

**LAKE MEAD WATER QUALITY FORUM**  
**September 16, 2008**  
**Meeting Summary**

**I. Introductions – Forum members and participating audience members introduced themselves.**  
See attached sign-in sheet.

**II. Status Reports:**

**1. Perchlorate Update – Shannon Harbour (NDEP – Las Vegas)**

Ms. Shannon Harbour reported the following updates for perchlorate:

**LV Wash:**

- The perchlorate mass flux passing Northshore Road for the last year has been shown to range between ~50 to ~80 lbs./day (July thru June 2008). The 12-month average is ~70 lbs./day.
- This continues to be about an 85 - 90 % reduction from pre-remediation values when the mass flux at Northshore Road was approximately 900 to 1,000 lbs/day.

**Willow Beach:**

- The perchlorate concentrations measured at Willow Beach in the Colorado River system continue to remain low and have been measured at <4 parts per billion (ppb) since June 2004.

**Colorado River:**

- Perchlorate concentrations have been reported at <4 ppb by the Metropolitan Water District (MWD) of Southern California water quality laboratory for all samples collected between June 2004 and July 2008.
- MWD has reported perchlorate concentrations <2 ppb for all samples collected between October 2005 and April 2008 except for the November 2005, April 2006, May 2006 and April 2008 samples which were reported between 2.0 and 2.3 ppb.

**Tronox LLC (formerly Kerr-McGee):**

- The Fluidized Bed Reactor (FBR) perchlorate treatment system continues to operate. Perchlorate concentrations in the treated water discharge are routinely < 18 ppb.
- Perchlorate removal rates for the Tronox remediation system now are typically reported between approximately 1,500 and 2,000 lbs. per day. Tronox reported ~ 1,710 lbs/day removal rate for August 2008.

- Removal of perchlorate from the environment through August 31, 2008:

~2,638 tons total;

397 tons from the seep area;

817 tons from Athens Road; and

1,424 tons from the on-site system.

- Tronox has submitted a Groundwater Evaluation that discusses the hydraulic capture at each of the three well fields associated with the Tronox ex-situ bioremediation system. This report is currently under review by the NDEP.

### **AMPAC:**

- The In-Situ Bioremediation System (ISB) perchlorate treatment system continues to operate with degradation of perchlorate to non-detectable concentrations (<6 ug/L) was achieved in the lead (first/closest) performance monitoring well.
- AMPAC is still pre-treating the influent groundwater from the Athens and Athens Pen well fields with granulated activated carbon (GAC) to address PCE concentrations of ~ 10 ppb discovered in January 2008.

### **SCOP:**

- This pipeline has the potential to allow for contaminant migration through the backfill in areas close to the Las Vegas Wash due to shallow groundwater conditions. Discussions are on-going to: (1) mitigate preferential flow through design considerations (i.e. water stop features); (2) address water disposition generated through extensive excavation dewatering; and (3) address water disposition generated through possibly aquifer testing events (pump tests).
- The NDEP (BCA and BWPC) and the Clean Water Coalition (CWC) have met on several occasions to discuss mitigation of preferential flow within the utility corridor in addition to the deposition of water generated through extensive excavation dewatering that is impacted with perchlorate and other potential contaminants.

## **2. Quagga Mussels (NDOW)**

Mr. Jon Sjoberg of the Nevada Department of Wildlife (NDOW) stated they had finally received confirmed results from a statewide analysis done by Portland State University which includes information on 13 bodies of water. All reservoirs in Southern Nevada outside of the Colorado River System came up negative - "no detect" on all samples taken through October of 2007. The collection analysis is ongoing and it will be a very slow process due to the back-log of samples. There has been no detection of quagga mussels in any of the waters outside of the Colorado River drainage system and basin. Mr. Sjoberg gave the rest of this discussion over to Brian (last name not stated) for a quick update on some topics.

Brian stated they have been working with UNLV on a quagga monitoring plan. There are so many quagga mussels that they are not able to count them all. There is also a “sub-group” working on preparing a plan in order gather better data regarding mussels and to find a way to figure out how many there are per square inch. The next meeting for the “sub-group” will be September 24<sup>th</sup>. At this meeting the plan is to work out details for the monitoring plan.

In Lake Mead and Lake Mojave there are quagga mussels in large densities. The mussels are literally stacking on top of one another. NDOW is performing a temperature tolerance experiment in order to see if the water gets warm enough whether it would kill the top few inches of mussels. There is a dive scheduled to find out whether any of the mussels die. Mr. Tom Porta inquired as to who was part of the mentioned “sub-group”. It was confirmed to be some of the agencies involved with the Forum such as the Bureau of Reclamation, SNWA, CWC, etc. Mr. Tom Porta stated that Northern Nevada has implemented the “Don’t Lift a Mussel” program at Lake Tahoe before the summer season started. There was one boat that did have mussels on it. The boat was flagged down by inspectors. Mr. Porta mentioned there are also dogs being used that can detect mussels. The calcium levels in Lake Tahoe aren’t quite high enough to support the quagga mussels but they are not completely sure. Unfortunately, the quagga mussels are here to stay.

### **3. Selenium Subcommittee**

Ms. Pam Willard of NDEP announced there would be no Selenium Subcommittee meeting after the Forum. She mentioned that Mr. Xiaoping Zhou brought some handouts (22 copies) of the tributary data updates for 2007 and 2008.

Ms. Willard further mentioned that the draft of the 303d list has been re-submitted to EPA and EPA’s comments have not yet been received. The Sloan and Monson channels have been removed from the list due to the fact that they are man-made.

Ms. Willard mentioned that there will be some important conference calls with EPA coming up on the plume criteria. The first conference call is scheduled for September 23<sup>rd</sup> from 10:00-11:00am and it is the introduction to the draft selenium implementation guidance approaches. The next conference call is supposed to be with the Western States Water Council to discuss EPA’s current thinking on translation of approaches for fish tissue and selenium criteria. This conference call is schedule for September 24<sup>th</sup> from 8:00-10:00am. The last conference call is on October 8<sup>th</sup> from 9:00am until 11:00am and it is a discussion of the selenium implementation guidance approaches. Ms. Willard stated that she had made copies and it includes a phone number and a code to enter if anyone wants to be a part of any of these conference calls.

Ms. Peggy Roefer discussed the update on the selenium treatment study for the Las Vegas Valley. It is part of a larger grant which is a cooperative effort. The scope is to gather data to determine selenium removal and to conduct selenium treatment studies. Ms. Roefer showed some slides in a small presentation demonstrating the percent removal of selenium with different treatment processes. Please see the website for details on what was shown in Ms. Roefer’s slide presentation.

#### **4. Las Vegas Wash Coordination Committee**

Mr. Seth Shanahan stated the last round of meetings was held in July. He discussed some stabilization activities that have been coming up and recently completed. The Upper Diversion weir, bridge, and bypass have been completed. The Upper Diversion is the uppermost weir on the Las Vegas Wash. The number of weirs constructed now comes to 11. They have acquired the contract for the DU2 Weir which is midway between the Upper Diversion Weir and the Pabco Road Weir. There will be some pre-construction meetings coming up in the following week and construction will be started thereafter. Final completion of that weir is scheduled for December 2009. There are several weirs backed up that are either in the design stage or out for bid.

Mr. Shanahan also stated that they have also been reviewing the bioassessment report from the 2005 collections that were performed. It has been discussed that they are not going to perform bioassessment collections in 2009 and plan on taking a year off. The plan is to combine the reports from previous years (2003-07) then make comparisons in order to consider all of the issues and decide in what direction they need to go in the future.

The next meeting for the Las Vegas Wash Coordination Committee will be on October 28<sup>th</sup> at 9:00am. It is time for the annual tour of the Wash and it is also be a 10 year anniversary for the tour. As part of the tour they will begin a controlled burn of salt cedar piles on October 27<sup>th</sup>.

Mr. Shanahan also mentioned the Fall-Green-up scheduled for September 27, in which 600 volunteers will plant approximately 4,000 plants.

#### **5. SCOP Update:**

Doug Drury discussed that they are 100 percent complete on the design for the upper reaches – reaches 1, 2, and 3 which is coming down from the City of Las Vegas down past Henderson. The reach 4 tunnel is near 100 percent. The other parts of the project are around 60 percent complete. They are hoping to get bids out by October for the reach 2 between the Water Reclamation District and Henderson. Construction is due to begin in January.

Lynn Orphan of the Clean Water Coalition (CWC) discussed some of the permits they are working on. One that she mentioned was the groundwater discharge permit. They are going after a 5-year permit which will be taking all of the dewatering during the SCOP construction and discharging it back to the groundwater from which it came. They have been working closely with the Nevada Division of Environmental Protection in Las Vegas and Carson City for the permit application.

There will be a modeling workshop will available on September 23<sup>rd</sup> and that will be at the USGS office.

Part of the design of SCOP involved the quagga mussel issue. They want to make sure that SCOP is operational and that water is moving through the discharge port and not have a build-up of mussels.

The CWC will begin in October to monitor around mixing zone even though effluent will not be put out for 4 years. However, they want to begin monitoring the 4 locations around the mixing zone.

The selenium management plan is going well and they will have a review meeting the following week.

### **III. Presentations**

1. Overview of Scripps article “When Will Lake Mead Go Dry?”—TBA
2. Las Vegas Valley Storm Water Management Program—Kevin Eubanks, Assistant General Manager, Clark County Regional Flood Control District
3. Las Vegas Valley Storm Drain Marking Program—Jennifer Szwejbka, District Coordinator, Conservation District of Southern Nevada
4. Evaluation of Selenium in the Aquatic Food Web Within the Clark County Wetlands Park Nature Preserve-Jim Pollard, University of Nevada, Las Vegas

These presentations are available on the NDEP website at [ndep.nv.gov/forum](http://ndep.nv.gov/forum)

### **IV. Other Issues**

### **V. Next Forum Meeting**

The next Lake Mead Water Quality Forum meeting was scheduled for December 3, 2008.

### **VI. Adjourn**

The meeting was adjourned at 12:46 pm