

DRAFT

**LAKE MEAD WATER QUALITY FORUM
May 20, 2008
Meeting Summary**

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

II. Status Reports:

1. Perchlorate Update – Todd Croft (NDEP – Las Vegas)

Todd Croft 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 ~55 to ~90 lbs./day (Feb. thru Mar 2008). The 14-month average is ~75 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.
- The analytical method used for Willow Beach sample analyses transitioned to EPA Method 332.0 beginning w/ the September 2007 sample. A comparison of analytical results is planned for a 6-month period beginning wherein replicate samples are analyzed via both EPA Method 314.0 and EPA Method 332.0

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 April 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 ~ 1,520 lbs/day removal rate for April 2008.
- Removal of perchlorate from the environment through April 30, 2008:

~2,544 tons total;

394 tons from the seep area;

776 tons from Athens Road; and

1,373 tons from the on-site system.

- Tronox is scheduled to submit an Investigation Report for Capture Zone Analyses in response to an NDEP request to demonstrate the degree of mass capture provided by the existing three well fields in June 2008.

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.
- To address the PCE concentrations discovered in January 2008, AMPAC installed GAC vessels at various locations within the influent lines to the ISB system to address the PCE concentrations. However, due to the detection of PCE in additional extraction wells, AMPAC will switch to treating the entire influent stream with GAC. The ISB system will be temporarily shut-down for the change in GAC vessel configuration.

SCOP:

- Several meetings have been conducted with members of the Clean Water Coalition (CWC) to help guide future subsurface work in the vicinity of Pabco Road. The City of Henderson Wastewater Reclamation Facility (WRF) will be tied into the primary SCOP conveyance pipeline via a subsurface north/south trending Force Main. The Force main will be constructed roughly parallel to Pabco Road from the WRF to the vicinity of the Las Vegas Wash where it will then cross the Wash via a deep tunnel.
- 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).

Nationally:

- In January 2008, the U.S. Food & Drug Administration (FDA) released a Total Dietary Study on perchlorate. The Total Dietary Study is a comprehensive evaluation of perchlorate concentrations in a wide variety of foods. The study found perchlorate exposure from food across a wide range of age groups, with the highest estimated exposure occurring in 2-year olds at approximately 50-56% of the 2006 RfD (Reference Dose). In 2007, the U.S. EPA indicated the study results may be used to calculate the Relative Source Contribution (RSC) of perchlorate from food allowing for calculation of a refined DWEL based upon a revised RSC.
- During a May 6, 2008 Senate hearing, U.S. EPA indicated that there is a distinct possibility that the agency will not take action on perchlorate because of uncertainty whether regulation would meaningfully reduce risks. However, U.S. EPA did not rule-out taking action. Senator Boxer mentioned that legislative action on perchlorate (and TCE) will begin after June 2008.

2. Quagga Mussels (NDOW)

Mr. Jon Sjoberg of the Nevada Division of Wildlife (NDOW) stated that there was no good news to share this time. There continues to be a high density of quagga mussels in Lake Mead and Lake Mojave and everywhere in the Boulder Basin and the Colorado River.

There have been some modifications in some of the methods to doing counts but there are multiple reproductive events throughout the year. The mussels are adapting very rapidly to conditions in the Colorado River Basin. The numbers seem to decrease in the lower part of the river system and the reasons for that are not clear. Monitoring and assessment is ongoing and is primarily being done by the Parks Service, Reclamation and other agencies in terms of field monitoring of densities, distribution and reproduction. Mr. Sjoberg also mentioned that NDOW has been working with UNR and UNLV and other entities in trying to build an assessment strategy.

3. Selenium Subcommittee

Kathy Sertic deferred any statements due to the information on selenium that will be given in the presentations.

4. Las Vegas Wash Coordination Committee

Mr. Seth Shanahan stated the last meeting was held on April 22, 2008. They received a five-year, year-end report and mentioned that he had about 30 copies for distribution. This is a five-year summary plan of Las Vegas Wash Coordination Committee (LVWCC) activities which compares all of the activities that have been done in order to meet the recommendations for stabilization and enhancement programs.

The (11th) upper diversion weir is 85% done which is located on the upper part of the Las Vegas Wash near the Clark County Nature Reserve.

The U.S. Bureau of Reclamation from Provo, Utah has been doing a variety of bank protection projects and enhancement projects. There has also been a lot of vegetation removal on many of the weirs. The Colorado State University Weir Study was conducted to see if the design of weirs could be improved. The weir information will be used in the next designs including at the Demonstration Weir Replacement project. There are 4 additional weirs projects currently that are in the design process and 8 weir projects that have been completely designed. Construction is ready to begin within a few years.

On the April 22nd meeting they received the Las Vegas Wash Wildlife Management Plan which can be accessed on the www.lvwash.org website or contact Seth Shanahan and he can get you a copy. They also received a report on Land Cover Types of the Las Vegas Wash. This report identifies all of the different land covers. So far LVWCC has not discovered any threatened or endangered species in the Wash this year.

There are more than 180 acres that have been re-vegetated. There was another Green Up event in March at the Wash. Many of the volunteers showed up with about 460 people per 5 acres which helped the project to be completed within a few hours.

Mr. Shanahan briefly mentioned the numerous projects that were coming up. He also mentioned the 2 internal reports: The Mainstream Water Quality Report and the Tributary Water Quality Report. These reports are being prepared as 5-year summary reports.

Clark County is in the process of constructing the Ducks Unlimited project and also their Nature Center.

The next LVWCC meeting is July 22nd at 9:00 am.

5. SCOP Update:

Lynn Orphan with the Clean Water Coalition discussed the SCOP pipeline hydropower station and the diffuser which they are going to have built under several construction contracts. She first mentioned that the pipeline was 100% complete for design and the diffuser, 30% design complete.

Montgomery Watson plans to build a physical model of the system at a University Hydraulic Lab Setting. The reason for this is so they can put water through a physical model to see what problems could arise and answer other pertinent questions that may arise. Ms. Orphan further stated they are also working on implementing all of the necessary permits.

In regard to modeling, Ms. Orphan stated that they executed a new contract so they will be able to continue modeling for the next few years. Modeling is being funded jointly by the Clean Water Coalition and SNWA since data has been shared between the two since the beginning. Phosphorous balances will be analyzed along with inputs and outputs and also the 2007 monitoring data will be put into the model. The CWC is also going to discuss how to monitor around the mixing zone at the outlet of the pipe even though water will not be going through until 2012 the plan is to set up a baseline monitoring program.

III. Presentations

1. Selenium Concentrations and Mass Loading in the Las Vegas Wash and Its Tributary Waters – Xiaoping Zhou (Southern Nevada Water Authority)
2. Draft 2006 303(d) Selenium Listings – Kathy Sertic (NDEP)
3. Selenium Management Plan-Scope and Schedule – Lynn Orphan, P.E. (Clean Water Coalition)
4. Selenium Removal at the Clark County Water Reclamation Facility – Douglas D. Drury, Ph.D. (CCWRD)
5. Selenium Removal at City of Henderson and City of Las Vegas Wastewater Treatment Plants and Optimization Study – Peggy Roefer (Southern Nevada Water Authority)

These presentations are available on the NDEP website at ndep.nv.gov/forum

IV. Other Issues

V. Next Forum Meeting

The next Lake Mead Water Quality Forum meeting was scheduled for September 16, 2008.

VI. Adjourn

The meeting was adjourned at 1:16 pm