

# Water Line

## Water for Today and Tomorrow

Spring 2008

Virgin River by Quail Lake  
Photo: Doug Wilson

### Manager's Message

By Ron Thompson, General Manager

## What price can be placed on a vital resource such as water?

#### What does it cost to get water to a new home?

True, water does come out of your tap, but what does it take to get it there and how much does it cost?

A friend of mine who built a home in Kanarrville, Utah in Iron County, shared with me the cost he incurred in getting water to his home. He paid:

- \$44,000 per acre foot for a water right,
- \$60,000 to drill the well, and
- \$10,000 for power to the pump.

Here in Washington County, anyone building a new home is dealing with just a one-time Water Availability Charge or impact fee. In 2008, the base impact fee to build a new home is \$4,781. This impact fee can go higher depending on the size of the lot and the area the homeowner wishes to landscape. This fee will get the homeowner

- the right to the water,
- the pipeline to transmit the water into the area or the subdivision, and
- the assurance that the

water has been tested and is safe for consumption.

The cities' fees cover the cost of distribution and storage for fire and daily needs.

Impact fees are not meant to be unjust. They are based on actual costs with no built-in profit margin. Since impact fees are prorated across a broad population base, the costs are held to a minimum.

#### What is the cost of new water development in Washington County?

The District's Capital Facilities Plan (CFP) analyzes available water projects and the costs involved to provide source water and water treatment. The CFP is based on state growth projections. It is intended to analyze the future needs of Washington County and match those needs with future capital water facilities.

This plan (or one meeting similar qualities of reliability and specificity) is vital if the people of Washington County want to have water

available as growth continues.

By imposing impact fees on new homes and businesses, future projects will have funding in place and this funding will be provided by new growth. We may see an ebb and flow in our population growth, but people will not stop coming to Washington County. It is the responsibility of the District

- to have plans laid out for future water development,
- to take appropriate actions to bring these plans to completion, and
- to make certain reliable funding sources are in place.

#### Do current rates for water use promote water conservation?

The District issued a 10-year water conservation report in the fall of 2007. This report can be found on the District's webpage at <http://wcwcd.state.ut.us/Conservation/10-Year%20Conservation%20Report.pdf>. Beginning in 1998, each city within the county adopted an "increased block rate structure" when charging for water. As usage increases, the price of the water

*"We may see an ebb and flow in our population growth, but people will not stop coming to Washington County."*

Ron Thompson,  
General Manager



increases. This is not an unjust method of charging for water. It insures that those who use more pay more. St. George applies an even higher rate known as a conservation rate from April through September to discourage excessive outdoor water use.

No, you cannot put a price on water, but it does have to be priced. Water projects are costly. Compare it to a home. A home is very expensive in today's economy, but for your family's quality of life you do every-

thing in your power to purchase a home. Water development is very expensive in today's economy, but without water there is no life. We have no choice but to do everything in our power to search for and develop reliable and quality sources of water for tomorrow while wisely using the resources we have in place today.

Proper planning and wise investment will equal a reliable water supply for Washington County.

# Frequently Asked Questions About the Pipeline

By Corey Cram



**LAKE POWELL PIPELINE**  
Delivering the future.

## How does the Lake Powell Pipeline compare to the costs of other large water projects?

Based on what is known today, the Lake Powell Pipeline is estimated to cost approximately \$585M to construct (not including interest costs). It is expected that the state will subsidize interest rates. Construction of the pipeline is anticipated to begin in 2015. By then materials, labor costs and normal inflation will be factors.

We are currently in the pre-

liminary engineering phase. The final engineering phase will pin costs down more reliably. This final phase, however, is many years in the future and will be available only after federal environmental reviews are complete.

The estimated cost figure of \$585M will bring 100,000 acre feet (af) of water into three southern Utah counties, which

breaks down to approximately \$5,850 per af of water. This cost figure includes Iron and Kane Counties; Washington County will be responsible to pay 70% of the costs. Water at this cost is relatively inexpensive when compared to other significant water projects being built or considered at this time:

- Southern Nevada Water Authority groundwater

pipeline from northeast Nevada to Las Vegas, estimated at \$2B for 50,000 to 200,000 af or \$10,000/af up to \$40,000/af.

(Source: [http://www.snwa.com/assets/pdf/annual\\_report\\_2004\\_full.pdf](http://www.snwa.com/assets/pdf/annual_report_2004_full.pdf) and <http://www.lvrj.com/news/7060302.html>)

- Navajo-Gallup Water

Project, \$720M for 37,800 af or \$19,000/af.  
(Source: Navajo Nation Release, June 7, 2007)

- Flaming Gorge Pipeline Project (water from Flaming Gorge to Denver), approximately \$4B for 165,000 af or \$24,000/af.

(Source: Deseret News, April 13, 2007, Joe Bauman)

## Is Lake Powell a dependable source of water for southwestern Utah?

The reservoirs on the Colorado River system are rarely expected to be full. Significant periods of above-average precipitation and runoff, however, could fill the reservoirs to capacity. The rest of the time they are expected to rise and fall as a function of wet or dry years. Storage is designed to withstand long-term droughts and water levels are expected to vary. It should be no surprise that Lake Powell is currently low considering the drought conditions that have been prevalent since 2000.

During 2007, Lake Powell Reservoir was about half full. This condition is expected, considering that inflows to the lake have been much less than average (with the exception of 2005) and drought conditions have prevailed since 2000. Inflow in 2002 was the lowest ever recorded since the lake began filling in 1963. It is predicted that the reservoir will rise 50 feet in 2008.

Inflow to Lake Powell (percent of average Inflow)\*

- 2000 - 62%
- 2001 - 59%

- 2002 - 25%
- 2003 - 51%
- 2004 - 49%
- 2005 - 105%
- 2006 - 73%
- 2007 - 68%

\*Bureau of Reclamation, "Drought Conditions in the West", June 13, 2007 <http://www.usbr.gov/uc/feature/drought.html>.

Even in recent years with below average flows and the greatest drought in recorded history on the upper Colorado River, Lake Powell has allowed the Upper Basin to deliver the required amount (7.5 million acre feet) of

water to the Lower Basin. During that time, Utah water users and the other states in the Upper Basin have not had to curtail use to meet downstream demands. The Colorado River reservoir system is working.

When confronted with even greater droughts or climate change that could further decrease precipitation, the Colorado River at Lake Powell is the best place on the upper river system to withdraw water. The Lake Powell Pipeline water right is a good priority compared to other water rights in the upper Colorado Basin in Utah. Much

of Utah's Colorado River water use today occurs in the headwaters of tributary streams.

When severe droughts hit and shortages are required, the headwater withdrawal locations are most severely affected. These locations may not be able to get even the shortage amount. The individual headwater tributaries are affected by drought much more than the Colorado River itself. There is certainly an advantage to withdrawing the Colorado River water at the second largest reservoir on the river system.

With the variations in flows

into Lake Powell, and with possible droughts associated with climate change, Lake Powell Pipeline water is needed more than ever. The water can be used in good years to recharge groundwater storage. If flows are low in the Colorado, it is likely flows are also low in the Virgin making the good years even more important. Having two sources for recharge will be critical to sustaining local aquifers to see us through the drought years.

Even if climate change reduces flows, water from the good years will be available for storage.



**Gunsight Butte and Lake Powell**  
Photo: Darren Green

# STAFF LEAKS

## Jim Culver, Chief Water Treatment Plant Operator

By Hank Childers and Ann Jensen

How does one get from the land of lush greenery, magnificent waterfalls, and the towering presence of Mount Hood to the red rock desert of Washington County? The long and winding road brought Jim Culver to St. George in 2003.

Jim was raised in the state of Oregon. His Dad worked for the Oregon Department of Fish and Wildlife. His job responsibilities took him throughout the state so Jim actually grew up in four different areas in Oregon. Jim's ties to Oregon include his brother, Ken and his family, and his stepmother, Shirley.

Upon graduating from high school in 1974, Jim worked for the United States Forest Service as a seasonal surveyor. In 1981, he moved to California to take a job with a contract oil company. In 1982, he started working for Getty Oil Company, which was eventually taken over by Texaco. Jim worked for a total of 14 years in the oil fields of Bakersfield, California. When the industry downsized, he was forced to look elsewhere for work. This was a major adjustment at a time when he thought he had a job for life.

In 1993, Jim met and married his wife, Patti. Jim's life changed radically as he became an instant father to Patti's two children, Trevor and Jane. Be-

ing a seasoned bachelor at age 36, family life was a whole new world!

Patti worked as Housing and Grants Coordinator for the City of Coalinga, California. She suggested that he get into water treatment. Water treatment was somewhat of a parallel with his oil field experience in that he already understood pumps and pipes. He applied for and secured a job as a water treatment operator for the City of Coalinga Water Treatment Plant. At that time, he pursued a certification in Water Sciences through an extension course from California State University in Sacramento. He completed this course in 1995.

Around 2002, both Jim and Patti felt a desire to leave California. Jim wanted to work in water and they both wanted to live in the southwest. They considered Las Vegas and Albuquerque but neither area held much allure. Out of the blue, two jobs opened at the St. George Water Treatment Plant. Jim was hired in 2003.

Jim's job at the plant required him to certify as a grade 4 operator in one year's time. He took a three-hour, grade 4 test in Water Treatment and became qualified as a Chief Water Treatment Plant Operator.

A chief water treatment plant operator is responsible to see that the best quality drinking water at the most cost-effective price is made available to the communities served by the plant. Some of Jim's daily responsibilities include:

- recording hourly data for historical archiving;
- monitoring the plant's physical integrity;
- calibrating chemicals to ensure water is of the highest quality;
- carrying out water quality analysis, electrical and mechanical repair and troubleshooting; and
- grounds keeping.

Jim's side specialty at the plant is working with Supervisory Control and Data Acquisition (SCADA). The daily operation of the treatment plant is run by a computerized SCADA system. If there were to be a SCADA failure disaster, Jim maintains the complete SCADA backup system that would get the plant back on line as soon as possible.

Office computers in all the buildings at the plant talk to a central computer. Jim maintains and monitors this inter-office computer network.

The plant has three computer networks. One of them is a



Jim & Patti Culver

series of programmable logic controllers (PLCs). This computer system runs the plant. It tells machines when to turn on and when to turn off. Jim maintains, modifies, troubleshoots, repairs and programs the PLCs. A year and a half ago Jim traveled to Atlanta, Georgia, to receive PLC training. He returned to Atlanta for more training in April 2008.

Jim's goals and dreams center around where he lives and works. He and Patti want to stay in Washington County and retire here. He "really enjoys his job and wants to become as proficient at working with SCADA as he possibly can."

Jim finds relaxation in Mother Nature and in music. He often winds his way through

redrock country on his motorcycle (KTM). He is a lead guitar player and played in a band in California. This band played at the Kern County Fair in 1992. The band's repertoire included music from such classic rock groups as Aerosmith, ZZ Top, Lynrd Skyrnd and Led Zeppelin.

According to Hank Childers, superintendent of the water treatment plant, "Jim has proved to be an invaluable employee for the Quail Creek Water Treatment Plant. He is appreciated and respected by all here. He is self-motivated and tries his best to stay positive. His continued efforts at self-improvement and skill development are an example to us all. He is a great person to have on our team."

### Local Reservoir Capacities and Levels

Reservoir	Capacity	May 2007	% of Full	May 2008	% of Full
Quail Creek	40,000 af	32,322 af	81%	30,254 af	75%
Sand Hollow	50,000 af	44,967 af	88%	43,902 af	85%

# Conservation Corner

by Julie Breckenridge — Water Conservation Coordinator

## FREE Landscaping Workshops June—September 2008

These workshops are held at the Tonaquint Nature Center  
(1851 Dixie Drive)

To reserve your seat, please call 673-3617

**Saturday, June 21:**  
10-11 a.m.

### A guide to pest and disease control in the landscape

Learn how to identify and treat pests and disease problems in the landscape.

**Saturday, August 23:**  
10-11 a.m.

### Fall into vegetable gardening

One of the benefits of living in southern Utah is the long growing season. Learn how to make this climate work for your vegetables.

**Saturday, July 19:**  
10-11 a.m.

### Made of stone: patio pavers/riverbeds

This workshop will inspire your creative side. Learn how to add rock to your landscape, patios, pathways and dry river beds.

**Saturday, September 20:**  
10-11 a.m.

### Get your grass into gear

Is your lawn looking ragged and worn-out? If so, fall is the best time to repair, replant and rejuvenate. Learn which fertilizers will keep your grass healthy.

## Board of Trustees

**Morgan Jensen, Chair**  
(Toquerville)  
**Edward Bowler**  
(Gunlock)  
**Howard Bracken**  
(Enterprise)

**Dennis Iverson, Vice Chair**  
(Washington)  
**Jim Lemmon**  
(Hurricane)  
**Dan McArthur**  
(St. George)

**James N. Ence**  
(Santa Clara)

The next two Board meetings will be held at the District starting at 7:00 p.m. on

**Tuesday, June 17**

**Tuesday, July 15**

**The Board will not meet in August**

## FREE WATER CHECKS

offered May 15 through September 30

A **Water Check** is performed by an intern from the Washington County Water Conservancy District.

The **Water Check** includes a series of tests on an irrigation system. These tests determine:

- how much water the irrigation system puts out,
- the infiltration rate of water into the soil, and
- uniformity of the water application.

The intern will also check

- soil type,
- root depth, and
- sprinkler pressure.

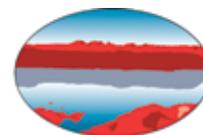
The entire process takes about one hour.

When the **Water Check** is concluded, the homeowner is left with a customized irrigation schedule and a list of recommendations to improve their irrigation system.

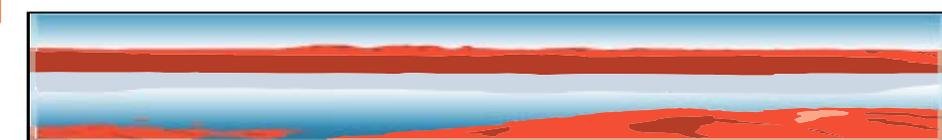
## Save water and money!

Call 673-3617 to request an appointment.

This **Water Check** program provided by:



WASHINGTON COUNTY  
WATER CONSERVANCY DISTRICT



**WASHINGTON COUNTY  
WATER CONSERVANCY DISTRICT**

**Water Line**  
Spring 2008

**Editor:**  
Ann Jensen

**Contributors:**  
Ron Thompson  
Julie Breckenridge  
Corey Cram

**Photography:**  
Doug Wilson

**Production, Printing  
and Circulation:**  
*The Spectrum*

The *Water Line* is published by  
the Washington County Water  
Conservancy District  
435-673-3617

This publication can be accessed on the District's web site at <http://wcwd.state.ut.us>