



EXECUTIVE OFFICER'S REPORT
January 1, 2022 – January 31, 2022

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1. Personnel Report – *Sandra Lopez*

New Hires

- Melissa Thaw, 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.

Vacancies

- Engineering Geologist, Non-Point Source Unit, South Lake Tahoe. This position will assist with technical, regulatory, and administrative procedures related to review of project environmental disclosure and permitting documents.
- Senior 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.
- Water Resource Control Engineer, Forestry / Dredge & Fill Unit, South Lake Tahoe. This position reviews and inspects U.S. Forest Service timber harvest and vegetation management, and/or ecological restoration projects.

- Engineering Geologist, Forestry / Dredge & Fill Unit, South Lake Tahoe. This position will review timber harvest plans and conducting pre-harvest and post-harvest field inspections in order to evaluate the impact of logging operations and other forest practices (e.g., vegetation management for utility corridors) on the quality and beneficial uses of water.
- Engineering Geologist, Cleanup/Site Investigation & Enforcement Unit, South Lake Tahoe. This position will oversee/direct site investigation and cleanup activities at various sites, such as underground storage tank sites, dry cleaner sites, mines, landfills, and Department of Defense sites.
- Scientific Aid, Regulatory & Enforcement Unit, South Lake Tahoe. This position supports staff primarily through review of submitted self-monitoring reports, along with other special projects.
- Scientific Aid, Forestry/Dredge & Fill and Non-Point Source Units, South Lake Tahoe. This position will evaluate water quality data and assess compliance with water quality orders and permits associated with grazing, restoration, timber, and forestry activities.
- Senior Water Resource Control Engineer, Wastewater and Agriculture Unit, Victorville. This position will supervise staff performing tasks related to existing, new, expanded, and improved wastewater treatment and disposal facilities, onsite wastewater treatment systems and septic systems, dairies, heifer ranches, stormwater, and site cleanup program sites.
- Scientific Aid, Wastewater and Agriculture Unit, Victorville. This position supports staff primarily through review of submitted self-monitoring reports, along with other special projects.

Departures

- Michael Suglian, Scientific Aid, Regulatory & Enforcement Unit, South Lake Tahoe

2. Lake Tahoe Water Quality Update – Mary Fiore-Wagner and Melissa Thaw

The Water Board continues to invest in research and monitoring to evaluate factors affecting Lake Tahoe's famed clarity and nearshore environment. Findings from nearshore and clarity related investigations will directly influence resource management decisions.

Nearshore Studies

The Water Board is currently providing more than \$1 million in Senate Bill 630 (SB 630) funding that created the Lake Tahoe Science and Lake Improvement Account to support research and monitoring to investigate the complex factors that influence Lake

Tahoe's nearshore. Currently three contracts are underway to: 1) track groundwater nutrient inputs to nearshore periphyton, 2) understand the role of crayfish on the food web (algae), and 3) understand the effects of climate warming on periphyton. A fourth study, funded in part with SB 630 funds and mostly by the Water Board's discretionary contract funds, will use emerging techniques in DNA analysis to study algae species composition and ecological responses to disturbance. This project will provide a detailed nearshore algal species analysis using emerging Environmental DNA (eDNA) methods combined with traditional microscopy. Findings from this work, expected in December 2022, will identify dominant groups of algae and their role in nutrient and pollutant cycling, more specifically nitrogen fixation.

Three of the nearshore studies are nearing completion this year including the groundwater investigation through a partnership with the US Geological Survey (USGS) to track nutrient sources from groundwater to the nearshore and a study led by the University of Nevada, Reno (UNR) to assess the impacts of crayfish on algal conditions which is integral to understanding disturbances to the nearshore ecosystem. The nearshore ecosystem is also being affected by warming, which is the focus of a study in partnership with the University of California, Davis (UC Davis). This study will be complete in June 2022. Staff plan to present a broad update of the completed nearshore studies at the September 2022 meeting.

Moving forward, additional nearshore monitoring, supported in part by SB 630 funds, involves an ongoing Nearshore Human Health Assessment conducted by the Nevada Tahoe Conservation District (NTCD) which will continue through the summer of 2023. The work includes monitoring water quality parameters relevant to human health (fecal indicator bacteria) at select shoreline locations that support high public recreational use. Findings from shoreline samples collected during the summer of 2021 indicate that fecal indicating bacteria (FIB) increased since 2009. FIB concentrations were low at most sites. However, three California sampling sites, El Dorado, Regan, and Tahoe City Commons, deviated from this trend and on occasion bacteria levels exceeded standards established for recreation waters for the protection of human health. When exceedances of bacteria were reported, staff-initiated follow-up sampling at impacted areas to determine if elevated levels remained consistent and presented a public health threat. Water Board sampling that supplemented bacteria monitoring performed by NTCD indicated that high bacteria levels were not sustained. Agency staff will be considering refinements to the 2022 sampling season that focus monitoring on priority sites and capture shoreline areas where there are data gaps.

Caldor Fire and Wildfire Smoke

Nearly a quarter million dollars of Water Board discretionary contract funding is supporting research to (1) monitor the post-Caldor fire impacts and (2) evaluate the smoke generated from the 2021 wildfires to understand how major wildfires both in and outside of the basin influence short and long-term water quality dynamics in Lake Tahoe. Within this contract, USGS will augment on-going tributary stream monitoring to investigate any increases in tributary inputs from the Lake Tahoe sub-watersheds (Upper Truckee River and Trout Creek) impacted by the Caldor Fire.



Figure 2.1 – Wildfire smoke over Lake Tahoe. August 15, 2021

Constituents that often increase after a wildfire (dissolved organic carbon and ammonia) will also be added to the list of parameters analyzed at these monitoring stations. Additionally, samples at these locations, and a control site, will be analyzed for flame retardants which were applied during fire suppression activities within both the Upper Truckee and Trout Creek watersheds.

UC Davis is completing the wildfire smoke investigations included in the contract by analyzing particle and nutrient characteristics in both smoke deposition and water samples that were collected during the Dixie and Caldor fires. UC Davis will provide additional analyses of water quality parameters to establish changes in offshore water quality conditions due to wildfire smoke. UC Davis is on track to present the preliminary findings associated with this task in February 2022 and host a workshop on this topic in July 2022.

Tahoe Science Advisory Council

The Water Board has been working with the Tahoe Science Advisory Council (the Science Council) to improve monitoring and research methods and further understand processes that affect Lake Tahoe's clarity. Highlighted below is some of the Science Council's work.

Completed Report. The Science Council provided a "Summary Report on Lake Tahoe Clarity and Associated Conditions, 2021," which outlines observations of annual and

seasonal clarity, physical lake mixing, Secchi disk correlation to *Cyclotella* (a small diatom whose presence in the water column affects clarity). The Science Council found that annual average Secchi depth has not changed in 20 years, winter average clarity shows no trend, but summer average clarity continues to decline. The report also found that 61% of the clarity variation from 2011-2022 was associated with fine sediment particles (1-4 micrometers) and *Cyclotella* diatom species. However, the proportional dominance of fine sediment particles versus *Cyclotella* vary over time. The Science Council also found that there may be a “carry-over” effect on sediment loads in stream discharge and lake clarity following extreme precipitation events during water years 2017 and 2019.

The Summary Report also included a recommendation to advance the release of clarity data. The Science Council, in collaboration with resource agency partners, is working toward a more efficient approach to share annual clarity results in the spring of each calendar year going forward.

Improved Algal Monitoring. The Water Board has funded the University of California Davis, Tahoe Environmental Research Center (TERC) to perform attached algae (periphyton) monitoring for close to 30 years. TERC analysis of historical periphyton data has not shown increases in periphyton in the nearshore, contrary to public perception. Acknowledging that scientific findings do not align with the perception that algal growth is increasing suggests that a new monitoring design is necessary to assess nearshore health and provide for the protection of beneficial uses. In 2018 TERC provided “Suggested changes to Lahontan and Tahoe Regional Planning Agency (TRPA) Monitoring Contracts” which included suggested improvements to periphyton and algal monitoring. As a result, the Nearshore Agency Working Group (NAWG) comprised of staff from the Water Board, TRPA, Nevada Division of Environmental Protection (NDEP), and U.S. Environmental Protection Agency (EPA) engaged with the Science Council to determine the effectiveness of historic algal monitoring approaches. Consequently, the Science Council guided the Lake Tahoe Periphyton Monitoring Program Engaged Peer Review (Peer Review). The Peer Review was completed in January 2020, and reviewers concluded that sampling methods were sufficient. However, in order to address the inconsistency between public perception and sampling results, NAWG seeks to broaden and improve the algal monitoring program. Therefore, NAWG is creating a request for proposal (RFP) to develop and implement an integrated algal monitoring program to measure algal changes in taxonomic composition, abundance over time and space, and identify changes that are visually noticeable to the casual observer. The expected release date of the RFP is during the Spring of 2022.

On-going projects. The Science Council is also making progress on enhancing the Lake Clarity Model. Work has progressed on schedule and involves integrating additional physical and ecological complexities that should be understood more thoroughly since they may affect lake clarity. Improved model components and structure will be developed through multiple-stage and incremental processes to accurately include feedbacks and interactions among processes. Adding an extended food web to include several phytoplankton functional groups and zooplankton will allow the model to represent dynamic trophic feedbacks including seasonal nutrient cycling. Physical

processes such as turbulent transport, sediment resuspension and deep mixing will be incorporated and tested. The updated model will more accurately address clarity questions, simulate management scenarios, identify gaps in knowledge and analyze individual processes, which will help guide management strategies.

The Water Board values its collaboration with the Science Council which continues to help resource agencies identify and prioritize meaningful research needed to inform science-based management decisions.

3. Victor Valley Wastewater Reclamation Authority Renewable Natural Gas Project Commissioning Ceremony – *John Yu*

Victor Valley Wastewater Reclamation Authority (VWVRA) began construction of a Renewable Natural Gas (RNG) facility in 2016 and recently completed that construction project. A post-construction ribbon-cutting event was held on January 21, 2022, and Water Resource Control Engineer, John Yu, attended this event for the Lahontan Water Board. The event celebrated a partnership between VWVRA, Anaergia, and Southwest Gas. Figure 3.1 shows the red ribbon cutting ceremony and some of the attendees.

The RNG facility is designed to help address the requirements of SB 1383. This law requires the diversion of 75% of organic waste from the state’s landfills to reduce the emission of methane into the environment and was signed into law in 2016 by Governor Jerry Brown.



Figure 3.1 – VWVRA Red Ribbon Cutting Ceremony

Anaergia designed, supplied, and installed the necessary biogas treatment upgrades for VVWRA's RNG project. VVWRA's existing infrastructure includes five anaerobic digesters that use sludge produced from their wastewater treatment process. Anaergia upgrades consisted of retrofitting VVWRA's current equipment with its high-solids Omnivore digester that uses intelligent mixing and robust thickening to triple digester capacity as well as improving biogas production to pipeline-quality RNG for injection. The added capacity provided VVWRA with the flexibility to accept food waste from the region's waste haulers, in addition to municipal wastewater.

VVWRA has become the first wastewater treatment plant in California to also export RNG to the utility gas grid. VVWRA can benefit from new revenue streams from tip fees and sales of RNG through their partnership with Southwest Gas and provide the region's gas utility additional fuel. According to Southwest Gas' President and CEO John Hester, the facility adds more than 320,000 MMBTU (one million British Thermal Units) of RNG to the pipeline each year which is enough to offset the emissions of more than 2,000 homes.

4. Standing Item - 3rd Quarter 2021 Violations Report - *Rob Tucker*

The Third Quarter 2021 Violations Report, at first look, appears to be an increase in violations from the previous quarter. There were approximately 63 violations identified for the third quarter 2021. However, nearly half of the violations are associated with one facility (Naval Air Weapons Station China Lake's Salt Wells Propulsion Labs Facility) and are all associated with daily flow limitation exceedances. There have been no effluent quality-related violations associated with the flow exceedances, and the U.S. Navy is requesting to work with Water Board staff to revise the facility's waste discharge requirements to increase the daily flow limitation.

The next two most frequent violation types were late reports and incomplete reports. Additional details regarding the violations that have been recorded for the third quarter 2021 can be viewed in the 3rd Quarter 2021 Violations Table.

Attachment A
3rd Quarter Violations Table 2021

Program	Priority	County	Reponsible Party	Facility	Violation Description	Corrective Action	Enforcement Action
Cannabis	B	San Bernardino	Diana Beverly Estrada	Diana Beverly Estrada Property	Unauthorized discharge from cultivation of cannabis	None	Notice of Violation
			Rafael Magana Garcia	Rafael Magana Garcia Property	Unauthorized discharge from cultivation of cannabis	None	Notice of Violation
			Herminia Vargas Padron	Herminia Vargas Padron Property	Unauthorized discharge from cultivation of cannabis	None	Notice of Violation
			Chuong Loy May Living Trust	Chuong Loy May Living Trust Property	Unauthorized discharge from cultivation of cannabis	None	Notice of Violation
			Flora Valdovinos Mendoza	Flora Valdovinos Mendoza Property	Cultivation occurring in a drainage feature of the Mojave River	None	Notice of Violation
Stormwater - Industrial	B	Placer County	Placer County	Placer County Eastern Regional Landfill/ Transfer Station	Deficient Best Management Practices Implemented	None	Staff Enforcement Letter
Stormwater - Construction	B	Placer County	Palisades Development LLC	Palisades at Squaw	No Training and failure to have SWPPP and Spill plans on time	None	Staff Enforcement Letter
		Nevada County	Town of Truckee	Coldstream Road Roundabout	Deficient Best Management Practices	None	Staff Enforcement Letter
		San Bernardino	DR Horton Los Angeles Holding Company	Mojave 276	Deficient Best Management Practices	None	None

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3rd Quarter Violations Table 2021

Program	Priority	County	Reponsible Party	Facility	Violation Description	Corrective Action	Enforcement Action
Sanitary Sewer Overflow	B	San Bernardino	Lake Arrowhead Community Service District	Lake Arrowhead CSD CS	Estimated 2,875 gallons of sewage spilled to Lake Arrowhead	Pipe repaired and site cleaned up	None
Confined Animal Feed Operation	B	San Bernardino	Dutch Dairy-Mike Devries	Dutch Dairy	Incomplete report	None	None
Land Disposal	B	Inyo	DV Natural Resource	Briggs Mine Project	Exceeded water quality protection standards for different metals in groundwater	None	None
		Inyo	DV Natural Resource	Briggs Mine Project	Incomplete report	None	None
		San Bernardino	American Organics	Victor Valley Regional Compost	Exceeded groundwater receiving water limitations for multiple constituents.	Evaluating data regarding background conditions and potential upgradient pollutant sources.	None
		San Bernardino	San Bernardino County Waste	Hesperia Class III Landfill	Exceeded groundwater receiving water limitations	None	None
		San Bernardino	Searles Valley Minerals	Trona Plant	Exceeded effluent limitations for kerosene and oil and grease.	None	None

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Program	Priority	County	Reponsible Party	Facility	Violation Description	Corrective Action	Enforcement Action
		San Bernardino	Searles Valley Minerals	Argus Plant	Incomplete report	None	None
		San Bernardino	Searles Valley Minerals	West End Plant	Incomplete report	None	None
		Kern	US Air Force Edwards Air Force Base	Main Base Class III Landfill	Late Report	Submitted correct report upon being notified about violation	Staff Enforcement Letter
		Kern	Golden Queen Mining Co LLC	Soledad Mountain Project	Monitoring Well Installation Work Plan not submitted	None	None
Wastewater	B	Inyo	US Navy Naval Air Weapons Station China Lake	Salt Wells Propul. Labs	Exceeded daily effluent flow limitation (32 violations)	Discharger has requested WDR revision to increase flow limitation	None
		Kern	Rosamond CSD	Rosamond WTF	Incomplete report and exceeding groundwater receiving water limitations	Treatment system and disposal facility upgrades under construction	None
		Kern	Big Pine Indian Reservation	Big Pine Indian RES WTF	Late Report	None	None
		Kern	Kern Community College District	Eastern Sierra College Center	Late Report	None	None
		Kern	Los Angeles City DWP	Independence WWTF	Late Report	None	None

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Program	Priority	County	Reponsible Party	Facility	Violation Description	Corrective Action	Enforcement Action
		San Bernardino	Westland Industries Inc	Bear Valley MHP WTF	Sewage spill from community septic system	Septic sewer spill cleaned up and septic tank repaired	None
		San Bernardino	Fort Irwin National Training Center	Fort Irwin Waterworks	Inadequate pond freeboard	None	None