Lahontan Regional Water Quality Control Board

EXECUTIVE OFFICER'S REPORT

August 2015

STATE AND REGIONAL

1. Polycyclic Aromatic Hydrocarbons (PAH's) in Asphalt Sealants – *Cathe Pool*

Water Board staff received an inquiry regarding the use of coal tar-based asphalt sealants and associated polycyclic aromatic hydrocarbons (PAH's) contamination in stormwater runoff. Recent USGS studies found PAH contamination in stormwater discharges and sediments, and identified pavement sealants as a significant contributor to such contamination. The USGS studies also showed that PAH concentrations in coal tar-based sealants are as much as 1,000 times greater than PAH concentrations in asphalt-based sealants.

USGS studies also compared how PAH concentrations in stormwater vary with curing time after sealant application. Results show PAH concentrations decrease by approximately 75 percent after a three-day curing period. PAH concentrations in stormwater dropped from a high of 900 µg/L to near 200 µg/L for pavement sealed with coal tar-based sealants and from 40 µg/L to near 10 µg/L from pavement sealed with asphalt-based sealants. A review of the literature revealed acute aquatic toxicity values range from 250 µg/L to 1,000 µg/L depending upon the species. The drinking water standard is 0.2 µg/L for total PAH. Numerous jurisdictions throughout the United States east coast region have instituted regulations restricting sealant application within 72 hours of a projected rainfall event.

Water Board staff informally surveyed Caltrans and three county transportation departments (El Dorado, Placer, and San Bernardino) and asked what type of pavement sealants they use. Caltrans and the three counties use asphalt-based sealants, and indicated that this is the general trend for public transportation departments in California.

Pavement sealants are also used on private and commercial properties (driveways and parking lots). Sealant products can be purchased at numerous commercial stores and asphalt manufacturing facilities. Water Board staff has yet to investigate whether or not coal tar-based sealants are available at such outlets within the Lahontan Region, but will be doing so in the near future.

2. The "Clean Water Rule: Definition of Waters of the United States" – An Overview and What it Means for our Region - *Jan M. Zimmerman*

The U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA) recently finalized the "Clean Water Rule: Definition of Waters of the United States." The purpose of the rule is to clarify the scope of waters protected under the Clean Water Act (CWA) and to ensure that waters of the United States (WOUS) are more precisely defined, more predictably determined, and easier for the public to understand. The Clean Water Rule was published in the Federal Register (Volume 80, No. 124) on June 29, 2015, and will go into effect on August 28, 2015. The final rule is posted online at http://www2.epa.gov/cleanwaterrule/final-clean-water-rule. The new rule is based on an EPA Final Report, *Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence*, input from hundreds of stakeholder meetings across the country, and over one million public comments.

Jurisdictional WOUS have in the past been loosely defined as "traditional navigable waters", "interstate waters," "territorial seas," "impoundments of jurisdictional waters," "tributaries," and "adjacent wetlands." The Clean Water Rule builds on this foundation using case law and the best available science to define and quantify key terms such as "tributary," "adjacent," and "other" waters in order to interpret more easily the jurisdictional extent of WOUS. The Clean Water Rule also specifically identifies what waters are excluded from jurisdictional WOUS and when case-specific significant nexus analyses are needed to determine jurisdictional status. The main highlights of the rule are outlined below.

a) The rule retains the definitions for traditional navigable waters, interstate water, territorial seas, and impoundments of jurisdictional waters. These primary categories of waters do not change from earlier regulations and are jurisdictional by rule.

b) The rule defines "tributary" for the first time as a water with (1) identifiable bed and banks, (2) an ordinary high water mark, and (3) that contributes flow directly or indirectly to a WOUS. Tributaries may be natural, man-altered, or man-made, and flow may be perennial, intermittent, or ephemeral. Tributaries, as defined, are jurisdictional by rule and no additional analysis is required. Waters without bed and banks and an ordinary high water mark are not tributaries under the rule and will be evaluated for adjacency.

c) Earlier regulations regarding adjacency only pertained to wetlands. The rule broadens the scope of adjacency to include all waters and more specifically defines "adjacent" to mean waters that are bordering, contiguous, or neighboring, including those separated from other WOUS by constructed or natural barriers and berms. For the purpose of determining adjacency, "neighboring" is defined as waters located in whole or part (1) within 100 feet of a

WOUS, (2) in the 100-year floodplain and within 1,500 feet of the ordinary high water mark of a WOUS, (3) within 1,500 feet of the high tide line of a traditional navigable water or territorial sea including within 1,500 feet of the ordinary high water mark of one of the Great Lakes. Adjacent waters, as defined, are jurisdictional by rule and no additional analysis is required. Other waters outside the boundaries of "neighboring" require a case-specific significant nexus evaluation to determine jurisdictional status.

d) The rule is expected to reduce the time it takes to make approved jurisdictional determinations by decreasing the number of determinations that require case-specific significant nexus analysis evaluations. Previously, almost any water could be put through this lengthy process. The rule significantly limits when a case-specific significant nexus evaluation will be performed and specifies that, unless otherwise excluded by the rule, the only waters subject to significant nexus analyses are those that are (1) "similarly situated" (i.e. western vernal pools in California), (2) within the 100-year floodplain of a traditional navigable water, interstate water, or territorial sea, or (3) within 4,000 feet of a WOUS.

e) The rule preserves common sense exclusions from jurisdiction, including: groundwater; prior converted crop land; waste treatment systems; artificially irrigated areas that are otherwise dry land; water-filled depressions created in dry land incidental to mining or construction activity; non-wetland swales; and erosional features, including gullies, rills, and ephemeral streams that do not meet the definition of "tributary." The rule also expands the exclusions for ditches and specifies that the following types are categorically excluded: ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary; ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain a wetland; and ditches that do not flow, either directly or through another water, into a WOUS. The Clean Water Rule explicitly states that those waters categorically excluded by the rule cannot be determined to be jurisdictional under any other category.

f) The rule does not affect the long-standing exemptions in the CWA for farming, silviculture, ranching, and other activities that are established under CWA sections 402, 404, and 502.

The Clean Water Rule does not protect any types of waters that have not historically been covered by the Clean Water Act. Although the rule is expected to reduce jurisdiction over some waters as a result of exclusions, it is anticipated that the rule will similarly result in an increase in jurisdictional assertion over other waters. It is estimated that the increase in positive jurisdictional assertion nationwide will be three to five percent over current field practice. However, it will remain less than the area under jurisdiction prior to the 2001 Supreme Court case, *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (SWANCC).

Some of the more relevant elements in the rule that pertain to the Lahontan Region are related to the definitions of "tributary" and "ditches." Many of the headwater streams in our region are ephemeral. Under the rule, the majority of these streams are tributaries regardless of whether they are perennial, intermittent, or ephemeral, natural, modified, or constructed; the rule asserts that all waters that meet the definition of "tributary" have a significant nexus to downstream waters and are WOUS. The key here is that frequency of flow no longer plays a role in determining whether or not a water is tributary. Rather, it is the presence of the physical indicators of bed and banks and ordinary high water mark that demonstrate that there is sufficient volume, frequency, and flow to establish a significant nexus with downstream waters. Ephemeral streams that do not exhibit well-defined bed and bank or ordinary high watermark due to gradient and/or soil types, though these waters may not meet the definition of "tributary". Under the new rule these waters may still be jurisdictional WOUS if they meet the criteria for being "adjacent."

Ditches can be modified natural streams or man-made. Those ditches that meet both the definition of "tributary" and are not specifically excluded by the rule are jurisdictional WOUS. Jurisdictional ditches include (1) ditches with perennial flow, and (2) ditches, regardless of flow, that are excavated in or relocate a tributary. A stream is considered "relocated" either when a portion of its original channel has been physically moved or when the majority of its flow has been redirected. The distinction here is that the rule focuses on the function of the ditch. A ditch is a relocated stream, and therefore jurisdictional, if it returns flow back to a WOUS; a ditch that simply withdraws flow from a stream with no return flow back to a WOUS, is not jurisdictional under the rule. The specificity in the rule with respect to ditches will likely result in a positive jurisdictional assertion over many of the ditches and canals in the East Walker and Owens watersheds.

Nothing in the Clean Water Rule restricts the ability of states to more broadly protect state waters, and the clarity that the rule provides will be a useful tool as we continue to develop region-specific guidelines and policy for discharges to waters of the State that are not subject to federal-regulations.

NORTH

3. *Leviathan Mine, Alpine County* – Hannah Schembri

It has been a very busy month for Water Board staff in starting up pond water treatment operations. Staff also continued to review and comment upon multiple reports and work plans related to the CERCLA Remedial Investigation/Feasibility Study (RI/FS) process, as well as responding to the time schedule established by the Settlement Agreement between the State of California and Atlantic Richfield Company (AR). Below are more details regarding these activities.

Treatment Operations
The Water Board's contractor assembled the Pond Water Treatment Plant and started summer treatment of acid mine drainage (AMD) the week of July 13. The treatment system elevates the pond water pH using lime, which also causes dissolved metals, such as aluminum, arsenic, copper, nickel, and zinc, to precipitate out in a lime-metal sludge. The lime-metal sludge settles, allowing the discharge of treated water meeting U.S. Environmental Protection Agency (USEPA) discharge criteria to Leviathan Creek. Water Board staff began discharge of treated water to Leviathan Creek July 21.

The lime-metal sludge created during treatment operations is hazardous waste due to the high metals content.

The Water Board's contractor hauled the lime-metal sludge generated during last year's treatment operations to a hazardous waste landfill in June.

Quarterly Technical Team Meeting
On July 13, 2015, Water Board staff hosted the Second Quarterly RI/FS Technical Team Meeting for 2015 with (AR) representatives, technical consultants, USEPA staff and technical consultants. The meeting was facilitated by AR and primarily focused on four items; 1) AR's 2015/2016 RI/FS Field Schedule, 2) AR's Mine Waste Characterization Results, 3) AR Update on the 2012/2013 Surface Water Report, and 4) AR Groundwater Technical Memorandum review . On all topics, AR presented their proposed approach, which was followed with questions and discussion on next steps.

Site Tour
On July 15, 2015, USEPA and Carson Water Subconservancy District (CWSD) hosted a Leviathan Mine Site Tour with assistance from Water Board staff. The tour began with an hour long presentation on the history of Leviathan Mine and the current status of remediation efforts by USEPA. Following the presentation, Water Board staff participated in a site tour for 22 people highlighting important mine remediation features that are currently in place. The tour was coordinated by the CWSD and consisted of CWSD Board members and staff, Alpine Watershed Group Board members and staff, Douglas County Commissioner, Lyon County Commissioner, Carson City Supervisor, and Alpine County Supervisors. The tour was a success

and many attendees were unaware of the important remediation measures that are ongoing and planned in the future at Leviathan Mine.

Revegetation Study Completed

Dr. Vic Claassen of UC Davis completed a two-year revegetation study under contract to the Water Board. The study's primary purpose was to evaluate the long-term capacity of the extremely disturbed mine substrates to support plant growth and provide erosion resistance. Three locations were evaluated during the study, the regraded Pit Area, the slopes under Pond 2 North and South, and the Delta Slope. Demonstration test plots were created at the three study locations and data regarding soil regeneration of organic matter carbon pools, improved soil aggregation, increased infiltration, available moisture, and enhanced nutrient availability was collected. Based upon the study results, soil amendment and revegetation guidelines were developed for future revegetation projects. Water Board staff will be posting the study's final report on its web site in the near future.

Water Board Review and Comment Activities

Water Board staff continues to review and comment on numerous reports submitted during the past month by AR, including the following:

- Requested Modifications to 2015 Surface Water Monitoring Program
- On-Property Focused Remedial Investigation (FRI) Work Plan Amendment No. 10, Revision 2 Stream Sediment and Floodplain Soil Characterization in Beaver Dam/Pond Complex, Response to Comments and Revised Document
- Draft Final On-Property, Off-Property, and Reference Area FRI Work Plans, Plant and Habitat-Related Soil Investigations and Response to U.S. EPA and Water Board Comments
- Draft Interim Combined Treatment Reports with preliminary plans for evaporation pond water conveyance system.
- Evaluation of Historical and RI/FS Surface Water Data
- Technical Memo Groundwater Evaluation Summary
- Response to USEPA Comments on the 2013 Data Summary Report

Water Board Responses

Water Board staff submitted the following comment letters during the past month:

- AR Off-Property and Reference Area FRI Work Plan Task Sampling Analysis Plan for FPXRF Surveys (River Ranch)
- Final Baseline Human Health Risk Assessment Work Plan, Revision 1
- On-Property FRI Work Plan Amendment No. 10, Revision 2 Stream Sediment and Floodplain Soil Characterization in Beaver Dam/Pond Complex, Response to Comments and Revised Document
- Water Board Comments on Draft Interim Combined Treatment Reports and 30% Design Submittal for the Leviathan Mine Evaporation Pond Water Conveyance System

4. Washington Fire, Markleeville, Alpine County – *Doug Cushman and Jim Carolan*

On June 19, 2015, a lightning strike caused the Washington wildfire that

spread rapidly for several days and burned roughly 18,000 acres of mixed vegetation types south and east of Markleeville, California. The wildfire threatened the town of Markleeville, surrounding residential areas, and several campgrounds, but did not affect those areas and remained on Humboldt-Toiyabe National Forest and Bureau of Land Management lands. The wildfire advanced to within about 1 mile from Leviathan Mine but no longer threatens the site. Firefighting officials estimate 100% containment of the Washington Fire by July 31, 2015.

Water Board staff visited the area on July 7, 2015 to initially assess the firefighting effort and cleanup operations, as well as potential impacts to water quality to the East Fork Carson River and other creeks in the area. Heavy thunderstorms on July 3-7 caused flash flood warnings and produced rock and mudslides in the area. At the time of the Water Board visit, the wildfire was 99% contained and fire crews were primarily engaged in mop-up and demobilization activities. Caltrans crews were also actively involved in debris and sediment removal from the Highway 4 right-of-way. Caltrans had already repaved portions of Highway 4 south of the Highway 89 intersection prior to the inspection.

The wildfire and subsequent thunderstorms created water quality impacts to East Fork Carson River and other creeks and drainages within the footprint of the fire area. The immediate impact to the East Fork Carson River has not been measured, but significant quantities of sediment and ash were noted in both the East Fork Carson River and creeks and drainages within the footprint of the fire area. It appears that impacted creeks and drainages will continue to convey ash and sediment to the East Fork Carson River for a considerable period of time.

As our staff has done with post-wildfire activities for other fires in the region, Water Board staff will coordinate with the USFS during the development of their Burn Area Emergency Response (BAER) assessment for the Washington Fire as well as all responsible and interested agencies participating in restoration efforts. The Water Board staff's focus during restoration effort planning will be the reduction of ash and sediment being delivered to the East Fork Carson River via impacted creeks and drainages.

SOUTH

5. Hinkley Background Study Technical Working Group Meeting - Anne Holden

First-round sampling of 40 wells for the Hinkley chromium background study was completed in March 2015. Dr. Izbicki of the US Geological Survey presented preliminary, first-glance results to members of the Background Study Technical Working Group (TWG) at a meeting in Hinkley on June 24. Water Board staff Anne Holden and Lisa Dernbach, along with ten TWG members, learned about progress on the study, including results of gravity survey data to determine the thickness of geologic units, X-ray fluorescence analysis of rock and alluvium to determine elemental composition, groundwater sample collection and results, groundwater model update and calibration, and groundwater flow-path studies.

Two TWG members spent a day in the field with the USGS sampling crew, and gained an appreciation for the technical complexity of the sampling process, especially due to the stringent quality control procedures the USGS is implementing.

USGS staff also previewed videos that will be posted soon on youtube.com (search for USGS Hinkley Chromium Study). A short video shows footage from the March 2015 sampling event, with Dr. Izbicki explaining the project background, science, and process for determining naturally-occurring chromium in the Hinkley Valley. A longer video shows Dr. Izbicki's background study presentation at the April 2, 2015 Community Advisory Committee meeting.

A fact-sheet style report introducing the background study will be released by the USGS this fall. Second-round groundwater sampling is planned for first quarter 2016.

6. Marine Corps Logistics Base Barstow Operable Unit 7 Update – *Bill Muir*

The Marine Corps Logistics Base (MCLB) Barstow Operable Unit (OU) 7 Record of Decision (ROD) was signed in December 2014 by all parties to the Federal Facility Agreement. The OU7 ROD documents the agreed upon response actions for the 18 OU7 sites. Of the 18 sites covered by the ROD, one site was identified for no further action and was closed. At 12 sites, contaminants are present above unrestricted reuse levels and require land use controls to mitigate the potential for exposure to workers and nearby residents. Three sites require remedial actions for groundwater contamination, and two sites require remedial actions for soil-only contamination.

1. The Navy is preparing remedial design/ remedial action (RD/RA) work plans describing how the individual sites will be cleaned up and risks controlled to protect human health and the environment. For sites requiring land use controls, a Land Use Control Remedial Design Plan is being prepared to document how the land use controls will be implemented and monitored. For the groundwater sites, where a

component of the remedial action is monitored natural attenuation (MNA), the Navy is completing its sampling and analysis and long-term monitoring plans to perform the necessary monitoring required to verify whether natural attenuation processes are proceeding as expected. The Navy will also be implementing soil vapor extraction (SVE) to remove volatile organics from the unsaturated soil at some sites. Water Board staff is reviewing the RD/RA workplans and will work with the Navy to develop workplans in compliance with requirements. This remedial design phase is the first of the actions the Navy is taking to implement the decisions documented in the OU7 ROD.

7. Rosamond Community Services District Wastewater Treatment Plant – *Cephas Hurr*

Staff met with Rosamond Community Services District (Rosamond) on July 15, 2015 to discuss current permit application action items and the current groundwater trends which indicate total dissolved solids and nitrate pollution. Rosamond has submitted a Report of Waste Discharge and the required documents to administer a recycled water distribution program. The program is pending Division of Drinking Water's engineering report approval. Under the program, Rosamond plans to distribute 0.5 million gallons per day of disinfected tertiary recycled water through a proposed pipeline to Golden Queen Mine. The program is expected to be implemented under the Recycled Water General Order and can be authorized by a Notice of Applicability signed by the Executive Officer.

The tertiary treatment plant, which began operation in 2012, is not included in the current Waste Discharge Requirements (WDR) adopted for the existing pre-2012 treatment plant and therefore Water Board staff must revise or amend the WDR to establish effluent treatment levels for recycled water production. The WDR will include an updated Monitoring and Reporting Program, which may possibly require additional monitoring wells. For the WDR, Water Board staff informed Rosamond staff they may need their input to complete a groundwater degradation analysis for the WDR. Board action of the WDR is targeted for November 2015.

EO's Monthly Report
June 16, 2015 to July 15, 2015

COUNTY: MONO COUNTY

Discharger/Facility	Location	Basin	Regulated Facility?	Discharge Date	Discharge Volume	Description of Failure	Additional Details	Status
US Tungsten Div of Stratcor/Rovana Housing Package STP	South end of Virginia Street, Rovana	South	Yes	6/24/2015	>100 gallons	Sewer main blockage resulted in a greater than 100-gallon raw sewage discharge to soil. No surface waters were affected.	Roots created blockage causing discharge from manhole to unpaved area.	Blockage cleared (pipe section had to be replaced due to inability to clear roots).

COUNTY: SAN BERNARDINO

Discharger/Facility	Location	Basin	Regulated Facility?	Discharge Date	Discharge Volume	Description of Failure	Additional Details	Status
Molycorp Minerals LLC	Mountain Pass Mine	South	Yes	6/28/2015	700 gallons	Unauthorized discharge of 700 gallons of reclaimed wastewater and paste mix slurry to ground.	Mechanical failure of pressure relief valve caused discharge. No surface waters affected.	Spill was cleaned up, affected soil to be disposed in the lined tailings pond.

*All discharges to surface waters are included in the report.
Discharges to land of less than 100 gallons are not included in the report.

Summary of
No Further Action Required Letters Issued
June 16 - July 15, 2015
August 2015 EO Report

State of California
Lahontan Regional Water Quality Control Board

The Executive Officer finds the release of petroleum products at the following sites poses a low threat to human health, safety, and the environment. Therefore, the petroleum cases were closed in accordance with the Water Quality Control Policy for Low-Threat Underground Storage Tank Case Closure (Resolution 2012-016). The Policy recognizes contaminant mass often remains after the investment of reasonable remedial effort and this mass may be difficult to remove regardless of the level of additional effort and resources invested. The establishment of the Policy is an effort to maximize the benefits to the people of the State of California through the judicious application of available resources.

Date Closure Issued	Site Name	Site Address	Case Number	Additional Information
No closure letters were issued during the time period.				

Additional links:

General Policy information: http://www.swrcb.ca.gov/ust/lt_cls_plcy.shtml#policy081712

Copy of Policy: http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf

Implementation Plan http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/110612_6_final_ltcp%20imp%20plan.pdf