



# EXECUTIVE OFFICER'S REPORT

May 2012

## NORTH BASIN

1. **Update on Susanville Sanitary District Wastewater Treatment Facility compliance with coliform limitations, Lassen County** – *Robert Tucker*

The Susanville Sanitary District (District) wastewater treatment facility has a recent history of issues with meeting effluent limits for total coliform and chlorine residuals. Instead of trying to resolve operational and design issues the District opted to move away from its current chlorine disinfection process and proposed an ultraviolet (UV) light disinfection system in 2009. The District finished the construction of the UV disinfection system and put the system into operation in late March 2012.

The first round of sampling provided by the District from the UV disinfection system had results of 2 Most Probable Number total coliform or less for both total and fecal coliform. These results meet the effluent requirements in the District's Permit and should reduce or eliminate violations for both total coliform and chlorine residual in the future, as the use of chlorine is not required with the UV system. The District has requested that the Water Board move the location of the compliance point for total coliform to the end of the UV disinfection system. The compliance point currently is at the end of a chlorine contact chamber. The District is concerned that non wastewater sources of bacteria could result in high coliform sample results even though the

wastewater was treated. Staff is reviewing the request and is planning to prepare an amendment to the Permit for the Board's consideration in summer 2012.

2. **AIS Plant Control Efforts in Emerald Bay** - *Mary Fiore-Wagner*

Technical experts and regulatory, management, and resource conservation agencies have collaborated to evaluate the most efficient and successful strategies to control invasive stands of Eurasian Water Milfoil (EWM) that exist throughout Lake Tahoe. Since 2005, cooperative efforts have been implemented within Emerald Bay to control the aquatic invasive weed infestation first documented in the bay in 1995. Earliest efforts to survey and manage EWM in Emerald Bay were initiated by the California State Lands Commission and resulted in removal of approximately 1300 pounds of aquatic plant by means of diver assisted suction dredging. Since then, a multiple-agency effort has been coordinated by the Tahoe Resource Conservation District, which has taken the lead in project planning, execution, and monitoring of control methods within this high priority site where EWM is capable of rapidly expanding without active removal efforts. By 2009, a lakewide survey conducted by the Tahoe Divers Conservancy estimated that the infestation area covered between 2.5 and 3 acres in three distinct areas within Emerald Bay.

Projects within Emerald Bay have focused on localized weed populations at Parson's Rock, Vikingsholm Pier and Beach, and Avalanche Beach. The Lahontan Water Board has permitted several treatment efforts within Emerald Bay which have utilized a combination of benthic barriers and diver-assisted hand removal or diver-assisted suction dredging.

To ensure limited plant recolonization, annual maintenance is required. The California Department of Parks and Recreation reports that results from monitoring prior to the 2010 treatment indicate that EWM will begin to repopulate treatment sites within 15 months post-treatment, and the use of bottom barriers alone did not effectively control EWM in Emerald Bay. Transect monitoring in 2011, however, indicates no plants at the Vikingsholm Pier site which was treated with a combination of methods in 2010. Strategic hand removal was the focus of the control effort in 2011.

Treatment efforts for 2012 are underway to treat approximately three acres across all three distinct infestation areas of Emerald Bay. A combination of gas permeable bottom barriers and diver-assisted hand pulling will be implemented with the goal of achieving 99%-100% removal.

The potential ecological, recreational, and economic impacts to Lake Tahoe from aquatic invasive species (AIS) are well recognized by regional scientists and resource management agencies. To avoid the potential for the widespread establishment of AIS, Lake Tahoe's Nearshore Aquatic Weed Working Group (NAWWG) is developing a lake-wide, long-term management strategy to detect and control existing invasive plant species. The goal of the NAWWG is to provide guidance on how to prioritize the implementation of control efforts. Prioritization will be based on criteria including risk of spread, infestation

size and location, public benefit, cost and feasibility, and impacts to the environment.

The research and monitoring results from the treatment efforts in Emerald Bay provide useful information as NAWWG develops a long-term approach for successful management of AIS plants in Lake Tahoe.

### 3. **Basin Planning after Judith Unsicker's Retirement** – *Richard Booth*

Judith Unsicker, PhD., worked at the Lahontan Water Board for 35 years and has recently retired. Dr. Unsicker contributed significantly to Basin Planning in the Lahontan Region and throughout the state as the Lahontan region's Basin Planning Program Manager. As the lead author of the Basin Plan Chapter 5, covering the Lake Tahoe watershed, Judith was instrumental in drafting the many water quality objectives and Subchapters that are unique to Tahoe. I cannot overstate her contributions to our agency's mission "... to preserve, enhance and restore the quality of California's water resources ..."

Basin Plans are the fundamental water quality protection plans in California. To be useful and effective, our Basin Planning Unit is tasked with keeping the Basin Plan current. This task is important to address emerging water pollution and regulatory issues and to cope with increasingly complex planning and California Environmental Quality Act (CEQA) requirements.

Staff will continue Basin Planning's primary tasks. The Integrated Report, a report on a two-year cycle required by the Clean Water Act, will show the water quality standards attainment status of our Region's waterbodies – a significant and important task for the Basin Planning staff. Basin Planning and TMDL staff will address the impaired waters of the Lahontan Region, with priority in 2012 on the pathogen impairments. Staff will prepare the Triennial

Review documents of priority Basin Planning projects that will be brought before you for consideration in a few months.

Lahontan staff will continue contributing to the statewide Basin Planning projects through participation in Basin Planning Roundtables and participation in specific technical working groups (e.g., a natural sources exclusion policy).

Judith's Basin Planning contributions cannot be easily duplicated, but she has set standards for which Lahontan staff will strive to meet.

## SOUTH BASIN

#### 4. **Solar Thermal Facility inspections, San Bernardino County** - *James Brathovde*

Water Board and California Energy Commission (CEC) staff conducted joint inspections in April 2012 at four Solar Energy Generating System (SEGS) facilities in the Harper Lake area. The CEC permits ("certifies") solar facilities (both thermal and photovoltaic) generating power of 50 megawatts or more under the Warren-Alquist Act. For recently certified facilities, the CEC requested Water Board staff assistance in preparing stand-alone requirements for wastewater disposal and stormwater management, which were then incorporated into the CEC certification.

The SEGS solar thermal facilities built in the 1990s (SEGS I through IX) are also regulated by Water Board-adopted waste discharge requirements. The solar thermal technology uses water at the SEGS facilities to run a steam turbine generator. The water is cooled through cooling towers, and recycled through the turbines, increasing the concentration of dissolved solids. When the dissolved solids in the water becomes too concentrated (25,000-50,000 milligram per liter total dissolved solids), it is discharged into surface impoundments for evaporation.

The cooling water source for SEGS III – VII facility is supplied by Antelope Valley-East Kern Water Agency (AVEK). In contrast, groundwater is the sole source for cooling water at SEGS I & II, SEGS VIII & IX, and the under-construction Mojave Solar Project facilities. The water chemistry is different between the two sources, the groundwater used for supply at SEGS I&II and SEGS VIII & IX is much saltier than the AVEK water. This difference in water quality requires

different water quality monitoring parameters for the wastewater discharged into the impoundments and the associated groundwater monitoring network.

Water Board staff also inspected the earth moving, grading and hydro-modification operations for the 1,700-acre Mojave Solar Project. The Mojave Solar Project will need approximately 2,100 acre-feet per year of groundwater for its cooling water. Deeper (less salty) water supply wells were being installed during staff's inspection. To reduce the potential of degrading groundwater through open-hole conduits, 31 shallow wells, formerly used for alfalfa farming, are being destroyed.

At the Mojave Solar facility, the storm water retention swales and basins being built into the solar field are designed to be sufficient to capture all storm water originating on-site. All storm water originating off-site and flowing to Harper Lake will be diverted by channels designed to accommodate a 100-year storm event (approximately 11,000 cubic feet per second). The storm water channels protect the mirror and power station block areas.

At the Water Board's request, staff will hold a workshop at a Fall 2012 Water Board meeting on its involvement in the many renewable energy projects being built.

#### 5. **Dairy Update** - *Ghasem Pour-ghasemi*

Water Board staff are moving forward with implementing the dairy strategy.

A Cleanup and Abatement Order was issued to one dairy operator requiring cleanup and removal of manure stockpiles. As of late April 2012, 95

percent of the stockpiles have been removed and the remainder will be removed by the end of May.

The Water Board issued amended Cleanup and Abatement Orders to four dairy operators requiring them to sample residential wells around those dairies once every nine months and analyze the samples for nitrate and total dissolved solids. The same four dairy operators are providing bottled water for consumption and cooking to residents whose domestic wells are affected by dairy operations. Approximately 30 residents are receiving bottled water.

At the end of May 2011, Water Board staff issued 13267 Investigative Orders to twelve different dairy operators requiring them to prepare and submit a Nutrient Management Plan for their operations. The Nutrient Management Plan submittal dates are different for each dairy and are based on the varied risks to water quality from each dairy's practice. The Water Board has received one Nutrient Management Plan, two operators are late in their submittal, four other plans are due by December 2012, and the remaining five are due in 2013.

#### 6. **Onsite Wastewater Treatment System Policy** – *Jehiel Cass*

In late March 2012, the State Board released a final draft policy for Onsite Wastewater Treatment Systems (OWTS, also called septic tanks). After public hearings, the State Water Board intends to consider adopting the policy in June 2012 with an effective date six months after the policy is approved by the Office of Administrative Law (at least a few months after adoption by the State Water Board). This policy was required pursuant to amendments to the water code (chapter 4.5, sections 13290-13291.7)

and would replace draft regulations that were considered, but not adopted, in 2008.

The draft policy sets up five "tiers" as follows:

Tier 0 – Existing systems in good repair and not in an area with an impaired water body subject to a Total Maximum Daily Load (TMDL) implementation requirement. No further action until replacement or upgrade.

Tier 1 – Low risk new or replacement systems and in areas where there is no Local Agency Management Program in effect. These systems must comply with requirements for siting, percolation rates, setback, slope, design, and construction. Average density for OWTS in subdivisions approved after the effective date of the policy must not exceed one OWTS per 2.5 acres. Not all requirements are applicable to replacement systems and the Water Boards may authorize variances for replacement systems.

Tier 2 - New or replacement systems in areas *with* a Local Agency Management Program (LAMP). A local agency may develop a LAMP, subject to approval by regional water boards, that they can use to regulate OWTS. This LAMP can propose requirements different from those in Tier 1 provided they are protective of water quality.

Tier 3 – New or replacement systems near an impaired surface water body. This tier does not apply to any systems in the Lahontan region as septic systems have not been identified as the cause of any impairments in the region.

Tier 4 – Existing or new failing systems must be repaired or replaced. Regulation of OWTS pursuant to this tier is only for

duration of repair or replacement. Once the repair or replacement is complete, ongoing regulation is pursuant to the tier under which it was regulated prior to the need for repair or replacement.

Waste discharge requirements are waived for new and existing systems that comply with the policy. The regional boards have 1.5 years from policy adoption to "re-align" Basin Plans making them consistent with the policy. Septic systems greater than 10,000 gallons per day flow are not covered by the policy.

Local counties and cities that approve septic systems are allowed to create a Local Agency Management Program to specify site-specific requirements. The regional water board must approve all programs.

7. **City of Barstow Compliance with Enforcement Orders – Ghasem Pourghasemi**

The City of Barstow (City) continues to comply with the following orders:

**a. 13267 Order for Nitrate in Groundwater Investigation**

Groundwater monitoring data from the first quarter of 2012 showed that the Nitrate plume north of the Mojave River along Soapmine Road is still contiguous and moving southeast. In January 2012, the City conducted an aquifer test along Webster Road to determine how the groundwater will respond to an extraction well pump and treat program. The test results indicated a pump and treat cleanup system may cause the water table to drop 1.5 to 3 feet downgradient of the extraction system during the cleanup. In February 2012, the City submitted a revised cleanup plan to pump from four extraction wells along Webster Road and

one well along Clay River Road. Extracted water will be treated using a fluidized bed reactor and disposed in existing wastewater disposal ponds along the south side of the Mojave River. The City's plan would begin cleanup in October 2013 after environmental review and construction of extraction wells, pipelines, and a larger fluidized bed reactor. Water Board staff is in the process of requiring the City to move ahead with design and installation of the proposed groundwater pump and treat system. The City is working on an additional remediation plan to address other affected areas.

On April 24, 2012, the Water Board hosted a public meeting at 30918 Soapmine Road regarding the groundwater investigation and cleanup activities. About 35 people were in attendance and public questions were answered.

**b. Cease and Desist Order Initiating Wastewater Treatment Plant Upgrade**

The City completed an upgrade of the wastewater treatment plant in July 2009 and subsequent monthly reports indicate that the wastewater treatment facility is in compliance with the Board Order. The effluent nitrate-as N and total nitrogen concentrations were less than 10 mg/L for the last 12 months of operation.

**c. Cleanup and Abatement Order Requiring Soapmine Road Area Replacement Water**

The City continues to conduct residential well sampling of 38 drinking water wells in the Soapmine Road area, as required by the Cleanup and Abatement Order. Currently, the City is supplying 33 residences with uninterrupted replacement water service (bottled water)

for residences where nitrate has been detected at concentrations at or exceeding 5 mg/L nitrate-as N. The analytical results for the first quarter of 2012 monitoring event show that 4 private wells exceeded the maximum contaminant level (MCL) for nitrate-as N of 10 mg/L and a total of 13 private wells exceeded nitrate-as N concentrations of 5 mg/L. Some private wells supply multiple residences.

8. **Pacific Gas and Electric (PG&E) Company's Chromium Contamination, San Bernardino County, Petition of March 2012 Settlement Agreement - Lisa Dernbach**

The Water Board adopted a Settlement Agreement between the Water Board's Prosecution Team and PG&E at the March 2012 meeting in Barstow. The Settlement Agreement imposed a \$3.6 million fine against PG&E, of which half would be paid within 30 days to the State Water Resources Control Board (State Water Board) Waste Discharge Permit Fund, and the other half would be deferred up to five years while PG&E installs and operates a new water supply system for the Hinkley Elementary School. The Settlement Agreement included an amended Cleanup and Abatement Order revising a prior directive for PG&E to contain chromium plume migration at the 4 ppb boundary and changes it instead to the 10 ppb boundary. One month after the Water Board's action, a petition was filed with the State Water Board by a Hinkley resident.

The petitioner, Joel Valenzuela, claims that the Water Board's adoption of the Settlement Agreement failed to incorporate environmental justice issues. The petitioner claims the Settlement Agreement and amended Cleanup and

Abatement Order gave all considerations and benefit of the doubt to PG&E at the expense of the Hinkley residents and therefore does not comply with the State Water Board's Environmental Justice Program nor the goals of the State Water Board Strategic Plan.

The petition is being reviewed by the State Water Board's Office of Chief Counsel (OCC), which will determine whether the petition is complete. If so, OCC will decide whether there is a legal basis for the petition. If there is, the petition will continue through the system. If not, the State Water Board can dismiss it without further comments or a hearing.

9. **Adelanto Public Utility Authority Compliance Status - Eric Taxer**

Cease and Desist Order No. R6V-2011-0015A1, adopted by the Water Board at its May 11, 2011 hearing, requires the Adelanto Public Utility Authority (District) to comply with past enforcement orders and additional conditions. The requirements are intended to assist the District to adequately treat and dispose all wastewater generated and expected to be generated by the City of Adelanto. Current wastewater flows exceed the treatment plant's treatment capacity. The Water Board last received an update of the District's compliance status with the Cease and Desist Order in its March 2012 Executive Officer's report. The following activities have occurred from February 15, 2012 through May 15, 2012:

- On February 29, 2012, Water Board staff responded to the District's February 1, 2012 Percolation Pond Maintenance Plan. The plan provides for annual percolation tests and, at minimum, bi-annual pond maintenance. The plan also calls for Pond No. 1 to be maintained in a

continuous full condition for plant hydraulic control, and for Pond Nos. 2 and 3 to be rehabilitated and combined into a single lined evaporation/storage pond for emergency use (and during maintenance operations). Water Board staff requested a meeting with District staff to discuss the plan and additional permitting elements that may be required in order to implement the plan.

- On March 20, 2012, Water Board staff accepted the District's Nitrogen Effluent Limitation Compliance Plan, which was submitted on January 30, 2012, and amended on February 23, 2012. The District estimates achieving final compliance with existing nitrogen effluent limits prescribed in Water Board Order No. R6V-2009-0036 by July 2013. Compliance will be achieved through re-design of the District's wastewater treatment plant and subsequent construction.
- Water Board staff met with the District on March 21, 2012 to discuss proposed treatment plant expansion modifications, the percolation pond maintenance plan, and associated permitting requirements. It was agreed that the Water Board staff will request a Report of Waste Discharge from the District, outlining the decision points agreed to at the meeting. (Water Board staff drafted the Request for a Report of Waste Discharge in April, but the request has not been issued.)
- The District previously restored Percolation Pond No. 4 in accordance with Cease and Desist Order No. R6V-2011-0015A1, but, the pond solids have been inappropriately stored on site. On March 23, 2012, Water Board

staff allowed the District to spread the solids out in a manner that would allow for solar ultraviolet light disinfection (solids had already been tested negative for hazardous constituents). Once the bacteria are non-detectable, the District will be able to dispose the material as fill material.

- The District submitted its quarterly status report on April 12, 2012. The District identified that Psomas (a consulting engineering company) has been retained for construction management services during construction of the wastewater treatment plant expansion. The District also identified that PERC Water Corporation had been awarded a Design-Build-Operate contract with a final date of July 21, 2013 as the date that the expanded wastewater treatment plant will be constructed and operational.
- The District submitted its revised Construction Management Plan (CMP) schedule on May 14, 2012 as an addendum to its quarterly report. The CMP Schedule identifies critical elements and deadlines for completing its proposed wastewater treatment plant expansion and upgrade by July 21, 2013. The revised CMP schedule identifies a 5-day delay in holding its 30-percent design review/workshop with PERC in April 2012. The revised CMP schedule forecasts a 42-day delay in holding its 60-percent design review/workshop with PERC in order to ensure PERC has ample time to incorporate comments provided at the prior workshop. The District has not provided information indicating the impact of these delays on the final construction completion date.

The District submitted its 2012 First Quarter Groundwater Monitoring Report on April 23, 2012. The Water Board's Victorville staff is reviewing this report.

10. **Searles Valley Minerals, Compliance Status** – *Omar Pacheco*

**Compliance Status**

Effluent monitoring data from the Trona, Argus, and Westend Plants indicate compliance with the waste discharge requirements throughout the annual reporting period. Additionally, the company is implementing the projects required by a previously issued Administrative Civil Liability Order.

**Spill Events**

Searles Valley Minerals (SVM) did not experience any spills at any of the three plants during this reporting period. Good housekeeping practices and conscientious operation effectively eliminated spills during this period.

**Bird Mitigation Project**

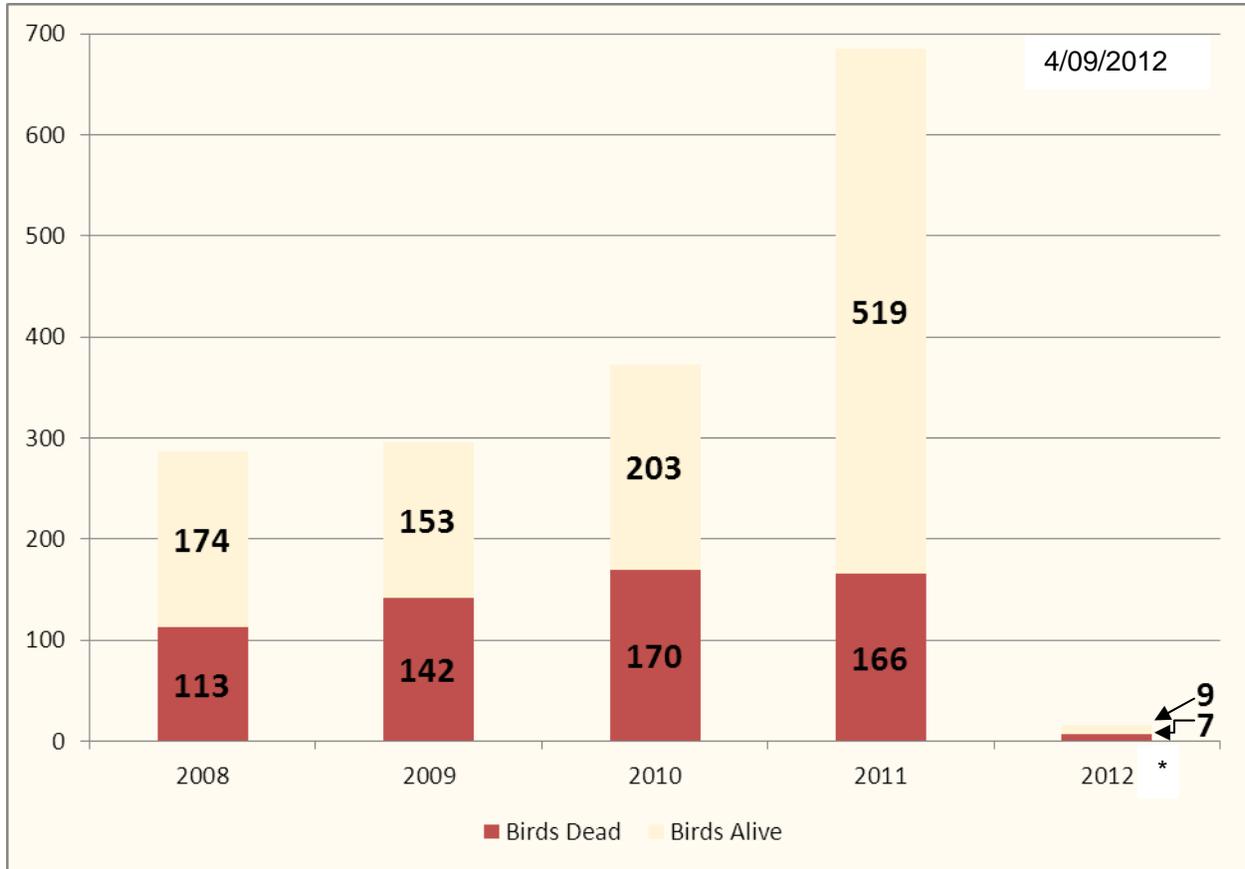
The Off-site Bird Mitigation Project located at Owens Lake continued operation. The Project consists of three ponds, one 80 acre pond, one 15-acre pond, and one 35-acre pond. Operation and management activities are performed by the Dirty Socks Duck Club. These activities include well operation and maintenance, repair strategies for berms and roads, and water management for the benefit of waterfowl and vegetation. Searles Valley Minerals contributes resources to restore bird habitat and to further mitigate avian mortality. Operation and maintenance costs are being met yearly by Searles Valley Minerals. Vegetation planted along the edges of the ponds is healthy and growing. The vegetation along the shore

line has been fully established with a variety of plants. The shoreline continues to be wetted and maintained. Pond water levels have been maintained at the maximum water level for over four years. Birds are using the ponds and nesting along the shore line. Current operation and management practices are expected to maintain a long-term preservation of developed bird habitat.

**Bird Report**

SVM continues daily bird monitoring, hazing, rescue, and rehabilitation activities with the assistance of personnel from Flys Free Wildlife Rescue. Bird mortality did not exceed that allowed annually in the California Department of Fish and Game's "take" permit. A graph showing historical bird data is provided at the end of this report. The graph includes annual numbers of birds rescued and released ("alive") and birds that were either found dead or died subsequent to being rescued ("dead"). The reason the bar graph for 2012 is very small is that most of the bird migration occurs later in the year.

**Historical Bird Data Graph**



\* - Partial year totals