



EXECUTIVE OFFICER'S REPORT
October 1, 2021 – October 31, 2021

Contents

1. Personnel Report – *Sandra Lopez* 1

2. Regional Harmful Algal Bloom Program Update – *Sabrina Rice* 2

 Pre-Holiday Assessment 5

 Benthic Mats (Toxic Algal Mats) 6

3. Updates on Studies of Land Subsidence and Cannabis Water Use from MWA TAC
 – *Anna Garcia* 7

4. Senate Bill 9 and Onsite Wastewater Treatment Systems (OWTS) Policy
 – *Molina Hauv* 8

State and Regional

1. Personnel Report – *Sandra Lopez*

New Hires

- Mo Loden, Environmental Scientist, Non-Point Source Unit, South Lake Tahoe. This position will provide support on NPS Program Management, the 319-grant program, and regional grazing.
- Daniel McClure, Water Resource Control Engineer, Planning and Assessment Unit, South Lake Tahoe. This position will provide support in the 303d (TMDL) and Basin Planning programs, including the West Fork Carson River Vision Project, Tribal Beneficial Uses designations, and the 2026 Integrated Report cycle.

Vacancies

- Environmental Program Manager I (Supervisor), Compliance and Planning Division, South Lake Tahoe. The incumbent manages the Division consisting of the following technical programs: Basin Planning & Assessment, Surface Water Ambient Monitoring Program, Non-Point Source, Forestry/Dredge & Fill, Lake Tahoe Total Maximum Daily Load (TMDL), and Regional Monitoring/Climate Change coordination.

- Environmental Scientist, Non-Point Source Unit, South Lake Tahoe. This position will coordinate closely with interagency partners and the Tahoe Science Advisory Council to assess Lake Tahoe nearshore conditions and other factors influencing Lake Tahoe water quality and clarity, and aquatic invasive species. The incumbent will also help identify outstanding information needs for future work and coordinate applicable implementation actions, including those associated with implementation of the Lake Tahoe TMDL.
- Sr. Engineering Geologist Specialist, Leviathan Mine, South Lake Tahoe. This position will evaluate and provide advice to Water Board management regarding the Water Board's cleanup and abatement actions needed at the Leviathan Mine to comply with the USEPA's Administrative Abatement Action Order.

Departures

- Doug Carey, Senior Engineering Geologist (Specialist), Leviathan Mine Unit, South Lake Tahoe, has retired after 20 years of state service.

North Lahontan Region

2. Regional Harmful Algal Bloom Program Update – *Sabrina Rice*

Freshwater Harmful Algal Bloom (FHAB) Monitoring and Response Program Implementation Plan 2021 – 2023

With funding to support three new FHAB positions at the regional level, two at the State Board level, and the need to implement The Freshwater and Estuarine Harmful Algal Bloom Bill ([AB 834](#)), Region 6 worked with Regions 1 and 5, and FHAB program staff at the State Board to draft the FHAB Monitoring and Response Program Implementation Plan (Implementation Plan). The Implementation Plan describes how the preliminary FHAB Program will be structured under the Surface Water Ambient Monitoring Program (SWAMP) and identifies Program priorities for July 2021 – December 2023. The Implementation Plan (1) builds the preliminary structure of the FHAB Program, (2) identifies priority elements to be developed and implemented by the Regional and State Boards' FHAB Team, (3) provides a needs assessment that identifies programmatic and resource gaps, (4) prioritizes the use of contract funds, and (5) implements the initial program - all elements that will satisfy the requirements prescribed in AB 834.

2021 Harmful Algal Bloom (HAB) Response to Date

This year's efforts included the assessment of new and recurring blooms; a regional special study to evaluate the effectiveness of a non-chemical control measure for nuisance blooms of algae and cyanobacteria; the development of risk criteria that can be used to predict incidence of HABs for high-elevation lakes; incidence response, integration of HAB analysis into ambient monitoring by coordinating with regional SWAMP staff, and a partnership with the SWAMP Bioassessment Program to perform algal mat sampling at various locations throughout the State. Collectively, these individual elements of the Water Board's 2021 HAB effort led to taking 160 samples at 36 different waterbodies across the Region, resulting in 22 advisories. Table 1 below represents all waterbodies that resulted in advisories this season.

Sampling Entities defined:

Alpine Watershed Group (AWG); California Department of Fish and Wildlife (CDFW); Department of Water Resources (DWR); Inyo County of Environmental Health (ICEH); Los Angeles Department of Water and Power (LADWP); San Bernardino County Parks (SBCP); South Tahoe Public Utility District (STPUD); Tahoe Keys Property Owners Association (TKPOA); Tahoe Paradise Park (TPP); Walker River Irrigation District (WRID); Water Board staff – South Lake Tahoe (WB-SLT) or Victorville (WB-VVL).

Table 2.1: 2021 waterbodies listed from North to South, where an advisory was recommended.

Waterbody / County	Sampling Entity	Purpose sampled	Month of HAB Incident	Advisory Recommended
Donner Pond / Nevada	WB-SLT	Dog Illness Report	Aug	Caution
Lake Tahoe / Placer and El Dorado	WB-SLT	Incidence Response	Sept - Oct	Caution
Tahoe Keys / El Dorado	TKPOA	Laminar Flow Effectiveness Monitoring Study	June - Sept	Caution
Lake Baron / El Dorado	TPP and WB-SLT	Human Illness Report	Aug - Sept	Caution
Big Meadows Creek / El Dorado	CDFW	SWAMP and CDFW Bioassessment Program	July	Caution
Indian Creek Reservoir / Alpine	STPUD	Pre-Holiday Assessment	Aug	Caution
Charity Valley Creek / Alpine	CDFW	SWAMP and CDFW Bioassessment Program	July - Oct	Caution
Wet Meadows Reservoir / Alpine	AWG	Incidence Response	Aug	Caution, based on visual observation
Sardine Creek / Mono	CDFW	SWAMP and CDFW Bioassessment Program	Sept	Caution
Bridgeport Reservoir / Mono	WRID and WB-SLT	Pre-Holiday Assessment	July - Aug	Danger
West Walker River / Mono		Location was not sampled	Sept	Caution, based on visual observation
Virginia Creek / Mono	CDFW	SWAMP and CDFW Bioassessment Program	Sept	Caution
Hummingbird Lake / Mono		Location was not sampled	Aug	Caution, based on visual observation

Waterbody / County	Sampling Entity	Purpose sampled	Month of HAB Incident	Advisory Recommended
Deadman Creek / Mono	CDFW	SWAMP and CDFW Bioassessment Program	Sept	Caution
Crowley Lake / Mono	LADWP, WB-SLT, and WB-VVL	Pre-Holiday Assessment	Aug	Danger
Ruby Lake / Inyo		Location was not sampled due to forest closure	Sept	Caution, based on visual observation
Long Lake / Inyo		Location was not sampled due to forest closure	Sept	Caution, based on visual observation
Diaz Lake / Inyo	ICEH	Pre-Holiday Assessment	Aug	Caution
Quail Lake / Los Angeles	DWR	Regular monitoring is performed in all DWR lakes	Sept	Danger
Silverwood Lake / San Bernardino	DWR and WB-VVL	Regular monitoring is performed in all DWR lakes	Sept	Warning
Lake Gregory / San Bernardino	SBCP	Pre-Holiday Assessment	July	Caution, based on visual observation

Compared to the 2020 season, in 2021 36 waterbodies were sampled this season, which was an increase of 20 waterbodies sampled, coupled with three additional health advisories including one danger level advisory. In 2021 we received our first suspected human illness related to HABs at Lake Baron in El Dorado County, but the illness is still under investigation by the HAB Related Illness Workgroup. We did not have any confirmed dog deaths this year but had one confirmed illness. Staff continued to increase the efficiency of the incident response program including communicating applicable recreational health advisories. Figure 2.2 shows the intensity of a HAB outbreak resulting in a danger (most severe) advisory and a posting of a caution level health advisory.



Figure 2.2: Photo of Crowley Lake on the left and Lake Baron on the right. Samples taken at Crowley Lake resulted in a danger advisory. Lake Baron placed a caution advisory after a suspected human illness and lab results confirming caution level HAB.

Pre-Holiday Assessment

The HAB Program has historically focused on incident response but in 2018 pre-holiday assessments were added to the program to evaluate water safety at popular recreational waterbodies prior to the busy Labor Day weekend. This year the coordinated statewide effort involved sampling prior to three major holiday weekends to investigate water quality at select surface waters prior to the Memorial Day, Independence Day, and Labor Day weekends. To help with this increased effort, staff successfully enlisted three new Lahontan region partners who assisted with monitoring during the pre-holiday assessments. With the addition of Walker River Irrigation District, Tahoe Paradise Park, and Friends of the Inyo, partnerships throughout the region total 11 collaborations to date.

Figure 2.3 depicts a screenshot of the HAB Incidence Report Map prepared in conjunction with the pre-holiday assessments used to alert the public about health advisories at water bodies prior to holiday weekends.

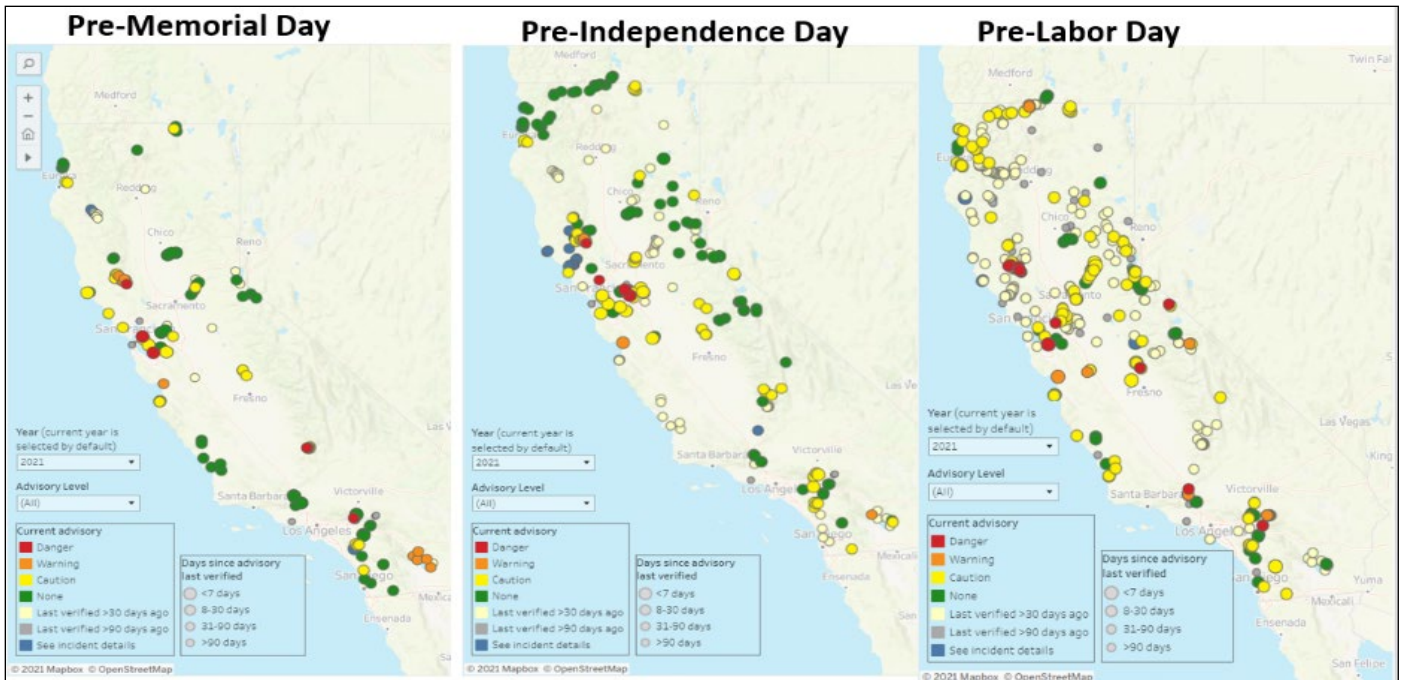


Figure 2.3: Screenshots of the Harmful Algal Bloom Incident report map on the Thursday prior to Memorial Day, Independence Day, and Labor Day.

Benthic Mats (Toxic Algal Mats)

While HABs are caused by algae or cyanobacteria that grow suspended in the water column (planktonic), some algae grow attached to the bottom (benthic) and can form algal mats. Some species can produce toxins, and if present, can pose a risk to humans and pets. Algal mat sampling increased this year across the state, as well as within our region due to the State Board’s partnership with the SWAMP Bioassessment Program and California Department of Fish and Wildlife. Currently the California Cyanobacteria and HAB Network do not have any toxin trigger levels for toxic algal mats, and a risk assessment study is needed to accurately depict the level of danger these mats pose to recreators. As a precaution when algal mats are visually observed signage can be placed at a waterbody. Algal mat samples were taken within Lake Tahoe and at Big Meadows Creek, Charity Valley Creek, Sardine Creek, Virginia Creek, Deadman Creek, Rock Creek. All results except Rock Creek indicated detectible levels of toxins and prompted toxic algal alert/caution advisories.

Next steps

As the incidence of HABs decrease with the onset of cooler temperatures and less daylight hours, staff is directing their focus from coordinating monitoring efforts to planning for the 2022 HAB season. Staff are working to expand collaborative partner agency monitoring; implement regional monitoring partnerships with more federal/state/local agencies, Tribes, waterbody managers; improve data management and decision support tools; and develop and refine data analysis and visualization tools.

3. Updates on Studies of Land Subsidence and Cannabis Water Use from MWA TAC – Anna Garcia

The purpose of this article is to provide the Lahontan Water Board with information presented at the Mojave Water Agency (MWA) Technical Advisory Committee (TAC) meeting on October 7, 2021. Items covered at the MWA TAC meeting included updates on the long-term United States Geological Survey (USGS) subsidence monitoring project and the ongoing cannabis water use study for the MWA Service Area.

Justin Brandt, geophysicist with the USGS California Water Science Center, provided a status update on the ongoing land subsidence monitoring study implemented for the MWA Service Area. Land subsidence, or the gradual settling or sinking of land surface, can result in damage to infrastructure such as roads, runways, and canals, and even damage aquifer systems. Groundwater pumping and water level declines can lead to compression of thick clay layers within an aquifer system, resulting in permanent land subsidence, aquifer compaction, and decreased aquifer storage capacity. Dry lake beds are generally characterized by thick clay units and, over the course of the 30-year USGS study, land subsidence has been documented in five localized areas near the dry lakebeds of El Mirage Dry Lake, Harper Dry Lake, Coyote Dry Lake and Troy Dry Lake of Region 6 and Lucerne Dry Lake of Region 7. From the early 1990s to the late 2000s, subsidence rates declined at El Mirage and Harper Dry Lakes from approximately 0.4 inches per year (in/yr) to 0.25 in/yr, respectively. Lucerne Dry Lake saw the largest decline in subsidence rate from roughly 0.6 in/yr in the early 1990s to 0.25 in/yr in the late 2000s. Coyote Dry Lake has maintained a stable rate of subsidence at approximately 0.4 in/yr since the early 2000s. The subsidence rate increased at Troy Dry Lake from 0.15 in/yr in the early 1990s to 0.6 in/yr in the late 2000s. Areas with thick clay layers can experience ongoing residual compaction for decades. The most recent USGS report on subsidence in the MWA Service Area is available online at <https://ca.water.usgs.gov/mojave/mojave-subsidence-2014-2019.html>.

Robert Wagner, the Mojave Basin Area (MBA) Watermaster Engineer, provided an update on the quantitative water demand study initiated to estimate water use associated with cannabis grow sites in the Mojave region. Based on analyses of aerial imagery, the number of greenhouse cannabis sites doubled, the number of cannabis outdoor grow sites decreased by half, and the number of active hemp sites tripled from October 2020 to June 2021. Reportedly, the net area under cultivation has increased from 384 acres in October 2020 to 932 acres in June 2021. The 932 acres under cultivation are estimated to have an annual water requirement of 4,006 acre-feet. Due to concerns raised regarding increased groundwater pumping associated with cannabis cultivation and difficulties in collecting fees to replenish groundwater basins, ongoing efforts are being made to have parties pumping outside of the MBA Adjudication, or without water rights, join or stipulate to the Judgment. Reportedly, the work will involve four phases: 1) identification of parties pumping outside of the Judgment, 2) quantification of water use, 3) notification of the parties identified to help them understand the options available under the MBA Adjudication, and 4) legal action. Should legal action be required, the actions are anticipated to begin in Summer 2022.

Other business was also discussed. The next TAC meeting is scheduled for December 16, 2021.

4. Senate Bill 9 and Onsite Wastewater Treatment Systems (OWTS) Policy

– *Molina Hauv*

The Senate Housing Package is a series of bills implemented by the California Legislature with the intent of encouraging affordable housing in California. These bills provide more opportunities for housing and promotes infill growth in neighborhoods. Senate Bill 9 (SB 9) is a product of this effort, streamlining the process for a homeowner to subdivide their lot to add additional accessory dwelling units (ADUs) or junior accessory dwelling units (JADUs). SB9 applies on parcels located within cities. The components of the OWTS Policy that are potentially affected by this bill are any new or expanded OWTS covered in Local Agency Management Plans (LAMPs) under Tier 2 or within Tier 1.

On October 28, 2021, the State Water Resources Control Board released an internal guidance addressing SB 9 and its interactions with the Onsite Wastewater Treatment Systems (OWTS) Policy. The OWTS Policy is the framework used to regulate the majority of OWTS in the state and helps reduce the need for individual permitting of individual disposal systems.

Septic systems addressed in SB 9 can still be covered by the OWTS Policy if they meet the OWTS Policy criteria. Under the OWTS Policy, Tiers 1 and 2 refers to the approvals of “new or replacement OWTS.”

- Entities governed by Tier 1 do not have an approved Local Agency Management Program (LAMP). Tier 1 does not directly address allowable density. If there are groundwater quality or density concerns involving a new or replacement system, the Regional Water Boards may need to consider the proposal on a case-by-case basis.
- Entities governed by Tier 2 have a LAMP approved by a Regional Water Board. The LAMP provides local agencies with the authority to design local requirements for OWTS that will protect water quality and public health, and the Regional Water Boards retain the authority to approve LAMPs (or LAMP amendments).

Although SB 9 includes a legislative finding that access to public housing is a statewide concern, local agencies have broad land-use authority based on the power to protect public health, safety, and welfare, and their adopted statutes and ordinances governing such use. The Water Boards retain regulatory authority over wastewater discharges and whether plans for wastewater disposal pose a threat to water quality; this includes assuring consistency with such plans and the adopted OWTS Policy requirements.

SB 9 includes a section that directs ministerial approval of a parcel map for an urban lot split in a single-family residential zone if it meets certain requirements. The requirements include taking into consideration the sizes of the resulting lots (minimum of 1,200 square feet for each lot), assuring the lots are not in protected areas such as prime farmland or wetlands, and does not affect specified types of existing housing. Any new subdivided lots that need to be serviced by an OWTS still need to meet the criteria for new or replacement systems, as outlined in the OWTS Policy or the applicable LAMP. An OWTS submitted for approval under a Tier 2 entity may include local site evaluation, siting, design, and construction requirements that may differ slightly from Tier 1 (Sections 7 and 8 of the OWTS Policy). For example, San Bernardino County’s

LAMP (governed by Tier 2), specifies a combination of criterion for new or replacement OWTS including site setbacks (e.g., minimum distances from wells), availability of space, soil investigation, and density requirements for new developments (e.g., minimum lot size of half an acre per dwelling unit).

SB 9 will likely lead to an increase in applications for ADUs and JADUs, as well as OWTS to support these projects. Tier 1 and Tier 2 entities will still follow their guidelines in the applicable LAMP or OWTS Policy, but any concerns regarding water quality will likely be forwarded to the appropriate regional board.

