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State and Regional

1. Personnel Report – Eric Shay

New Hires

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

Transfers

- Carly Nilson, Environmental Scientist, South Lake Tahoe. Carly is transferring from the Planning & Assessment Unit to the Cannabis Regulatory Unit. This new position provides regulatory oversight of cannabis cultivation projects under the statewide Cannabis General Order.

Vacancies – We are currently recruiting for the following positions:

- Water Resource Control Engineer, Cannabis Unit, South Lake Tahoe. This position provides regulatory oversight of cannabis cultivation projects under the statewide Cannabis General Order.
- Engineering Geologist, Cannabis Unit, South Lake Tahoe. This position provides regulatory oversight of cannabis cultivation projects under the statewide Cannabis General Order.

- Environmental Scientist, Cannabis Unit, South Lake Tahoe. This position provides regulatory oversight of cannabis cultivation projects under the statewide Cannabis General Order.
- Environmental Scientist, North Basin Regulatory Unit, South Lake Tahoe. This position will primary work on Lake Tahoe water quality issues, including permitting for shoreline projects and scientific research.
- Executive Assistant, South Lake Tahoe. This position provides administrative assistance and clerical support to the Executive Officer, the Assistant Executive Officer, and the Regional Board members.
- Office Technician, South Lake Tahoe. This position supports our technical staff by finalizing staff correspondence and board agenda packets.
- Seasonal Clerk, Victorville. This position provides basic administrative support, such as typing and reception.

Departures - None

North Lahontan Region

2. 3rd Annual Water Board Data Science Symposium – Carly Nilson

Lahontan Water Board staff attended the 3rd Annual Water Board Data Symposium hosted by the State Water Board on June 20 and 21, 2018. The symposium theme was *Adapting in the Face of Disruptive Landscape Change* with presentations focused on landscape resilience, climate change, fire, and toxics. Presentations and panels focused on the use of biological data and other data to inform management decisions with more efficient adaptive measures into the future.

There was extensive discussion regarding California’s water supply becoming less dependable, as the state experiences greater variation in annual precipitation and Sierra snowpack conditions. The State Water Board recognizes that infrastructure, water conservation, and water resource protection all need to work together in better protecting and optimizing the state’s water resources. Looking for and implementing opportunities to bring these three elements together across a wide range of land uses is becoming increasingly important to California’s water supply. Such opportunities include: (1) protecting and restoring our wildlands, including healthy forests; (2) enhancing riparian corridors and wetland areas in and around our agricultural areas; (3) connecting urban zones with ecosystems (e.g., native plant urban forest, shade trees, preserving marshes and creeks); and (4) protecting and restoring shorelines. These actions have the ability to begin mitigating the effects of climate change by enhancing flood flow attenuation, ground water recharge, freshwater replenishment, and water quality protection and enhancement. All are critical elements to providing a safe and dependable water supply for California into the future.

The effects of climate change and fire, the need for improved information sharing, and institutional flexibility also received significant attention at the symposium. Fire suppression alone can no longer protect the natural watersheds from where our water supplies originate, or protect our rural communities and urban cities where we live. Successfully transitioning from our traditional approach to fire to one or more new coordinated approaches will need to in part depend upon effective data/information sharing and coordination among researchers, agencies, and stakeholders. Informed policy and decision-making should incorporate information such as firefighting costs versus fire prevention costs, and the effectiveness of a wide range of preventative measures, both short-term and long-term, and individually and in combination with each other. Considering new ideas and perspectives will also be critical to protecting California

from the devastating wildfires it has been experiencing. A presenter from CALFIRE focused on the importance of our state's urban forests and their ability to remove greenhouse gases, while providing wildlife habitat, water quality protection, flood protection, energy conservation. These elements of urban forests represent effective climate change mitigation and adaptation that may be able to dampen the potential impacts of climate change on fire activity in the state. A combination of effective information sharing and willingness to evaluate and implement new ideas will play a critical role in effectively and efficiently responding to California's changing wildfire environment.

Day two of the symposium focused heavily on monitoring programs and how to use information from such programs to best inform policies. For instance, the Surface Water Ambient Monitoring Program's (SWAMP) investment in developing the bioassessment program and protocols has produced a suite of tools that can reliably quantify the ecological condition of streams and rivers. The vision is that such data will now be used to support well-informed decisions regarding restoration project site selection and design, vulnerable water resources identification, water resource protection and restoration measure development and evaluation, among others. Another part of the vision is to make the data available in an understandable and useful manner for a variety of users. This concept is reflected in the 2018 Water Quality Status Report (<https://waterboards.maps.arcgis.com/apps/MapJournal/index.html?appid=64fc956fd3194c828234201c684e2a89>) that was unveiled at the symposium. The report presents all the data collected by the SWAMP Program in a visual, understandable, and innovative "story." The report is an example of how to effectively share data and other information to support managers and others in making well-informed decision when developing the policies and programs intended to address the increasing impacts of climate change on the California landscape.

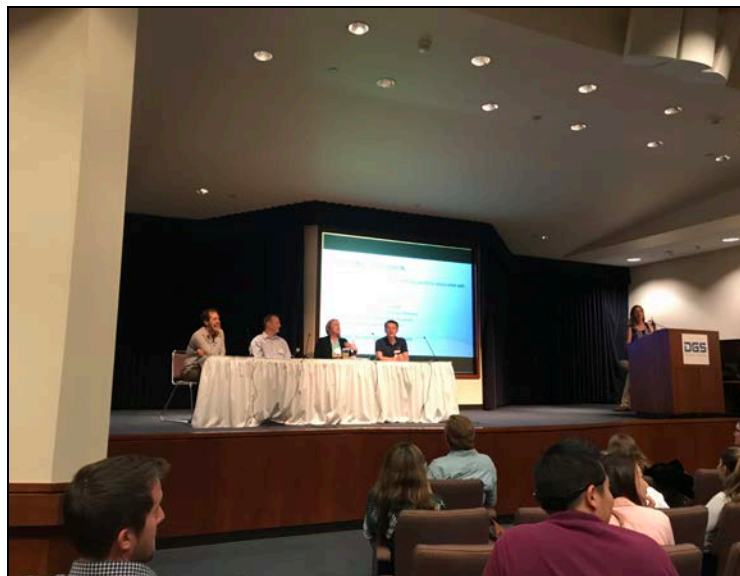


Figure 1 - 2018 Science Symposium Panel

3. **Standing Item - Annual Update on Basin Planning Activities** – *Daniel Sussman*

The Water Board adopted the current Triennial Review priorities on November 4, 2015. State and federal laws require periodic review and revision of Basin Plans. The federal process is called "Triennial Review," as it occurs once every three years. Due to resource limitations and the complexity of California's Basin Plan amendment process, Triennial Review in California is generally limited to identifying the highest priority basin planning projects to be addressed over

the following three years. The 2015 Triennial Review priority list includes nine projects with available resources and twelve projects in need of additional resources.

Basin planning is primarily the responsibility of the Lahontan Water Board's Planning and Assessment Unit. The unit is also responsible for the impaired waters program (TMDL, Integrated Report) and surface water monitoring efforts. The unit currently consists of four Environmental Scientists and one Water Resource Control Engineer, which is one staff position less than last year as a result of state budgetary issues.

Staff kicked off the 2018 Triennial Review process with a public workshop at the Water Board's July 2018 Board meeting in Bishop. Another public workshop is scheduled for the Water Board's September 2018 Board meeting in South Lake Tahoe. Staff anticipates presenting the proposed 2018 Triennial Review priorities for the Water Board's consideration at its November 2018 Board meeting in Apple Valley. Staff will take into consideration public comments and direction from the Water Board in developing the proposed 2018 Triennial Review priorities.

Staff has made significant progress on 2015 Triennial Review priorities (those with available resources). However, additional work is still needed to complete many of the projects that had resources, and all of those that needed resources. Three of the projects that staff has been working on and will likely carryover into the 2018 Triennial Review priorities are discussed, below.

Bacteria Water Quality Objectives – The State Water Board released its proposed provisions and draft staff report for establishing a statewide freshwater numeric objective for E. coli associated with the REC-1 (Contact Recreation) beneficial use. The proposed objective is a geometric mean of 100 colony forming units per 100 milliliters (cfu/100 mL), and a single threshold value of 320 cfu/100 mL. The State Water Board is scheduled to consider the proposed objective at its August 7, 2018, Board meeting, which if adopted, will become Part 3 of the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (ISWEBE). The proposed provisions recognize the Lahontan Water Board's existing fecal coliform objective generally for all surface waters and do not supersede it, as reflected in the excerpt, below.

“...the BASIN PLAN (p. 3-4) for the Lahontan Regional Water Board contains fecal coliform bacteria water quality objectives that are generally applicable to all surface waters within the region and not expressly established for the reasonable protection of the REC-1 beneficial use. Part 3 of the ISWEBE establishes numeric bacteria water quality objectives for the REC-1 beneficial use and, therefore, would apply to applicable waters within the Lahontan region that have the REC-1 beneficial use and do not supersede the fecal coliform bacteria objectives.”

Staff continues to monitor the State Water Board's progress towards adopting the proposed provisions. Staff will be evaluating the full impact of the State Water Board's decision regarding the proposed provisions, and then determining what, if any, basin planning work will be necessary for staff. More information, including links to the provisions and staff report, can be found at: <http://www.waterboards.ca.gov/bacterialobjectives/>.

Mojave River and Mojave Basin – Staff has completed its review of surface water objectives and beneficial uses for the Mojave River, as outlined in the 2015 Triennial Review priority list. Staff is now developing a Basin Plan amendment for specific reaches of the Mojave River and some of its tributaries. The amendment proposes to:

- Add RARE and BIOL beneficial uses to specific reaches of the Mojave River, Deep Creek, and the West Fork Mojave River;
- Remove the COLD beneficial use from the Mojave River downstream of Helendale; and
- Clarify how to interpret certain water quality objectives for publicly owned treatment facilities permitting.

Staff conducted a CEQA scoping meeting at the offices of the Mojave Water Agency on April 24, 2018. Staff is currently involved in the CEQA Tribal consultation process with the San Manuel Band of Mission Indians. The amendment is scheduled for adoption consideration by end of fiscal year 2018-2019.

Evaluating Appropriate Statistical Methods – Staff is evaluating our use of numeric water quality objectives with mean-of-monthly means (MOMM) averaging periods and is researching historic Basin Plan changes that established the averaging period. Staff is developing a white paper that will provide findings and recommendation regarding the future of MOMMs. Staff plans to complete its evaluation and update the Water Board prior to the Water Board considering the 2018 Triennial Review priority list in November 2018.

South Lahontan Region

4. Groundwater Resources Association of California, Inland Empire Branch Meeting - Christina Guerra

On July 10, 2018, Water Board staff, Patrice Copeland, Christina Guerra, Amanda Lopez, and Thomas E. Browne attended the Groundwater Resources Association (GRA) of California, Inland Empire Branch's (GRAIE) meeting. Those in attendance at the meeting included representatives from the private sector (consulting firms and representatives from environmental laboratories), public service (state and federal agencies), and students. The GRA is a non-profit organization of environmental professionals that focuses on groundwater assessments, development, quality, and management of California's groundwater. The GRA distributes information pertaining to groundwater news, legislation, groundwater education and scholastic support, and hosts multiple symposiums and summit events every year. In addition, GRA has eight regional branches throughout California that host meetings with expert speakers on various topics, which provide networking opportunities among groundwater professionals.

The GRAIE's expert speaker was Dr. John A. Izbicki, PhD with the United States Geological Survey. Dr. Izbicki's presentation was titled, "Hexavalent Chromium: Tracing Sources and Impacts in the Mojave Desert and Elsewhere."¹ Dr. Izbicki described his approach on the scaling system developed for distinguishing the extent of hexavalent chromium released from the compressor station in Hinkley, California. Dr. Izbicki discussed a key aspect of data collection: the mobile laboratory approach for hexavalent chromium analysis. The significance of obtaining timely results aiding the community members in understanding the data collection and analysis as well as increase their confidence in the results. Dr. Izbicki expressed his commitment to the Hinkley community to determine a scientifically based and backed hexavalent chromium background concentration(s) for the areas of study in the Mojave Desert. The Mojave Desert hexavalent chromium study is the largest study he has conducted of his almost 40-year career. The next GRAIE meeting is tentatively scheduled for January 2019.

¹ The presentation began with location maps of the occurrence of heavy metals concentrations including arsenic, uranium, and hexavalent chromium across California, then focused on the Mojave Desert region.

5. Standing Item - PG & E Hinkley – Lisa Dernbach

Status of Actions PG&E Hinkley Chromium Contamination July 2018

Changes of Cleanup and Abatement Order (CAO) Remedial Actions

PG&E submitted a September 26, 2017, document proposing to cease remedial actions in the western area chromium plume, west of Serra Road, and alter groundwater extraction operations in the Mountain View Road area, south of Santa Fe Road. The proposed modifications are in response to reducing hexavalent chromium concentrations and shrinking plume boundaries. At Water Board staff's request, PG&E submitted a Contingency Plan describing corrective actions to be taken should proposed modifications result in migration or expansion of the hexavalent chromium plume boundaries.

Changes in remedial actions required in the 2015 CAO must be authorized by the Water Board's Executive Officer. Water Board staff issued a February 20, 2018, letter requesting public review and comment of the proposed modifications to be submitted by March 21, 2018. No comments were received by the due date. Water Board management is evaluating PG&E's request.

Chromium Plume Boundary

The 1st quarter 2018 chromium plume map is posted on the Water Board's Hinkley website at: http://www.waterboards.ca.gov/lahtontan/water_issues/projects/pge/index.shtml, at the bottom of the page under the section titled "Other Documents and Information." The second quarter 2018 plume map is due on August 10, 2018, consistent with the reporting due dates contained in the CAO.

Bioreactor Post-Monitoring Program

Back in June 2017, PG&E submitted a request to cease orthophosphate sampling beyond 2017 as part of the bioreactor post-monitoring program in the Central Area In-situ Reactive Zone (IRZ). Since 2015, PG&E has been sampling IRZ monitoring wells for orthophosphate following bioreactor effluent discharges containing orthophosphate. Up to 30 monitoring locations have been sampled as part of this monitoring program.

Monitoring results in 2017 IRZ quarterly reports show that orthophosphate exceeding 0.1 parts per million (ppm) was detected in five monitoring wells. Orthophosphate detections of less than 0.1 ppm were detected for the remaining 25 monitoring well locations. Therefore, Water Board staff's June 19, 2018 letter allowed PG&E to cease orthophosphate sampling in 25 monitoring wells but to be continued in the other five monitoring wells until concentrations reach 0.1 ppm or less for two consecutive sampling events.

Other Remedial Actions

PG&E's February 28, 2018 *Annual Cleanup Status and Effectiveness Report* (Report) recommends installing additional monitoring wells in the Western IRZ area, west of the South Central Reinjection Area (SCRIA), to better define chromium in shallow zone groundwater. The Report states that hexavalent chromium detections exceeding 100 parts per billion were detected in shallow zone groundwater following installation of 11 injection wells.

Water Board staff accepted PG&E's recommendation and proposed tasks in a June 13, 2018, letter. The results from new monitoring well installation will be reported in the quarterly IRZ monitoring reports, with the next one due by July 30, 2018.

Domestic Well Destruction

PG&E submitted a February 23, 2018, letter requesting to destroy 45 inactive domestic wells located on PG&E-owned property west of the chromium plume boundaries and compressor station. The selected wells are screened across the upper aquifer, and two wells are screened across both upper and lower aquifers. PG&E proposed to destroy these inactive domestic wells in accordance with State of California Well Standards and San Bernardino requirements. Water Board staff requested that Project Navigator staff and Dr. Izbicki of the United States Geological Survey (USGS) provide comments on PG&E's proposal; subsequently, both parties stated they had no objections to PG&E's plans for well destruction. Thus, Water Board staff issued a May 23, 2018, letter accepting PG&E's proposal for well destruction.

Chromium Background Study

Data interpretation and final report writing are the focus of Dr. Izbicki's current efforts. A Technical Working Group (TWG) meeting will be held in Hinkley on August 16, 2018, to discuss the summative scale analysis used to estimate the plume extent (see the USGS mid-term Background Study Report for details, available at: https://www.waterboards.ca.gov/lahtan/water_issues/projects/pge/). This quarter, several working web-based meetings and phone calls have been held to facilitate progress on PG&E's updates to the groundwater flow model. PG&E delivered preliminary model information to the USGS as maps, graphs, and GIS shapefiles, including a "model walk-through" during a June 18 web-based meeting.

