EXECUTIVE OFFICER'S REPORT
November 1, 2023 – November 30, 2023

Contents

1. Personnel Report – *Sandra Lopez, Ben Letton*

New Hires

- Luis Gomez, Engineering Geologist, Land Disposal Unit, Victorville. This position will oversee waste discharges to land and site investigation/cleanup at various types of regulated and unregulated facilities including landfills, mines, composting facilities, cement plants, and site clean-up sites.

Vacancies

- Engineering Geologist, Department of Defense Unit, Victorville. This position will oversee site investigations and cleanups at Department of Defense sites in the South Lahontan area and respond to spills and complaints, as necessary.

- Senior Water Resource Control Engineer (Supervisor), South Lake Tahoe. This position will oversee the Regulatory and Enforcement unit. The unit is responsible for implementing the Water Board's regulatory and compliance programs within the North Lahontan Region and, under certain circumstances, throughout the Lahontan

Region (e.g., National Pollutant Discharge Elimination System (NPDES) Program for Fish Hatcheries, Aquatic Pesticides application).

Superior Accomplishment Awards

A Sustained Superior Accomplishment award is given to an individual or a team that has shown the following within a 24-month period:

- Outstanding and superior achievement
- An important contribution to science or research
- An unequaled personal effort in over-coming unusual circumstances
- Completion of a complicated task in a significant shorter period of time
- Major improvement in methods, organization, procedures, or products

Adam Henriques, Environmental Scientist, Forestry Dredge & Fill Unit

The Lahontan Water Board's South Lake Tahoe office management team is pleased to award Adam Henriques with a Superior Accomplishment Award. Adam is an Environmental Scientist who has been recognized for his outstanding performance both by his supervisor and his peers. He joined Lahontan in 2020 and is a key member of the Compliance and Planning Division's Forestry/Dredge & Fill Unit.

During the majority of 2022, the Forestry/Dredge & Fill Unit was undergoing leadership change at the supervisor level, Adam stepped up to the task of being de-facto Unit lead as a technical staff member. Through his efforts as the interim lead, he demonstrated exemplary leadership/communication skills, smoothed out a potentially rough leadership transition, and helped the new supervisor hit the ground running.

Adam has been the Forestry Program Manager and lead technical staff for more than a year and has been instrumental in leading the coordination effort with our federal land management agencies, CALFIRE, private timber companies and other stakeholders. By carefully strategizing and executing an informal enforcement strategy, Adam has quickly fostered excellent working relationships with and brought our historically recalcitrant federal partners back into compliance with our Basin Plan and water quality standards.

In August 2022, Adam led the efforts to complete the Forestry Strategy—a regional internal policy level document that will continue to influence Forestry staff’s workplan prioritization for many years to come.

Adam is recognized by his colleagues as a go-to person to answer technical questions about forestry and dredge/fill related questions, as well as answer anything water quality related. His attention to detail and collaborative efforts are unmatched. Additionally, external stakeholders federal partners enjoy his professionalism and dedication to protecting water quality and beneficial uses.

Photo 1:1: Adam Henriques (center) presented with the Superior Accomplishment award from Supervisor, Trevor Miller, Sr. WRCE (rt) and Board Member, Dr. Amy Horne (left).

Eric Shay, Staff Services Manager I, Administrative Unit

The Lahontan Water Board's South Lake Tahoe office management team is pleased to award Eric Shay with a Superior Accomplishment Award. Eric is a Staff Services Manager I and the Administrative Officer at the Lahontan Water Board. Eric was nominated and received this award for two huge efforts that he made within the past year.

The first effort was a series of reclassifications and in place promotions that he was able to execute for a large portion of our administrative staff: three Office Technician positions to Staff Service Analysts (SSA), one SSA to Associate Governmental Program Analyst (AGPA), and one Executive Assistant to AGPA. All of these reclassification and promotions have been needed for some time due to the higher-level technical work that are required from these staff (e.g., ADA remediation). These promotions have resulted in higher wages,

increased morale among staff, improved accuracy and quality of work, improvement to organizational efficiencies, as well as process and procedures.

The second major accomplishment by Eric that is deserving of this award is related to the work that he has done over the past year to respond to issues and work needed for our South Lake Tahoe office facilities. He has regularly communicated with the DAS facilities contact, property manager, and numerous vendors on construction and repair projects that were needed, due largely to damage sustained during the 2022-2023 record winter. He met with DGS contacts to provide timely investigation, documentation, and feedback on work progress. This work also involved routinely meeting with vendors to discuss project scope, progress, and issues, and to provide clarification where needed. Eric also coordinated and communicated directly with our staff to help facilitate removing personal items and equipment from cubicles during construction activities and also provided weekly updates to staff on construction/repair status and projected timelines for completing repairs.

Thank you, Eric, for your amazing work and dedication to the entire Lahontan Team!!

Photo 1:2: Eric Shay (center) presented with the Superior Accomplishment award from Supervisor, Ben Letton, Assistant Executive Officer, and Board Member, Dr. Amy Horne (left).

2. Highlights from the Fall 2023 Groundwater Sustainability Agency Forum
– Anna Garcia

The purpose of this article is to provide the Lahontan Water Board with highlights from the Fall 2023 Groundwater Sustainability Agency Forum (GSA Forum), a virtual event hosted by the California Department of Water Resources (DWR) on November 9, 2023. The GSA Forum series was established by DWR to help Groundwater Sustainability Agencies (GSAs) engage and exchange ideas related to implementation of the Sustainable Groundwater Management Act (SGMA). The theme of the Fall 2023 GSA Forum was *Well Management Approaches: from Enhancing Local Understanding to Leveraging Local Coordination* and topics discussed included well permitting efforts, development of well registration processes, and streamlining of well inventory programs.

Ben Brezing, of DWR's Sustainable Groundwater Management Office (SGMO) Data Unit, noted that well inventories are fundamental to groundwater management and reported that current well inventories identify over 300,000 production wells statewide, including domestic wells, agricultural wells, and public supply wells. DWR hosts online well data systems that track well data, including the Online System for Well Completion Reports (OSWCR), the California Statewide Groundwater Elevation Monitoring System (CASGEM), the SGMA Portal, and the Dry Well Reporting System. Although the current inventory is the most complete, it does have data gaps, for example, OSWCR does not contain Well Completion Reports (WCRs) for every well in the state and OSWCR does not track the operational status of wells aside from the original construction and reported modifications or destructions. To improve well inventories and the quality of data collected, DWR has been collaborating with the State Water Board and the California Water Data Consortium on developing minimum data quality standards, streamlining existing workflows to maintain the data inventories, and physically labeling wells with a well identification number to minimize confusion when accessing the well in the field for measurements or monitoring.

Steven Springhorn, leader of DWR's SGMO Technical Assistance Section, reported that DWR identifies 515 groundwater basins in the state that cover 40% of the land area of California. Over 80% of Californians live in these groundwater basins, 94% of all groundwater pumped in California comes from these basins, and almost all irrigated agricultural lands in California are located within these basins. Groundwater does exist outside of the 515 groundwater basins in areas designated as non-basin areas. These non-basin areas cover 60% of the state, account for 6% of the groundwater pumped in California, contain 53% of the domestic wells in California, and include 60% of the State's Disadvantaged Communities (DACs) and Severely Disadvantaged Communities (SDACs). So far, water level and water quality monitoring associated with SGMA has focused on groundwater basins identified as high- or medium-priority, but focus will shift to expanding monitoring networks into low- and very-low priority basins and the non-basin areas. DWR will increase monitoring efforts and provide support to build a community monitoring presence by working with non-governmental organizations (NGOs), community members, well owners, and others.

To streamline monitoring data collection, DWR reconfigured the CASGEM System to be compatible with the SGMA Portal and now, data are gathered into DWR's Enterprise Water

Management (EWM) Database, a centralized statewide data system. Data are made available through the California Natural Resources Agency Open Data Platform (CNRA Open Data). Data are updated daily and shared through online applications like California's Groundwater Live (CalGW Live) and the SGMA Data Viewer.

Matt Hurley, Plan Manager for the McMullin Area Groundwater Sustainability Agency (MAGSA), described outreach efforts to develop and implement a well registration program for a portion of the San Joaquin Valley - Kings Subbasin in Region 5. MAGSA outreach efforts included working with local Environmental Justice (EJ) advocates to train multi-lingual graduate students from California State University, Fresno (Fresno State) to implement a door knocking campaign to inform local landowners about the well registration program. Recognizing that sometimes, these types of outreach efforts can be dangerous, the training provided practical survival skills like how to approach people, what to wear, and even what kind of stick to carry. Ultimately, their outreach program got landowners interested in MAGSA's efforts and even got some folks to join their stakeholder groups.

The online well data systems that DWR maintains serve as valuable resources for water quality data, well construction information, and groundwater level data. Staff will support and track DWR efforts to extend monitoring networks into the low- and very-low priority basins and non-basin areas of Region 6. Staff will also seek opportunities to work with EJ and other local advocacy groups when preparing for outreach events and possible future door knocking campaigns.

3. **Upper Owens River Watershed Mercury Investigation Update** – *Dan Sussman*

Concentrations of mercury (Hg) exceeding the relevant water quality and fish tissue objectives set to protect human health and the environment have been found in several surface waters in the Upper Owens River Watershed (UORW), Mono County. Crowley Lake Reservoir and its tributaries are a premier trout fishing and recreational boating destination in Mono County. Table 3.1 lists five surface waters that are 303(d) listed as impaired because mercury contamination prevents the attainment of beneficial uses.

To better understand the nature and extent of Hg contamination in the UORW, Water Board staff deployed a sampling program to collect stream sediment, fish tissue, and water quality samples in 2021 and 2022 from tributaries and the Crowley Lake Reservoir. The samples were analyzed for elemental Hg and Methyl Mercury (MeHg) to determine: 1) the source of the contamination, 2) if tributaries are transporting Hg laden sediments to the reservoir, and 3) to what extent the reservoir fishery is impacted by Hg and MeHg.

During the 2021 field season staff collected stream sediment samples from the Owens River and tributary sites, Mammoth Creek, Mill City Tributary and Hot Creek, and the Crowley Lake Reservoir. Based on the 2021 results, staff collected additional samples located in the Mammoth Creek, Hot Creek, and Upper Owens River sub-watersheds in 2022. No additional samples were needed in Crowley Lake Reservoir due to the low Hg levels detected during the 2021 sampling event. A limited number of Arsenic and Lead sediment samples were added as part of the 2022 sampling event due to the known source of these contaminants from the Old Mammoth Stamp Mill site (an abandoned mine and mill site on

US Forest Service land). Sample locations for 2021 and 2022 are shown in Figures 3.1. All samples were sent to Moss Landing Marine Laboratories (MPSL/MLML) for analysis.

Field Investigation Results in Detail

2021 Sampling Event

Results from 2021 field season indicate Hg concentrations in sediment within Mammoth Creek and Hot Creek below the Old Mammoth Stamp Mill exceed the sediment criteria. Consultation with Hg experts in other Water Board regions highlights that the concentrations of Hg detected are indicative of mine tailings in the creek channels. In addition, while there are Hg impacts in Crowley Lake Reservoir, presently they do not rise to a level which impairs COMM beneficial uses. COMM was originally included for Crowley Lake out of an abundance of caution given the use of the Lake for recreational fishing. Regional Board Staff consulted with the Office of Health Hazard Assessment (OEHHA) which confirmed that a fish advisory for Crowley Lake Reservoir was not needed. The 2026 Integrated Report will assess the 2021 Hg data collected from Crowley Lake Reservoir and the 303(d) list will be updated likely removing impairment of the COMM beneficial use.

2022 Sampling Event

Analysis of the 2022 data is consistent with the 2021 data and indicates the source of Hg is the Old Mammoth Stamp Mill, illustrated by high concentrations of Hg and MeHg within the tributary downgradient of the Mill in comparison with upstream locations. Staff in the Site Cleanup Unit are currently discussing source removal options with the US Forest Service to address the Hg contamination at the Old Mammoth Stamp Mill. Additional updates regarding the status of this action will be provided at a future date.

Next steps

No additional sampling is recommended, given the source of the impairments is likely the Old Mammoth Stamp Mill which will be addressed by the Regional Board Site Cleanup Unit. Under the Clean Water Act (CWA), U.S. EPA regulations recognize that alternative pollution control requirements may obviate the need for a TMDL if the contamination is being adequately addressed through another regulatory program. Specifically, segments are not required to be included on the Section 303(d) list if “[o]ther pollution control requirements (e.g., best management practices) required by local, State, or Federal authority” are stringent enough to implement applicable water quality standards (WQS) (see 40 CFR 130.7(b)(1)) within a reasonable time period. These alternatives to TMDLs are commonly referred to as Category 4b waters. Regional Board staff will prepare a 4b request to U.S. EPA in advance of the 2026 Integrated Report package that demonstrates how cleanup actions by the USFS will remediate the Hg contaminant source and ultimately achieve compliance with water quality and tissue objectives for the water bodies listed within the UORW. Post cleanup tributary sampling downgradient of the Old Stamp Mill site will inform whether Hg concentrations are indeed trending below the regulatory criteria for human health and ecological protection. Should those data indicate that Hg concentrations are not trending downward, additional data collection should be evaluated. Further, Crowley Lake

Reservoir will remain listed for WILD beneficial use because cleanup of the Mill site will not remove existing contamination in the reservoir. To address Crowley Lake's listing, would require development of a separate water quality implementation.

Table 3.1: 303(d) listings for mercury in the UORW

Waterbody Name	Waterbody Identification Number (WBID)	Year 303(d) Listed	Beneficial Use (BU) Impaired	Max Sampled Hg.: water ug/L; tissue mg/Kg	CTR Water Quality Objective Hg water ug/L; COMM Water Quality Objective tissue mg/Kg
Mammoth Creek (Twin Lakes Outlet to Old Mammoth Rd)	CAR6031005120080816102743	2006	MUN COMM WILD	H_2O: 0.08 Tissue: 0.29	H_2O: 0.05 Tissue: 0.20
Mammoth Creek (Old Mammoth Rd to HWY 395)	CAR6031005320080816102036	2006	MUN COMM WILD	H_2O: 0.14 Tissue: 0.42	H_2O: 0.05 Tissue: 0.20
Mill City Tributary	CAR603100512-0080630162428	2010	MUN	H_2O: 0.30	H_2O: 0.05 Tissue: 0.20
Hot Creek (Mono County)	CAR603100402-0170721056270	2018	MUN COMM WILD	H_2O: 0.13 Tissue: 0.20	H_2O: 0.05 Tissue: 0.20
Crowley Lake Reservoir	CAL6031009019980806103521	2018	COMM WILD	Tissue: 0.62	H_2O: 0.05 Tissue: 0.20

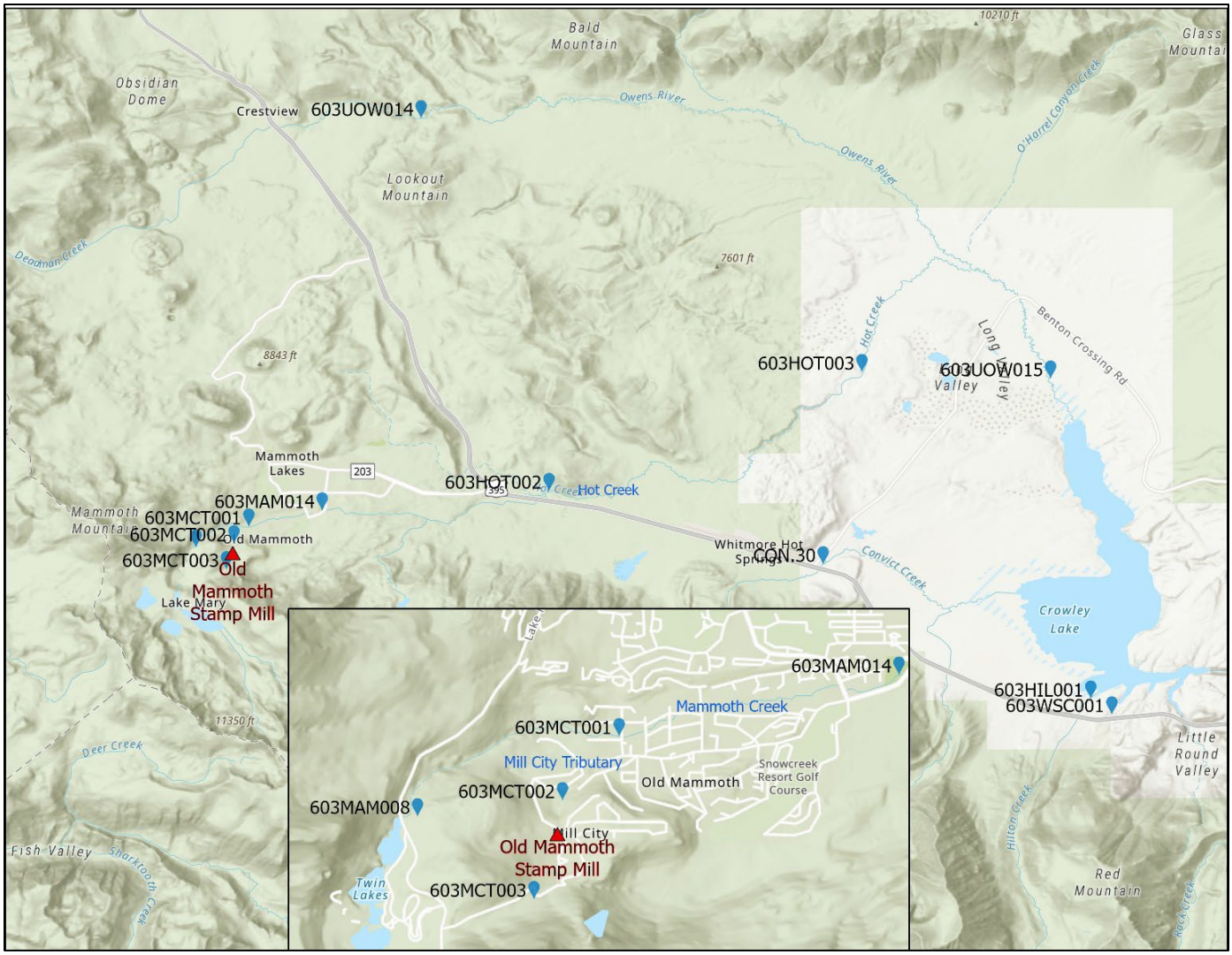

Figure 3.1: Investigation Sampling locations

4. **Former George Air Force Base, Victorville, San Bernardino County, CERCLA Five-Year Review - Remedies Not Protective, Base Tour, Path-Forward Meeting**
– Alonzo Poach, Lorien Sanders, Molina Hauv

During the most recent Five-Year Review at former George Air Force Base (AFB), Air Force and the United States Environmental Protection Agency (EPA) determined that several of the existing remedies are not protective of human health and the environment including the Operable Unit (OU) 1 CG070 trichloroethylene (TCE) and the OU3 OT069 TCE groundwater plumes (see Figure 4.1, Extent of Groundwater Plumes 2021). Protectiveness is generally defined in the National Contingency Plan (NCP) by the risk range for carcinogens and the hazard index (HI) for non-cancer effects. A Five-Year Review is required at George AFB by the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). The purpose of the Five-Year Review process is to evaluate the performance and protectiveness of remedies formally adopted in CERCLA decision documents (e.g., Records of Decision). With EPA's findings that several of the remedies were not protective a meeting

was requested to begin working on a schedule to select or restart protective remedies for the site.

The meeting requested by EPA was held on November 7 and 8, 2023. Air Force, EPA, the California Department of Toxic Substances Control (DTSC), and Lahontan Water Board staff met via Microsoft Teams and in-person at former George AFB for a tour of the former base and to discuss a path forward for basewide remediation (i.e., protective cleanup). Photos from the site tour are below.

The majority of former George AFB has been transferred from Air Force and operates as Southern California Logistics Airport. Other former George AFB property uses include a federal prison, commercial and industrial, two schools, and one church. Air Force is in the process of awarding contracts for continued assessment, feasibility studies, and remediation work. The status of remaining property transfer from Air Force, the Air Force's petition regarding City of Adelanto Wastewater Treatment Plant, and general redevelopment at former George AFB were also discussed. Post-meeting follow-up items include non-urgent administrative and document-related tasks. Notably, Air Force, EPA, DTSC and Lahontan Water Board staff agreed to meet routinely for status updates and continue regular meetings to discuss site progress and document submittals.

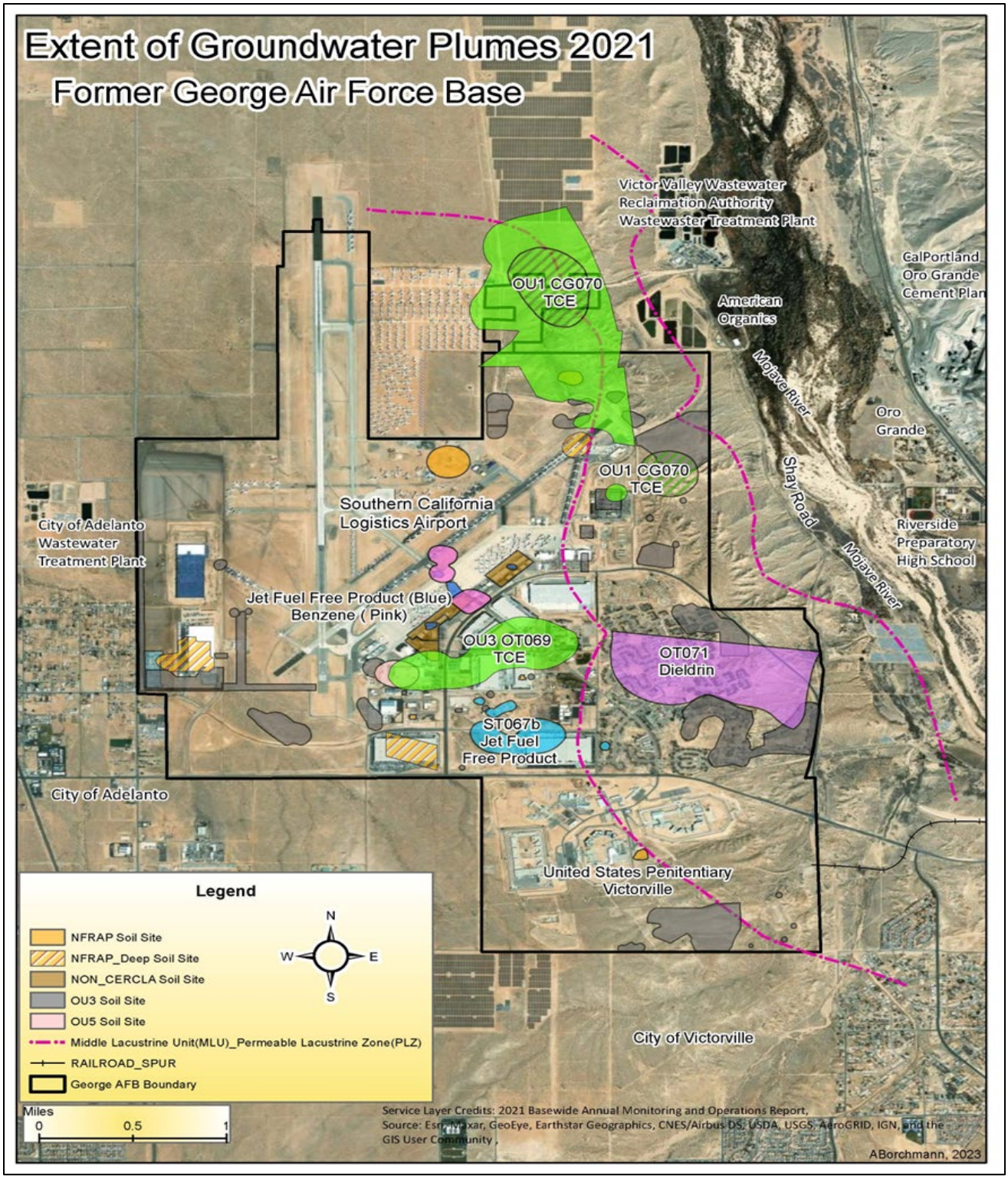

Figure 4.1: Extent of Groundwater Plumes 2021. Aerial map illustrating the groundwater plumes located on Former George Air Force Base.

Photo 4.1: A portion of the airfield of Former George AFB, currently Southern California Logistics Airport.

Photo 4.2: Transferred property, owned by Federal Bureau of Prisons: former munitions site.

Photo 4.3: Transferred property, owned by a private developer: former housing area slated for warehouse redevelopment.

Photo 4.4: Air Force, EPA, and Lahontan Water Board staff during basewide tour. This picture is taken at the site of a remediation treatability study using in-situ carbon (Plume Stop by Regenesis). Names and association of those pictures from left to right: Joe Reyna (Air Force), Ana Nieves (Air Force), Calvin Cox (Air Force Contract support), Alonzo Poach (Water Board), Omer Shalev (EPA), Christiana Hewitt (Air Force), Molina Hauv (Water Board), Lorien Sanders (Water Board), John Hopkins (EPA).

5. **Regional Harmful Algal Bloom (HAB) Program Update** – *Sabrina Rice*

Legislative Mandated Report and Program Needs

The Freshwater and Estuarine Harmful Algal Bloom (FHAB) Bill, Assembly Bill 834 (AB 834), mandates an annual report to be posted on the State Board's website before July 1. This report outlines the State's efforts in implementing AB 834, along with staff recommendations aimed at protecting water quality and public health from HABs. The State Board is currently in the process of finalizing the report, which will provide additional insights into program needs identified during the Gap Assessment conducted last year. For reference, you can access the full report from the previous year here: Legislative Mandated

Report: 2022 Water Code Section 13182 (a) Comprehensive Report. The upcoming report will be available on the State Water Board HAB Website.

Currently, there are no water quality objectives in place to address HABs. In February 2019, Assembly Bill 835, which aimed to mandate the Water Boards, in consultation with other agencies, partners, and tribes, to develop minimum standards for HABs to ensure the safety of recreational water bodies, was not approved. This bill has yet to be reconsidered. The Water Boards' Division of Water Quality is currently in the process of developing policies to address biostimulatory conditions by considering statewide water quality objectives for nutrients, other biostimulatory substances, and cyanotoxins, and a program of implementation under the Biostimulation, Cyanotoxins, and Biological Condition Provisions (Provisions). The Provisions could include statewide numeric or narrative water quality objectives and regulatory control options for point and non-point sources in California's freshwater wadeable streams and rivers, non-wadeable streams and rivers, lakes, and reservoirs. These policies are intended to be incorporated into Water Quality Control Plans and permits. However, it remains uncertain whether water quality thresholds for cyanotoxins will be included in the provisions or if there is a specific timeline for completion. The absence of water quality thresholds for evaluating surface water quality across the state of California poses a challenge in assessing and incorporating monitoring requirements into permits and other regulatory measures.

Region 6 Monitoring Efforts and Results Summary

This year, the Region 6 monitoring season spanned from May to November. Due to the heavy snowfall this year, the monitoring season did not begin as early as the previous year, which started in February. A total of 157 samples were collected and funded for analysis to detect the presence of harmful algal blooms from 41 different water bodies in the region. The increase in monitoring that occurred in 2022 was due to additional sampling conducted to evaluate the high levels of toxins present in the Tahoe Keys and an excess in the state level FHAB program lab contract. The figures and tables below provide information regarding the results and health advisories associated with our regional FHAB monitoring conducted during the 2023 season. The tables also provide a snapshot of how the HAB program has evolved over the past 5 years and gives a comparison of occurrence and intensity of FHAB incidents.

Region 6 collaborated with fifteen partners for monitoring during the field season, which included the Eagle Lake Guardians, California Department of Fish and Wildlife, Truckee River Watershed Council , Tahoe Paradise Park, Tahoe Keys Property Owners Association, Alpine Watershed Group, South Tahoe Public Utility District, Walker River Irrigation District, Friends of the Inyo, Inyo County Environmental Health Department, Los Angelous Department of Water and Power (LADWP), Department of Water Resources, San Bernardino County Parks Department, Spring Valley Lake Association, and Green Valley Lake Association. This year we gained a new partner with Spring Valley Lake Association. Region 6 also expanded our partnership with LADWP to include data sharing that will continue in the coming year.

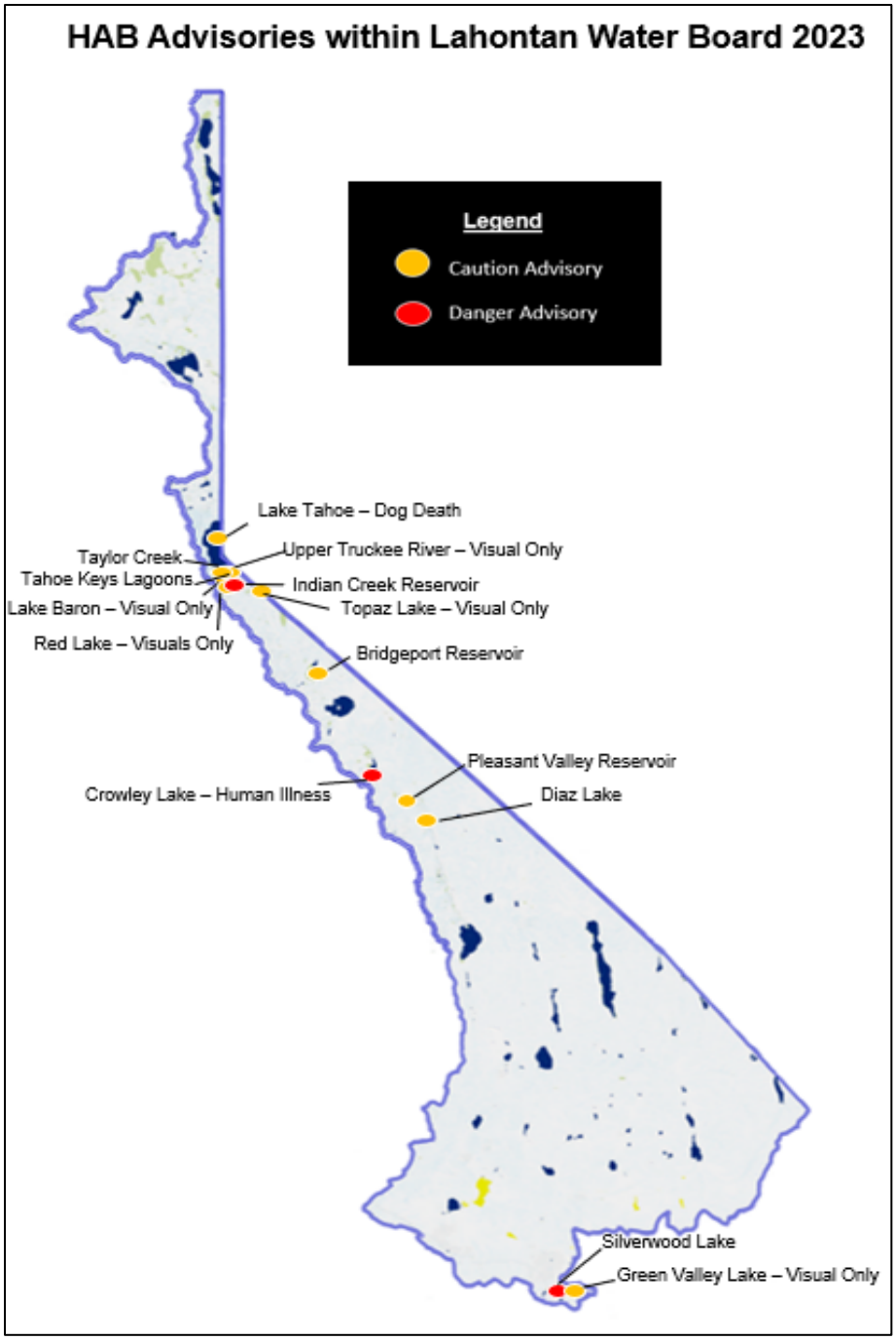

Figure 5.1: Map of waterbodies in the Lahontan region that experienced a HAB advisory in 2023. The map displays the highest advisory level each waterbody reached.

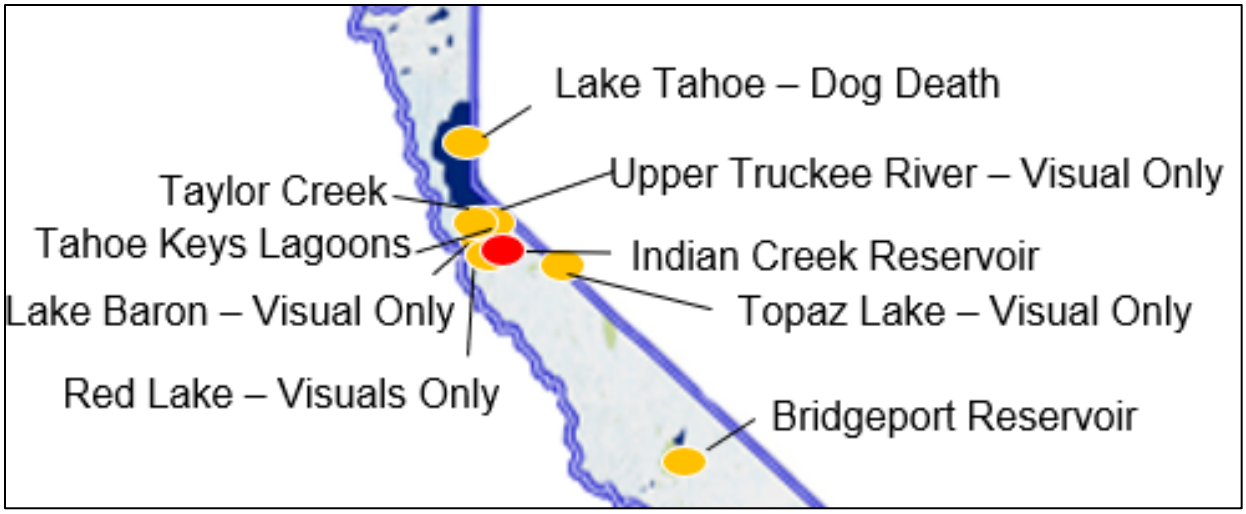

Figure 5.2: Zoomed in portion of the same map shown in Figure 5.1.

Table 5.1: Table comparing HAB advisory recommendations since 2017 and human and animal illness reported and confirmed since 2017.

FHAB Topic	2018	2019	2020	2021	2022	2023
Number of samples collected for HAB analysis in the Region	36	189	143	182	302	171
Number of waterbodies a Caution advisory was recommended	5	7	16	17	15	11
Number of waterbodies a Warning advisory was recommended	0	2	1	1	1	0
Number of waterbodies a Danger advisory was recommended	1	2	2	3	6	3 - (Indian Creek Reservoir, Crowley Lake. Silverwood Lake)
Number of Illnesses Reported that were suspected to be HAB related (human and animal)	0	3 dog deaths	1 dog death 1 dog illness	3 dog illnesses 1 human illness	3 dog illness 2 human illnesses	4 fish kills 1 dog death 2 human illness
Number of Illnesses confirmed to be HAB related by the HAB Illness Workgroup	NA	0	1 dog death 0 dog illnesses	1 dog illness 0 human illness	1 dog illness 0 human illnesses	0 fish kills 1 dog death 1 human illness

This year we continued our efforts across the State to monitor popular waterbodies for HABs prior to Memorial Day, Independence Day, and Labor Day. In the previous season, a larger laboratory budget allowed for a fourth round of holiday assessment sampling, termed the 'post-holiday assessment. The outcome of the monitoring for the pre- and post-holiday assessment is outlined in Table 5.2.

Table 5.2: A table outlining the number of waterbodies sampled for the pre- and post-holiday assessments in 2023 along with the number of recommended advisories during each assessment.

	Memorial Day	Fourth of July	Labor Day	Post-Holiday
Number of waterbodies sampled	9	25	29	18
No advisory recommended	8	22	20	11
Caution advisory recommended	1	3	6	5
Warning advisory recommended	0	0	1	1
Danger advisory recommended	0	0	2	1

Photo 5.1: Two photos of HABs present this season. The photo on the left is of a danger advisory at Crowley Lake. The photo on the right is at Pleasant Valley Reservoir which resulted in a caution advisory due to visual indicators alone.

HAB Illness Workgroup

Humans and animals can become sick after ingesting or contacting HABs, water contaminated with cyanotoxins, or algal mats. Cyanotoxins may also accumulate in fish and shellfish. Signs and symptoms may occur within minutes or days following exposure and may include irritation of skin, ears, eyes, nose, or throat, abnormal breathing (coughing, wheezing, asthma-like symptoms), vomiting, diarrhea, abdominal pain, headaches, agitation, weakness, seizures and death (in animals). Due to illnesses reported that are suspected of being HAB related an interagency workgroup has been put together to investigate and tract potential HAB-related Illnesses in humans and animals throughout California. The workgroup includes staff from the Office of Environmental Health Hazard Assessment (OEHHA), the State Water Resources Control Board, the California Department of Public Health (CDPH), and the California Department of Fish and Wildlife (CDFW). All potential illness reports submitted to the workgroup undergo an evaluation of the available environmental and health-related information, and those considered HAB-related are included in final summaries. More information on the workgroup can be found on the Freshwater Harmful Algal Bloom-related Illness Tracking in California website. The illness related information provided above in Table 5.1 shows the results of the investigations performed by the HAB Illness Group after receiving illness reports for our region.

USEPA Benthic Study

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. Benthic harmful cyanobacterial blooms (HCBs) and their toxins pose a significant

environmental threat to domestic animals, wildlife, and humans, and have impacted drinking water treatment operations in recent years. State, tribal, and local agencies have expressed a need for a greater understanding of the role of benthic versus planktonic blooms in cyanotoxin production and tools for identification and quantification of HCBs. Limited work has been done to review and evaluate appropriate collection and analysis methods for benthic HCBs. While the Interstate Technology and Regulatory Council (ITRC) has developed valuable technical review that discussed multiple sampling approaches and alternatives to consider (ITRC 2022b), it does not make specific recommendations for benthic HCB assessment, monitoring, or effective risk characterization. Due to this EPA put together a plan to research benthic HCB sampling and assessment strategies at eight study sites across the country during the late summer of 2023. Lessons learned from the procedures tested in 2023 will be used to refine the methodology and possibly expand the sites sampled in 2024. Results from the sampling and subsequent analytical work will be used to propose a more specific benthic HCB sampling and monitoring protocol to support the decisions and considerations regarding benthic HCB monitoring made by state and tribal partners. Staff assisted in testing a site known to have benthic HCBs on the American River as part of this study and may assist again next season. Lessons learned from this monitoring effort will be utilized in developing benthic monitoring efforts in the State.

Lake Tahoe Nearshore Algal Bloom and Toxin Survey

The United States Geological Survey (USGS) met with Region 6 Staff this year to discuss the possibility of conducting a study of HABs within Lake Tahoe. The goal of the project would be to identify conditions where occurrence, fate, transport, and exposure pathways coincide to understand when adverse health risks will or will not occur. There are four main areas of interest in that goal including the following:

1. Toxin Exposure and Effects - understanding exposure pathways and adverse health impacts.

2. Cause, Control and Fate of Toxins - understanding the variability of toxin occurrence and concentrations in the environment and factors that may lead to toxin production and exposure.

3. Advancing Methods - continued development of methods for the detection, identification, and understanding of algal toxins and algae/cyanobacteria.

4. Decision Support Tools - development of tools for prediction and evaluation of socio-economic costs to support management decisions.

USGS enlisted Region 6 Staff to help guide them on regional knowledge and areas to focus the study. This project is still in the development phase, and it is unknown when it will begin but it shows promise in answering some important questions.

6. 3rd Quarter of 2023 Violations – *Shelby Barker*

There were 35 violations documented for the third quarter of 2023. Violations consisted of:15 cannabis-related violations including unauthorized/unpermitted facilities and order violations; 7 deficient monitoring violations in the Wastewater, Land Disposal, and NPDES Programs; 3 late or unsubmitted reports in the Wastewater and Industrial Stormwater Programs; 4 stormwater violations associated with deficient best management practices (BMPs) and failure to provide a SWPPP; 3 violations of order conditions in the Land Disposal and Wastewater Programs; 2 deficient reporting in the Wastewater Program; and one unauthorized discharge at an inactive Mine site that is undergoing remediation[1].

Enforcement actions beyond those listed in the attached table may be taken as needed to protect water quality and environmental health within the region.

[1] The unauthorized discharge of acid mine drainage occurred at the Zaca Mine Remediation Maintenance Site through a CalTrans culverts from an unknown source. Staff issued a Notice Violation to which United States Forest Service personnel quickly responded to by installing limestone rock BMPs to neutralize the acid mine drainage prior to reaching East Fork Carson River.