

# Desert Wetlands Conservancy Newsletter

Spring 2011

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## Desert Wetlands News and Views

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## Perchlorate Drinking Water Standard

Perchlorate is a closely monitored contaminate in the shallow ground water running into the Las Vegas Wash and in our drinking water supply. A salt formed by the addition of oxygen molecules to chlorine, perchlorate is both a naturally occurring and a man-made chemical that is used to produce rocket fuel, fireworks, flares and explosives. In Las Vegas we have a unique situation, the principal source of perchlorate entering the Las Vegas Wash and our water supply is through the contamination resulting from on-site activities at the Tronox plant owned and operated by Kerr-McGee Chemical LLC. Originally looking into the chromium impact in 1981, the Nevada Division of Environmental Protection (NDEP) pursued a consent order with Tronox in 1986 for the implementation of remedial activities. Remedial activities began operation in November 1987. Separately, the perchlorate contamination was discovered in the Colorado River by the Metropolitan Water District of Southern California in 1997 as detection methods improved.

When the source of perchlorate contamination was traced back to the Wash, additional remediation plans were enacted. Perchlorate entering the Las Vegas Wash was reduced approximately 90% by 2007. As of August 2008, approximately 2,600 tons

of perchlorate has been removed from the ground water and the environment. The NDEP uses an 18micrograms per liter ( $\mu\text{g/L}$ ) Action Level for perchlorate in drinking water, established in 1997, the year monitoring began. The highest concentration of  $24\mu\text{g/L}$  was recorded in 2000. Since December 2008, the perchlorate levels reported in the Lower Colorado River and our drinking water have routinely been equal to or less than  $2\mu\text{g/L}$ . The levels in the Wash are much higher but are greatly reduced in the Lake, thanks to the effect of dilution. One  $\mu\text{g/L}$  is roughly equivalent to a  $\frac{1}{2}$  teaspoon added to an Olympic-size swimming pool.

The EPA ruled back in 2008 not to issue a Federal Maximum Contaminate Level (MCL) for perchlorate. Extensive comments (over 39,000) after that ruling had them revisit the issue, resulting in a Final Regulatory Determination to regulate perchlorate under the Safe Drinking Water Act. This February the EPA decided to develop a proposed regulatory standard over the next 24 months. A final ruling will be made after an 18-month comment period with a potential 9 month extension. So it will be several years before we have the final word on the standard. The Safe Drinking Water Act authorizes EPA to make a determination whether to regulate con-

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### HONORARY TRUSTEES

Shelley Berkley, US Congresswoman  
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### Desert Wetlands Conservancy

**The mission of the DWC is to influence policy, create partnerships, and initiate activities in advocacy of the Las Vegas Valley Watershed, including the Desert Wetlands Park.**

## *LVWCC Annual Tour*

The Las Vegas Wash Coordination Committee (LVWCC) held their 13th annual tour this spring, reviewing some of the recent accomplishments. The Committee consists of 30 partner members, including federal, state, and local agencies, and citizen members. The Desert Wetlands Conservancy is a citizen member. The LVWCC was formed and tasked in 1998 by the Board of Directors of Southern Nevada Water Authority to develop and implement a comprehensive plan for the Las Vegas Wash. Some of the highlights of the tour are as follows:

**Stabilization** -- Twelve of the 22 planned weirs are operational, controlling the 220 foot vertical drop that occurs along the Wash. The Lower Narrows and Homestead weirs should be completed this summer and 3 more projects will go out to bid. In addition to the weirs, more than 7 miles of bank stabilization has been installed. The Stabilization project received recognition as one of the largest and most successful floodplain stabilization efforts under way in the U. S. by the Floodplain Management Association. This effort is scoped at over \$180m and over \$100m has been spent to date. We visited the Upper Diversion weir, one of the more complex designs, with the ability to control the flow through two channels. The weir has sustained two major flood events since built. The lessons learned resulted in some downstream modifications which should improve the sustainability of the flow pattern. We also visited the Lower Narrows and Homestead weirs. This region of the Wash is within the perchlorate ground water plume flowing from the con-

taminated Kerr-McGee site. During construction, the amount of ground water pumped is restricted so that no more than 80 pounds of perchlorate per day is added to the flow into the Wash. Between May and December, the level will be zero. Currently the level is running 20 to 50 pounds per day. When completed, this combination of weirs is designed to handle a flow in the Wash of 23,500cf/s, more than 60 times the nominal base flow of 350cf/s. The flood event this past winter was measured at a flow of 12,000cf/s at the Pabco weir. (*Below, Pabco weir bank repair*)



**Park Features** – The Visitor’s Center construction is well underway. As the County’s first “Green Building”, the structure will sit on 188 piers, setting the Center 9 feet above ground level, providing scenic views of the Park. The Center consists of 3 pods: administration offices and 2 classrooms, an auditorium and meeting area, and an interpretive gallery and visitor comfort area. Completion is scheduled for the summer of 2012. The Fee-in-Lieu Mitigation ponds continue to mature. With 43 acres of open water, the 112 acre site continues to attract a growing variety of birds.



*Fee-in-Lieu Mitigation Pond*

**Henderson Bird Preserve** – Substantial improvements and new features have recently been added to this popular bird watching site. With visitors from all 50 states and several foreign countries, it is the home to more than 250 species of birds, including waterfowl, wading, and birds of prey. A 147-acre array of wetlands, it encompasses basins, lagoons and ponds, with mapped trails and several observation stations with benches and interpretive signs.

**Lake Mead** – The lake level was at 1,096 feet, actually a few feet less than last year, but the winter snow pack was 130% of normal, so the lake level is expected to rise to 1105 feet. Good news, but not enough to break the 11-year drought. Evaporation alone accounts for a loss of about 6 feet per year, more than the total allocation for Las Vegas. Seventy percent of the water is used outdoors. Conservation and the increased use of desert landscaping has led to a usage level of 240,000 acre feet, a reduction from previous years. □



*Henderson Bird Preserve*

***Perchlorate Drinking Water Standard***  
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taminants from its Contaminant Candidate List. A regulatory determination is a formal decision on whether EPA should initiate a rulemaking process to develop a National Primary Drinking Water Regulation (NPDWR) for a specific contaminant.

Perchlorate has been found in just over 4 % of public water systems nationally. EPA collected data on perchlorate from 3,865 public water supplies between 2001 and 2005. This included all large public water systems (serving more than 10,000 people), and a statistical sample of 800 small water systems, which together serve more than 80% of the population. One hundred and sixty (4.1%) systems reported

a detection of perchlorate at levels greater than or equal to 4µg/L (the minimum reporting level of the test). The average concentration of perchlorate for those samples with positive detections for perchlorate was 9.8µg/L and the median concentration was 6.4µg/L.

Of course, the primary factor considered in determining the ruling will be the effect on human exposure. In 2010, the EPA Office of the Inspector General issued a peer reviewed report that indicated a level below 24.5µg/L is health protective. High dosages (e.g., pharmacological) of perchlorate can interfere with iodide uptake into the thyroid gland, disrupting the functions of the thyroid and potentially leading to a reduction in the production of thyroid hormone. In fact, perchlorate has been used as a drug to treat hyperthyroidism (excess thyroid hormone production) and to diagnose disorders related to thyroid or iodine metabolism. In adults, the thyroid plays an important role in regulating metabolism. In fetuses and infants, thyroid hormones are critical for normal growth and development of the central nervous system. Therefore, pregnant women and their fetuses and newborns have the greatest potential for risk of adverse health effects following exposure to perchlorate. Reverse osmosis is one of the ways to reduce perchlorate levels in drinking water to below detection limits. □

**Share Our Vision!!**

**We are an all-volunteer, 501 (c) (3) tax-exempt organization that receives no regular tax-based support. Our strength and our ability to carry out our mission is through our members. There are many ways to join: access our website, <http://www.desertwetlands.org>, or our Facebook, (search for Desert Wetlands Conservancy), email [membership@desertwetlands.org](mailto:membership@desertwetlands.org), or write to DWC, PO Box 28017, Las Vegas, NV, 89126 and you will receive membership information.**

**Membership options for Individuals and Families**

<b>Student/Senior</b>	<b>\$20</b>	<b>Supporting</b>	<b>\$100</b>
<b>Individual</b>	<b>\$25</b>	<b>Sustaining</b>	<b>\$250</b>
<b>Family</b>	<b>\$50</b>	<b>Steward</b>	<b>\$500</b>

**All contributions to our programs are tax-deductible to the fullest extent of the law. There are a number of ways to help us described on our website**

**Desert Wetlands Conservancy**  
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**Las Vegas, NV 89126-2017**

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## ***Our Thanks To...***

*New and Renewing Members: James Carter, Richard Saval, Mr & Mrs Stahl, Martha Wood, George & Priscilla Messenger, Ester Doherty, Peggy Roefer.*

**WE NEED YOUR SUPPORT!**  
**PLEASE CHECK THE EXPIRATION DATE ON YOUR MAILING LABEL TO SEE IF IT IS TIME TO RENEW!** If you have not yet taken the plunge to join, please do so now. You will demonstrate your interest in watershed issues and the impact on our community!

**The Park is a place to enjoy! Have you visited the Park recently?** The temporary Visitor Center has been relocated during the construction of the new Visitor Center. Cross Boulder Highway and travel one mile east, then look for the Wetlands Park sign, just where Tropicana turns into Broad-bent Ave. Head down Wetlands Park Lane. Signs will direct you to the new location. If it has been a while since you've visited the Park, you will be amazed at the changes and improvements that have taken place. The Park is for your benefit. Come and enjoy it!

There are many opportunities to get involved and to show your support-not only through membership in the Friends, but by contributing funds or labor for needed physical improvements, and educational materials. If you have put off renewing, remember your membership ends one year from the date you paid your dues.

## ***Spring Green-Up***



The 18th bi-annual Green-Up was held on April 2, 2011. Nearly 400 volunteers planted approximately 3,700 native trees and shrubs on a 10-acre site downstream of the Pabco weir on south side of the Wash. Sixteen different plant species were used. Plants with a count of over 400 included White Bursage, Creosote Bush, Mesquite, Brittle Bush, Snake weed, and Willow.

With this planting, volunteers have revegetated 147 acres along the Wash with over 56,850 trees shrubs and emergents. □



*A group of volunteers at work on the latest planting site (SNWA photo)*

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