



Eagle Lake Grazing and Water Quality

A Newsletter from the Lahontan Regional Water Quality Control Board

Issue No. 2, December 2020

Welcome

The Lahontan Regional Water Quality Control Board developed this newsletter to communicate our efforts to protect water quality in Eagle Lake. Please visit our webpage at

<https://www.waterboards.ca.gov/lahontan/> to learn more about us.

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2020 Grazing Management Plans and Inspections

Large property owners and managers who actively graze livestock on their lands within the Eagle Lake shorezone are required to submit annual grazing management plans to the Water Board by May 15 before the start of grazing operations each year. The intent of these plans is not to limit or prohibit grazing at Eagle Lake, instead these plans are intended to gain an understanding of grazing operations within this sensitive environment and adaptively manage to protect water quality and beneficial uses. The U.S. Forest Service - Lassen National Forest, the Bureau of Land Management, Five-Dot Ranch, Mapes Ranch and

McClelland Ranch have all submitted plans.



As of the date of this publication, the Water Board has received a total of nine complaints or inquiries this season from three concerned citizens seeking information about livestock

grazing within the

shorezone of Eagle Lake. In each case, Water Board staff responded to these concerns by investigating whether timing and presence of cattle within specific land ownerships was in alignment with the parameters outlined in the grazing management plans. Water Board staff found that in all but one case the timing and presence of cattle within that ownership was consistent with the grazing management plan. In that instance, cattle around Pine Creek and Spalding were found to have wandered outside the USFS allotment. Overall, reports of cattle in unauthorized areas and in contact with Eagle Lake were fewer this season than past seasons. The Water Board has met with Lassen National Forest personnel, Five-Dot Ranch, Mapes Ranch, and is scheduled to meet with other property owners to coordinate on next season's plans.

Eagle Lake Info

Eagle Lake is located near the junction of four major geologic provinces: the Sierra Nevada province, a mountain range formed by tectonic uplifting along the edge of the continental plate; the Cascade Ranges which run through California, Oregon, and Washington, and up into Canada; the Basin and Range province just to the east, and the Modoc Plateau to the northeast. The lake was created by the melting of glaciers during the last ice age and is the second largest natural lake in California. (modified from eaglelakerecreation.com)

Where does the name “Lahontan” come from?

The Great Basin is that portion of western North America that has no drainage to the sea. It encompasses almost the entire state of Nevada and portions of Oregon, Wyoming, Idaho, and California. Over geologic time, the area contained seaways which eventually separated into two inland lakes. The eastern portion was called Lake Bonneville; the remnant of this lake is the Great Salt Lake. The western portion of this lake was called Lahontan; the remains of which are Pyramid Lake, Honey Lake, the Carson Sink, and other features. The name comes from a 17th century French explorer, Baron Louis de La Hontan, whose essays included his experiences in North America.

Information Sharing: Resources about water quality management on rangelands and grazed lands can be found in the new **Ranch Water Quality Planning Guide**, which is now available through the UC Agriculture and Natural Resources Publications Catalogue and on the [UC Rangelands Website](#).

2020 Water Quality Monitoring Results

In collaboration with the Eagle Lake Guardians, Water Board staff resumed monthly sampling at four in-lake stations beginning in April 2020. These sites correspond with historic Department of Water Resources (DWR) water quality monitoring sites, and sites sampled in 2019. General data trends can be shared— laboratory data is considered provisional until data validation with the State Water Board is complete. Compared to the 2019 data, total nitrogen concentrations have increased, with all values above the established water quality objectives. Conversely, total phosphorus concentrations measured at all sample locations have decreased overall since last sampling season but still remain above the water quality objective. Sampling will continue next year pending staff resources, health and safety recommendations, and availability of funding.

Data gathered from this sampling effort is intended to evaluate current water quality conditions in Eagle Lake, which is on the Clean Water Act’s section 303 (d) list as impaired for Total Nitrogen and Total Phosphorus. Since its listing as an impaired water body, some management measures (septic system hookups and meadow restoration) have been implemented within the Eagle Lake watershed; however, an assessment of water quality conditions to determine the effectiveness of those management measures toward improving water quality has not been conducted. It is possible that monitoring results may help de-list Eagle Lake for its nutrient impairments if trends demonstrate improvements in water quality that satisfy de-listing methodology defined in the [State Water Board’s Water Quality Control Policy for Developing California’s Clean Water Act Section 303 \(d\) List](#).

Status of Upcoming Studies

In the February 2020 newsletter issue, Water Board staff reported on collaborating with academic researchers and other State agencies to initiate a more comprehensive nutrient source analysis of Eagle Lake. Plans were in effect to work with the University of Nevada, Reno to deploy high frequency probes to further investigate nutrient concentrations and primary productivity in the nearshore. With the onset of the Covid-19 pandemic, the State experienced budgetary and other limitations that halted progress. We hope to re-engage with this effort when time and resources allow.

Harmful Algae Blooms

In August 2020, a "caution" advisory was recommended at Eagle Lake following field observations of patchy dense algae blooms and surface scum made by staff with the US Forest Service – Lassen National Forest while sampling the Christie Day Use Area and at Gallatin Beach near Camp Ronald McDonald. A caution advisory

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 2020, in coordination with regional partners, the Lahontan Water Board responded to 20 reports of suspected HABs throughout the region by conducting follow-up site investigations and water quality sampling. Laboratory results associated with these investigations prompted posting two Danger, one Warning, and several Caution Level Health Advisories at recreational lakes as far north as Eagle Lake, Lassen 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.

More information on harmful algal blooms is available at

<https://mywaterquality.ca.gov/habs/>

CAUTION

Harmful algae may be present in this water.
For your family's safety:

- You can swim in this water, but **stay away from algae and scum** in the water.
- Do not** let pets and other animals go into or drink the water, or eat scum on the shore.
- Keep children away** from algae in the water or on the shore.
- Do not** drink this water or use it for cooking.
- For fish caught here, **throw away guts and clean fillets** with tap water or bottled water before cooking.
- Do not** eat shellfish from this water.

Call your doctor or veterinarian if you or your pet get sick after going in the water.
For information on harmful algae, go to mywaterquality.ca.gov/monitoring_council/cyanohab_network
For local information, contact:

warns the public that harmful algae blooms (HABs) may be present in the water, and warns against drinking, cooking, or swallowing water, including not allowing pets or small children to access the water. The caution level advisory remained in place after lab results indicated the presence of potentially toxin-producing cyanobacteria cells at both sample locations and a low detection of a toxin in the scum sample collected from Gallatin Marina. The Lahontan Water Board also provided general awareness HAB signs to the Eagle Lake Guardians and US Forest Service - Eagle Lake Ranger District for placement at shoreline day use/access areas.

LOOK OUT FOR HARMFUL ALGAL BLOOMS

A harmful algal bloom (HAB) is an overgrowth of algae in a water body that could affect water quality and aquatic life. Some HABs produced by bacteria can create toxins that may also harm people, animals, and the local environment.

HOW TO IDENTIFY A HARMFUL ALGAL BLOOM
Algal blooms can make the water appear green, blue, brown, gold, or red.

Looking colors, scum, mats, foam, or patch-like clouds in the water or clumps on the shore may indicate a bloom. However, only professional water testing can confirm if HABs and toxins are present. States often have monitoring programs for this purpose.

SYMPTOMS OF EXPOSURE
Very depending on how the person or animal was exposed, and whether the HAB is in salt or fresh water.

EXPOSED?
Shower immediately. See a doctor or vet if symptoms occur.

- Let, use, smell, skin, and throat irritation, and headache
- Fevers, respiratory illness, and aches
- Red, itchy, and swollen skin
- Drinking, bathing, swimming, and eating, vomiting, diarrhea, and vomiting

WHEN IN DOUBT, STAY OUT!
Stay away from the water when a suspected HAB is present.

DO NOT swim or play in the water
DO NOT let animals drink water or eat algae or scum
DO NOT drink water
DO NOT fish or shellfish
DO NOT eat or drink

FOR MORE INFORMATION OR TO REPORT POSSIBLE HARMFUL ALGAL BLOOMS: (844) 729-6466 | <https://mywaterquality.ca.gov/habs/> CA HABS PORTAL EPA