potentially affected by recent wildfires including sites on Pine Creek and Willard Creek. Bioassessment monitoring helps to identify the impacts to biological health and the effects on water quality. Long term bioassessment monitoring is also an effective tool to identify how long it takes for systems to recover from such events. As results become available, they will be made accessible to the public in the California Environmental Data Exchange Network ([CEDEN](#)).

