

## Water Line

Winter 2005

### Manager's Message

#### Snowpack/Water Year

The recent storms in Washington County have brought enormous amounts of precipitation to our area. On January 11<sup>th</sup>, the snowpack total for the Virgin River Basin was estimated at 311% of normal. This is an all time high. With February and March traditionally being the wettest months in southern Utah, we could be looking at a fairly significant water year.

#### Conservation

In times of drought, conservation efforts heighten on the part of municipalities and citizens. In times of plenty, however, conservation efforts can slip by the wayside. "Saving for a rainy day" does not apply to finances alone. Saving for a dry spell must be a priority even in years of plenty. Let us not become complacent with the recent gift of moisture. One good water year will not offset a six-year drought. Let us continue to aggressively pursue a conservation mind set. We live in a desert and we will experience more dry periods than wet ones.

#### Growth

3,000 building permits were issued in 2004 in Washington County. As rapid growth continues to persist, there is considerable need for additional water development to meet long-term demand. The District is involved in planning several water development projects to be constructed over the next 10-15 years. In 2005, it is hoped that the

actual construction of the long-planned-for Crystal Creek Pipeline will commence. This project will pipe water into Kolob Reservoir. The water can then be released into the Virgin River, stored in Quail Creek Reservoir and ultimately treated for culinary use. Water development projects will culminate with the construction of the Lake Powell Pipeline which has a projected commencement date of 2018.

#### Water Marketing

In order to meet water needs and provide a long-term policy that will allow communities to grow, serious discussions are taking place with the cities concerning a different arrangement for marketing water in the County. The District has traditionally relied upon "take-or-pay" contracts with the cities to secure its financing for water projects. The cities commit to take the water in blocks ranging from 500 to several thousand acre feet. These contracts give the District security of revenue.

On the other hand, it is difficult for the cities to aggressively pursue conservation policies since they must pay for the water whether they use it or not. With this new marketing structure, new water development undertaken to meet new growth needs will be paid for by impact fees, property taxes and a surcharge of approximately 5% on retail water sales.

#### Summary

"The longer you look back, the further you can look forward."  
*(Winston Churchill)* In 1988, less than 500 building permits were issued in Washington County. Over six times that number were issued in 2004. Before the completion of Quail Creek Reservoir in 1983, water storage capability was negligible if non-existent. Today, we have Sand Hollow Reservoir and plans are being made to construct the Sand Mountain, Fort Pearce and Warner Valley reservoirs.

As we look back on the historical highway that has brought Washington County to the present day, it is highly evident that progress and growth have been the norm rather than the exception. Parley Pratt and his company of 50 men camped on the Santa Clara River on New Year's Day in 1850. Just 155 years later, this small camp of 50 men gave birth to a county which will eventually be well in excess of its current population of 117,000.

We *must* keep in mind where we have come from and realize where we are headed as a county. It is essential that we continue to look forward and plan for the inevitable increase in the population of southern Utah. Water development and conservation are crucial if Washington County is going to continue to flourish.



Ron Thompson, General Manager

#### January Floods

We know that you have all been following coverage of the recent flooding in Washington County. The District has assessed the damages to pipelines, diversions and wells. Page two of this publication will summarize these damages and the incurred costs.

*The District is committed to serving its water customers in an efficient and cost-effective manner.*

(From the District's Mission Statement)

**BOARD OF TRUSTEES  
of the Washington County Water  
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# Local Waters Alter Lives and Land

By Ron Thompson

The flood of January 2005 has left the residents of Washington County and the citizens of Utah in a state of complete awe of the force exerted by Mother Nature on the Virgin River Basin. While remaining truly grateful that loss of human life was minimal, we are stunned at the loss of homes, land and infrastructure. It is a bittersweet time as we grieve the immensity of the damages to Washington County and its residents and yet celebrate the largesse of our community. As always in the state of Utah, a neighbor's helping hand reaches out during catastrophic circumstances.

The District has been monitoring its projects closely since the rains and snowfall began in mid-October. When precipitation began again in earnest on January 9th with rain and snow forecast though January 12th, District employees spent hours in the field monitoring the status of pipelines, wells and diversions. Numerous meetings have since taken

place between Washington County Emergency Services, Washington County Commission, Washington County Water Conservancy District, engineers, FEMA and NRCS. In addition to assessing the damages incurred, these meetings have focused on how best to begin the repair process and how to obtain the funding required.

Damage to the Washington County Water Conservancy District's projects has been extensive. After years of planning and negotiations, the Santa Clara pipeline project was completed in September 2004 at a cost of over six million dollars. The flood basically lifted this pipeline out of its trench. It now lies completely exposed on ground left battered by the raging stream. A small section of the Regional Pipeline is exposed at the Johnson Diversion. This pipeline was completed in July 2004 at a cost of \$20,000,000.

The Ence wells piping was also dislodged by the flood and diversions were damaged at La Verkin and Toquerville. At this time, the cost of repairs will reach approximately \$2,000,000

It is imperative that 70% of the District's projects be restored as soon as possible. The following projects are especially crucial to the local water supply and must assume a high priority listing for repair:

- The Santa Clara Pipeline must be restored by mid-March as this pipeline is the sole source of supply for secondary water to several homes, community parks, golf courses and farmland.
- The priority of the repairs to the Regional Pipeline are extremely high as this water line was constructed to provide culinary water to the cities of Washington, St. George, Santa Clara and Ivins.
- Erosion of the stream bank is threatening the Quail Creek/Sand Hollow pipeline. This pipeline is the sole source of supply to Sand Hollow and Quail Creek Reservoirs.

Water levels in Quail Creek and Sand Hollow Reservoirs did not rise significantly during this flood event. These are both off-stream reservoirs and are fed by the Quail Creek Pipeline. Water is diverted into the pipeline via the Quail Creek Diversion. Flood waters could not be diverted into the pipeline due to the extraordinary amount of silt in the water and the remarkable mass of the debris picked up by the river as it surged downstream. Quail Creek Reservoir did, however, receive some run off from Quail Creek. The following table evidences the amount of water in each reservoir before and after the flood event:

| Quail Creek Reservoir |                    | Sand Hollow Reservoir |                    |
|-----------------------|--------------------|-----------------------|--------------------|
| 01/07/05              | 01/13/05           | 01/07/05              | 01/13/05           |
| 27,129.8 acre feet    | 31,187.8 acre feet | 13,935.75 acre feet   | 14,191.9 acre feet |

Since the upcoming two months of February and March traditionally bring the highest rate of precipitation to our area, we could be looking at a fairly significant water year. Rain has fallen on Washington County intermittently since the middle of October. Without the need to apply water to landscape, conservation percentages have been high. However, we cannot become complacent with the recent two and one half months of moisture. One plentiful water year will not offset a six-year drought.



Regional Pipeline Exposed at Johnson Diversion



Virgin River at the Quail Creek Diversion



Santa Clara Pipeline



LaVerkin Creek Diversion

It is our hope that the spring snow melt will occur slowly. At this time, the saturated ground could not absorb major runoff and the rivers would most likely be inundated once again resulting in significant flooding.

The District is dedicated to working with the County, local agencies and municipalities to repair, as quickly as possible, the water projects necessary to sustain local residents and agricultural endeavors.

## STAFF LEAKS

**Roberta McMullin**

By Ann Jensen



In 1974, Roberta Duff walked into Ron Thompson's office for the first time. You may choose to look on this as either destiny or fate or both, but she has walked into his office daily for nearly thirty-one years.

Roberta was born and raised in Glendale, California. Upon graduation from high school, she decided to continue her education at Dixie College. Since her Mom is a St. George native, much of Roberta's youth had been spent in Utah's Dixie visiting family and celebrating holidays. It would naturally follow that her college days be spent here in the presence of familial support.

Life has a way of leading the unsuspecting to levels of awareness where glimpses of destinies tantalize the spirit. Life starts to unfold, commitments are made, paths are chosen and the journey begins. Roberta's journey has been one of fidelity to family, friends, church and Ron Thompson.

In 1974, when accompanying her grandmother to a law firm, Roberta first made Ron's acquaintance. At this time, Ron inquired as to her job status. Roberta immediately started working part time for him at Atkin, Allen and Thompson while attending Dixie college. She continued working for Ron during the four years he served as county attorney.

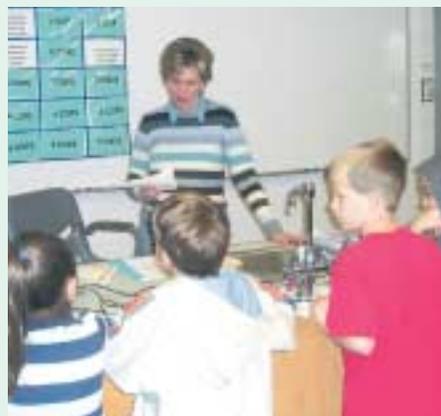
When the Water District became Ron's client in 1981, Roberta began what was to be an enduring alliance with the Washington County Water Conservancy District. Today, Roberta fulfills myriad roles at the District not

least of which are Administrative Assistant to Ron Thompson, Secretary/Treasurer of the Board of Directors of the Water District and office manager. *When you consistently produce excellent work and are willing to give of yourself, something miraculous happens*" (Wendy Craig-Purcell). In a society where career loyalties can be considerably short lived, the Water District is appreciative of Roberta's remarkable sense of steadfastness and commitment.

Roberta places great value on service to others. She acted as the secretary of the Washington County Republican Party Executive Committee for four years and has been actively involved with John Swallow's two campaigns. She has acted as secretary of the Policy and Development Committee for the National Water Resources Association for the past eleven years.

Paul McMullin and Roberta were married in 1976. They have five children and two grandchildren. If any free time happens to creep into Roberta's day, she enjoys reading, cooking, politics, working with youth at her Stake and spending time with family and friends.

Employees of the Water District and the Board Members can rely on Roberta's willingness to help with or take the lead on any project and to do so with skill and cheerfulness. Her door is always open and a kind greeting is rendered certain. Ron values Roberta's ability to meet any challenges her job may present. He knows that he can count on her to stand firm in her commitment to him



**Working with children at the 2004 Annual Water Fair**

## PIPING THE WASHINGTON FIELDS CANAL

By Barbara Hjelle

The Washington Fields Canal Piping Project is an important goal of the St. George and Washington Canal Company. The Canal is one of the largest and most important diversions on the Virgin River. All of the water for the Washington/St. George Fields, Cunningham Field, Price Bench and Price Field are diverted at this point. A priority water right for 86 cubic feet per second (cfs) of Virgin River surface water is owned and controlled by the St. George and Washington Canal Company.

At present, the canal is an open concrete ditch stretching over nine miles from beginning to end. It traverses areas which are rapidly being converted from farm land to residential subdivisions. As a result, the canal right-of-way is constantly subject to encroachment by residential uses and activities. The threat of liability from maintaining an open ditch in such areas is growing. Many of the activities associated with residential development and use are not authorized by the Canal Company and it is difficult, if not impossible, to monitor the constantly changing environment of this canal.

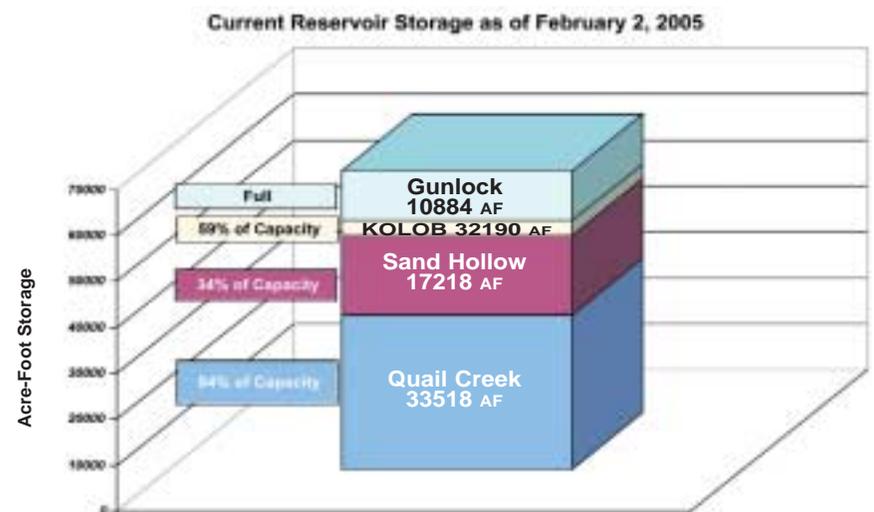
Replacing the canal with an enclosed pipe would minimize risk of children falling into the canal or other injuries which might arise in connection with residential encroachment into the canal right-of-way. The project would also

provide significant water savings. A study is currently underway to determine feasible options of changing the distribution system from a flood irrigation system to a pressurized pipeline system. This pressurized system would further increase water savings but would require transmission infrastructure to be piped.

The Virgin River Resource Management and Recovery Program has committed funding to build a fish screen at the Washington Fields diversion structure. The fish screen construction is currently underway and is scheduled to be completed in February/March 2005. This screen will provide fish a downstream access corridor around the Washington Fields diversion allowing the fish to remain in riverine habitat. This screen will solve potential endangered species issues with respect to the canal operations. The screen will be entirely paid for by the Recovery Program with no cost to the canal company or shareholders.

\$750,000 was appropriated in fiscal year 2004 towards piping a portion of the canal. Approximately two miles of canal will be piped after the fish screen has been completed. The entire Washington Fields Piping Project, which necessitates pipelines of 54"-60", is estimated to cost approximately \$10 million.

**An estimated nine cfs of water will be conserved annually as a result of piping the Washington Fields irrigation water.**



## Cities Encouraged to Adopt Floodplain Ordinance

by Ann Jensen

The primary purpose of a floodplain ordinance is the protection of human life and health. This was the topic of a meeting of Washington County cities on November 3, 2004. The Water District called the meeting because of the flooding that occurred on October 21, 2004.

“Flood damage potential is greatly increasing as a result of development in the floodplain, urbanization and changes in the river,” explained Corey Cram, the local Watershed Coordinator.



**Virgin River by the Washington Fields Road Bridge**

Corey gave an historical overview of flooding in Washington County. He emphasized that the 8,000 cubic feet per second (cfs) discharge in the river on October 21<sup>st</sup> was minor in comparison to numerous historical flood events. As an example, a combination of an early snowmelt and steady rains in December of 1966 caused 22,800 cfs to wend its way down the Virgin River.

Flooding continues to be an issue as we have seen in the recent January events. This further emphasizes the need for community planning and responsible actions to minimize impacts to public and private property and to prevent loss of human life.

**“I do not know much about gods; but I think that the river Is a strong brown god—sullen, untamed and intractable.”**

(T.S. Eliot, “Four Quartets”)

## PROTECTING OUR WATER SOURCE

By Corey Cram

Do you ever wonder where the water comes from when you turn on your faucet or hose? Communities in Washington County rely on groundwater wells or surface water sources for their drinking and



Photo by Doug Wilson

**Virgin River in Zion National Park**

industrial water needs. Much of the drinking water in the county comes from the Quail Creek Reservoir and is treated at the Quail Creek Treatment Plant before it is distributed. Streams flow directly to the reservoir and water comes from the Virgin River where it is captured in a pipeline near the town of Virgin. The city of Springdale also uses the Virgin River for drinking water after it is treated.

The Virgin River is an important drinking water source for this county and it is critical that we all do our part to protect the quality of the water, such as:

- Taking the time to properly dispose of or recycle automotive and household products;

## Workshops at the Garden

By Julie Breckenridge

**Saturday, February 26 -**

### **Xeriscape: The Natural Solution**

Find out why xeriscape is a natural choice in our arid, desert climate. Learn the benefits this landscape has to offer and the principles used in its design. This workshop will be held at the Tonaquint Nature Center at 1851 South Dixie Drive in St. George at 10 a.m. Space is limited so please call 673-3617 to reserve your spot. The cost for the workshop is \$5 to be paid at the door.



**Demonstration Garden at the Tonaquint Nature Center**

**Saturday, March 12 – Fine Tuning Your Irrigation System**

Does your irrigation clock have you puzzled? Get tips on how to adjust those timers to meet seasonal needs, prevent overwatering and promote a healthier landscape. Learn proper irrigation system maintenance and scheduling. This workshop will be held at the Tonaquint Nature Center at 1851 South Dixie Drive in St. George at 10 a.m. Space is limited so please call 673-3617 to reserve your spot. The cost for the workshop is \$5 to be paid at the door.



**Saturday, March 26 – Designing with Plants**

Gather tips in making the right plant selection and placement and how to choose plants that compliment one another in a landscape. After the class, there will be time for you to receive some assistance in designing your own landscape. This workshop will be held at the Tonaquint Nature Center at 1851 South Dixie Drive in St. George at 10 a.m. Space is limited so please call 673-3617 to reserve your spot. The cost for the workshop is \$5 to be paid at the door.

- Making sure your septic tank is functioning properly and periodically pumping it;
- Refraining from dumping dangerous waste products on the ground or directly in the stream;
- Installing erosion and sedimentation controls on earthmoving projects; and;
- Protecting the strip of land that borders our streams as it can act as a natural filter and buffer to clean water before it enters our streams.

There are many potential contaminants that are not easily treated or could even contaminate the source of water so that it would not be usable for many years. It is important to keep our water clean and we can all do our part to make

## **Water Line**

**February 2005**

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