



EXECUTIVE OFFICER'S REPORT • July 2020
Covers May 16, 2020 – June 15, 2020

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State and Regional

1. Personnel Report – Eric Shay

New Hires – None

Vacancies:

- Senior Environmental Scientist (Specialist), Compliance & Planning Division, South Lake Tahoe. This position serves as the Regional Monitoring Coordinator; lead for coordinating implementation of the Region’s Climate Change Adaptation and Mitigation Strategy; and regional specialist for monitoring related special studies, investigations, and projects. The position will provide the lead responsibility for making policy recommendations, providing technical expertise

orally and in written documents, evaluating and drafting environmental documents, and performing analysis on technically complex and politically sensitive assignments related to water quality monitoring and Water Board response to climate change in the Lahontan Region.

- Engineering Geologist, Department of Defense / Site Cleanup Program Unit, Victorville. This position analyzes threat of pollutants to groundwater and surface waters, reviews technical reports for cleanup strategies, reviews site investigation results, reviews proposed cleanup alternatives to ensure compliance with water quality objectives, prepares enforcement orders, investigates spills, and conducts inspections of cleanup sites and facilities.
- Water Resource Control Engineer, Wastewater & Agricultural Operations Unit, Victorville. This position provides regulatory oversight of projects involving discharges to ground or surface waters and projects intended to restore and/or enhance water quality.
- Scientific Aid, Cleanup/Site Investigation & Enforcement Unit, South Lake Tahoe. This position assists staff with administering the site cleanup, underground storage tank, land disposal, and enforcement programs; reviewing reports, and maintaining databases; reviews self-monitoring reports, permits and enforcement actions; reviews project files and water quality data to prepare for field inspections and permit updates; assists with field inspections; and reviews California Environmental Quality Act documents.

Departures – None.

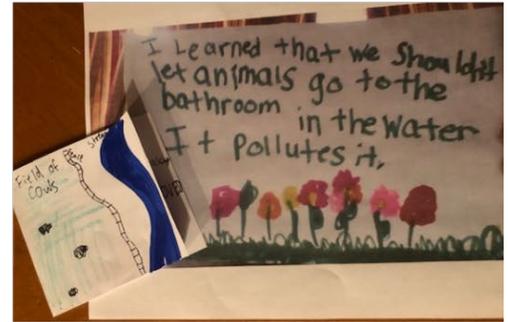
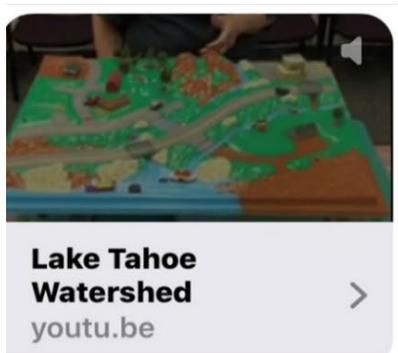
North Lahontan Region

2. Virtual Outreach: A Successful and Safe Approach While Sheltering-in-Place – *Mary Fiore-Wagner*

During this time of social distancing, Water Board Staff (Staff) Sabrina Rice, Mike Suglian, and Mary Fiore-Wagner had to think of a new approach for outreach when contacted by the Girl Scouts of America – Sierra Nevada Troop 722, Lake Tahoe asking for a presentation about water quality protection. Using the Watershed Model, Staff created a series of short videos to demonstrate the sources and impacts of nonpoint source pollution, and how to prevent it.

Brownies and Girl Scouts learned about how pollutants associated with residential, recreation, and grazing activities can impact water quality. The videos highlighted how stormwater can mobilize pollutants associated with (1) careless habits when recreating outdoors, (2) overwatering and pesticide and fertilizer use when landscaping, (3) improper car and boat maintenance, and (4) grazing activities near rivers and streams. A follow-up series of videos demonstrated how pollutants from these non-point sources of pollution could be minimized by (1) practicing Leave No Trace ethics, (2) following proper engine maintenance, (3) planting native and drought tolerant species, and (4) fencing and placing alternate water sources to minimize cattle access to streams. The short videos were knit into a short YouTube movie that effectively communicated the watershed/stormwater concept while encouraging young girls to become stewards of the land. Showcasing the work of environmental scientists also helped pique the interest of young girls about careers in resource protection and water quality control.

As a former Brownie and Girl Scout, Mary was happy to help 10-year old South Lake Tahoe native, Gabi Lancelloti, earn her Leader-In-Action badge for helping the Brownies with their Wonders of Water Journey. By continuing to participate in environmental education, Staff hope to instill a sense of stewardship in children, so they make better life choices that lead to the long-term protection of our water and other environmental resources.



Photo(s) 2.1: Left - Watershed Model YouTube; Center - Gabby Lancelloti, Leader-In-Action, Troop 722 (printed with permission), Right - Thank you notes.

3. Snapshot Day – A 20-Year Volunteer Commitment from Regional Water Board Staff – Sabrina Rice

On May 30, 2020, Water Board staff participated in the 20th annual Snapshot day: a volunteer, citizen science water quality monitoring event that provides a snapshot of the health of streams in the Tahoe and Truckee watersheds. This event is organized by the League to Save Lake Tahoe (League) and incorporates a collaborative effort between the League, citizens of our community, the South Lake Tahoe Public Utility District, and the Lahontan Water Board’s South Lake Tahoe Office.

This year’s event marked a huge celebration for Lahontan Water Board staff, Dr. Bruce



Warden: it was his 20-year anniversary as a “water quality warrior,” who stepped up once again to contribute to the success of this event. For 20 years straight, Bruce has assisted with this citizen science effort by serving as a team leader, recruiting volunteers, and by providing high-quality bacteria analysis. Thank you for your time and dedication, Bruce!

Though the recent COVID-19 pandemic changed the dynamic of this year’s event, thirty-four streams and meadows were

Photo 3.2: Dr. Bruce Warden counting E.coli colonies under the microscope.

evaluated by field and laboratory volunteers who followed proper safety protocols. Lahontan Water Board staff safely ran analyses while practicing social distancing and wearing masks.

Samples collected on Snapshot Day include measurements of dissolved oxygen, total dissolved solids, pH, and temperature. The South Tahoe Public Utility District analyzed the samples for nutrients, while Lahontan Water Board staff performed analyses of turbidity and bacteria (i.e., fecal coliform and E. coli).

This event has created a long-term dataset, which can be found on the California Environmental Data Exchange Network (CEDEN). Results indicated elevated bacteria levels at the mouths of Taylor and Burke Creeks. Staff will consider information provided on the League’s field data sheets to learn if any observations (e.g., presence of birds, domestic pet or homeless activity) may indicate sources of bacteria, and the need for further investigation of these areas.

4. Standing Item - Regional Grazing Status, 2020 Update – Bruce Warden

Extent of grazed lands in the in the Lahontan Region: Grazing lands comprise 76% of the 407,802 agricultural acres in the Lahontan Region. Because of precipitation differences, grazing lands in the north have high forage value and readily available water. Forage is sparse and water is scarce in low-rainfall grazed lands in the south, requiring much more acreage to support livestock. Water quality, streambank erosion, and the ecology of riparian areas can be heavily impacted by grazing, and the Water Board identified grazing issues as an area of priority work. This is particularly germane as the Water Board is developing an Irrigated Lands Regulatory Program (ILRP). Irrigated pastures are the largest proportion of irrigated lands in the Lahontan Region, and can be subject to tailwater runoff carrying elevated concentrations of bacteria to local surface waters. Bridgeport Valley operations subject to the grazing waiver and Los Angeles Department of Water and Power grazing leases are the largest irrigated pasture operations in the Lahontan Region.

Lahontan Region Grazing and Crop Acreages

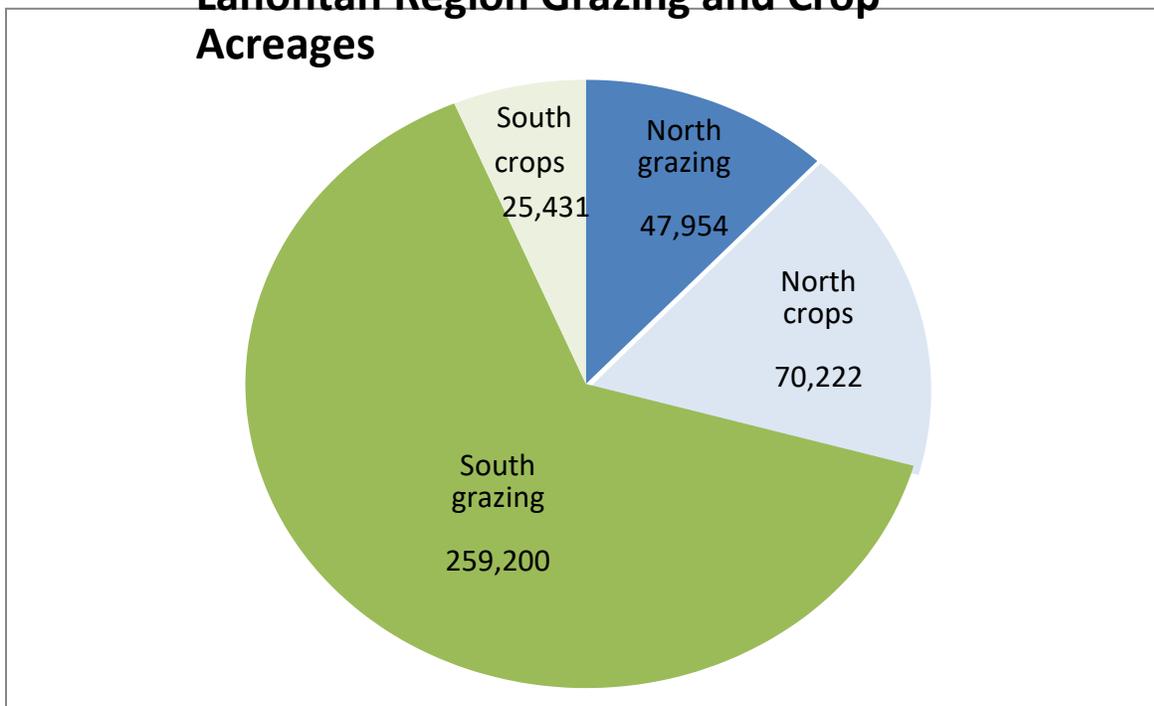


Figure 4.1 - {2016} Grazing acreage includes grass & pasture. South Lahontan includes parts of Inyo, Mono, San Bernardino, Kern and Los Angeles Counties; North Lahontan includes parts of Alpine, El Dorado, Lassen, Modoc, Nevada, and Sierra Counties. Source: USDA National Agricultural Statistics Service Cropland Data Layer.

Most grazed acreage in the north is located on US Forest Service (USFS) allotments in the Sierra Nevada and Cascade mountain ranges, with fewer Bureau of Land Management (BLM) and privately-owned grazing in valley plains. While the predominantly BLM-managed grazing lands in the south may cover large acreages, livestock tend to gather in the limited acreage of riparian zones of desert springs, seeps, and streams, reducing beneficial uses and ecological function of these sensitive water sources. There are also privately owned grazing lands in both the north and south. Crop acreages identified in the above chart are on private lands.

California Rangeland Water Quality Management Plan Update: Water Board staff are engaged with the State Water Board and UC Cooperative Extension in efforts to update the 1995 California Rangeland Water Quality Management Plan to incorporate recent best management practices and science as well as changes to Water Board policies since 1995.

Federal Grazing Issues: In the last 2019 Regional grazing status update, livestock grazing, and range management was being considered as a covered activity in the Federal Non-Point Source permit. However, in early 2020, executives from the USFS, BLM, Central Valley Water Board, and Lahontan Water Board decided to remove grazing as a covered activity for the following reasons:

- Incorporating grazing as a covered activity in the permit could delay permit adoption due to the additional level of data and analysis needed to develop performance measures and permit requirements. Any delay could impact the ability to meet timelines for California's fire and fuel management goals on federal lands by impacting the Water Boards' regulatory coverage for vegetation management and fuel reduction projects. The Federal NPS permit should be developed consistent with Executive Orders issued by the Governor's Office and with goals established on private and federal lands to increase the pace and scale of forestry projects that help to address the current wildfire crisis in California.
- There are current efforts by UC Davis, UC Cooperative Extension, and the Water Boards to update the Ranch Water Quality Management Plan (1995), which can be leveraged to conduct evaluations of water quality impacts and benefits associated with grazing on both private and federal lands.
- Removing grazing as a covered activity from the Federal NPS permit allows more time for the Regional Water Boards to work with federal partners to conduct additional assessments of grazing allotments on USFS and BLM-managed lands.

The Regional Water Boards will continue to use their independent enforcement authority to address water quality issues related to grazing activities on federal lands. Examples could include Investigative Orders or Clean-up and Abatement Orders. Where appropriate, the Water Board may issue Waste Discharge Requirements, Waivers of Waste Discharge Requirements, or Basin Plan Prohibitions to address grazing related water quality issues on federal lands, at either site-specific locations or at a watershed/regional scale.

As directed by State Water Board Resolution 2015-0062, which dissolved the Grazing Regulatory Action Project (GRAP), the Regional Water Boards should and will continue to:

- Take actions they determine to be necessary to protect water quality and the beneficial uses of water from pollution, consistent with state and federal laws. Actions may be regulatory, based on non-regulatory efforts for BMP implementation, or a combination of the two.
- Consider establishment of monitoring requirements, including watershed-wide or regional monitoring programs, to assess the effectiveness of BMPs implemented under regulatory and non-regulatory actions.
- Consider prioritizing actions to address livestock grazing operations that cause water quality impairment, or have the likelihood to do so, based on the unique hydrology, topography, climate, and land use of that specific region.

Bridgeport Valley: The 2019 Water Quality data report and individual ranch Grazing Management Practice Implementation Annual Report for Grazing Season Year 2019 was due March 15, 2020, around the time of the onset of COVID-19 shelter-in-place restrictions in California. We have received five of the seven annual ranch reports. Two reports are outstanding, and Water Board Staff are contacting ranchers. All enrollees to the Bridgeport waiver have reached 100% compliance for required submittals of reports from 2007 to 2018.

Eagle Lake: In compliance with the 2019 California Water Code section 13267 Investigative Order for Eagle Lake shoreline grazing operations, Five-Dot and Mapes ranches (owners/operators Swickard family) and McClelland ranch have submitted acceptable Ranch Water Quality Management Plan annual updates for 2020. The USFS has submitted Annual Operating Instructions (AOIs) for both the North and South Basins of Eagle Lake. This submittal is under review by Water Board staff for completeness. The BLM has not yet submitted AOIs for 2020.

Water quality monitoring efforts are continuing in 2020 at four in-lake stations, in cooperation with Eagle Lake Guardian volunteers. On a monthly frequency through November, field measurements will be taken to correspond with water samples that will be analyzed for nutrients and chlorophyll-a. If field crews suspect the presence of a harmful algal bloom based on site observations of discolored water and/or floating algal mats or surface scum, then the suite of analytes will include cyanobacteria and their associated toxins.

Los Angeles Department of Water and Power (LADWP): LADWP owns large areas of land in the Owens Valley and has approximately 50 grazing leases on parcels ranging in size from 33 to 26,065 acres. Extensive water quality sampling indicates that livestock with unrestricted access to surface waters has caused exceedance of water quality standards for nutrients, bacteria (100 cfu/100 ml E. coli) and turbidity along Bishop, Horton, and Lower Pine Creeks within lands owned by LADWP. Hundreds of water quality samples and genetic microbial source tracking studies confirm that ruminant livestock are the predominant source of bacteria in waters that have a high degree of contact by the public. Other landowners in the Owens Valley and throughout the Region managing grazing cause similar impacts.

Water Board staff are considering including irrigated pasture into the upcoming ILRP for all irrigated pasture in the Region, including LADWP land. Livestock grazing on irrigated pasture has a higher risk of impacting water quality compared to grazing on non-irrigated lands. The strategy would focus on higher risk grazing lands and cover a wider area resulting in more mitigation of potential impacts. Staff is currently working on developing a

Staff Report with a recommended approach for an ILRP in the Lahontan Region for Water Board consideration in November.

Recent impacts to staff resources associated with the COVID-19 emergency may require reprioritization of grazing related work. In the near term, staff anticipates that efforts to address grazing related water quality issues will focus on Bishop Creek in the Owens Valley as part of the Bishop Creek Vision Project; and will continue to work with the Bridgeport Ranchers Organization to develop a watershed-wide approach to address similar issues in Bridgeport Valley. Staff will also coordinate across units internally to determine where to focus limited resources and take actions necessary to protect water quality and beneficial uses consistent with state and federal laws. These actions may be regulatory, or based on non-regulatory efforts for BMP implementation, or a combination of the two approaches.

5. Better Together - Bishop Paiute Tribe & Water Board Bishop Creek Partnering
– *Ed Hancock and Cindy Wise*

In coordination with the Bishop Paiute Tribe’s Water Quality Program Coordinator, BryAnna Vaughan, staff participated in the May 28 session titled “State-Tribal Partnerships on TMDLs and Impaired Waters Listings” at the 2020 National CWA 303(d) Virtual Training Workshop (Workshop). The Workshop was hosted by the U.S. Environmental Protection Agency (USEPA) with assistance from the Environmental Law Institute, a non-partisan environmental education and policy research center. The overall purpose of the Workshop was to provide an opportunity for staff from state, territorial, and tribal water quality programs to learn about and discuss program implementation approaches and tools. Workshop audience was representatives from USEPA Headquarters and Regions, States, U.S. Territories, and Tribes.



Photo 5.1 - This photo was shared as part of the presentation. It is South Lake in the headwaters of Bishop Creek. (Photo courtesy of BryAnna Vaughan)

Ms. Vaughan and Ed Hancock shared their presentation titled *Better Together - Bishop Paiute Tribe & California Regional Water Board Partnering to Address Impaired Water of Bishop Creek*. The focus of the presentation was the success in sharing water quality data

to characterize the bacteria impacts to Bishop Creek both on the Paiute Reservation and in the middle reaches of the Creek upstream and downstream of the Reservation. The presentation explained the process from assessment of data to listing on the CWA 303(d) list, and how the listing does not apply on the Creek reach through the Reservation. It went on to explain next steps in implementation measures to address the impairment.

Bishop Creek, along with the West Fork Carson, are the two Vision Projects in the Region. For Vision Projects, staff have more flexibility in addressing water quality impairments than developing a Total Maximum Daily Load (TMDL). Bishop Creek was identified as a Vision Project because of the human health concerns about bacteria contamination, and in large part, because of the opportunities to collaborate with the Paiute Tribe. This collaboration includes integration of CWA 303(d) program requirements with the monitoring and strong partnership already in place, plus a shared data set to help characterize the watershed. A final report will be prepared by USEPA and the Environmental Law Institute summarizing the proceedings of the training workshop, which may assist in future Vision planning, and serve as a reference for program personnel implementing their responsibilities consistent with the current vision for the CWA 303(d) and TMDL programs.

6. Society for Rangeland Management - California Pacific Section Spring Virtual Campfire – Ed Hancock and Cindy Wise

On June 11, Water Board Staff, Ed Hancock and Cindy Wise, participated in the semi-annual meeting of the California Pacific Section of the Society for Rangeland Management (SRM). The SRM is a professional scientific society and conservation organization whose members are concerned with studying, conserving, managing and sustaining rangeland resources. The theme of the meeting was *Beef, Water, Fish, And People. Multiple Perspectives on Lahontan 303d Listings*. Due to Covid19 restrictions on in-person meetings and on travel, the meeting was held as a Virtual Campfire.

Staff presented the data assessment that resulted in Bishop, Pine and Horton Creeks being listed as impaired for violations of the Region's bacteria water quality standards. Staff described the Bishop Creek Vision Project. Bishop Creek, along with the West Fork Carson River, are the two Vision Projects in the Region. For Vision Projects, the Regional Water Board has more flexibility in addressing water quality impairments than developing a Total Maximum Daily Load (TMDL). Pine and Horton Creeks are not included in the Bishop Creek Vision Project.

Bishop Paiute Tribe's Water Quality Program Coordinator BryAnna Vaughan was also a presenter and shared some of the grazing management practices that are in place to control impacts to Bishop Creek on tribal lands. She expressed her appreciation of the benefits of collaborating with Regional Water Board staff on monitoring and data sharing. USDA Natural Resources Conservation Service Rangeland Specialist Rob Pearce gave a summary of the complex history of water management in the Owens Valley. Dr. Pearce, as a former local rancher, also shared his perspective on the need to balance water quality with potentially big costs to the ranching community in attaining that water quality. Danielle Mendiburu of Flying M Cattle Incorporated, a local rancher in the Round Valley area of Inyo County, shared those same concerns and showed video footage of her ranch, and of some of its irrigation and grazing management practices.

The meeting's facilitator was Dr. Marc Horney, a member of the SRM, a professor at Cal Poly San Luis Obispo, and Chair of the California Rangeland Management Technical Advisory Committee. Dr. Horney stressed the importance of continuing the dialogue

between the ranching community and the Regional Water Board in working together to address the water quality impairments in Bishop, Pine and Horton Creeks. Regional Water Board staff intends to continue discussions with ranchers while developing its Bishop Vision Project and other grazing control strategies.



Photo 6.1 Bishop Area Ranch

7. Truckee River Watershed Council Supplemental Environmental Project Pilot Program – Jeff Brooks

This past May, Water Board Staff, Jeff Brooks, inspected three of the four completed restoration projects that make up the Truckee River Watershed Council (TRWC) Supplemental Environmental Project (SEP) Pilot Program. The inspections are one of the final steps in closing out the TRWC SEP Pilot Program that was funded through a settlement of administrative civil liabilities imposed upon NorthStar Mountain Properties, LLC (NMP).

In March 2009, the Water Board adopted an Administrative Civil Liability (ACL) Order for NMP that incorporated a settlement for alleged violations of stormwater permits, water quality certifications, and waste discharge prohibitions. The settlement included (1) cash payments to the State Water Board's Cleanup and Abatement Account and Waste Discharge Permit Fund and (2) a Supplemental Environmental Project (SEP).

NMP had begun implementing the SEP (Waddle Ranch Assessment and Restoration Project; NorthStar Vegetation Management Project) when NMP's parent company filed for bankruptcy. The Water Board received a partial payout on the remaining SEP value, which could not fully fund the original SEP. In response to this situation, the Water Board decided to redirect the unspent SEP funds from the settlement on projects that could be completed.

The Water Board subsequently adopted Resolution No. R6T-2014-0015 approving the TRWC SEP Pilot Program to evaluate the Water Board's newly developed SEP Program. The Water Board's SEP Program establishes partnerships with independent third parties who develop, publicly vet, and implement a variety of watershed-based projects intended to improve or protect water quality and aquatic habitat in the Lahontan Region.

The TRWC SEP Pilot Program originally consisted of three projects with a fourth project being added due to efficiencies in implementing one of the original three projects. Those projects include:

Project A - Elizabethtown Meadows Restoration - Completed 2017.

Project B - Dry Creek Restoration Site 1 - Completed 2017.

Project C - Middle Martis Creek Wetlands Restoration - Completed 2018.

Project D - Merrill Davies Stream and Meadow Restoration Site 8 - Completed 2015. This project was incorporated into the TRWC SEP Pilot Program as a result of cost savings achieved with the Dry Creek Restoration Site 1 Project (Project B, above). The \$15,000 in cost savings filled a funding gap allowing TRWC and its partners to go forward and fully implement this project.

In May 2020, Water Board staff inspected Projects A through C with TRWC Restoration Director Beth Christman.

At the Elizabethtown Meadows Project area, historic access roads were constructed to enable development of the property. None of the roads were maintained and portions of the road network were capturing dispersed seasonal drainages from upslope and releasing the water at several concentrated points. Additionally, an active fault zone dominates the topography and hydrology of the area, creating a series of springs. These springs support wetlands and fens. The roads, combined with their inappropriate use, caused several significant problems including channel instability, erosion, and head-cutting, wetland and fen degradation, sediment loading directly to Middle Martis Creek, and impacts to recreation and access infrastructure. The restoration activities for the project included drainage reconnection, meadow restoration, culvert removal, and partial road decommissioning (see Photo 7.1). The project is resulting in meadow and fen recovery and reduction of erosion and associated sediment transport from decommissioned dirt roads to surface waters.

In the Dry Creek (locally known as Russell Valley) Project area, the entire south side of the Dry Creek watershed was heavily logged, starting in 1896. A system of roads and skid trails heavily impacted the existing meadows and stream channels. The stream, its tributaries, and the meadows were no longer hydrologically connected, and some head-cuts had developed in the stream channels. The restoration activities included restoring the stream and tributaries back to remnant channels on meadow surfaces and plugging gullies. Sections of historic roads that are no longer needed were restored with grading, placement of woody debris and boulders, and planting of native vegetation (see Photo 7.2). The project is resulting in meadow recovery and reduction of erosion and associated sediment transport to surface waters.

For the Middle Martis Creek Project, creek flow was confined to an undersized stream channel on the south side of Hwy 267 when it was constructed. This led to erosion, head-cutting and general creek channel instability, degradation of the wetland meadow area north of the highway, and periodic flooding of Hwy 267. The restoration activities included channel realignment and reconfiguration at the Hwy 267 crossing, removal of abandoned road fill to restore flow paths, placements of logs and willows in the actively incising channel to promote aggradation, improving drainage across access roads to eliminate erosion, gully repair and riffle construction to halt erosion and promote fish passage, and stakeholder coordination and communication. The project restored surface water flow to the north side of Hwy 267 (see Photo 7.3) and is resulting in recovery of wetlands on the north side of the Hwy 267 and restoration of appropriate flow volumes in channels on both sides of the highway. The project area was tested soon after initial construction was completed in late 2016, with runoff from heavy precipitation. The project performed up to expectations, as was shown during a presentation to the Water Board in November 2017.

All project areas viewed during the inspections are recovering well from construction with meadows, stream channels, and vegetation responding well to the completed work. The work is expected to result in long-term improvement of water quality and habitat in the project areas. Water Board staff will be completing the final steps to close out the TRWC SEP Pilot Project during the following month.



Photo 7.1 - Decommissioned portion of historic access road in Elizabethtown Meadows Project area.



Photo 7.2 - Decommissioned historic road in Dry Creek (Site 8) Project area.



Photo 7.3 - Flow restored in historic Middle Martis Creek channel on north side of Hwy 267 in Middle Martis Creek Project area.

The SEP Program is an important part of the Water Board's Enforcement Program and facilitates work (e.g. restoration projects, residential hookup to municipal sewer service, etc.) that is important to water quality and aquatic habitat improvement and protection within the Lahontan Region. The success and importance of such projects supports continued pursuit of additional partnerships and SEPs through the Water Board's SEP Program

8. Standing Item - Leviathan Mine, Alpine County – *Leviathan Unit*

Water Board staff continues coordinating with United States Environmental Protection Agency (USEPA), Atlantic Richfield Company (AR), and project stakeholders (including the Washoe Tribe of Nevada and California, Nevada Division of Environmental Protection, and the United States Forest Service) for the completion of current and proposed work at Leviathan Mine.

Remedial Investigation and Feasibility Study

Site Characterization Report: Under order from the USEPA, AR submitted a Site Characterization Report (SCR) for the Leviathan Mine Site on December 31, 2017. Water Board staff reviewed the SCR and the Executive Officer provided comments to the USEPA by letter dated August 7, 2018. In the letter, the Executive Officer discussed several key issues regarding information presented in the SCR. Of the issues raised by Water Board, those pertaining to statistical analyses set forth in the SCR were largely supported by AR consultants who were hired to review and address Water Board comments. The AR consultants newly proposed statistical process requires recalculation of all Reference Threshold Values (RTV) presented in the 2017 SCR. According to USEPA, a revised SCR will not be prepared; instead, the new RTV calculations and other revisions will be presented in the draft sitewide Remedial Investigation (RI) report.

Water Board staff continues to work with USEPA and AR on resolving additional issues identified in the Water Board's August 7, 2018 letter and other issues that staff hopes are addressed prior to AR's release of a draft RI, including those related to the selection of a reference stream for stream sediment and floodplain soils. USEPA is currently reassessing the schedule for completing the sitewide RI report and Feasibility Study (FS), taking into consideration the current effort to develop an Early Final Remedial Action for treating the primary sources of surfacing Acid Mine Drainage (AMD) at the mine.

Groundwater Report: On May 14, 2020, AR submitted to the Water Board an evaluation of groundwater conditions for Leviathan Mine. Water Board staff is in the process of reviewing the evaluation. The evaluation puts forth a conceptual groundwater model based upon various data from the site. State Water Board Division of Administrative Services (DAS) has been working with Water Board staff to develop a contract with the Desert Research Institute to assist the Water Board staff in reviewing AR's groundwater evaluation. Water Board staff expects the contract with DRI to be finalized through DAS early in Fiscal Year 2020/2021. Thorough documentation of groundwater conditions at the site and the development of a representative conceptual model will be critical components to the sitewide RI/FS and the selection of appropriate remedial actions for the mine site.

Early Final Remedial Action (EFRA)

Discussions between USEPA, AR, and Water Board regarding the possibility of implementing an EFRA at Leviathan Mine have occurred intermittently over the past several months. The proposed EFRA would encompass year-round capture and treatment of the five main sources of AMD for purposes of reducing metals loading to Leviathan Creek. To inform the selection of a treatment process and for consideration of performance standards and effluent discharge limits, AR has agreed to conduct a treatability pilot test at the mine during the 2020 field season. The pilot project calls for the treatment of AMD directly from the five primary sources of mine site AMD by means of High-Density Sludge (HDS) treatment processes. The pilot test will be conducted using various configurations of the HDS process with the primary objective of determining which configuration yields the best results for metals removal while producing a high-density sludge (greater than 15 percent solids by weight). This will be the first time AR has performed a pilot test to evaluate combined treatment of AMD from the five primary sources of AMD without use of the evaporation ponds. The treatability pilot test is expected to wrap up in September 2020, with a final report coming out in January 2021. Under the Settlement Agreement between the Water Board and AR, the costs of the treatability pilot testing will be shared with 40 percent of the costs being paid by the Water Board and 60 percent of the costs being paid by AR. Water Board Leviathan field staff will be coordinating closely with AR during the pilot test to track performance and observe operations.

With regard to the EFRA, according to the Settlement Agreement, the Water Board would be responsible for the design and construction of the EFRA and the costs for that work will be shared with 25 percent of the costs being paid by the Water Board, and 75 percent of the costs being paid by AR. Water Board staff will continue to work with USEPA and AR in this process to ensure compliance with CERCLA, including Applicable, Appropriate, and Relevant Requirements (ARARs) of the State of California.

Settlement Agreement Activities

Water Board staff has continued staff's efforts to review quarterly cost reports submitted by AR for Remedial Investigation and Feasibility Study (RI/FS) activities AR has conducted. During the past six months, Water Board staff and AR have resolved issues with AR's cost reports for the 2nd and 3rd quarters of 2019. The 4th quarter cost report for 2019 is still in review. Water Board staff's review of AR's RI/FS costs will continue for the next several years and is a critical element of a complex cost-sharing and accounting system established by the Settlement Agreement between the Water Board and AR. The Settlement Agreement provides that for every dollar AR spends for RI/FS work over \$11 million, AR is to receive a 40-cent credit from the Water Board towards the amount AR will have to pay for construction of the final Remedial Action for Leviathan Mine. Through the 3rd quarter 2019, the agreed upon total of RI/FS expenses paid by AR is just over \$50 million, and the credit due from the Water Board is just under \$16 million.

Water Board Work Activities for 2020 Field Season

As part of annual field season preparation activities, Water Board staff prepared and submitted the following documents:

- 2020 Work Plan for Leviathan Mine to USEPA.
- Updated Health and Safety Plan for Leviathan Mine with assistance from the State Water Board's Health and Safety Office to USEPA.

- Updated Annual Road Use Plan to the United States Forest Service.

Working under a contract agreement administered on the Water Board's behalf by the California Department of General Services (DGS), Spectrum Services Group mobilized to the mine site in early June 2020 to conduct maintenance activities on components to the Water Board's Pond Water Treatment system, including repair and replacement of the Pit Clarifier outlet structure and flow measurement weir box. Spectrum plans to start removing sludge from the Pit Clarifier on June 22, 2020 and to start treatment operations on or about July 5, 2020. Pond Water Treatment activities are expected to run into September 2020.

Water Board staff is also coordinating with DGS on a contract for the design of various site improvements near Pond 3 to better accommodate spring treatment activities when necessary. These improvements are likely to include regrading/resurfacing of the service road to the area where spring treatment activities are conducted and construction of a concrete pad to provide a stable service for placing spring treatment equipment, when needed. Water Board staff expects completion of project design by the fall of 2020, and construction completion during the 2021 field season.

South Lahontan Region

9. Update on Edwards AFB Operable Unit 4/9 Arroyos Dispute, June 2020 – Alonzo Poach

An Edwards Air Force Base (Edwards AFB) Arroyos Record of Decision (ROD) dispute was initiated in November 2014 by the Department of Toxic Substances Control (DTSC) and United States Environmental Protection Agency (USEPA), Region 9. The dispute is currently transitioning from the dispute resolution committee (DRC) to the senior executive committee (SEC), following the process outlined in the Edwards AFB Federal Facilities Agreement (FFA). The dispute focuses on 11 disputed items in the Arroyos ROD, primarily focusing on various risk management and toxicity criteria issues. Eight of the eleven issues have been conceptually resolved through meetings and correspondence between the agencies. However, three remaining issues regarding appropriate toxicity criteria and proper application of the risk management range (volatile organic compounds [VOCs] detected in vapor at the 10^{-4} to 10^{-6} risk range) remain unresolved.

The Air Force asserts that Federal toxicity criteria (typically established by USEPA) takes a higher hierarchy when both Federal and State criteria exist regardless of which value is more stringent (i.e., is more protective). Also, the Air Force asserts that the risk triggers within the risk range are acceptable without mitigation or institutional controls. USEPA, Water Board, and DTSC are parties to this dispute. Over a series of DRC meetings in 2017, members of the DRC from all agencies agreed to work through the remaining items using the *informal dispute process* outlined in the FFA at the staff level (i.e., via the Remedial Project Manager representatives from each agency). In a letter dated October 2, 2019, the Air Force stated that working the issues through the technical working groups is no longer the most efficient way of settling the disputed items. The October 2019 letter also called for a DRC meeting to discuss the next steps with the DRC members. In November 2019, staff from all agencies collaboratively developed a dispute status summary of the proposed path forward as a result of the technical working group meetings. Each agency provided a summary to their respective DRC member. As a follow-up to the October 2019 correspondence and the November 2019 teleconference, the Air Force requested formal comments on their Written Decision via e-mail in February 2020.

On April 17, 2020, Mr. Enrique Manzanilla, Director of Superfund and Emergency Management Division, USEPA Region 9, sent correspondence to the Air Force outlining a path forward to elevate 10 of 11 items to the SEC because the actual language and necessary changes to the remedy require additional coordination to ensure that all parties are in agreement. On April 30, 2020, Water Board staff responded in support of the USEPA Region 9 approach and outlined our concern with aligning a new smaller technical impracticability waiver zone/containment zone boundary in accordance with applicable State Water Board resolutions. DTSC provided their response to the Air Force on May 14, 2020, agreeing to the approach and acknowledging all the work to date to get to a settlement.

The three items with no conceptual agreement include (1) application of 1×10^{-4} cumulative risk as the remedy decision point; (2) application of 1×10^{-5} risk cleanup levels for individual VOCs through an industrial VI pathway; and (3) application of the California Toxicity Criteria Rule. Those three items were elevated to the SEC by the Air Force on April 30, 2020. On June 5, 2020, USEPA Region 9 elevated seven additional issues to the SEC proposed settlement of a soil dispute item at the DRC level and a schedule for an SEC meeting. The seven additional items are:

1. DTSC Dispute Item 3: "Insufficient characterization for selecting the remedy for six buildings and the selected remedy for Building 8753;"
2. EPA Dispute Item 1: "Adequacy of Vapor Pathway Characterization;"
3. EPA Dispute Item 2: "Short-Term Non-Cancer Risk from TCE Inhalation;"
4. EPA Dispute Item 3: "Measuring Compliance with Numerical Action Levels;"
5. EPA Dispute Item 4: "The ROD does not clearly define and discuss the term 'occupancy patterns' within the context of VIP land use controls (LUCs);"
6. EPA Dispute Item 5: "The frequencies of verification sampling and other required sampling for VIP land use controls (e.g., presumably for the evaluation of new buildings) are not described and justified;" and
7. EPA Dispute Item 7: "As written, the draft ROD does not adequately explain the rationale for a technical impracticability (TI) decision and a waiver of cleanup standards."

USEPA Region 9 proposed the SEC meeting take place approximately 45-days after the Air Force issues a draft report of vapor intrusion sampling conducted for the Arroyos in February 2020. This draft report is currently expected to be submitted to the regulatory agencies in July 2020.

10. Professional Geologist Panel Discussion - California State University, San Bernardino – Jeff Fitzsimmons

Jeff Fitzsimmons, Engineering Geologist from our Victorville office, participated as a professional panel member for an interactive web-based discussion as part of an Engineering Geology Class session with California State University, San Bernardino on May 29, 2020. Throughout the Spring 2020 quarter, professionals from the field of geologic sciences have been asked to participate in professional panel discussions with university students. As part of the discussion, students shared information about themselves and the career paths they were interested in; similarly, panel members shared information about their education, career paths, and various aspects of current job assignments. Panelists also discussed potential career opportunities with their respective agencies and elsewhere in industry and answered questions posed by the students.

COVID-19 has limited the amount of interaction students would typically have with industry professionals at societal meetings, conferences, or job fairs. The professional panel discussion hosted by the university provides students another opportunity to interact with professionals practicing in the field of geology. In addition, Water Board staff participation in these types of web-based panel discussions serves to increase public awareness of water quality, encourage and recruit new talent to the Water Boards, and help build and maintain relationships with the communities that we serve.

11. New Fuel Recovery Technique Tested at Edwards Air Force Base, Site 31, Former Bulk Fuel Storage Facility – *Alonzo Poach*

The former main Edwards Air Force Base (AFB) bulk fuels storage facility (Site 31) was a bulk jet fuel storage facility that consisted of five large aboveground storage tanks (ASTs). The ASTs stored jet fuel delivered to Edwards Air Force Base via a commercial pipeline service company (CAL/Nev pipeline) and range in size from 336,000 gallons to 840,000 gallons. Currently, one AST onsite stores jet propellant-8 (JP-8) for specific missions (Department of Defense now primarily uses Jet-A fuel). In the early 1990s, several fuel pipeline leaks at the facility released jet fuel to the subsurface. The leaks were discovered and repaired. When the leaks were discovered, the Air Force began an investigation of the site. A monitoring well network was installed and light non-aqueous phase liquid (LNAPL) was discovered floating on the groundwater. LNAPL recovery efforts began shortly after the discovery. The early LNAPL recovery efforts were effective in recovering thousands of gallons of floating jet fuel from the subsurface; however, as with many LNAPL recovery techniques, it was expensive and difficult to maintain.

Since December 2013, the Air Force has recovered approximately 3,500 gallons of LNAPL from the subsurface using manual bailing/pumping and dedicated XiTech® product recovery pumps. Even with these product recovery efforts, several groundwater monitoring wells still have measurable LNAPL (maximum of 4.63 feet of apparent thickness in March 2020). In June 2020, the Air Force began pilot-testing two NET™ Systems at Site 31 in an effort to enhance LNAPL recovery at the site. The process, known as Non-aqueous Extraction Technique (NET™), utilizes an oleophilic/ hydrophobic fabric capable of adsorbing the product with a 99% recovery-efficiency. The fabric is conveyed in a continuous loop into the well to intercept the oil-water interface. As the fabric travels through the interface, product is adsorbed. The adsorbed product is removed in a specially designed de-sorption unit and the recovered product is gravity drained into a storage drum or tank.¹ The fabric resembles bristles on a broom and the systems are mounted on a small utility trailer so they can be moved around the site where they are most effective (see photos below). The systems require very little energy to run and are powered by a solar panel and batteries. Recovered LNAPL is transferred to the base hazardous waste facility for proper disposal or recycling. The Air Force is testing the NET™ systems at four wells and will be moved around the site, as necessary. The pilot testing of the system is scheduled to continue for 12 months.

¹ <http://www.eicusa.com/NAPL.PDF>

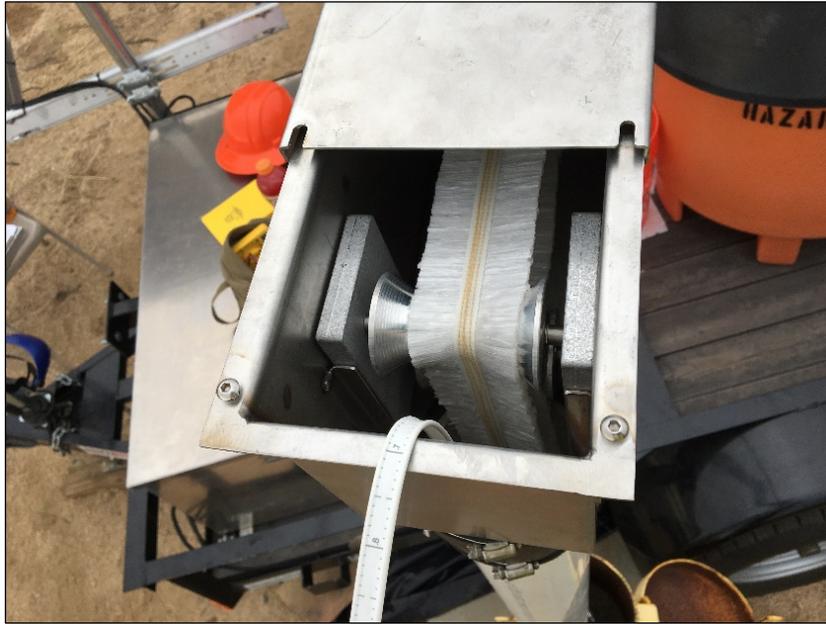


Photo 11.1 showing the NET™ fabric. The net fabric is similar to a brush. Oil and petroleum products sorb to the bristles. The process is effective for LNAPL and dense non-aqueous phase liquid (DNAPL).



Photo 11.2 showing field technicians gauging LNAPL and water level while the NET system removes product from the well. Note the system is mounted on a small utility trailer and can be moved around the site.



Photo 11.3 showing recovered LNAPL from a monitoring well at Site 31. Photo also illustrates the efficiency of the NET system. Traditional product recovery methods yield both groundwater and LNAPL. The measuring cup pictured above shows no detectable water during the recovery.

12. Mojave Water Agency Technical Advisory Committee Meeting – Anna Garcia

Water Board staff attended a virtual meeting of the Mojave Water Agency Technical Advisory Committee (MWA TAC) on June 4, 2020. The MWA TAC is an independent, voluntary group of water purveyors, pumpers, and other interested parties located within MWA's boundaries. The MWA TAC meets in a public forum to discuss common concerns and acts to assist the MWA in pursuit of its legal objectives.

During this meeting, Christy Huiner, of MWA, presented an update on projects identified during the 2014 Integrated Regional Water Management Planning (IRWMP) process for the Mojave Region and during subsequent IRWMP work. Ms. Huiner reported that as of 1st Quarter 2020, of the 93 projects currently listed, 17 projects are complete,

39 projects are in progress, five projects are identified as implementable, 14 projects are conceptual, and 18 are inactive. MWA TAC Chairperson, Marina West, noted that projects can be added to the list by contacting Lance Eckhart at MWA. Additional information regarding the IRWMP program and projects is available online at: <https://www.mywaterplan.com/>.

Mr. Eckhart provided information regarding a Request for Proposals (RFP) issued by MWA to prepare a Regional Wholesale Urban Water Management Plan (UWMP). The

RFP was issued on May 14, 2020, and proposals are due to MWA on June 22, 2020. The completed UWMP is due to the California Department of Water Resources (DWR) on July 1, 2021.

Additionally, Chuck Steinbergs of the California Rural Water Association (CRWA) provided a presentation regarding the Household Well Drought Assistance Program implemented by CRWA in association with the MWA Small Water Systems and Disadvantaged Communities Program. Mr. Steinbergs reported on this project to assist residents in disadvantaged communities (DACs) with the replacement of domestic wells that have gone dry or are experiencing significant water level declines due to drought conditions. The project was initiated in 2016 with the assistance of a \$451,356 grant provided by the State Water Resources Control Board (State Water Board). Field work was completed in 2018-2019 and final reports were submitted in 2019. The project provided assistance for a total of 12 wells, with seven wells in Newberry Springs, three wells in the foothills of Hesperia, one well in Hinkley, and one well in Riverside County. Eight of these wells also had water quality issues, primarily arsenic and total dissolved solids that were addressed by the addition of under-sink reverse osmosis units for drinking water. CRWA in association with MWA has applied to the State Water Board for another grant to implement a second phase of this project with 20 potential candidates currently in line for evaluation.

Mr. Eckhart also reported on the status of Proposition 1 grant funding for the Mojave Region and noted that the group was awarded \$4,000,000 in the Lahontan Funding Region but was unsuccessful in the Colorado River Funding Region.

Other business was also discussed. The next TAC meeting is scheduled for August 6, 2020.

13. Standing Item – Quarterly Violation Report – 1st Quarter 2020 – Rob Tucker

The Quarterly Violation Report for January 1, 2020 to March 31, 2020 includes (1) a summary of violations that occurred during the reporting period, and (2) an update on pending enforcement actions.

Synopsis of 1st Quarter 2020 Violations

Forty (40) violations were recorded for the 1st quarter 2020 reporting period (Attachment A), much less than the 212 violations recorded for the same quarter a year ago. There were several clear reasons for the difference in the number of violations between the two quarters. First, Crestline CSD had 75 flow-related violations due to extreme wet-weather conditions over an approximately two-month period during the 1st quarter 2019. The second reason was the 74 monitoring program-related violations (e.g., deficient monitoring, deficient reporting, and late reporting) for the 1st quarter 2019, compared to 10 for the 1st quarter 2020. Additionally, there were 18 groundwater quality violations and 18 effluent quality violations in 2019, compared to one (1) groundwater quality violation and eight (8) effluent quality violations in 2020.

The violations during the 1st quarter 2020 were also down from the 56 violations recorded during the previous quarter. The 1st quarter violations were distributed over several counties with wastewater treatment facilities being the dominant facility type experiencing violations. There were 12 wastewater treatment facilities with a total of 18 violations involving effluent quality (7 violations), monitoring program requirements (7 violations), and permit conditions (4 violations).

Attachments: Attachment A - 1st Quarter 2020 Violations Table
Attachment B - Pending Enforcement Cases

**Attachment A
1st Quarter 2020 Violations Table**

Violation Category	Priority	County	Responsible Party	Facility	Violation Description	Corrective Action	Enforcement Action
Highlighted Violations - Wastewater Treatment Facilities	B	Multiple	Multiple (11) representing small private to large municipal wastewater treatment facility owners/operators.	Multiple (11) facilities located throughout the region.	Effluent Quality (7 violations) Monitoring Program (6 violations) Order Conditions (4 violations)	Three (3) Dischargers identified corrective actions. One (1) Discharger (China Lake Naval Weapons Station) will investigate further once COVID shelter in place restrictions are lifted. Seven (7) Dischargers did not identify any corrective actions.	Five (5) of the 17 violations were addressed with informal enforcement (Oral Communications and Staff Enforcement Letters). Dischargers addressed another seven (7) of the 17 violations without any enforcement action.
*Monitoring & Reporting	B	Inyo Riverside - (Region 7)	Shade Grown Farms LLC NPS Death Valley Glorious Gardens	Shade Grown Farms LLC (Cannabis) Furnace Creek Class III Landfill Glorious Gardens (Cannabis)	Late Reporting Late Reporting Deficient Monitoring	No corrective actions proposed by Dischargers.	Staff Enforcement Letter None Staff Enforcement Letter
*Water Quality Effluent Violations	B	Mono San Bernardino	California Dept. of Fish and Wildlife Searles Valley Minerals	Hot Creek Fish Hatchery Trona Plant	Nitrate (4 violations) and Settleable Solids (1 violation) Total Kerosene	None Under investigation	Permit Renewal Staff Enforcement Letter
Water Quality Receiving Water (Groundwater) Violations	A	San Bernardino	Van Dam, Eldert	B & E Dairy	Nitrate and Total Dissolved Solids	No corrective actions proposed by Dischargers.	None
Stormwater Violations	B	Nevada San Bernardino	Multiple (6)	Construction Projects (6 project sites)	Deficient BMP implementation and maintenance (5 violations) Insufficient/Incomplete SWPPP (1 violation)	No corrective actions proposed by Dischargers.	Two (2) of the six (6) violations addressed with informal enforcement (Oral Communication and Staff Enforcement Letter).
*Order Conditions	B	Inyo Riverside - (Region 7)	Grow 4 Gold LLC La Fruity Café LLC Nug Labs P&S Ventures	Cannabis Cultivation (4 cultivation sites)	Did not submit Site and Management Plan w/i two weeks of NOA being issued. Unauthorized discharge of waste and cultivation wastewater. Improper storage of spent growth media and unauthorize discharge of wastewater to land. (Nug Labs and P&S Ventures).	None None Spent growth media hauled from site and waste/wastewater discharge practices appropriately addressed (Nug Labs and P&S Ventures).	Staff Enforcement Letter Staff Enforcement Letter Oral Communications Oral Communications

* Excludes those assoc. with wastewater treatment facilities.

Attachment B
Pending Enforcement Cases
June 19, 2020

Facility	County	Enforcement Action	Current Status	Next Step
Executive Officer				
Desert View Dairy	San Bernardino	Amended Cleanup and Abatement Order (CAO)	Issued Water Code Section 13267 Order requiring specified groundwater sampling.	Water Code Section 13267 Order issued June 2, 2020. Section 13267 Order. Proposed CAO not approved.
Tahoe Donner Association Equestrian Center	Placer	Recission Order for CAO	Public comments and compliance with all CAO requirements have been reevaluated.	Advisory Team preparing final recommendation for the CAO. [June/July 2020]
Ramiro Villa Avila/ APN 3060-020-043 Pearblossom	Los Angeles	CAO	Released Proposed CAO for public comment period in response to waste discharges associated with unpermitted cannabis cultivation site.	Advisory Team to review Proposed CAO and public comments, and make final recommendation. [3rd Quarter 2020]
William Goldberg APN 3334-004-011 Hi Vista	Los Angeles	CAO	Released Proposed CAO for public comment period in response to waste discharges associated with unpermitted cannabis cultivation site.	Advisory Team to review Proposed CAO and public comments, and make final recommendation. [3rd Quarter 2020]

Attachment B
Pending Enforcement Cases
June 19, 2020

Facility	County	Enforcement Action	Current Status	Next Step
Prosecution Team				
Ramiro Villa Avila APN 3060-020-043 Pearblossom	Los Angeles	ACL Complaint	Preparing to issue ACL Complaint in response to waste discharges associated with unpermitted cannabis cultivation site.	Issue ACL Complaint. [3rd Quarter 2020]
VWVRA	San Bernardino	ACL - Settlement (Mandatory Minimum Penalties)	Staff issued Notice of Violation/Record of Violations to VWVRA. Staff currently engaged in settlement negotiations.	Complete settlement negotiations and release Proposed Settlement for public comment. [3rd Quarter 2020]
Susanville CSD	Lassen	ACL - Settlement (Mandatory Minimum Penalties)	Staff issued Notice of Violation/Record of Violations to Susanville CSD. Staff currently engaged in settlement negotiations.	Complete settlement negotiations and release Proposed Settlement for public comment. [3rd Quarter 2020]

Attachment B
Pending Enforcement Cases
June 19, 2020

Facility	County	Enforcement Action	Current Status	Next Step
Prosecution Team				
Tahoe Keys Marina	El Dorado	Expedited Payment Letter - Mandatory Minimum Penalty re-issued on October 27,2016.	Preparing Notice of Violation/Record of Violation with updated violations.	Issue Notice of Violation/Record of Violation. [3rd Quarter 2020]
Bijou Marketplace	El Dorado	ACL-Settlement	Preparing to re-establish settlement negotiations.	Complete settlement negotiations and release Proposed Settlement for public comment. [3rd Quarter/4th Quarter 2020]
West Walker River near Coleville	Mono	ACL Complaint	Preparing to issue ACL Complaint in response to unauthorized discharge of fill to West Walker River.	Issue ACL Complaint. [3rd Quarter/4th Quarter 2020]