#### Friends of the Desert Wetlands Park Newsletter

#### Winter 2007

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# Wetlands Park News & Views

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#### **Information**?

Call Wetlands Park Information Center 455-7522



#### Friends of the Desert Wetlands Park

The mission of the FDWP is to cooperate with public and private entities to increase public awareness and contribute to the quality of life in the Las Vegas valley by: Supporting the Desert Wetlands Park; Preserving and enhancing the wetlands environs, and Promoting stewardship of the valley watershed.



Lake Mead photograph by Simon Norfolk

## Water

Lake Mead is the largest capacity reservoir in the United States. It only takes a trip out to Boulder Dam to gain a sobering appreciation of our current dry spell. Lake Mead is at 49 percent of capacity. For years, its "normal" elevation ranged between 1,180 and 1,220 feet above sea level; today it is at 1,111 feet, and predicted to drop below 1,100 feet within two years. The last time the lake was below this level was in the 1960's, when Lake Powell was being filled. I remember being down at the Dam less than 20 years ago taking pictures of the water cascading over the spill ways, at about 1225 feet, sending up water vapor hundreds of feet in the air. The Colorado River annual flow is measured near Lee's Ferry, and the ongoing drought has brought the flow of the Colorado to its lowest level since measurements at Lee's Ferry began 85

years ago. Statistical models indicate that the lake will never be full again. The intakes for the Las Vegas Valley water supply are at 1000 and 1050 feet respectively and require at least a head of 50 feet to function properly. You can see why the Southern Nevada Water Authority is proceeding with some urgency to complete a new intake that will be down close to the original Colorado River bed. The plan is to have everything up and running by 2012.

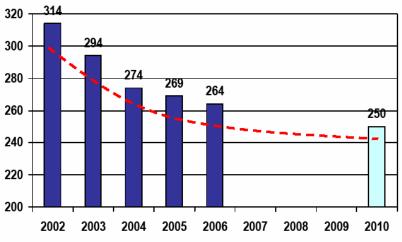
Our most precious natural resource is under attack on many fronts. Water policy makers have focused on technological solutions to increase water supplies, but such solutions have high costs. So now the focus is shifting to reducing demand. Hydrologists estimate that as much as 60 percent of the water extracted from aquatic systems for human use is simply wasted. Changes in various technologies and everyday behavior could slash that number in half. A bounty of choices is available, once we decide to stop taking water for granted.

Every person, every day, needs at least thirteen gallons of water for drinking, cooking, bathing, and sanitation. The average per capita water usage in the U. S. *Continued on page 2* 

### Water continued from page 1

now exceeds 150 gallons per day. As the chart below shows, Southern Nevada is well above that average, but has been trending lower. It's hard to get comparative numbers for per capita usage. I believe the comparative number takes water usage by sector into account, which would yield about 160 gallons per day for Southern Nevada. This is still above the usage in Los Angeles, (about 125 gallons per day), and well above most other cities in the Southwest.

The non-consumptive water use shown in the Sector chart is processed at the waste treatment plants and returned to Lake Mead down the Las Vegas Wash and through the Desert Wetlands Park. Typically 150 million gallons a day take this path.



Trend in water usage in gallons per capita per day for the Southern Nevada Water Authority (Chart courtesy SNWA)

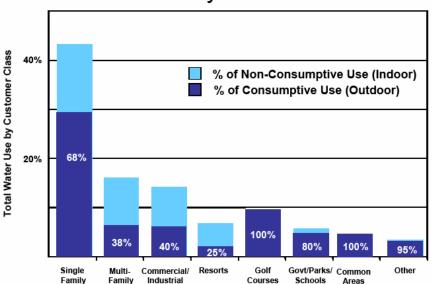
HONORARY TRUSTEES Shelley Berkley, US Congresswoman Dina Titus, Nevada State Senator **Richard Bryan** Vernon Bostick **Dan Stewart BOARD OF TRUSTEES** Officers **CHAIR Joan Lolmaugh** VICE-CHAIR Peter Zavattaro **TREASURER** Peter Kingman **SECRETARY Elizabeth Bickmore** John Bare Norma Cox **Robert Fielden** Jack Harvey Jess Holmes **Helen Mortensen Betty Pardo Therese Werst** Arthur Wolf ADVISORY COUNCIL **Don Baepler** William Coulthard Steve Weber **Krystyne Stave** 



The conservation push of SNWA over the past several years can be credited for the decline in per capita usage. Their goal is to achieve 25 percent water conservation by 2010. Their 5-year conservation plan is available on-line at: http:// www.snwa.com/html/cons\_plan.html. The 27 page document has several good charts showing achievements through 2003.

Along with conservation, the collaborative effort of many organizations to restore the wetlands along the Wash help improve water quality, mitigate flood water damage, provide fish and wildlife habitat along with providing a valuable recreational environment. Wetlands function as natural basins, storing water and slowing the water's momentum and erosive potential allowing for ground water recharge which contributes to the base flow. After being slowed by a wetland, water moves around plants allowing the sediment to drop out and settle to the wetlands floor.

## Water Use by Sector



Water usage by sector, non consumptive use is processed through the waste treatment plants (Chart courtesy SNWA)

### The Technical side of Water

Water is truly special. Investigators still can't completely explain the strange molecular workings of water. This commonplace, familiar, and essential stuff of life is quite peculiar as substances go. For example, if the water molecule (H<sub>2</sub>O) acted in bulk like other small molecules—oxygen  $(O_2)$ , carbon monoxide (CO), nitrogen  $(N_2)$ —it would be a gas under the conditions prevailing on Earth. Instead, water occurs in all three states of matter: solid, liquid, and gas in a fairly narrow temperature range. Furthermore, water reaches its maximum density in liquid form at 39.2 degrees Fahrenheit, just a few degrees above the freezing point. Thus water stays at the surface as it starts to freeze, and ice floats—a rare property shared by very few other substances. If its nature were otherwise, all temperatezone lakes, ponds, rivers, and even oceans would eventually freeze solid from the bottom up, and life as we know it could not exist. Instead, a floating skin of ice cocoons the life in the liquid water beneath a layer of insulation, enabling it to persist under the frozen surface.

Another unusual and related property of ice is that, for a given temperature, increasing pressure decreases the melting point. (Ordinary solids remain solid under pressure.) This property allows us the ability to ice skate. Its cohesiveness enables water to travel upward from the roots of a plant to its leaves, against gravity. Its high surface tension makes liquid water behave as if it's coated with an invisible film, which explains why insects can walk on it. Water's abundance of heat capacity is, in part, responsible for the moderation of global temperatures and the gradual change of the seasons. Water can dissolve a variety of substances, including acids, bases, and salts, earning the moniker "universal solvent." Even though these and other bulk properties of water have been described in detail, a complete picture of how and why water acts the way it does is still lacking.

As our molecular scientists learn more about water, they are continually reminded that they have merely "scratched the surface" of its secrets. The mechanisms of its impact on life are still something of a mystery. Coaxing Mother Nature to reveal further secrets about water will require full interdisciplinary sophistication of today's scientific toolbox. But since water is the wellspring of life, we owe it to ourselves—and everyone else—to explore all we can about is strange and intriguing properties.

(Summarized from Natural History 11/07, a special issue on Water)

## Notice from the Editor

I have requests to receive the newsletter via email. If members would prefer that media, please send me your request to my email address and I will add your name to my list. The advantage is the photos will be in color and generally sharper in detail.

I would also like to take this opportunity to remind members that we are a 501(c)3 organization, so donations are tax deductible. The Friends source of funds is from memberships and donations. We use our funds solely for the benefit of the Wetlands Park, its activities and programs.



Share Our Vision!! Membership Application Name:		
Preferred Mailing Address:		
City:	State:	Zip:
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May we show your name on our membership list? Yes No		
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Please mail to FDWP, PO Box 28017, Las Vegas, NV 89126 For Membership information, call: 457-8867

#### Our Thanks To...

New and Renewing Members: Richard Savel, Nadine Baker, Peter Samuolis, Huston Shoopman, Gary & Valerie Beckman, James Carter, James Deacon, John Marchese, Linda Witlberger, Marthe Chandler, Bradon Sprague, Rose Marie Pickell, Margaret Mark, Ester Dohety,

#### WE NEED YOUR SUPPORT

The Park is a place to enjoy! Have you visited the Park recently? The temporary Visitor Center is at the very end of Wetlands Park Lane. Cross Boulder Highway and travel 1 mile east, then look for the Wetlands Park sign, just where Tropicana turns into Broadbent Ave. 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. 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 that you want to help in the development of new features in the Park for our community!

## Wetlands Park Update By Elsie Sellers, Wetlands Park Project Manager

We are still in the midst of construction of our Nature Preserve Expansion and the bridge component of the Upper Diversion Weir. The Duck Creek trails rehab project have been designed. We recently selected a contractor to design our Pabco, Wells, and Magic Way trailheads. Construction of the north fence should be starting shortly. It will be a post and cable fence along the length of the Park to the north.



Crouching Bobcat, photo taken recently by Nick Rice of SNWA near the Bostick weir.

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