



EXECUTIVE OFFICER'S REPORT • May 2019
Covers March 16, 2019 – April 15, 2019

Contents

1. Personnel Report – <i>Eric Shay</i>	1
2. Standing Item - Status of Grant Activities from March 2018 to March 2019 – <i>Cindy Wise</i> ...	2
3. South Shore Fuel Reduction and Healthy Forest Restoration Project 2019 Annual Operating Plan, Lake Tahoe Basin – <i>Jim Carolan</i>	5
4. Standing Item - Regional Harmful Algal Bloom Response Update – <i>Mary Fiore-Wagner</i>	7
5. Restoration Project Moving Forward in Lower Perazzo Meadows, Sierra County – <i>Anne Holden</i>	10
6. Barry Keene Underground Storage Tank Cleanup Act of 1989 – <i>Kerri O’Keefe</i>	11
7. Leviathan Mine –Emergency Spring Treatment Operations and Funding, Alpine County – <i>Cathe Pool</i>	12
8. WaterReuse California Annual Conference and Recycled Water – <i>Woonhoe Kim</i>	17
9. Naval Air Weapons Station (NAWS) China Lake Partnering Begins – <i>Patrice Copeland and Bill Muir</i>	18
10. Golden State Water Company, Barstow – Bradshaw Well Field, Nitrate Concentration Increase – <i>Ghasem Pour-ghasemi</i>	19
11. Standing Item – Salt and Nutrient Management Plans Update in the Lahontan Region – <i>Lisa Dernbach</i>	21

State and Regional

1. Personnel Report – *Eric Shay*

New Hires – None

Vacancies – We are currently recruiting for the following positions:

- Office Technician, Victorville. This position supports our technical staff by finalizing staff correspondence and board agenda packets.
- Scientific Aid, North Basin Regulatory Unit, South Lake Tahoe. This position assists staff with administering storm water and water quality certification permitting actions, conducting inspections, reviewing reports, and maintaining databases.
- 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 for cases, 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.

- Graduate Student Assistant, South Regulatory Division, Victorville. This position uses computer programming languages, key datasets, and an interactive mapping tool to assist staff in visualizing water quality data.

Departures – None

North Lahontan Region

2. **Standing Item - Status of Grant Activities from March 2018 to March 2019** – *Cindy Wise*

This is the annual update on key grant and loan program activities in our Region, followed by a table of the local technical assistance projects that are currently managed by Lahontan Regional Water Quality Control Board (Lahontan Water Board) staff. Low-interest loan and grant funding is available for watershed protection projects, nonpoint source pollution control projects, infrastructure improvements and construction of facilities for municipal sewage treatment, water recycling, and public water supply. Lahontan Water Board and State Water Board staff coordinate to implement the Water Boards' financial assistance programs to administer loan and grant funds to help local agencies prevent or clean up pollution of the state's water and provide safe drinking water. State Water Board staff manages most of the grants with input from Lahontan Water Board staff as needed.

Proposition 68 - California Drought, Water, Parks, Climate, Coastal Protection and Outdoor Access for All Act of 2018 (Prop 68)

On June 5, 2018, California voters passed a general obligation bond in the amount of \$4 billion to finance drought, water, parks, climate, coastal protection, and outdoor access programs. These programs will be administered by several state agencies including the California Tahoe Conservancy, the Sierra Nevada Conservancy, and the State Water Board.

The initial efforts of the State Water Board under Prop 68 will be to administer \$80 million in grants for treatment and remediation activities that prevent or reduce the contamination of groundwater that serves as a source of drinking water. Draft grant guidelines are scheduled for spring 2019 with solicitation opening fall 2019. Final grant awards are planned late in 2019. As with past grant programs funded from water bonds, Lahontan Water Board staff may be asked to help develop grant guidelines or recommend projects for funding. For more information, please see:

https://www.waterboards.ca.gov/water_issues/programs/grants_loans/propositions/prop68.html.

Proposition 1 - Water Quality, Supply and Infrastructure Improvement Act of 2014 (Prop 1)

Prop 1 authorized \$7.545 billion in general obligation bonds for water projects including surface and groundwater storage, ecosystem/watershed protection and restoration, and drinking water protection. The State Water Board administers some of the Prop 1 funds for five programs with a rollout of the bond funds over a ten-year period that started in Fiscal Year 15/16. The five Prop 1 programs administered by State Water Board staff are: Small Community Wastewater, Water Recycling, Drinking Water, Stormwater, and Groundwater Sustainability. Lahontan Water Board staff coordinates with State Water Board staff in the administration of the bond funds by participating in

the development of grant solicitation guidelines and providing input to inform the project funding decisions.

A solicitation for Groundwater Sustainability grants (Round 2) is underway with awards planned for late 2019. More information on Prop 1 Groundwater Sustainability Grants can be found at:

https://www.waterboards.ca.gov/water_issues/programs/grants_loans/proposition1/groundwater_sustainability.html.

Prop 1 Stormwater Implementation (Round 2) grant solicitation is tentatively planned for summer 2019. For more information, please see:

https://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/prop1/.

The Site Cleanup Subaccount Program (SCAP)

SCAP was established by Senate Bill 445 (Hill, 2014) as a non-competitive grant program authorizing the State Water Board to fund grants for projects to investigate sources of surface water and groundwater contamination, and to remediate the harm to human health, safety, or the environment caused by existing or threatened surface or groundwater. The project site must be subject to a regulatory directive, order, or notification, unless it is infeasible to issue such regulatory items. Under SCAP, the Lahontan Water Board, in March 2019, received a \$4.6 million grant to investigate regional perchloroethylene (PCE) groundwater contamination in South Lake Tahoe affecting drinking water wells. This is the second SCAP grant award the Lahontan Water Board has received. The first award (January 2017) was a \$2.67 million grant for cleaning up perchlorate groundwater contamination in the Barstow area. For more information, please go to:

https://www.waterboards.ca.gov/water_issues/programs/grants_loans/scap/.

Clean Water State Revolving Fund (CWSRF) Program and Drinking Water State Revolving Fund (DWSRF) Program

The CWSRF Program provides low-interest loans for the construction of wastewater and water recycling facilities, municipal landfill treatment systems, implementation of nonpoint source projects and programs, and storm water treatment projects. The DWSRF Program provides low-interest loans to assist public water systems in financing the cost of drinking water infrastructure projects needed to achieve or maintain compliance with the federal Safe Drinking Water Act (SDWA) requirements and to further the public health objectives of the SDWA. Both programs are funded by federal grants, state bond funds, local match funds, repayments, and revenue bonds. Both programs accept project applications on a continuous basis and the project priority lists included in the annual business plans (Intended Use Plans or IUPs) can be amended as necessary.

On April 30, 2019, the State Water Board will be conducting a public workshop and webinar to discuss the Federal Fiscal Year (FFY) 2019 CWSRF and DWSRF IUPs. The workshop will be held in Rancho Cordova with a live webcast also available. For more information, please go to:

https://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/.

Integrated Regional Water Management (IRWM) Grant Program

The IRWM Grant Program provides grants for projects intended to promote and practice integrated regional management of water for both quality and supply. The IRWM story began in 2002 when the Regional Water Management Planning Act (SB 1672) was passed by the Legislature. Since then, various bond acts approved by California voters

have provided funding to support and advance integrated, multi-benefit regional projects. To be eligible for IRWM grant funds, IRWM geographic regions must be approved by California Department of Water Resources (DWR). In coordination with Lahontan Water Board staff, DWR has approved six IRWM groups in the Lahontan Region - Lahontan Basins, Tahoe Sierra, Inyo Mono, Fremont, Antelope Valley, and Mojave.

Prop 1 includes \$510 million for water conservation, water-use efficiency, and storm water management projects statewide that implement an approved IRWM. Of that amount, \$24.5 million is earmarked for future IRWM projects in the Lahontan Region. Lahontan Water Board staff continues to participate in IRWM groups and may coordinate with DWR staff on project review and selection. DWR staff will manage all IRWM project grants. Solicitation and awards of Round 1 Prop 1 IRWM Implementation Grants started in 2018 with release of grant guidelines and will continue into 2019 with grant awards. Pre-application Workshops for Round 1 will be held in summer 2019. Round 2 is planned to begin in 2020. For more information, see:

<https://www.water.ca.gov/Programs/Integrated-Regional-Water-Management>.

319 Nonpoint Source Implementation Grant Program

This is the federal grant program for nonpoint source pollution control projects. As shown in the table, below, our staff currently manages four 319 Nonpoint Source grants totaling \$2,375,094, with an additional pending grant in the amount of \$648,906. During the last year, one project (*Accelerated Best Management Practice Implementation in the Lake Tahoe Basin/Tahoe Regional Planning Agency*) was successfully completed. The solicitation to award approximately \$4 million in implementation projects is currently underway with final project selection expected by June 2019. The next project solicitation cycle will likely start in fall 2019. For more information on the grant program, please see:

http://www.waterboards.ca.gov/water_issues/programs/nps/grant_program.shtml.

Other Grant Information

Regional and State Water Board Staff Grants Roundtable Meetings

This grants forum has now been combined with the Nonpoint Source Program Roundtable and meets as necessary to discuss issues with, and develop improvements to, the 319 Nonpoint Source Grant solicitation process. It includes at least one representative from each Regional Board and staff from the State Water Board. This roundtable last met in February 2019 and is planning its next meeting for May 2019.

Funding Fairs

The California Financing Coordinating Committee (CFCC) is made up of several state and federal funding agencies including the State Water Board. The CFCC conducts free Funding Fairs statewide each year to educate the public and potential customers about the different member agencies, and the financial and technical resources available. The 2019 Funding Fairs are scheduled for April through August at six locations throughout the state (Sacramento, Bakersfield, Clearlake, Santa Maria, Palm Desert and Irvine.) For specific information regarding the Funding Fairs, including the schedule and registration, please visit: <http://www.cfcc.ca.gov/funding-fairs/>.

Web Site and Electronic Mailing List

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/ is the link from the State Water Board's web page for information on current and upcoming grants. http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml

is the link to subscribe electronically to receive notification of new grant information by selected program.

319H NONPOINT SOURCE GRANT PROJECTS CURRENTLY MANAGED BY REGIONAL BOARD STAFF

Title	Recipient	Amount
Truckee River Voluntary BMP Retrofit Program	Truckee River Watershed Council	\$750,000
Main Stem Truckee River Sediment Reduction	Truckee River Watershed Council	\$300,000
Reducing Sediment in Squaw Creek through Meadow Restoration	Trout Unlimited	\$782,454
Truckee River Tributaries Sediment Reduction	Truckee River Watershed Council	\$542,640
Coldstream Canyon Sediment Reduction and Wetland Rehabilitation Project <i>(award pending)</i>	Truckee River Watershed Council	\$648,906
Total of Current Projects:		\$3,024,000

3. South Shore Fuel Reduction and Healthy Forest Restoration Project 2019 Annual Operating Plan, Lake Tahoe Basin – Jim Carolan

The 2019 Annual Operating Plan (AOP) presents the eighth installment of the South Shore Fuels Reduction Project, a forest fuels reduction initiative undertaken by the U.S Forest Service (USFS), Lake Tahoe Management Unit (LTBMU). The project has operated under a Waste Discharge Requirement (WDR) approved by the Lahontan Water Board on April 12, 2012 and aims to develop defensible space adjacent to communities in the South Shore area of Lake Tahoe. Project goals also include the restoration of forest health, and the restoration and maintenance of meadows and aspen stands in the project area.

The LTBMU has operated under this WDR for seven seasons of an anticipated 7 – 10 years to project completion. To date, 6,616 acres of the 10,000-acre project have been treated (approximately 65% complete); 4,405 acres have been thinned by hand crews, 2,211 acres have been mechanically treated, and piles in 1,248 acres of upland treated areas and 117 acres in treated stream environment zones (SEZs) have been burned. The plan for 2019 includes treatment of 994 acres; 870 acres will be treated using mechanical methods, while the remaining 124 acres will be treated by hand.

The 2019 AOP was submitted to Lahontan Water Board staff for review in a timely fashion and reflects many of the comments provided by Lahontan staff to LTBMU over previous iterations of the document, illustrating a commitment from the LTBMU to both the South Shore Project and to working collaboratively with Water Board staff. The 2019 plan provides details for best case scenario operating conditions which may or may not be achieved depending on weather conditions over the coming months. Winter 2018/2019 has brought significant amounts of precipitation to the Tahoe Basin, translating to uncertainty about the timing of project implementation as much of the proposed work depends on favorable soil moisture conditions, conditions which will become apparent as spring and summer progress.

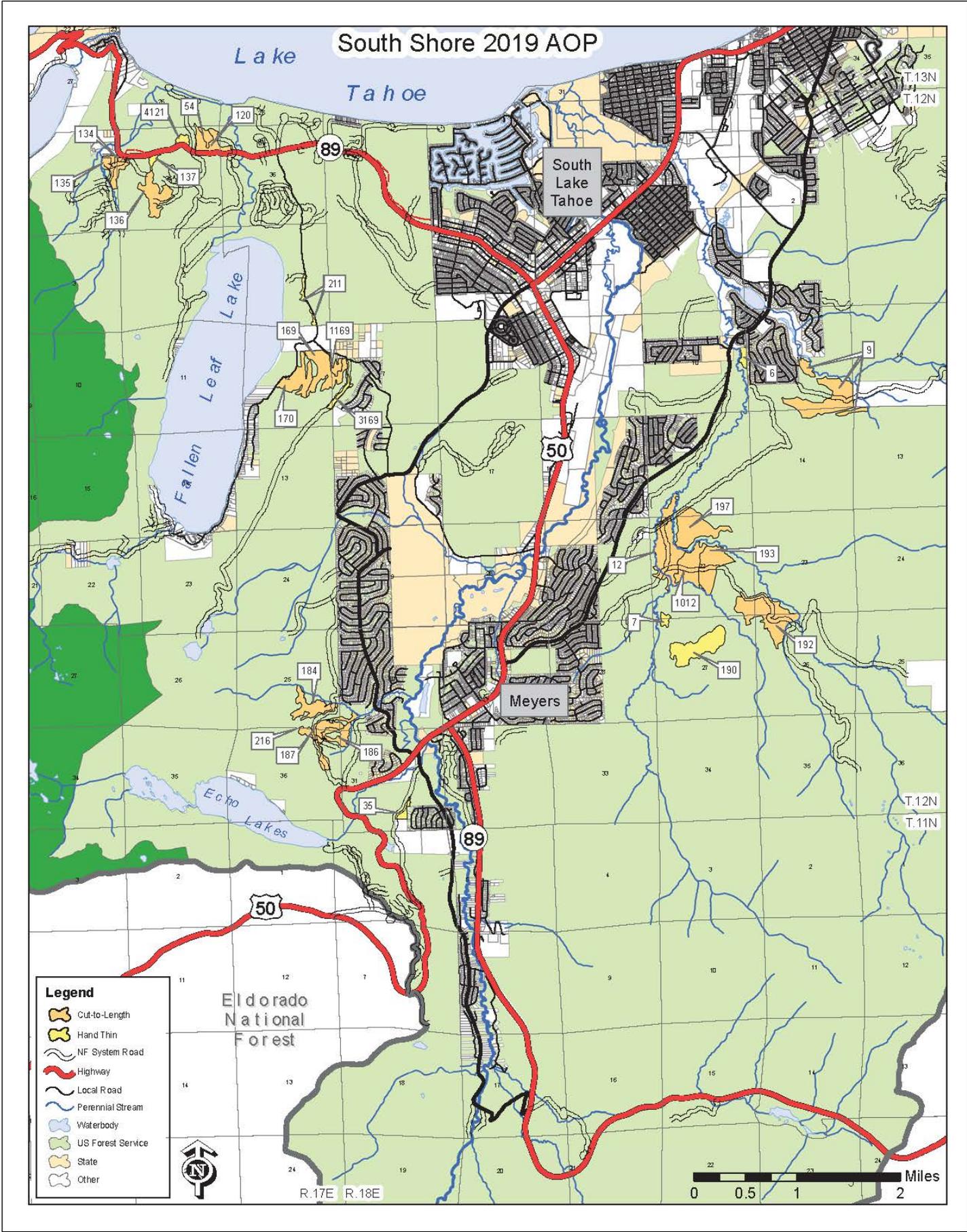


Figure 1 - 2019 South Shore AOP proposed areas of work

4. Standing Item - Regional Harmful Algal Bloom Response Update – Mary Fiore-Wagner

2019 Regional HAB Response Strategy. Responding to the occurrence of harmful algal bloom events throughout the Lahontan Region is a high-priority considering the potential impacts that HABs present to public health and beneficial uses including water contact recreation, drinking water supplies, and cold and warm freshwater habitats. During the Water Board's November 14-15, 2018 Board hearing, Water Board staff shared elements of our HAB strategy to ensure our regional response continues to be effective and meaningful. As time and resources permit, the following actions will be included in our 2019 Regional HAB Response Strategy:

- a. Host one or two regional HAB workshops to reach local partners in the northern portion of the Lahontan Region. (South Lake Tahoe, Truckee, Susanville).
- b. Coordinate with State Board Clean Water Team lead staff to train interested stakeholders and citizen scientists (including Alpine Watershed Group and Tahoe Water Suppliers Association) on BloomWatch, Cyanoscope and sampling protocols.
- c. Send staff to attend the State Board's 2019 Advanced Microscope ID (planktonic and benthic) and Field Training for Benthic HABs
- d. Continue with monthly FHAB calls and quarterly CCHAB and HAB mitigation sub-committee meetings.
- e. Respond to new blooms including filing a new bloom report, field recon, water sampling and shipment, interpretation of results and follow-up with waterbody owner/operator on posting advisory recommendations if necessary and on-going monitoring. (Prioritize response based on set criteria [level of recreational activity supported, ease of access, designated beneficial uses].)
- f. Coordinate with project proponent on special study to evaluate effectiveness of non-chemical control measure (laminar flow aeration) to manage HABs. (See section below titled Special Study Development and Implementation for more information.)
- g. Outreach to waterbody operators/owner to assist with effective cyanotoxin communications to mitigate public concern about health risks from cyanotoxins by increasing community awareness and understanding.
- h. Identify funding sources and/or leverage existing efforts to support additional bloom response and ongoing monitoring of high-risk HAB events.
- i. Continue to play an active role with the update and implementation of the state's overall strategy to address HABs as outlined in the [State Board's California Freshwater Harmful Algal Blooms Assessment and Support Strategy](#). (Revisions of this Strategy are in development and expected by Fall of 2019.)

In December 2018, staff began actively working to develop and implement the above-listed elements. The following paragraphs highlight some of the more significant progress that has been made.

Regional HAB Training for Local Partners and Citizen Scientists (Strategy Elements a. and b). Under anticipated climate and weather scenarios, we expect that the incidence of HABs throughout our region may increase in frequency, size, and duration. To increase the efficacy and timeliness of our HAB response, the Water Board is trying to increase HAB awareness by engaging with local partners and citizen monitors. The ability to respond to suspected HAB events will be more efficient if we can rely, in part, on local partners (resource agencies, watershed groups, citizen scientists) to visually monitor nearby surface waters and provide the initial screening when a HAB is suspected.

To achieve this, Staff is coordinating with State Board HAB experts, Tahoe Water Suppliers Association (TWSA), and University of California, Davis -Tahoe Environmental Research Center (TERC) to host a half-day workshop designed to provide select participants with the knowledge needed to make an initial determination about the presence or absence of cyanobacteria in a surface water potentially impacted by a HAB. Attendees will be presented with (1) a basic overview of harmful algal blooms and cyanobacteria, (2) guidance on visual observations, (3) sampling protocols, and (4) microscopy identification.

The training will be offered for a select group of advanced citizen scientists, watershed groups, and local partners that have access to microscopes and/or have ongoing or planned monitoring programs that could detect harmful algal blooms. After attending the training, participants can provide the Water Board with information to inform next steps for further HAB monitoring. Depending on the presence and abundance of cyanobacteria that is observed under the microscope, this will help inform whether additional laboratory testing should be done to analyze for the presence of cyanotoxins associated with cyanobacteria. Laboratory testing of new and suspected blooms may be supported by statewide funding dedicated for cyanobacteria and cyanotoxin monitoring.

The workshop will include a presentation by Erick Burres, an Environmental Scientist with the State Board, who leads the Clean Water Team and Citizen Monitoring Program. Mr. Burres will introduce the [Bloom Watch App](#) and the [Cyanoscope](#), which are both tools that utilize the advantage of crowdsourcing to increase detection, reporting, and early screening of HABs.

Participants that are confirmed to attend the training include Alpine Watershed Group (AWG), TWSA, Truckee River Watershed Council, Tahoe Resource Conservation District, Nevada Tahoe Resource Conservation District, Lassen County Environmental Health Department, United States Forest Service - Lassen National Forest, Tahoe Keys Property Owners Association, TERC, League to Save Lake Tahoe, and the Eagle Lake Guardians.

HAB Mitigation Sub-Committee (Strategy Element d.) Staff participates on monthly calls that discuss HAB mitigation approaches and physical, biological, and chemical control measures. Staff's participation with this sub-committee is valuable to ensure we stay informed and up-to-date regarding effective and sensible management measures, which is critically important as more waterbodies are impacted by HABs and waterbody operators and owners propose to implement management measures to control HAB outbreaks. Staff has shared some innovative, non-chemical approaches ([Ultraviolet-C Light](#), Laminar Flow Aeration) that are completed, planned, or underway in Lake Tahoe that have been effective for controlling aquatic invasive weeds and may also show promise for harmful algae control.

The HAB Mitigation Sub-Committee is also developing a Lake Evaluation Tool to assist lake managers and waterbody owners who may have limited knowledge or experience managing cyanobacteria and harmful algal blooms with information to help identify sound management measures based on the site-specific characteristics of the impacted waterbody. To test the concept and determine if the tool was worthy of further development and implementation, the sub-committee sought to pilot the tool.

Considering the significant HAB event experienced during September 2018 at Red Lake (owned and operated by California Department of Fish and Wildlife [CDFW]), Staff recommended CDFW pilot the tool.

CDFW accepted the request to pilot the Lake Evaluation Tool and its submittal is being evaluated by the sub-committee. Red Lake is a man-made lake about 60 years old and has primarily been used for fisheries, water storage, and downstream irrigation of meadow lands used to support cattle grazing. Land upstream of Red Lake is relatively undeveloped and utilized primarily for public recreation. Preliminary next steps identified by the sub-committee review team include a site visit and additional water quality monitoring that may include depth profiling and nutrient measurements.

Special Study Development and Implementation (Strategy Element e. and f.) Staff has worked with the Eagle Lake Guardians and the Tahoe Keys Property Owners to develop and oversee two separate special studies, which include analysis for pigments (phycocyanin) associated with cyanobacteria (harmful blue-green algae). Further analyses to measure the presence and abundance of cyanobacteria and associated cyanotoxins will be conducted if site indicators observed during field sampling and/or pigment analyses indicate that the surface water is potentially affected by harmful algae.

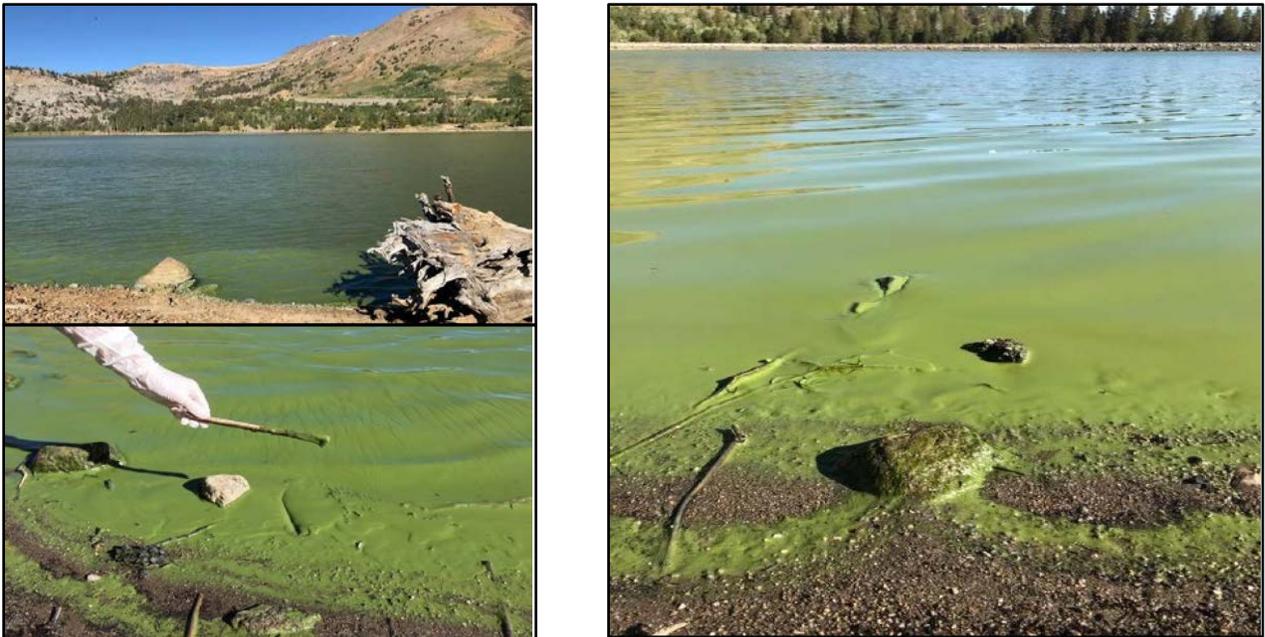


Figure 1 - Photos: Harmful Algal Bloom at Red Lake (elevation 7861 feet) – Alpine County, September 6, 2018
(Photo credit: Lahontan Water Board Staff, 09/06/2018)

Support on-going HAB Monitoring Efforts (Strategy Elements b., e. and h.) After two HAB outbreaks in Alpine County last Fall, Staff has been collaborating with AWG to develop a cyanobacteria/algae monitoring program that will be initiated by AWG staff and citizen volunteers this growing season. The program will include site visits, field reconnaissance, field measurements, and water sample collection at select high-recreational use waterbodies in Alpine County including Red Lake and Wet Meadows Lake Reservoir, which both experienced HAB outbreaks in September 2018. Field meters will be used to collect information on water quality parameters including pH, dissolved oxygen, electrical conductivity, nitrate-nitrogen, and phosphate.

State Board staff will be visiting with AWG in May to train individuals on the proper techniques needed to operate chlorophyll-a and phycocyanin probes that will be loaned to AWG for this monitoring effort. Staff is working to secure funding to support analysis of water samples for nutrients, pigments, and cyanobacteria analysis. Laboratory analysis will confirm the presence and magnitude of cyanobacteria and inform the need to post health advisories at the impacted waterbodies. Laboratory analysis of water samples will also provide an opportunity to validate the accuracy of the field meters to detect nitrate, phosphate, and pigment levels.

Since outdoor and water related recreation is an important component to the Lahontan Region's allure and economy, it is critical to ensure surface waters and their corresponding beneficial uses remain safe and protected. Staff is working to secure additional funding through the State Board's Surface Water Ambient Monitoring Program to analyze waters with reported new blooms or reoccurring blooms in popular recreational and scenic areas throughout the Lahontan Region.

5. Restoration Project Moving Forward in Lower Perazzo Meadows, Sierra County – *Anne Holden*



Perazzo Meadows (Photo Credit: Truckee River Watershed Council)

Perazzo Meadows is a large wetland/meadow complex in the headwaters of the Little Truckee River in Sierra county north of Truckee. This area was intensely used and modified during the late 1800s and early 1900s and beyond, including road building, logging, river driving of logs, and livestock grazing. In 2008, the Truckee River Watershed Council (TRWC) completed an [assessment](#) of the area to identify opportunities for restoration in this important watershed, which encompasses a drainage area of 34 square miles. The assessment provided restoration recommendations involving floodplain and stream channel restoration, road and stream crossing rehabilitation, and wetland enhancement. In 2009, the Water Board, along with US Forest Service-Tahoe National Forest, completed a joint environmental document under NEPA and CEQA for restoration activities at six sites within the

watershed. To date, work at four of the six sites within the upper and middle meadow complexes has been completed, with the Lahontan Water Board granting Clean Water Act section 401 Water Quality Certification (WQC) permits for the restoration work.

The Lower Perazzo Meadow Restoration Project is the last significant meadow restoration site identified in the TRWC's 2008 assessment. Project activities include 1) filling approximately 0.9 miles of an existing degraded stream channel to promote overbank flows and raise groundwater levels, 2) constructing a grade control structure to prevent head-cutting, and 3) removing eroded, deposited upland material from the meadow surface to create/restore 2.5 acres of wetland. The Project will restore hydrologic function of stream channels and meadow areas to improve water quality and riparian habitat. Increasing the frequency of floodplain inundation and groundwater connectivity will restore and enhance up to 46 acres of degraded wetland habitat.

The TRWC submitted a 401 WQC application for the project in January 2019. Funding to support the project is available through Proposition 1 and is administered by the Wildlife Conservation Board's (WCB's) Stream Flow Enhancement Program. The funding was contingent on the 401 WQC and CEQA noticing being completed prior to the WCB's annual funding meeting on April 4, 2019. Water Board staff and staffs of the WCB and the TRWC worked together to ensure that the 401 WQC and CEQA Notice of Determination were issued in a timely manner to meet the funding deadline. At the WCB's April 2019 meeting, the project successfully competed for, and was awarded, \$1,980,504 for restoration action implementation. This important project will be implemented in late summer 2019 and is another key step toward meeting the Lahontan Water Board's goals to protect and enhance floodplains, wetlands and stream environments through restoration actions.

6. Barry Keene Underground Storage Tank Cleanup Act of 1989 – Kerri O'Keefe



Owners and operators of leaking underground storage tanks are reimbursed for costs accrued during investigation and cleanup.

UST owner pay \$0.020 per gallon of petroleum sold at their respective facilities to the Fund, generating over \$180 million annually for reimbursement of UST site investigation and cleanup costs. The State Water Resources Control Board-Division of Financial Assistance (DFA) manages the funds and allocates reimbursement to eligible claimants. Additional information can be found on the State Water Resources Control

The Barry Keene Underground Storage Tank Cleanup Act of 1989 created the Underground Storage Tank Cleanup Fund Program (Fund) to assist owners and operators of underground storage tanks (UST) with costs associated with investigation and cleanup of contaminated soil and groundwater due to leaking underground petroleum storage tanks. Established by Senate Bill (SB) 299 in 1989, modified by SB 2004 in 1990 and subsequently

modified by other legislation including SB 445, the Fund requires every owner of a petroleum UST that is subject to regulation under the California Health and Safety Code to pay a fee to the Fund. Current legislation requires every

Board (State Water Board) website at: <https://www.waterboards.ca.gov/waterissues/programs/ustcf/>.

Reimbursement for investigation and cleanup of leaking USTs is a valuable resource to the Lahontan Regional Water Quality Control Board (Water Board) to get UST sites investigated, cleaned up, and closed. The Water Board has fifty-three active leaking UST cases. Of the fifty-three cases, thirty-three have obtained reimbursement for costs accrued during investigation and cleanup. Claimants of the Fund can be reimbursed up to \$1,500,000 per case; however, the actual reimbursement amount varies on a case-by-case basis.

The available funding has prompted cooperative action from tank owners and has become an important tool for State regulators to direct cleanup of contamination. Since the enactment of the Fund, the DFA has allocated over \$61 million for investigation and cleanup of contaminated UST sites within the Lahontan Region. The cooperative efforts between tank owners, Water Board staff, and the DFA have mitigated contamination in sixteen aquifers used for municipal drinking water throughout the Lahontan Region.

7. Leviathan Mine –Emergency Spring Treatment Operations and Funding, Alpine County – *Cathe Pool*

2019 Emergency Spring Treatment Operations

In 1999, the Water Board constructed an onsite pond water treatment system at Leviathan Mine to treat acid mine drainage (AMD) from two sources mixed with rain and snow (direct precipitation) that is captured year-round in lined evaporation ponds. The Water Board's pond water treatment system produces an effluent that satisfies USEPA discharge criteria for pH and dissolved metals. The primary objective for the Water Board's pond water treatment system has been and continues to be removing as much of the captured AMD and direct precipitation as possible during the summer months (when the site is accessible) to

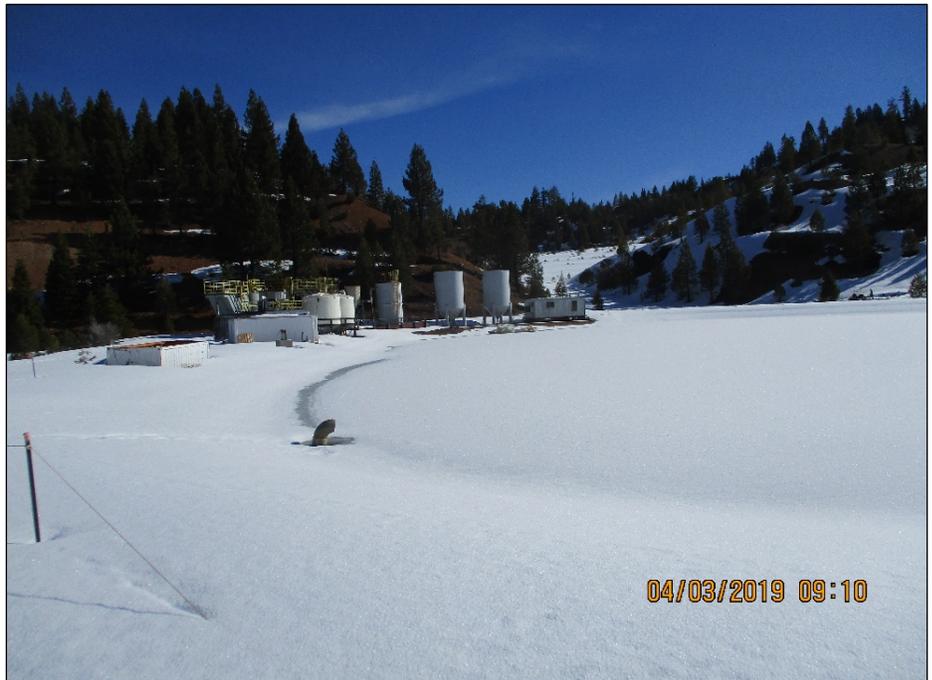


Figure 2 - Pond 1 with Summertime Pond Water Treatment System, April 3, 2019

maximize the available pond storage capacity going into the winter months, when the site is largely inaccessible. Every summer since constructing the onsite pond water treatment system, Water Board contractors have mobilized personnel, equipment, and supplies to Leviathan Mine to operate the pond water treatment system. To date, over

130 million gallons of pond water (AMD and direct precipitation) have been treated through the Water Board's pond water treatment system.

Even with the implementation of summertime pond water treatment, it is still possible that during some water years the combined volume of AMD and direct precipitation can exceed the available pond storage capacity for the evaporation ponds prior to initiating summertime pond water treatment operations (see Figure 1, attached). When pond storage capacity is reached, excess inflow (AMD mixed with direct precipitation) is diverted via an underground piping system to either Pond 3 for emergency spring treatment or directly to Leviathan Creek. During years when late-winter/early-spring site conditions indicate pond storage capacity may be exceeded prior to initiating summertime pond water treatment operations, Water Board staff works with California Department of General Services (DGS) staff to conduct emergency spring treatment operations in an effort to avoid discharging untreated pond water (combination of AMD and direct precipitation).

Emergency spring treatment is accomplished by means of a portable treatment system that can be mobilized to the site before site conditions permit mobilization and operation of the summertime pond water treatment system. The decision to implement emergency spring treatment is based on consideration of several factors, including the following:

- Accumulated precipitation at the Monitor Pass SNOTEL site (as reported by the Natural Resources Conservation Service).
- Depth of AMD in the ponds (as reported by the United States Geological Survey [USGS]).
- AMD influent rate to the ponds from the Adit and the Pit Underdrain (as reported by the USGS).
- Weather forecasts (as reported by the National Oceanographic and Atmospheric Association [NOAA] and Open Snow [local forecaster]), and historic (1990-2018) average and median values for accumulated precipitation during late-winter and spring months at the Monitor Pass SNTOEL site.

In late March 2019, the above measurements and forecasts indicated that emergency spring treatment would likely be necessary to prevent the ponds from reaching capacity and discharging untreated pond water to Leviathan Creek. The Water Board engaged with DGS to hire a contractor to conduct emergency spring treatment. DGS entered into a contract with TKT Consulting, LLC (TKT) to conduct emergency spring treatment.



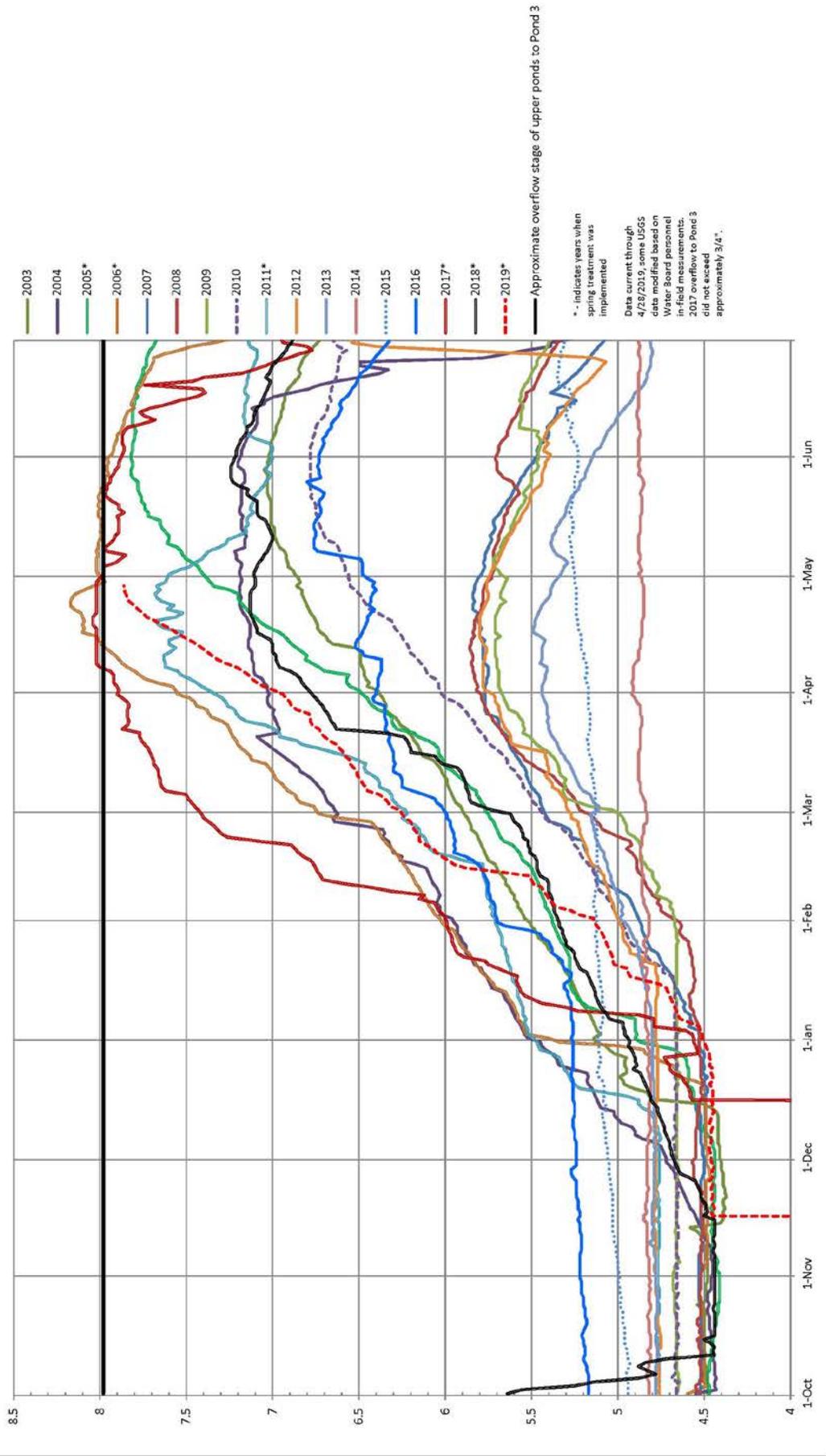
Figure 3 - Pond 3 with Emergency Spring Treatment System, April 20, 2019

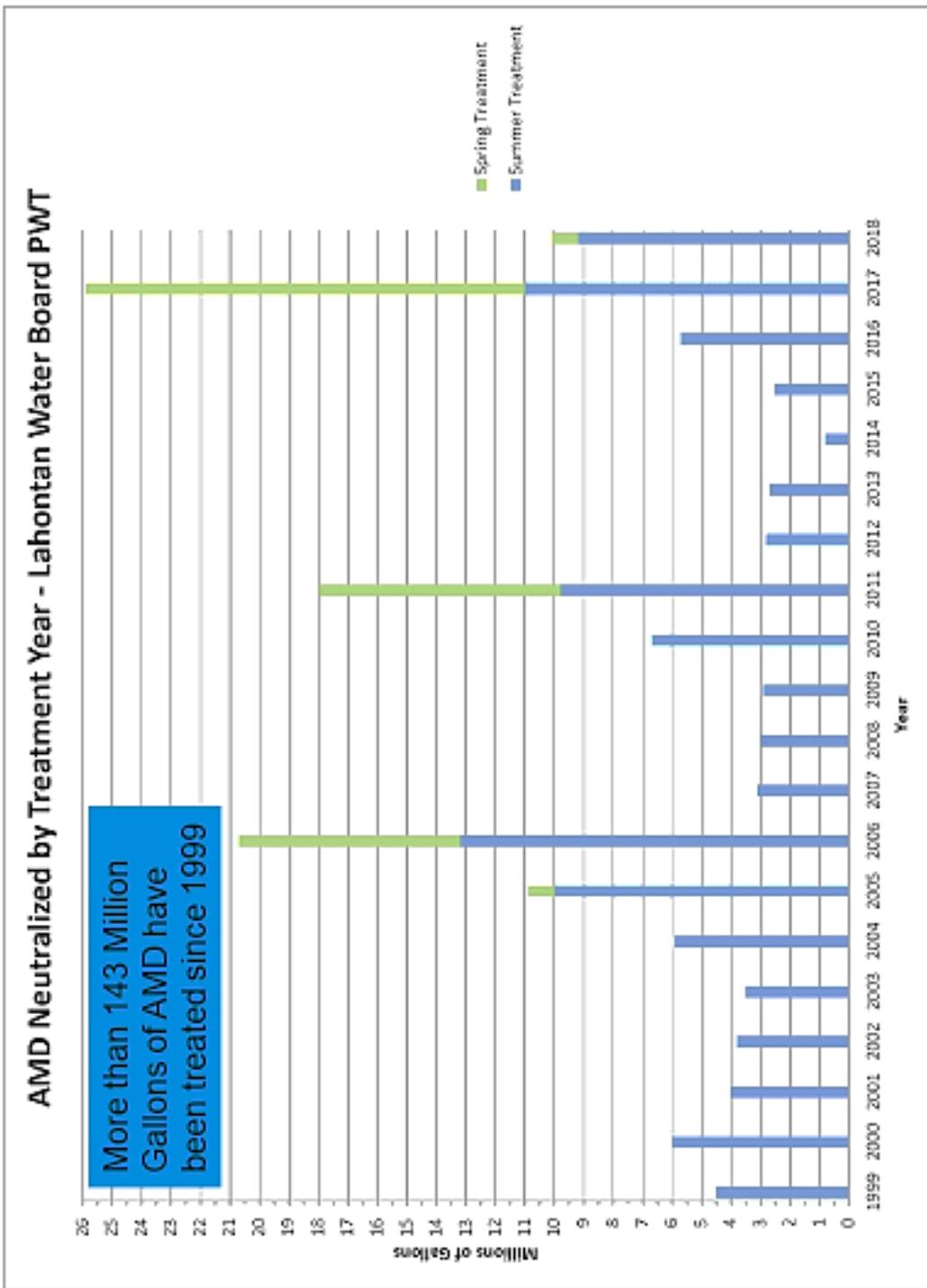
Pond 2 North, and Pond 2 South) down to Pond 3 for treatment and subsequent discharge. TKT has continued this batch treatment process with two additional treated

TKT began snow removal on April 15, 2019, mobilized to Leviathan Mine on April 19, 2019, and began treating pond water by means of TKT's portable treatment system on

April 20, 2019. TKT successfully treated and discharged approximately one Pond 3 volume (approximately 920,000 gallons) of AMD to Leviathan Creek on April 21, 2019, allowing TKT to bring pond water from the upper ponds (Pond 1,

Figure 1 - Leviathan Mine Pond Stage





pond water discharge events (April 26 and 28, 2019) and will continue to do so until the threat of an untreated pond water overflow to Leviathan Creek is eliminated.

TKT has extensive experience in conducting emergency spring treatment at Leviathan Mine while winter conditions persist and site access is limited. TKT is very familiar with the unique AMD chemistry that coincides with late-winter and early-spring conditions at Leviathan Mine and can produce a treated effluent that complies with USEPA's discharge criteria. Emergency spring treatment has been put into service in 2005, 2006, 2011, 2017, 2018, and 2019.

Emergency Spring Treatment Funding

Most recently, emergency spring treatment has been funded by funds from the State Water Resources Control Board's Cleanup and Abatement Account (CAA) that had been set aside for the intermittently necessary operations. In 2018, those funds were fully expended, making it necessary to obtain additional funding for future emergency spring treatment events. As a result of this situation, Water Board staff has been meeting with State Water Board staff to establish a new funding mechanism for future emergency spring treatment operations, including the 2019 emergency spring treatment campaign. State Water Board staff's first action was to provide up to \$500,000 in CAA funds for this year's emergency spring treatment campaign. State Water Board staff's second action was drafting a resolution for State Water Board consideration at its May 7, 2019 meeting, that if adopted, would provide up to \$800,000 in additional funding for emergency spring treatment. The combination of the two actions would provide up to \$1.3 million dollars for Leviathan Mine emergency spring treatment operations through June 30, 2024.

South Lahontan Region

8. WaterReuse California Annual Conference and Recycled Water – Woonhoe Kim

This item provides highlights of the 2019 WaterReuse Conference held in Garden Grove, California, and attended by Dr. Woonhoe Kim, Water Resource Control Engineer from the Victorville office.

Southern California has just left behind a severe drought that, historically, recurs every few years. In order to meet our state's water demand, public agencies and private companies have striven to maintain a water resource portfolio and adequate water supply infrastructure. One element of the water supply portfolio is encouragement by the State Water Resource Control Board (State Water Board) and nine Regional Water Quality Control Boards (Regional Boards) to use treated domestic wastewater for drinking water, agricultural water, industrial water, leisure water, etc. This is effected by the State Water Board issuing a *Policy for Water Quality Control for Recycled Water* (Recycled Water Policy) and Regional Boards adopting water reclamation requirements (WRRs) based on recommendations from the State Water Board's Division of Drinking Water.

Also emerging are new regulations for "indirect potable reuse," or IPR, and "direct potable reuse," or DPR. The distribution of highly treated wastewater with advanced processes after passing through nature followed by further treating that naturally-blended water at water treatment plants is called IPR. Natural treatment processes may consist of dilution, biological degradation, and/or physical infiltration in a groundwater aquifer, lake, river, reservoir, and soil. The distribution of highly treated wastewater directly into the drinking water distribution system (without passing through nature) is called DPR. Both IPR and DPR are illustrated in Figure 1 and are implemented in the statewide regulatory process as technologies improved over the last decades.

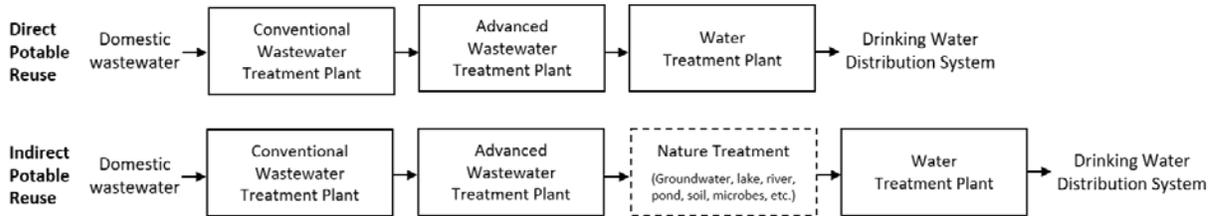


Figure 1 - Conceptual diagram for direct potable reuse and indirect potable reuse.

The 2019 WaterReuse California Annual Conference was held from March 17 to 19, 2019, with over 70 presentations and posters. Public agencies and private companies mainly discussed emerging DPR technologies and strategies addressing many obstacles such as public awareness, public health, regulatory measures, and technologies.

State Water Board staff presented a summary of the Division of Financial Assistance funding for recycled water projects over the past five years and discussed new funding opportunities for recycled water projects across the State, including the new priority scope and application procedures. Also, State Water Board staff discussed the new on-line recycled water reporting system that is being developed. This is a new requirement of the recently amended Recycled Water Policy that requires recycled water producers and users to go on-line and enter information covering: recycled water monitoring, quantity of recycled water produced, quantity of recycled water used, quantity of domestic wastewater treated and disposed but not used for recycled water (but potentially available), and the quality of recycled water by chemical and biological constituents.

The Lahontan Water Board has issued numerous WRRs for agricultural and landscape irrigation and industrial cooling uses; although, to date, has not issued WRRs for DPR or IPR projects. Water Board staff encourages regional agencies to develop IPR projects. Within the next year, Water Board staff anticipates receiving information from the Palmdale Water District in support of a proposed Regional Groundwater Recharge and Recovery Project that would include a completed Engineering Report, approved by the Division of Drinking Water, environmental documentation, and permit application during fiscal year 2019-2020.

9. **Naval Air Weapons Station (NAWS) China Lake Partnering Begins** – *Patrice Copeland and Bill Muir*

The environmental program at Naval Air Weapons Station (NAWS) China Lake has been stalled over the past few years and the Department of the Navy (Navy), the Water Board, and Department of Toxic Substances Control (DTSC) have agreed to enter a Partnering arrangement to help improve the working relationships between each agency in an attempt to move the environmental program forward. Patrice Copeland, Supervising Engineering Geologist, Victorville Division Manager, and Bill Muir, Senior Engineering Geologist and Unit Chief of the Department of Defense (DOD)/Site Clean Up Unit, have met with the Navy and DTSC twice over the past two months to work out a strategy for moving the environmental program forward at NAWS China Lake located near Ridgecrest, in the Indian Wells Valley. The Partnering approach is a strategy to increase awareness of each agency's issues and priorities, to understand each agency's purpose, and to develop relationships that allows the group to work collaboratively toward a common timely goal of environmental cleanup at NAWS China Lake. The two meetings held thus far worked on identifying major issues that each agency established as their highest priority, educate each other about respective management structures, and discuss how decisions are made within each organization. In addition, these face-to-face meetings facilitate improvements in communication with each partnering member.

The premise behind the Partnering concept is that each organization lets its concerns be known so that the group is aware of how each agency must operate. A commitment to a common goal is necessary, as is identifying important common issues. Partnering is designed to allow the group to work towards improving our collaborative working relationships. Most significantly, nothing in the Partnering process delays the work to be performed; but rather, the team works technical issues at the same time the Partnering framework is being put together.

The agencies have identified the key players from each organization and have established working “tier” groups. The first tier (Tier 1) is made up of the technical staff who deal with the day-to-day work. The concept is that Tier 1 folks are encouraged to work out as many issues as possible on their own. The second tier (Tier 2) consists of first line supervisors (and some second level managers) who also agree to meet regularly and commit to help facilitate resolution of problems or disagreements that cannot be resolved at the Tier 1 level. Tier 3 is the second and third level management tier, that may be called in to resolve policy issues that cannot be made at the lower levels. Tier 4 consists of the executive management for each agency who may be called upon to make final decisions. Tiers 1, 2, and 3 have agreed to meet regularly; Tier 1 will meet monthly or more often, as needed; Tier 2 will meet at least quarterly, but likely more frequently in the beginning; and Tier 3 would only meet when issues cannot be resolved at the lower tiers, primarily focusing on policy decisions.

Over the next two months (May and June), several meetings have been scheduled. In early May, a technical meeting is scheduled to discuss technical issues at six NAWS China Lake sites. The intent of this meeting is to resolve comments regarding work plans and to address agency concerns for the path forward at the six sites. This meeting will include site visits and is designed to let the Tier 1 group learn a little more about each other and what drives their programs. In late May, Tier 1 and Tier 2 groups will all meet to undergo a two-day “Basics of Partnering” training exercise to introduce the Partnering concept to all individuals designated to be part of the NAWS China Lake Partnering program. In mid- to late-June, Tier 2 (first line supervisors and second level managers) will meet to further hone our Partnering skills, to set schedules for the work to be accomplished, and to establish better lines of communication that should facilitate improved collaborative working relationships and assist us in accomplishing the important goal to clean up affected NAWS China Lake sites in a timely manner.

10. Golden State Water Company, Barstow – Bradshaw Well Field, Nitrate Concentration Increase – *Ghasem Pour-ghasemi*

The Golden State Water Company (GSWC) is the drinking water purveyor for Barstow. Groundwater is pumped from numerous well fields located along the Mojave River and delivered to customers. On November 2, 2018, GSWC sent a letter to the Water Board stating nitrate concentration increases in the Bradshaw well field has caused shut down of GSWC drinking water supply wells 1, 5, 10, and 14 (see Figure 1). The letter stated that starting in the spring of 2018, nitrate concentrations began to increase in wells 1, 5, 10, 12, and 14, resulting in three of the wells exceeding the drinking water maximum contaminant level (MCL) for nitrate as nitrogen (10 milligrams per liter [mg/L]).

GSWC is currently constructing a project to provide well-head treatment at the effected Bradshaw well field wells to reduce nitrate concentrations to acceptable levels. GSWC stated source identification and mitigation is of the utmost importance to ensure the Barstow water system can provide adequate supply to its customers. Therefore, GSWC requested the Water Board to investigate the source(s) of increased nitrate and to help mitigate the nitrate impacts already observed.

On November 30, 2018, I responded to the GSWC letter and asked the Victorville Water Board staff to investigate the cause of increased nitrate concentrations in GSWC wells. I also informed GSWC that Victorville staff would like to set up a meeting to gather necessary information regarding their operation.

Since then, Water Board staff has been in discussion with numerous entities to collect relevant information, including the following:

- 1) City of Barstow
- 2) Burlington Northern and Santa Fe (BNSF) Railway
- 3) Mojave Water Agency
- 4) B and E Dairy
- 5) GSWC

As of April 7, 2019, Water Board staff made two site visits to the BNSF rail yard and one to the B & E Dairy. Water Board staff also met with the City of Barstow and Mojave Water Agency to obtain information from them. Information from BNSF is due by May 6, 2019, and from B & E Dairy by the end of May 2019. Water Board staff plans to obtain permission and sample some residential wells along Waterman Avenue, downgradient of the B & E Dairy and across the Mojave River from the Bradshaw well field. We are also in discussion with State Water Board, Division of Drinking Water staff responsible for the GSWC Barstow drinking water system.

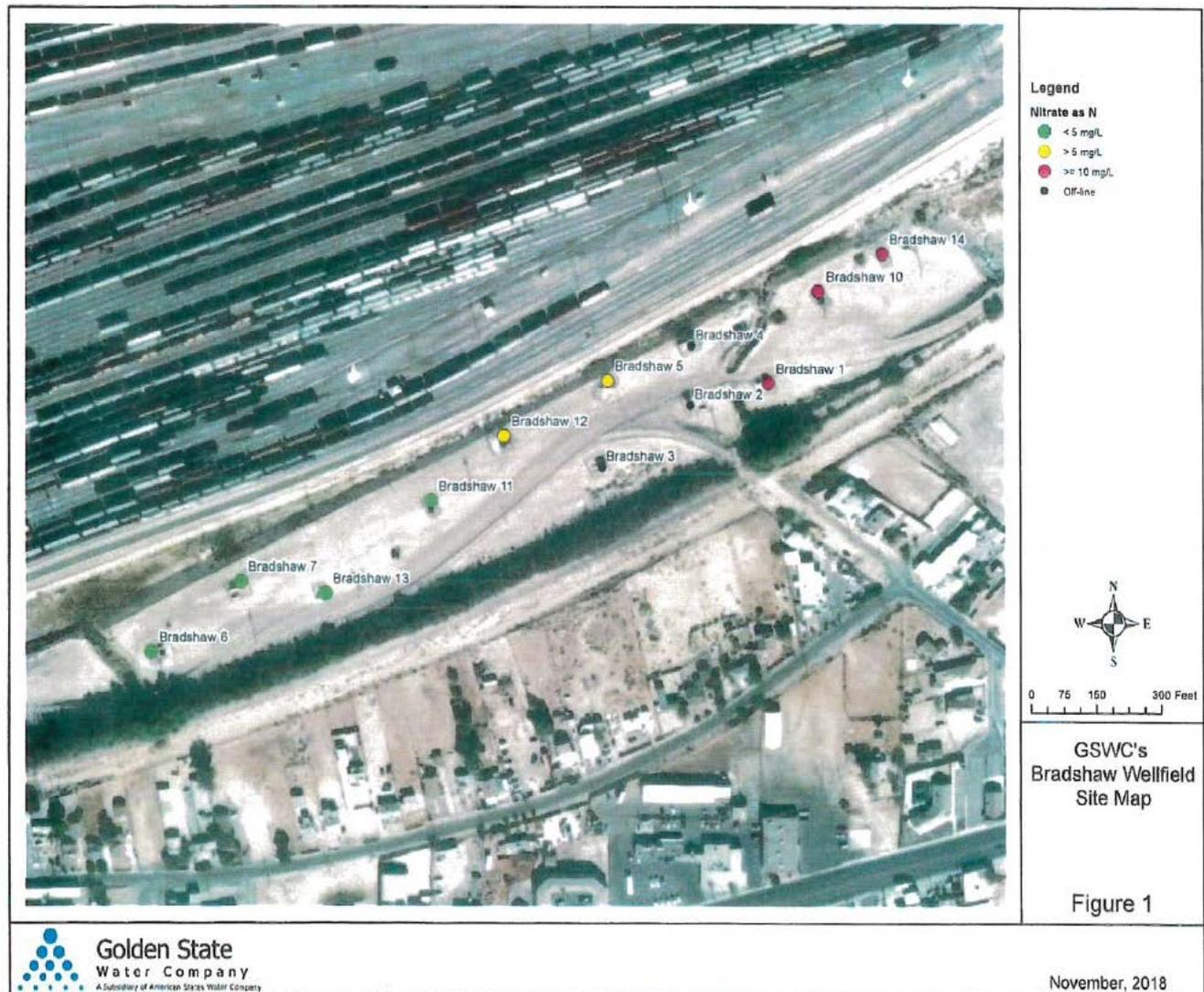


Figure 4 - Bradshaw wellfield located south of the BNSF Barstow West End Classification Yard and north of Barstow West Main Street. Three wells shown in red (wells 1, 10, and 14) and one well shown in yellow (well 5) are taken out of production pending completion of the well head treatment system.

11. Standing Item – Salt and Nutrient Management Plans Update in the Lahontan Region

– Lisa Dernbach

This item is a regular update on the progress of Salt and Nutrient Management Plan (SNMP) development in the Lahontan Region. The State Water Resources Control Board's (State Water Board's) 2009 Recycled Water Policy (amended in 2013) requires local stakeholders to develop SNMPs for every groundwater basin in the state by 2014 (with time extensions possible). This item and the table that follows summarize the status of the SNMP efforts underway in the Region and report on new information since last year's 2018 status update.

Our SNMP efforts focus on ten groundwater basins previously determined to be priority basins under the State Water Board's Groundwater Ambient Monitoring and Assessment (GAMA) Program. The priority of the ten basins (out of more than 345 basins and sub-basins in the Region) was revised by the Department of Water Resources (DWR) in early 2019 and now includes only eight basins. These eight basins are listed below along with a brief statement on the status of SNMP development for each basin. More detailed status information is in the table that follows.

Completed SNMPs and Water Board acceptance dates:

- Antelope Valley (adjudicated) – November 2014
- Mojave Region (adjudicated) – February 2016
- Fort Irwin – January 2017
- Indian Wells Valley – April 2018
- Fremont Valley – May 2018

SNMPs in progress:

- Inyo/Mono (Owens) – Revised draft in progress, in conjunction with preparing a Groundwater Sustainability Plan, using a DWR grant award for this High priority basin;
- Tahoe South – draft plan (technical memo) completed in December 2015. Despite low use of overall groundwater supply, a final plan is in progress for this Medium priority basin to address tetrachloroethene (PCE) contamination in the drinking water aquifer; and
- Honey Lake (Lahontan) Valley – draft plan completed in December 2015. Status of final plan is unknown for this Low priority basin.

SNMPs no longer needed:

- Martis Valley – Priority classification changed to Very Low based on low use of overall groundwater supply; and
- Tehachapi Valley East – draft plan completed in February 2010. Despite a priority classification change to Very Low based on low use of overall groundwater supply, a revised draft is still in progress using a previously-issued DWR grant award.

This information shows that SNMP efforts are underway or completed in all of the current eight priority basins, addressing greater than 90 percent of the total Region's acreage. Both the State Water Board and DWR maintain a geographic information system (GIS) map web application depicting statewide SNMP coverage of groundwater basins. A link to the State Water Board's SNMP GIS map is found on the SNMP webpage, from the *Recycled Water Policy* webpage. Links to accepted SNMP documents are located on the Lahontan Water Board's webpage under Programs.