EXECUTIVE OFFICER'S REPORT
January 1, 2023 – January 31, 2023

Contents

1. Personnel Report – *Sandra Lopez*

Promotions

- Trevor Miller, Senior Water Resource Control Engineer, Forestry/Dredge & Fill Unit, South Lake Tahoe. This position will perform Senior level activities and provide engineering expertise associated with managing the activities of the Forestry/Dredge & Fill Unit. The incumbent will supervise and direct the work of five professional technical staff, oversee staff development, perform recruitment of new staff, conduct performance evaluations, and track program budgets, as well as a variety of other duties.

Transfers

- Todd Battey, 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.

New Hires

- Lauder Fairchok, Water Resource Control Engineer, Regulatory and Enforcement Unit, South Lake Tahoe. This position will work with the stormwater program, the Waste Discharge Requirement non-15 program and the point source National Pollutant Discharge Elimination System Permit Program.

- Eli Balderas, 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.

Vacancies

- Water Resource Control Engineers (two positions), Wastewater & Agricultural Unit, Victorville. This position provides regulatory oversight of projects involving discharges to groundwater or surface waters and projects intended to restore and/or enhance water quality in the Waste Discharge Requirements (WDRs), National Pollutant Discharge Elimination System (NPDES), and Site Cleanup Programs.

- Environmental Scientist, Land Disposal Unit, Victorville. This position will provide regulatory oversight of dredge and fill permitting and compliance of Caltrans projects regionwide.

- 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.

- Office Technician (Typing), Victorville. This position will assist in proofreading and editing staff documents, engage with staff and the public at the front office desk, provide support to technical and administrative staff, ensure documents comply with accessibility standards, and provide administrative support at regional board meetings held throughout the region.

- Office Technician (Typing), South Lake Tahoe. This position will assist in proofreading and editing staff documents, engage with staff and the public at the front office desk, provide support to technical and administrative staff, ensure documents comply with accessibility standards, and provide administrative support at regional board meetings held throughout the region.

- Water Resource Control Engineer, Cannabis Unit, Victorville. This position provides regulatory oversight of cannabis cultivation projects under the statewide Cannabis General order.

- Engineering Geologist, Forestry/Dredge & Fill Unit, South Lake Tahoe. This position will provide geologic and hydrogeologic expertise for the Forestry Dredge and Fill Unit. The incumbent will evaluate and regulate the impacts of logging operations and other forest practices on the quality and beneficial uses of water. They will also review and regulate proposed projects that may affect water quality of waters of the state to ensure compliance with the requirements of the Water Quality Control Plan for the Lahontan Region (Basin Plan), Porter-Cologne

Water Quality Control Act, the Federal Clean Water Act (CWA), and the California Environmental Quality Act (CEQA).

- Environmental Scientist, Planning & Assessment Unit, South Lake Tahoe. This position will work on Basin Plan amendments, help assess waters as part of the Integrated Report, and work to develop TMDLs or alternative restoration plans.

- Scientific Aids (two positions), Regulatory & Enforcement Unit, South Lake Tahoe. This position supports staff primarily though review of submitted self-monitoring reports, along with other special projects.

- Engineering Geologist, Department of Defense Site Cleanup 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.

- Water Resource Control Engineer, 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.

2. Lahontan Surface Water Ambient Monitoring Program's 20-Year Water Quality Review and Program Recommendations – *Kelly Huck*

Water Board staff collaborated with San Francisco Estuary Institute-Aquatic Science Center (SFEI-ASC) to compile, summarize, and reflect on the program's extensive water quality dataset. This 20-year water quality monitoring status and trends Report for the Lahontan Water Board's Surface Water Ambient Monitoring Program (Regional SWAMP) provides an overview of the environmental settings across the Region to give the reader a sense of the diverse ecological landscape, land uses, distribution and abundance of aquatic resources, and fire history. It includes a retrospective analysis of the Regional SWAMP's ongoing targeted water quality monitoring results (2000 - 2021) and concludes by presenting suggestions for future monitoring changes to improve efficiencies, and address some of the recommendations listed in the Core Program Review presented to the Board at the July 2019 Board meeting.

Prior to the Core Program Review, data was primarily collected through targeted monitoring designed to answer the question, "Are the streams within the Lahontan Region meeting chemical and physical water quality objectives contained in the Basin Plan?" Therefore, the Report examines what proportion of water quality results are exceeding the Basin Plan's site-specific objectives and water quality objectives. Analysis shows that most of the Basin Plan water quality exceedances in the Region were seen in Oxygen Saturation (40% of the results exceeded), Total Dissolved Solids (over 60% of the results exceeded), and Total Phosphorus (nearly 40% of the results exceeded). The Report describes where many of these exceedances take place as well as descriptions of other analytes sampled through the years.

The Report also analyzes if there are any statistically significant upward or downward trends in water quality conditions over time, and if so, at what sampling locations. The Report includes 46 monitoring stations with anywhere between 6-35 parameters at each location. The results of the statistical tests for trends for all stations and parameters indicated that less than 1% of the station/parameter pairs evaluated show significant monotonic upward or downward trends between 2000 and 2021. That is, only 14 stations and 12 parameters indicated potential trends at significance levels (p-values) of <0.05. This finding is not too surprising since there have not been significant ecological or anthropogenic changes at or near the specific targeted monitoring stations in the program and given that some parameter concentrations have a wide range of variation over time.

The table below summarizes what water quality exceedances are changing over time at a specific waterbody. An up or down arrow indicates an upward or downward change over time. An upward or downward trend could mean improvement or degradation depending on the parameter and objective. A sideways arrow indicates no change. Blanks indicate no results, and a dot indicates not enough data to evaluate trends over time in the HU.

Region	Basin Plan HU	pH	Total Oxygen, Dissolved	Total Oxygen, Saturation	Dissolved Total Dissolved Solids	Total Turbidity	Coliform, Fecal	E. coli	Total Nitrogen, Total	Total Nitrogen, Total Kjeldahl	Dissolved Ortho-Phosphate as P	Total Phosphorus as P	Dissolved Chloride	Dissolved Fluoride	Dissolved Sulfate	Dissolved Boron
Modoc	Surprise Valley	→	↓	↓	↓		↓	→	↓				↓			↑
	Susanville	↓	↓	↓	↓		→	→	↑			↑	↑		↑	↑
Truckee / Tahoe	Little Truckee River	.	.	.	.	.	→	→	.	.		.	.		.	
	Truckee River	→	→	↓	↓	↑	→	→	↑	↑		↑	↓		↓	→
	Lake Tahoe	.	.	.	.	.	→	→	.			.			.	
Eastern Sierra (North)	Carson River	→	→	↓	↓	→	→	→	↑	→		↓	→		↓	↓
	Walker River	↓	→	↑	↑		↑	↑	↓			↓	→			↑
Eastern Sierra (South)	Owens	→	↓	↓	↓		↓	→	↑		→		↑	↓	↑	↑
Mojave Desert	Mojave	→	↑	→	→		.	.	↑		→		↑	↓	→	↑

Program Recommendations:

Based on the 20-year retrospective water quality status and trends analyses, the Report concludes with a list of recommendations for program improvement. Some recommendations are specific and actionable, while others provide guidance for further development by engaging a focused workgroup or a formalized technical advisory committee that could be established to advise the program on an ongoing basis.

Included below are some key recommendations for the Regional SWAMP's ongoing water quality monitoring effort (additional recommendations are included in the final report):

- Review the current parameter list and determine if all are necessary.
- Determine water quality and ecological health of intermittent and ephemeral streams.
- Consider continuous monitors for multiple physical water quality parameters including streamflow.
- Review the Long-term monitoring station locations and consider if changes are warranted.
- Convene an advisory group to advise on Regional SWAMP adjustments and a watershed approach to watershed health assessment for the Region. A workgroup or committee process would provide a forum for cross-program coordination and help identify collaborative monitoring opportunities that could be integrated into the Regional SWAMP.

Considering the guidance outlined in the Report, SWAMP staff plans to form a workgroup to determine how to review and prioritize some of the program recommendations listed in the Final Report. Staff will also review the current management and monitoring questions and update them to focus on current program goals. The workgroup will develop an updated monitoring plan that will be peer reviewed and thoroughly vetted, ensuring all modern program goals are met and align with regional goals. The Line of Sight Matrix will be used to help prioritize future monitoring efforts. The Final Report will eventually be moved to the Regional SWAMP website under Available Reports once an ADA-compliant PDF of the report is complete.

3. **Critical Minerals in California, Building the Supply Chain for Tomorrow** – *Christina Guerra*

Lahontan Water Board staff, Christina Guerra, Engineering Geologist, attended a seminar entitled *Critical Minerals in California, Building the Supply Chain for Tomorrow* on January 18, 2023, hosted by the University of California, Riverside (UCR), sponsored by the California Employment Training Panel, and held at the UCR Palm Desert Campus in Palm Desert.

A critical mineral, as federally defined, is a mineral identified by the Secretary of the Interior as the following: 1) a non-fuel mineral or mineral material essential to economic and national security; 2) that has a supply chain vulnerable to disruption; 3) that serves as an essential function in the manufacturing of a product; and 4) whose absence would have significant consequences for our economy or national security. There are currently 50 federally designated critical minerals. Of the 50, the United States is import reliant on 29 of these minerals. The 2022 United States Geological Survey (USGS) Minerals Commodity Survey noted that California had resource potential for 34 of the 50 critical minerals. Currently or recently produced minerals in California include boron, cerium, dysprosium, lanthanum, lithium, manganese, neodymium, praseodymium, tungsten, yttrium, and terbium. Within Region 6, several of the globally leading minerals are extracted or mined and include rare earth elements (REE), boron, and lithium. Global demand for critical minerals continues to increase; in the United States, demand is expected to be driven by climate goals, national defense, and domestic supply. However, it is expected that demand for use of critical minerals, specifically in clean energy and transportation technologies, will grow at a greater rate.

Because there is a collective demand for critical minerals, interest is not only expected to peak in production but also research and development, recycling, and geological surveying. To combat our reliance on the import of critical minerals, the United States has established significant support and incentive initiatives. Some of the significant initiatives are the Federal Inflation Reduction Act, Bipartisan Infrastructure Law, and the CHIPS and Science Act, and all include funding for capital ventures such as production, processing, infrastructure, research, and development. Most if not all the federally funded support and incentive initiatives include stipulations focused on ensuring benefits support an equitable and inclusive economy, particularly disadvantaged and tribal communities. California has also allocated billions of dollars towards energy reliability, clean energy, infrastructure, processing, manufacturing, and research investments. Key programs that aid in the dissemination of funding include the Climate Innovation Program, Energy Innovation Center, California Competes, State Small Business Credit Initiative, and Community Economic Resilience Fund.

Critical mineral mines in the Lahontan Region are seeking federal incentive funding for production and research. The U.S. Department of Defense has awarded MP Materials Corporation $9.6 million (2020) and $35 million (2022) in contracts to support the construction of a commercial scale processing facility for REE mined at Mountain Pass. Rio Tinto – U.S. Borax (USB) is continuing in their efforts to move their Lithium Pilot Scale Plant to full scale. However, with lithium production and research booming, USB needs to ensure that they will remain competitive in the market with a lithium product low in impurities. Therefore, USB is scaling back the Lithium Pilot Scale Plant and reverting to a study phase. Although boron is an identified critical mineral, USB has found it challenging to seek and be awarded federal support due to their export of boron to the world market. Turkey is the leading global producer of boron with the ability to operate at a fraction of the cost it takes USB to operate the facility in Boron.

The seminar provided a broader perspective on the need for critical minerals and the challenges that mining operations within the Lahontan Region are undertaking. There

are six new critical mineral sites in the Lahontan Region specifically for the critical mineral lithium (Figure 3.1): one site is located near Barstow; one site is located near Newberry Springs; two sites in the Panamint Valley; and two sites are located southeast of and outside of Death Valley National Park. The Water Board has not issued waste discharge requirements for these six sites, and it is currently not known what stage of planning or operation these mineral extraction projects are at; no additional information was provided at the seminar. However, Water Board staff plan to research these sites, perform inspections as warranted, and request reports of waste discharge from the owners and operators if a discharge of waste that could harm water quality is proposed.

Figure 3.1 – Location of critical mineral sites in the High Desert (Region 6) and Imperial Valley (Region 7). Permitted Lahontan Region sites: U.S. Borax Mine, Inc. (boron), 5E Advanced Materials (formerly Fort Cady Minerals, boron), and MP Materials Corporation (REE). There are six additional lithium sites not permitted under Water Board orders within the Lahontan Region. Source: Critical Minerals in California Building the Supply Chain for Tomorrow, Agenda, January 18, 2023)

4. Standing Item - 3rd Quarter 2022 Violations Report – *Shelby Barker*

There were 18 violations documented for the third quarter of 2022. Most of the violations were related to stormwater runoff and surface water protection. Violations consisted of 1 basin plan prohibition, 1 deficient monitoring, 2 unauthorized discharges, 8 deficient or insufficient stormwater pollution prevention plan and associated records keeping or implementation, 4 late reports, and 2 effluent limit concentration exceedances.

The unauthorized discharges occurred in 2 different surface waters. First, harvesting equipment released 10 gallons of hydraulic fluid into the surface waters at the Tahoe Keys lagoons. Second, components of a failing access bridge collapsed into the Truckee River. Water Board staff issued an emergency cleanup and abatement order for the basin plan prohibition violation caused by the unauthorized discharge into the Truckee River.

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

[PLACE HOLDER FOR 3rd QUARTER 2022 VIOLATIONS TABLE PDF FORM]