

UTAH'S M&I WATER CONSERVATION PLAN INVESTING IN THE FUTURE

2014



UTAH'S MUNICIPAL & INDUSTRIAL WATER CONSERVATION PLAN
INVESTING IN THE FUTURE

2014

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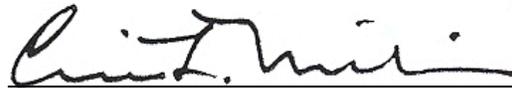
ACKNOWLEDGEMENTS

This plan was prepared under the direction of Todd Adams, Deputy Director of the Division of Water Resources (DWRe), by a project team consisting of the following staff members:

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Eric L. Millis, P.E. Director
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INTRODUCTION

Utah is one of the three fastest growing states in the nation, based on percentage change along with some of the other Western States (Figure 1). From 2000 to 2010, Utah's population increased by more than 520,000 people to approximately 2.8 million. At this rate, Utah is sprouting another city approximately the size of Salt Lake City (2010 population 186,440) about every four years.

According to the Governor's Office of Management and Budget 2012 baseline population projections, Utah's rapid growth will continue, with the population increasing to 5.9 million by 2060. As Utah's population blossoms, so will the demand for Utah's limited water resources. If Utah's municipal and industrial (M&I) water demands increase at the same rate as its population growth,

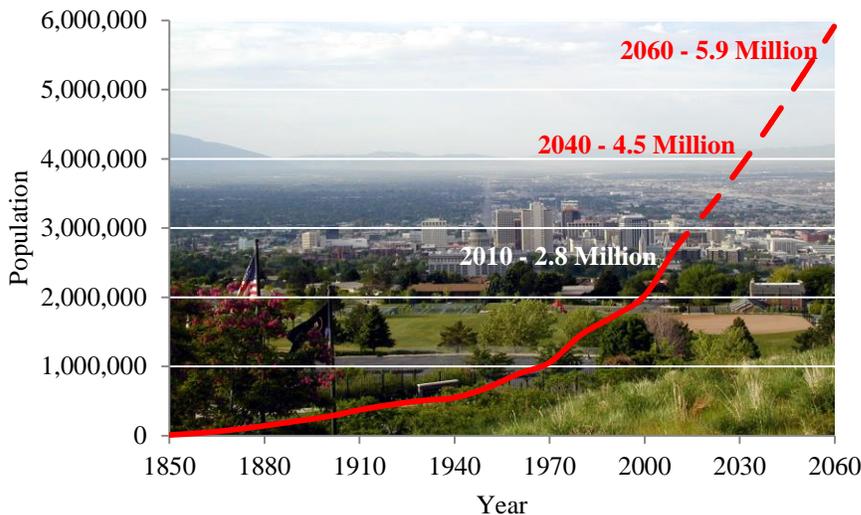
the future demand will be much greater than existing developed supplies. There is not an infinite

**FIGURE 1
Ranking of state's growth in the U.S.**



Note: Population growth ranking are from 2000-2010

**FIGURE 2
Utah's Population History and Projection**



supply of fresh water in the State of Utah or anywhere. Therefore, using water wisely and conserving water in every aspect of life will bring a reduction in per capita use that will help water suppliers meet their future needs.

When compared to the other options; new water developments, conversion of agricultural water to M&I uses, water reuse and conjunctive use, conservation becomes an efficient way to meet a portion of Utah's future water needs.

In addition to these important benefits, water conservation can also:

- Increase annual water levels in reservoirs
- Postpone construction of large water development projects
- Delay capital investments to upgrade or expand existing water facilities
- Reduce sewage flows, delaying the need for more wastewater treatment facilities
- Conserve energy as less water needs to be treated, pumped and distributed to the consumer
- Create a more sustainable way of life, balancing human needs with that of the natural environment

Few Utahns dispute the value of water conservation; however, there is some debate about how it will happen and who is responsible for making sure it does. This document, *Utah's Municipal & Industrial Water Conservation Plan—Investing in the Future*, should help answer many of these questions. In reality, every Utahn is responsible for making it happen; however, the Governor and the Utah Division of Water Resources (DWR) are committed to doing their part by providing leadership and water conservation resources to the state's water providers and residents. The purpose of this document is four-fold: first, it clarifies the state's M&I water conservation goal and how progress toward achieving this goal is being monitored; second, it emphasizes the role water conservation plays in meeting Utah's future water needs; third, it presents Utah's planned strategies to guide statewide water conservation efforts, so that the state achieves this goal; and fourth, it discusses some of the progress that has been made thus far.

UTAH'S MUNICIPAL & INDUSTRIAL WATER CONSERVATION GOAL

Most new water demands in Utah will occur in the M&I sector as a result of an increasing population. Therefore, the state has developed a specific goal to reduce per capita M&I water use. **This goal is to reduce the 2000 per capita water demand from public community systems by at least 25 percent by 2025.** Public community systems are water entities delivering potable water to at least 15 connections (about 98 percent of Utah's population). Specifically, the average statewide 2000 per capita demand will need to decline from 295 gallons per capita per day (gpcd) to a sustained 220 gpcd or less. Accomplishing this goal, with respect to the increasing population, is equivalent to a total decrease in demand of over 500,000 acre-feet per year (af/yr) in the year 2060 and represents the single most significant strategy to help meet Utah's future water needs.

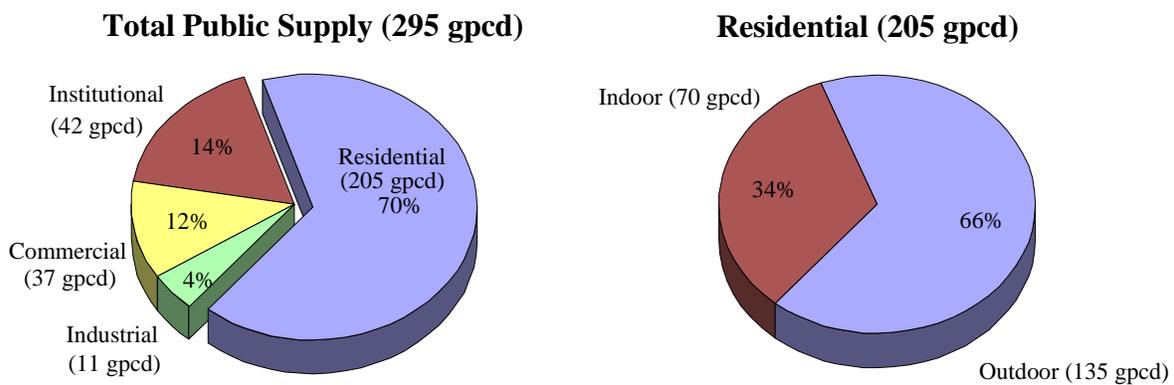
The Division of Water Resources (DWRe) has discussed a water conservation goal since 1994, but it was not formally published until 2001 when it first appeared in the Utah State Water Plan: *Utah's Water Resources—Planning for the Future*. **The goal is based on modeling and research that indicates indoor and outdoor water use can reasonably be reduced by 25 percent or more without the need for draconian measures.** Indoor reductions will be realized through public education and the installation of more water efficient fixtures and appliances. Outdoor reductions will be realized primarily through public education, which will result in more efficient application of water on landscapes, and a market driven reduction in residential lot sizes.

Establishment of Baseline Water Use

In order to monitor the progress toward achieving the state's water conservation goal, DWRe surveyed all of the public community systems in the years between 1992 and 2000 and established a baseline water use of 295 gpcd. This is an average statewide value for all potable and secondary water delivered within the boundaries of all public community systems and represents the best estimate statewide for water use (at the customer level) in the year 2000 (Figure 3). According to the 2010 U.S. Geological Survey "Estimated Water Use in the U.S." report, Utah has the highest "Public Supply Withdrawal" rate of any state in the country. The DWRe does not

believe this report is a completely just comparison as Utah's numbers include estimated secondary and reuse water irrigation, whereas all the other states don't include such uses. Comparing only statewide potable uses within Public Supply Systems, Utah would rank 11th highest. There is no question that Utah's M&I water use is high and a recent DWRe report, *Municipal and Industrial Water Use in Utah (2010)*, discusses this issue in detail and gives some interesting factors and reasons why. The biggest reason, of course, is the fact that Utah is the second driest state in the country. Therefore, outdoor irrigation requirements are higher. Because of this, as well as the high population growth rate, the DWRe has had an urgency to develop a comprehensive state water conservation plan and goal.

FIGURE 3
Breakdown of 2000 Publicly Supplied Water Use Including Secondary Water



(Source: DWRe, *Municipal and Industrial Water Supply and Uses*, 2000.)

Monitoring Progress

DWRe has established a method to monitor the progress toward the achievement of the state's water conservation goal. Currently, statewide M&I water use data is collected for all eleven hydrologic river basins every five years. This data is published in an M&I water use report for each basin and a statewide summary report. The most current data of this monitoring program is 2010.

A process to monitor changes in water use during the years between the five-year statewide summaries has also been established. Specifically, monthly data is collected from 18 different water providers throughout the state and compared against equivalent use for prior years. Alt-

though this process assists in providing a useful estimate of how well water conservation programs are working on an annual basis, DWR utilizes the five-year M&I summaries as the official statewide per capita use number and utilizes this data to gauge progress toward achieving the 25 percent goal. This data is discussed in detail later in the report (see page 29).

WATER CONSERVATION'S ROLE IN MEETING UTAH'S FUTURE WATER NEEDS

Achieving the goal of at least a 25 percent reduction in per capita water use within public community systems will have significant impacts on Utah's ability to meet future water needs. Table 1 displays estimates of the total M&I water demand and supply for each of Utah's major river basins. As shown, the state's 2000 M&I water demand was approximately 667,000 acre-feet, well below the current 2010 supply. Without water conservation, the annual M&I water demand would increase to about 2,017,000 acre-feet by the year 2060, which would be double the current M&I supply. The largest increases in demand will occur mostly in the heavily populated basins of the Jordan River, Utah Lake, Weber River, Kanab Creek/Virgin River and Bear River basins. These basins will also be the areas within the state that will benefit the most from effective water conservation programs.

**TABLE 1
Public Community System Demand and Supply by Basin**

Basin	Demand 2000 (af/yr)	Water Supply ¹ as of 2010 (af/yr)	Future Proposed Additional Supplies ² (af/yr)	2060 w/o Conservation Demand (af/yr)	2060 with Conservation Demand (af/yr)	Amount Conserved (af/yr) ³	Additional Water Needed by 2060 (af/yr) ⁴
Jordan	259,000	271,000	52,000	536,000	402,000	134,000	78,000
Utah Lake	108,000	207,000	63,000	462,000	346,000	116,000	77,000
Weber	143,000	239,000	0	399,000	299,000	100,000	60,000
Kanab Virgin	42,000	71,000	13,000	293,000	190,000	103,000	106,000
Bear	41,000	74,000	0	113,000	85,000	28,000	11,000
Sevier	20,000	26,000	0	40,000	30,000	10,000	4,000
W Colorado	15,000	15,000	0	18,000	14,000	4,000	0
Cedar Beaver	12,000	29,000	0	61,000	40,000	21,000	11,000
Uintah	12,000	20,000	0	27,000	20,000	7,000	0
W Desert	10,000	21,000	0	59,000	45,000	14,000	24,000
SE Colorado	5,000	6,000	0	9,000	6,000	3,000	0
Total	667,000	979,000	128,000	2,017,000	1,477,000	540,000	371,000

Footnotes:
¹ Adjusted supply to reflect those entities that cannot share their supplies with other systems.
² Additional proposed supplies do not include large scale regional water development projects.
³ Represents 25% conservation of 2000 baseline public community water demand through the year 2060.
⁴ The difference between 2060 demand with conservation and 2010 supply and future additional proposed supplies.

After the 25 percent per capita reduction goal is reached, it is estimated that M&I water demand in 2060 will be approximately 1,477,000 af/yr or about 50 percent above existing M&I supply. Additional proposed future local water development projects will add another 128,000 af/yr to the existing supply. However, even with the conservation goal reached and additional proposed supplies brought online, the 2060 demand will still exceed the supply by about 371,000 af/yr. This is due to the extremely large growth rate that the state is expecting to continue. Figure 4 indicates how significant a role water conservation will play in meeting Utah's future water needs and shows how many water entities will have shortfalls between demand and supply. The DWRe has a state water plan to help address these shortfalls. The strategies in the plan include agricultural to M&I water transfers, water reuse, new water development projects, water management strategies and additional conservation measures.

FIGURE 4

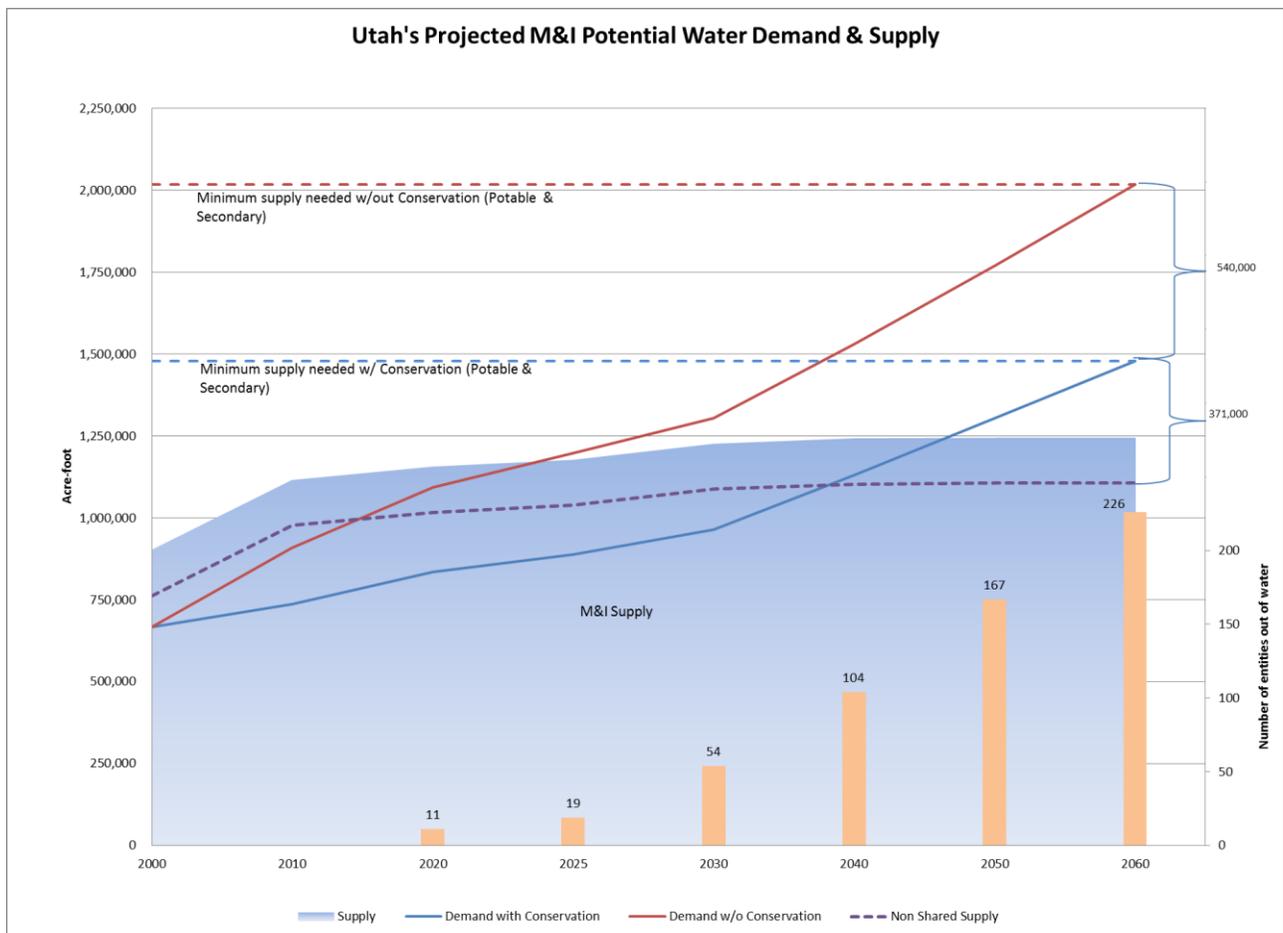
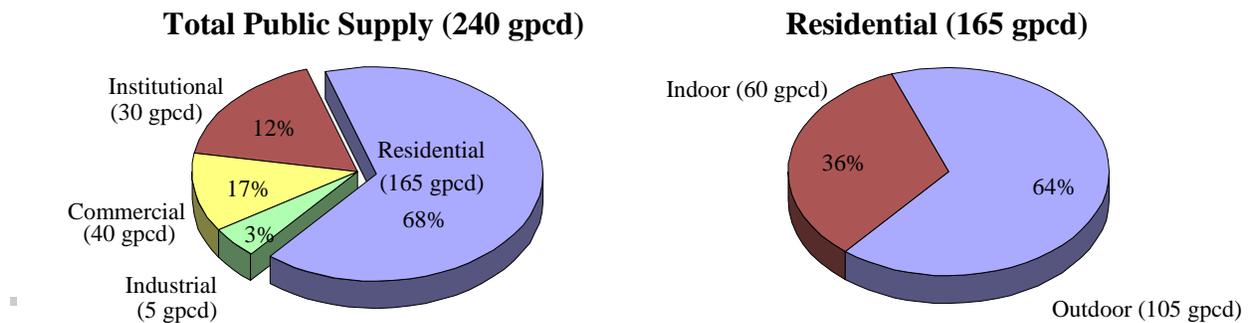


Figure 5 breaks down DWRe’s latest surveyed data (2010) for Utah’s total (potable and secondary) per capita use of publicly supplied water into residential, commercial, institutional and industrial components. Residential use is by far the largest component at 68 percent or 165 gpcd. As shown, an estimated 106 gpcd (64 percent) of the residential amount is used outdoors and 60 gpcd (36 percent) is used indoors.

**FIGURE 5
Breakdown of 2010 Publicly Supplied Water Use Including Secondary Water**



(Source: DWRe, *Municipal and Industrial Water Supply and Uses*, 2010.)

DWRe has focused their water conservation efforts primarily on residential water use with an emphasis on outdoor landscapes because this category has the greatest potential for water conservation. The amount of water that should be applied to plants and a lawn is determined by the evapotranspiration (Et) for a given region. Et is defined as the amount of water a plant and its environment loses from evaporation and transpiration. Simply put, transpiration is water the plant uses to grow and survive, and evaporation is water lost from the surrounding soil. The factors that affect Et are temperature, wind, precipitation, humidity and solar radiation. Et is usually expressed in inches of water over a certain time period; commonly, a day, week, month or year. The DWRe main emphasis in water conservation education is for residents to water to the Et requirements of their landscapes as efficiently as possible.

The recent DWRe study, *Residential Water Use* (2010), indicated outdoor water use varied with the type of lawn watering technique (hose, manual sprinklers, or automatic sprinklers), the study revealed that Utahns who water with a hose system applied 17 percent less than the Et requirements. People using non-automatic, in-ground sprinkler systems water at about Et requirements.

However, those people using automatic sprinkler systems (with control timers) over-water by 30 percent of Et requirements. Based on the percentages of all types of irrigation practices (nearly two-thirds of the state's households have automatic sprinkler systems), the study found that overall Utahns, on average, over-water their yards by nearly 20 percent. This is down significantly from the 2001 DWRe *Residential Water Use* study that found the average overwatering of landscapes was close to 40 percent over Et. Even though Utah's climate requires substantial irrigation to maintain healthy turf grass, outdoor residential water use could be reduced by a substantial amount if residents were to practice more efficient irrigation principles.

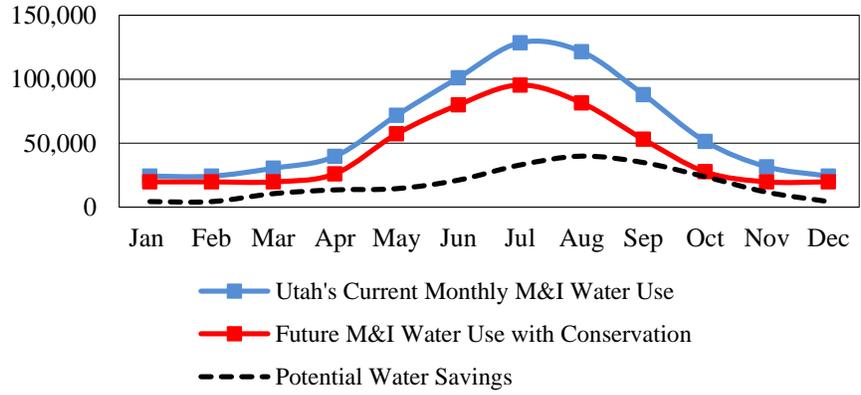
The latest research indicates that the Et for all plants varies over the growing season. In the spring and fall months Et is lower than during summer months. Therefore plants, specifically lawns, require less water in the cooler months. However, many water users, especially businesses set their sprinkler timers for the highest Et period (summer) and don't adjust them seasonally. Sprinklers should be adjusted throughout the season to correlate with the seasonal Et, rather than irrigating as if it were July. This means the number of days between applications should be greater in the spring and fall. Many residents also fail to adjust their systems when there is rainfall. Therefore, inefficient water use occurs because the rainfall supplied the Et requirements of the landscape, so additional watering is unnecessary.

In summary, many residents are generally unaware of some of these basic irrigation principles. Because of this, inefficient use of automatic sprinklers and excessive over-watering of lawns occurs mainly in the spring and fall each year. For these reasons, the majority of the public education provided about water conservation focuses on outdoor water use during these times. Utahns need to improve their outdoor water use habits in order to reduce unnecessary consumption.

DWRe water conservation efforts have also given some attention to indoor water use. Utahns will also have to apply conservation measures to their indoor water use habits to meet the projected per capita water savings. Indoor conservation measures include: installing low flow faucets, fixing leaks, water efficient appliances and other water saving practices. A national 1990 American Water Works Association (AWWA) study indicated that if homeowners institute these practices indoor water usage could be reduced by about 25 percent. Figure 6 shows how much

water could be saved if Utahns were to implement indoor water conservation practices, implement sound irrigation practices outdoors and with expected slightly reduced lot sizes. The figure shows that Utahns could save about 170,000 af/yr of the current public community system use of 738,000 af/yr. About

FIGURE 6
Current Monthly Water Usage vs Potential Water Use
(10-Year Average)



40,000 af/yr is indoor savings, while the remainder 130,000 af/yr is in outdoor savings. If the increase in population is factored into the projections these savings will be around 560,000 af/yr by 2060. Also shown in Figure 6, the majority of the savings occur in late summer to fall months. These time periods have been identified in various studies as the areas where Utahns need to improve their outdoor water use practices.

UTAH'S PLAN TO ENSURE THE WATER CONSERVATION GOAL IS ACHIEVED

DWRe has developed a strategy to help achieve the state's goal. This strategy incorporates various existing planning activities as well as some new programs implemented recently. The main elements of this strategy are listed below:

- 1 - Emphasize Water Conservation in State Water Plans**
- 2 - Implement State Water Funding Boards' Water Conservation Policies**
- 3 - Administer the Water Conservation Plan Act**
- 4 - Support and lead the Governor's Water Conservation Team's media campaign**
- 5 - Manage the State's Youth Water Education Program**
- 6 - Research New Water Conservation Technologies and Practices**
- 7 - Recommend Best Management Practices for Utah's Water Providers**
- 8 - Set the Example of Efficient Water Use at Institutional Facilities**
- 9 - Manage the Water Conservation Public Information Program**

The Water Conservation and Education (WCE) Section within DWRe is responsible for implementing this strategy. The WCE section plays a leading role in these efforts to fulfill the mission of the DWRe and achieve the state's water conservation goal. The desire of the DWRe is to create a long term ethic, not just water conservation in response to drought, and bring water use in line with actual needs. This is summed up in the following statement: **"DWRe believes that through public education, adherence to the Water Conservation Plan Act, and policies set forth by the Board of Water Resources, Board of Drinking Water and Community Impact Board, it is possible to reduce consumption by at least 25 percent without the need for draconian measures."**

1 - Emphasize Water Conservation in State Water Plans

Wise and efficient use of Utah's water resources has long been a part of the water planning efforts of DWRe. Even before legislative authority to provide comprehensive statewide water planning was granted to the DWRe in the late 1960s, water conservation and efficiency measures played an important role in the state's programs to develop Utah's water resources. This role has

been focused and refined over the years as two state water plans and river basin plans for each of the state's 11 major river basin planning areas have been published. Each of these plans under-



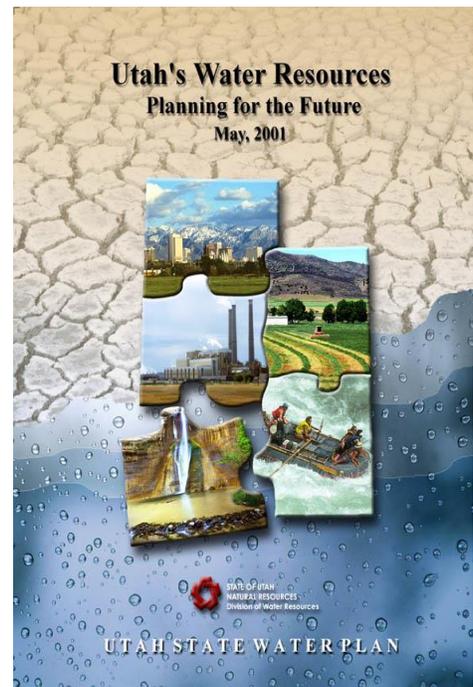
Each of the DWR River Basin Plans contains a chapter on water conservation

went extensive inter-agency and public review and contained specific water conservation recommendations. Final copies of the plans were distributed to stakeholders including universities, local libraries, legislators, water providers, environmental groups and others in the general public who were interested in contributing to the state's various water planning efforts.

In 2001 the DWR published the state's second state water plan, *Utah's Water Resources—Planning for the Future*. This document emphasizes the importance of water conservation by making it an integral part of the state's plans to meet Utah's growing water needs. The state's original goal to reduce water demand of public community systems by at least 25 percent by 2050 first appeared in this plan. This goal was recently revised (January, 2013) by Governor Herbert to reduce water use by at least 25 percent by 2025.

In addition to setting a goal to reduce water demand, the 2001 plan presented a detailed discussion of water conservation measures and programs that have proven effective, including:

- Incentive Pricing
- Outdoor Watering Guidelines and Ordinances
- Landscape Guidelines and Ordinances
- Commercial and Residential Water Audits
- Installation of Meters on All Water Connections



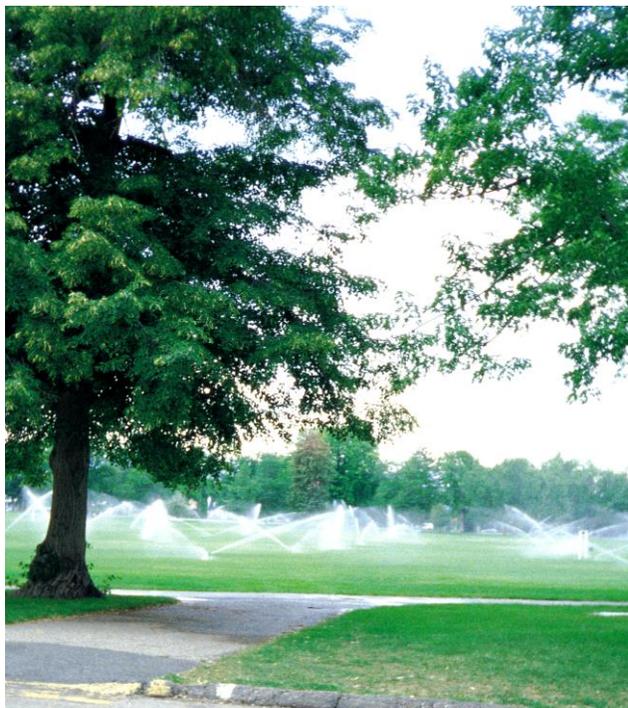
The state's water conservation goal was first published in the 2001 State Water Plan

- Retrofit, Rebate and Incentive Programs
- Leak Detection and Repair Programs

All of the above measures are now part of the DWRe’s strategy to promote Best Management Practices among water suppliers. See element number 7 for more detail.

2 - Implement State Water Funding Boards’ Water Conservation Policies

The Utah Board of Water Resources, the Utah Drinking Water Board and the Community Impact Board have long been proponents of water conservation, even though they are not retailers or wholesalers of water. It is the goal of these boards and their supporting agencies to provide water to those that are in need of water. However they want to accomplish this task while maintaining



State funding boards now require communities to adopt an ordinance prohibiting watering landscapes between 10 am and 6 pm, where feasible

the integrity of the water supply and to encourage the highest beneficial uses of water consistent with economic, social and environmental concerns. This conservation ethic is apparent in these boards current requirements for water project funding. All of these boards require that project sponsors requesting financial assistance do the following before receiving funds:

- Submit a water management and conservation plan to the DWRe.
- Pass a time-of-day watering ordinance, prohibiting watering between 10 a.m. and 6 p.m.
- Implement a progressive water rate structure, which provides an incentive for customers to reduce their water use.

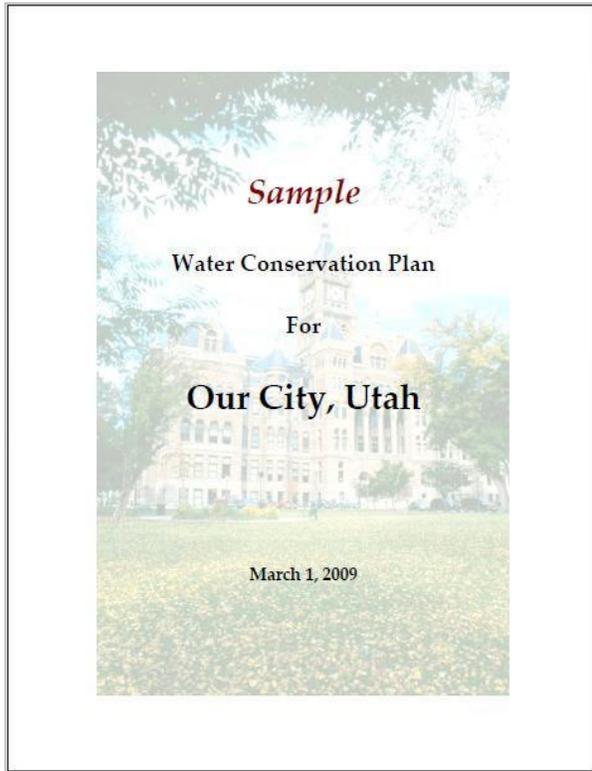
The DWRe has produced a model water conservation plan as well as a model time-of-day watering and rate ordinance for use by interested entities. These resources are available online at: www.conservewater.utah.gov, under the “Agency Resources” section. DWRe also provides assistance to all project sponsors who need help satisfying the board’s requirements.

3 - Administer the Water Conservation Plan Act

In 1998, the Utah State Legislature passed the Water Conservation Plan Act. This law requires that water conservancy districts and retailers with more than 500 drinking water connections (approximately 150 systems) prepare a water conservation plan and submit it to the DWRe. This requirement covers systems that provide water to about 93 percent of Utah's population. The act also stipulates that water conservation plans are to be updated and resubmitted every five years. In 2004, the Utah State Legislature strengthened the act by requiring that DWRe publish the list of non-compliant entities every year in local newspapers. In addition, lists of agencies that are required to submit a conservation plan are listed online at

www.conservewater.utah.gov. DWRe acts as both the regulator and an aide to agencies in producing these plans. If a plan does not meet the minimum standards set by DWRe, the plan needs to be corrected and resubmitted. DWRe has developed a sample water conservation plan template that can be utilized by the agencies. This template is titled "Our City, Utah" and includes a check list of items that indicates exactly what information is required to be in compliance with the law.

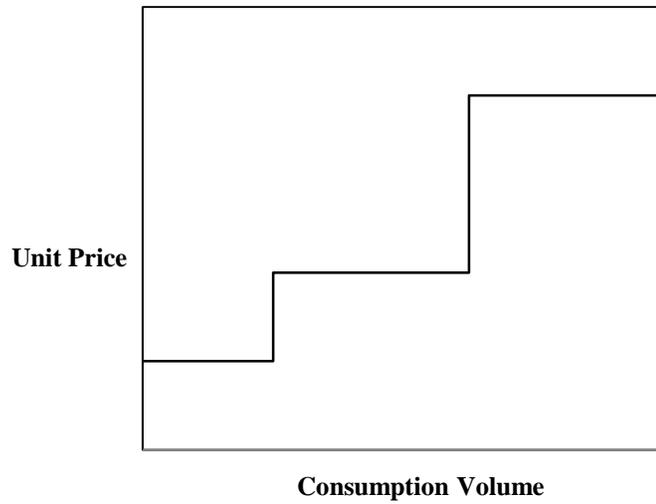
When DWRe receives a plan, it is reviewed by the WCE section and evaluated based on its likelihood to produce measurable water conservation results. DWRe then provides the water supplier with feedback on how the plan can be improved. The agency is then required to have the plan adopted by their board or city council. The plan and adoption certificate is then submitted to the DWRe for final approval.



DWRe has produced a water conservation plan template to aid in the development of conservation plans for all communities

DWRe will continue to evaluate plans and provide meaningful comments as well as provide assistance to those water suppliers who need help preparing or updating their plans. With a growing population, these water conservation plans help water agencies plan for the future in order to meet the future water demands of their communities.

Many agencies have looked at economic incentives to entice their water users to save water. These techniques include an incentive water rate structure, which is a user pays method, or an increasing water rate structure. The more water that is used by the customer the more they will pay. It is a simple strategy that has had very positive results for agencies that have implemented it.



Example of increasing block rate structure, as consumption increase the unit price also increases

The other economic technique is to provide rebates to water users who replace old water guzzling fixtures and appliances with new water efficient water models, utilize “smart” controller technologies and water saving sprinkler heads. Both of these techniques have helped accomplish the overall desire of the DWRe, to create a long term ethic of water conservation.

4 – Support and Lead the Governor’s Water Conservation Team’s Media Campaign

The DWRe provides valuable support and is the lead member for the public information program of the Governor’s Water Conservation Team (GWCT). This program is designed to inform the public by providing water conservation information through a coordinated media campaign. The GWCT is a committee comprised of water officials from the state’s five largest water conservancy districts (WCD) (Central Utah WCD, Jordan Valley WCD, Metropolitan Water District of

Salt Lake and Sandy, Washington County WCD, and Weber Basin WCD) and the Director of DWRe. This committee has worked together over the past decade to provide a consistent message to the public in order to demonstrate the necessity of water conservation. The “Slow the Flow” campaign, originally created by the Jordan Valley WCD, was later adopted by the GWCT and is the campaign’s branded slogan.



The recognized water conservation slogan for Utah, “Slow the Flow Save H₂O”

The Governor’s Water Conservation Team Mission

The mission of the GWCT is to develop a long-term statewide water conservation ethic that will result in a reduction of the 2000 per capita M&I water use of at least 25 percent by 2025. Building upon past success, the GWCT is working to help Utahns develop a long-term water conservation behavior. The GWCT believes that through its efforts, other state and local entities will be better able to communicate a consistent water conservation message to their constituents and the residents of the state of Utah.



An example of “Slow the Flow” TV commercial

Media Campaign

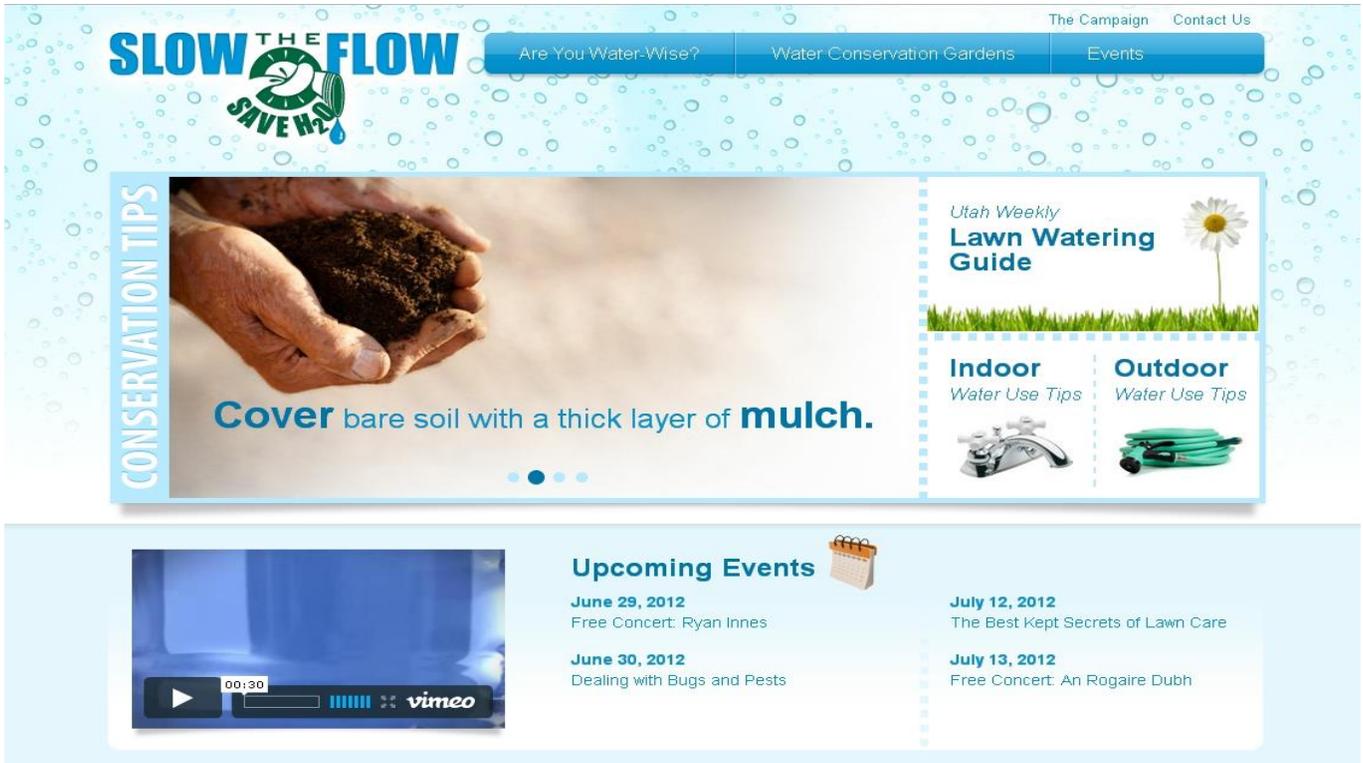
Thus far, the top priority of the GWCT has been the joint funding and production of a consistent statewide media campaign, which has included radio and TV ads, printed materials, website, and various media presentations. A media consultant is currently being utilized by the GWCT to achieve a unified consistent water conservation message.



An example of “Slow the Flow” brochure

Since 2001 there have been many TV and radio commercials that have been generated in order to deliver the water conservation message. Utilizing podcasts and other internet media, the GWCT has continually attempted to update and diversify the media campaign to ensure that the message is being delivered to the target audience. The GWCT has also facilitated the production of various printed materials to support the media campaign. To date, several posters, brochures and newspaper inserts have been produced to help spread the water conservation message to Utah’s citizens.

In order to get a consistent message out to the residents of Utah, a website was created to promote statewide and local water conservation efforts. The information can be found at www.slowtheflow.org. This website acts as a hub for the statewide water conservation efforts of the GWCT. From this website users can link to the individual websites of the individual GWCT member agencies and receive additional water conservation resources.



“Slow the flow” website

Analysis of the Media Campaign

The GWCT media consultants evaluated the overall effectiveness of the Slow the Flow campaign over the last decade. In 2007, a survey was done to evaluate the past campaign. It was found that 93 percent of those surveyed indicated a desire to save water, but lacked information on how to do it. The campaign responded by offering simple tips after every TV commercial to assist residents in saving water. The goal of the GWCT is that these surveys and focus groups will be used to periodically evaluate the media campaign to help in enhancing it to determine how best to educate the public.

In 2010, public surveys and focus group sessions were conducted. Results from this effort indicate that 97 percent of Utah residents believe water conservation is important and need to do more to conserve water in the future. The majority of respondents also indicated that they recognize the “Slow the Flow: Save H₂O” campaign. The results of the survey identified a sub group consisting of men, ages 18 to 44 that the campaign should target in the future to further enhance

the water conservation messages. Using this information, the GWCT, with the help of the media consultant, has been able to create a more effective media campaign. The media consultant has also utilized some of the information learned from the survey to improve and enhance the “Slow the Flow: Save H₂O” website.

In 2014, a public survey as well as focus group sessions were conducted

5 - Manage the State’s Youth Water Education Program

The DWRe has long promoted an effective youth water education program within the state of Utah, which includes a water conservation component. Educating the public at an early age is crucial to help with current and future water conservation efforts. The education program helps teachers and students realize their place in the water cycle and enables them to make informed decisions about water and how they use it. By developing awareness and knowledge of water resources, the state is equipping the leaders of the future with the skills they will need to make sound water management decisions.

The Water Education Program focuses water education efforts in the following four areas:

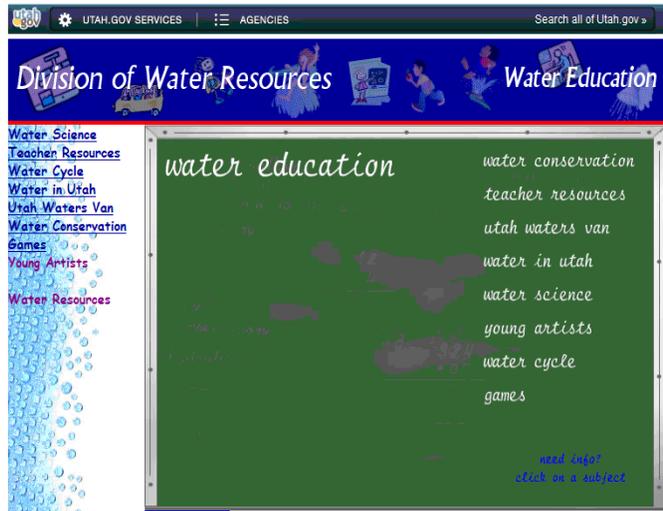
- Teacher Education – DWRe helps train elementary and secondary teachers, providing them with lessons, hands-on experiments and other resources necessary to teach about water and its proper use. This training was developed by the State Office of Education and is administered by the International Office of Water Science Education.
- Student Outreach – In cooperation with The Living Planet Aquarium and Central Utah Water Conservancy District, DWRe has helped create the Utah Water’s Van program.



Utah Water’s Van travels throughout state teaching children about the water cycle and why conservation is important

The program is part of a statewide educational outreach program and is equipped with scale models of the water cycle and water use in civilization, indigenous Utah river life, and an evaporation experiment. The program's goal is to reach every 4th grade student in the state.

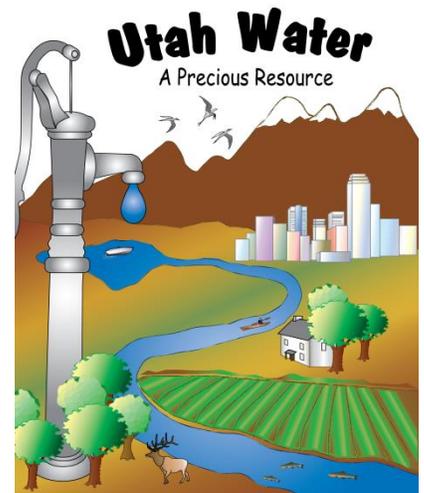
- Educational Resources – The DWRe has additional resources that are available to the public, including:



- Water Education Web Page: A web page hosted by the DWRe that provides teachers and students with valuable water-related resources, information and activities. This web page can be found at the following website: www.watereducation.utah.gov.

- Utah Water- A Precious Resource: An elementary guide that focuses on the water cycle and overall use of water in Utah. It is distributed annually to all 4th graders.

- The Young Artists' Water Education Poster Contest & Banquet – This contest invites 4th grade students throughout the state to create a poster that describes a water-related theme. The theme changes annually and the 11 winners from each river basin throughout the state are invited to a banquet where the Grand Prize winner is selected. The contest's purpose is to promote thought and understanding concerning the water cycle and the important role it plays in our lives.



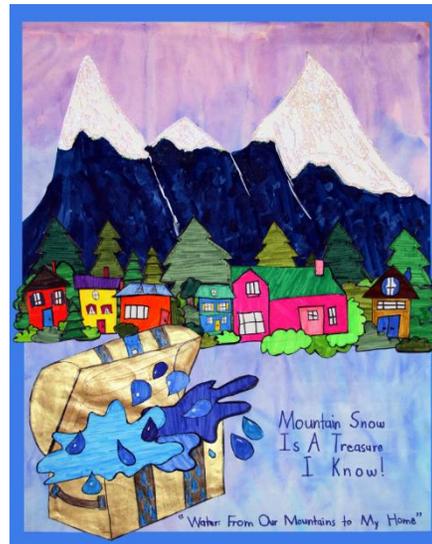
Utah Water A Precious Resource is a free booklet that is given to elementary children to educate about water related topics

Since 2004, participation has increased 300 percent with an average of 1,400 students.

The number of participating schools is up 85 percent with 75 schools participating annually. Below are some the most recent grand prize winners.



2013 Winner - Colton Gray



2014 Winner - Isabell Hallows

In addition to the aforementioned literature, programs and websites, DWRE also has a designated Water Education Coordinator that travels to schools to educate students and teachers about water processes and conservation practices. This program has been very successful using similar models as the Utah Water's Van and other teaching aids that were created specifically to educate younger water users. The water education coordinator also assists schools and communities statewide in establishing and promoting water fairs for students. The DWRE also contributes to The State Science Education Coordinating Committee (SSECC). SSECC is a community convened by the Utah State Office of Education to help participate, inform, and support the K-12 science education. SSECC consists of representatives from public school districts and charter schools, university personnel, informal science education institutions, and other community stakeholders that have an interest in K-12 science education. The community is led by the State Science Education Specialist, and meets quarterly to discuss emerging issues in K-12 science education, identify goals and outcomes necessary to support science learning and science educators, and network to find partnerships to strengthen science education opportunities.

6 - Research New Water Conservation Technologies and Practices

In order to develop a strong water conservation program for the state and to support its recommendations, DWRe studies issues related to water conservation. Many of these studies deal with how water conservation practices affect overall water usage. Also, the studies focus on ways to help the general public understand how crucial water conservation is in Utah's climate.



Using the latest weather station technology helps Utah residents use water more efficiently

The DWRe WCE section continuously researches new ways to conserve water. Researching journals, articles and information on the internet from other communities and water suppliers, the DWRe can select which water savings strategies will provide the greatest benefit to Utahns. In the past, the WCE section has done research on smart controllers that help regulate automatic sprinklers ensuring that irrigation systems perform at peak efficiency. Additionally the WCE section has researched meters that can be used on secondary (untreated) water systems that will assist water suppliers implement water saving strategies for their customers.



Smart irrigation controllers help water users to become more efficient

7 - Recommend Best Management Practices for Utah's Water Providers

DWRe recommends that the state's water providers use the following list of Best Management Practices (BMPs) in their water conservation programs. Water providers should implement a mixture of these practices tailored to fit their own unique needs. Broad implementation of these BMPs will help communities and the state achieve their water conservation goals:

BMP 1 - Comprehensive Water Conservation Plans

- Develop a water management and conservation plan as required by law. Plans are to be adopted by the water agency authority (city council, board of directors, etc.) and updated no less than every five years.

BMP 2 - Universal Metering

- Install meters on all residential, commercial, institutional and industrial water connections **Meters should be read on a regular basis.**
- Establish a maintenance and replacement program for existing meters.
- Meter secondary water at the most specific level possible, somewhere below source water metering. Individual customer secondary connection metering should be done as soon as economical technology permits.
- Promote the development of Automatic Meter Reading (AMR) systems.



Typical water meter used to measure diverted water

BMP 3 - Incentive Water Conservation Pricing

- Utilizing universal metering concept, implement a water pricing policy that promotes water conservation.
- Charge for secondary water based on individual use levels as soon as technology permits.
- Implement a more informative water bill that educates costumers on how much each unit tier of water costs and how the water they used compared to last year and how they compare to average home owners in their neighborhood.

BMP 4 - Water Conservation Ordinances

- Adopt a time-of-day watering ordinance.
- Adopt an incentive water rate structure.
- Adopt an ordinance prohibiting the general waste of water.
- Adopt an ordinance requiring water-efficient landscaping in all new commercial development. This should include irrigation system efficiency standards and an acceptable plant materials lists.



Water wise landscapes can be lush, green and save water

- Review all current ordinances and update to ensure that none hinder water conservation efforts.

BMP 5 - Water Conservation Coordinator

- Designate a water conservation coordinator to facilitate water conservation programs.

BMP 6 - Public Information Programs

- Implement a public information program consistent with the recommendations of the Governor’s Water Conservation Team. Such programs can be adapted to meet the specific needs of the local area and may use the “Slow the Flow” logo with approval of the DWRe.



Finding and repairing leaks can save millions of gallons of water annually

BMP 7 - System Water Audits, Leak Detection and Repair

- Set specific goals to reduce unaccounted for water to an acceptable level.
- Set standards for annual water system accounting that will quantify system losses and trigger repair and replacement programs, using methods consistent with American Water Works Association’s *Water Audit and Leak Detection* Guidebook.

BMP 8 - Large Landscape Conservation Programs and Incentives

- Promote a specialized large landscape water conservation program for all schools, parks and businesses
- Encourage all large landscape facility managers and workers to attend specialized training in water conservation.
- Provide outdoor water audits to customers with large amenity landscapes.

BMP 9 - Water Audit Programs for Residential Customers

- Educate residential customers about “Slow the Flow” water check program available along the Wasatch Front and Southwestern Utah and encourage participation (If the water check program is not available in your area, work with Utah State University in bringing the Water Check Program to your service area).



Simple water checks of irrigation systems can help Utahns use water wisely

BMP 10 - Plumbing Standards

- Review existing plumbing codes and revise them as necessary to ensure water-conserving measures are being implemented in all new construction.
- Identify homes, office building and other structures built prior to 1992 and develop a strategy to distribute or install high-efficiency plumbing fixtures such as ultra low-flow toilets, showerheads, faucet aerators, etc.

BMP 11 - School Education Programs

- Support state and local water education programs for the elementary school system.
- Work with DWRe to organize water fairs for students.



A student learns about the water cycle

BMP 12 - Conservation Programs for Commercial, Industrial and Institutional Customers

- Change business license requirements to require water reuse and recycling in new commercial and industrial facilities where feasible.
- Provide comprehensive site water audits to those customers known to be large water users.
- Identify obstacles and benefits of installing separate meters for commercial, industrial and institutional landscapes.

BMP 13 - Reclaimed Water Use

- Use reclaimed or recycled water where feasible.

BMP 14 – “Smart” Controller Technology

- Use smart controller technology to irrigate large institutional landscapes.
- Develop a strategy to distribute smart irrigation controllers to all customers to use on their irrigation systems.
- Encourage the use of pressure reduces and water-efficient spray heads.

A recent DWRe study indicated that the 150 Water Conservation Plans and 5 Year Updates that have been submitted and adopted by various water entities statewide include the utilization of many of these BMPs. These are shown below in Table 2.

	BMP 1	BMP 2	BMP 3	BMP 4	BMP 5	BMP 6	BMP 7
# of Systems	150	109	115	52	29	116	76
	BMP 8	BMP 9	BMP 10	BMP 11	BMP 12	BMP 13	BMP 14
# of Systems	28	9	39	36	14	13	11

8 - Set the Example of Efficient Water Use at Institutional Facilities

It is important that the state and local governments be good examples of water conservation for their citizens. To help accomplish this, the state, through the Department of Facilities and Construction Management (DFCM), revised its building guidelines and policies to incorporate water-wise landscapes and more water-efficient appliances at new state facilities. In addition, all state facilities avoid watering between 10 a.m. and 6 p.m. Local governments should implement similar measures.

DWRe has continued to support and assist in funding local water entity conservation gardens. These gardens are used to show and educate the public on how to design their outdoor landscapes to minimize water consumption.



These are the major water conservation demonstration gardens around Utah

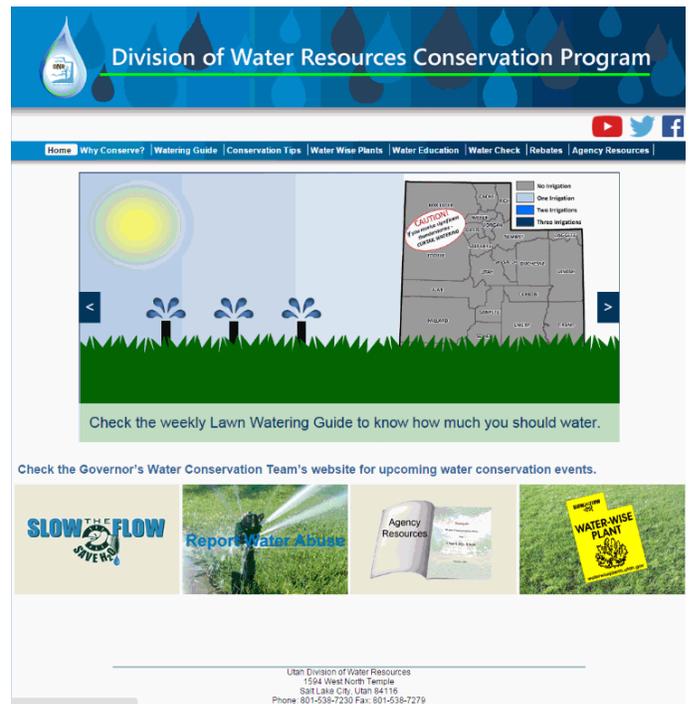
9 - Manage the Water Conservation Public Information Program

Water Conservation Webpage

DWRe has developed and maintains water conservation webpage

(www.conservewater.utah.gov).

This webpage has been online for over a decade and contains extensive water conservation materials of interest for all citizens, as well as valuable resources for water agencies.



DWRe Water Conservation website is full of ideas and instructions on how to conserve water easily and effectively

Founded on the concept that water conservation is easy and can save everyone money, the webpage is one of the best resources for individuals who are searching for ways to conserve water. In addition to containing basic watering recommendations for a typical landscape, the webpage includes many ways to conserve water both indoors and outdoors, numerous tips that can be implemented immediately, an indoor water savings calculator, a customizable irrigation calculator that allows an individual to create a watering schedule tailored to their unique sprinkler system and landscape characteristics, and much more.



Water-Wise Plant Tag indicates that the plant is either native to Utah or well adapted to Utah's dry climate

Since the webpage's creation, the GWCT has recognized it as a valuable resource. All "Slow the Flow" media campaign materials produced, advertises this webpage in addition to the Slow the Flow webpage. Conversely, all TV and radio spots from the Slow the Flow media campaign are available on the webpage. DWRe will continue to develop and refine content for this webpage that will assist the state with its water conservation efforts. In addition to the water conservation website, conservation information can be followed on **Twitter**[®] at www.twitter.com/UTAHsavesH2O and on **Facebook**[®] by searching for Utah Division of Water Resources.

Water-Wise Plant Tagging Program and Webpage

DWRe, in cooperation with USU Extension, Bureau of Reclamation, and numerous other water providers and interested agencies, has helped develop a water-wise plant tagging program to promote the use of native and other well-adapted plants in Utah landscapes. DWRe distributes approximately 100,000 bright-yellow tags annually to participating nurseries and garden centers. The tags are placed in plant containers and indicate a water-wise plant. In addition to the tags, promotional posters are sent to help advertise water-wise plants.

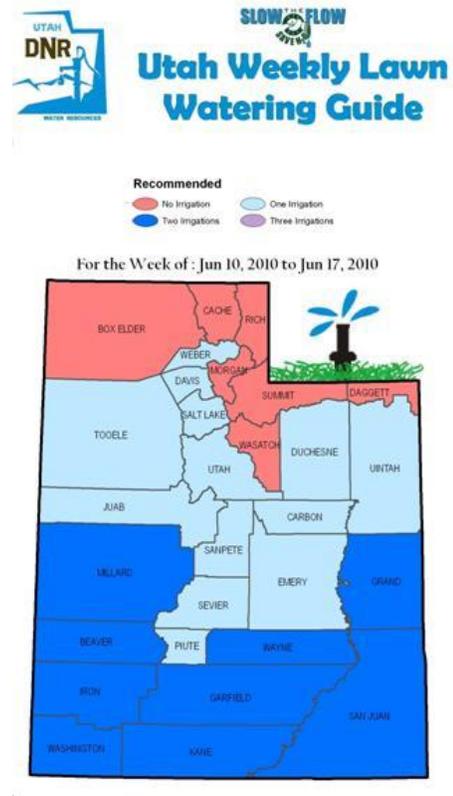
DWRe has also created a web page, www.waterwiseplants.utah.gov, to support this effort. The web page is designed to help customers identify and select plants for their landscapes; it includes over 300 plant species with pictures and descriptions of water needs, hardiness and other characteristics.



DWRe Water-Wise Plants for Utah landscapes website helps local water users select plants that can live with less water

Lawn Watering Guide

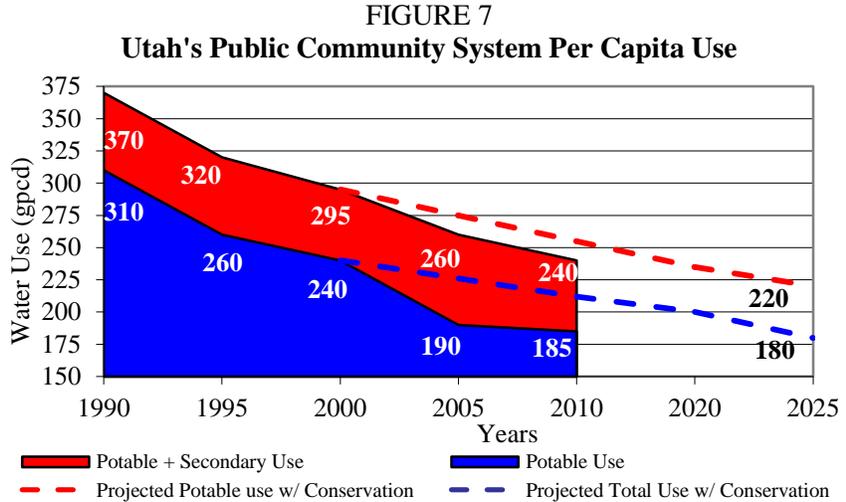
One of the latest DWRe products to encourage water conservation is a weekly lawn watering guide that assists residents in determining how many times they need to water their landscapes each week. The guide is updated every Friday during the growing season and is based on an extensive statewide network of Et weather stations. DWRe presents the information in a user friendly lawn watering guide that is separated by counties. Using the color code, water users can see if they need to water their lawn once, twice, three times, or not at all during the week. This weekly guide is available on www.slowtheflow.org and www.conservewater.utah.gov web pages as well as the DWRe Twitter® and Facebook® pages. In the Fall of 2013, DWRe released a Lawn Watering Guide iPhone App that can be downloaded via the Apple Store.



DWRe Lawn Watering Guide featured on the web page informs residents throughout the state how many times they should water in a given week

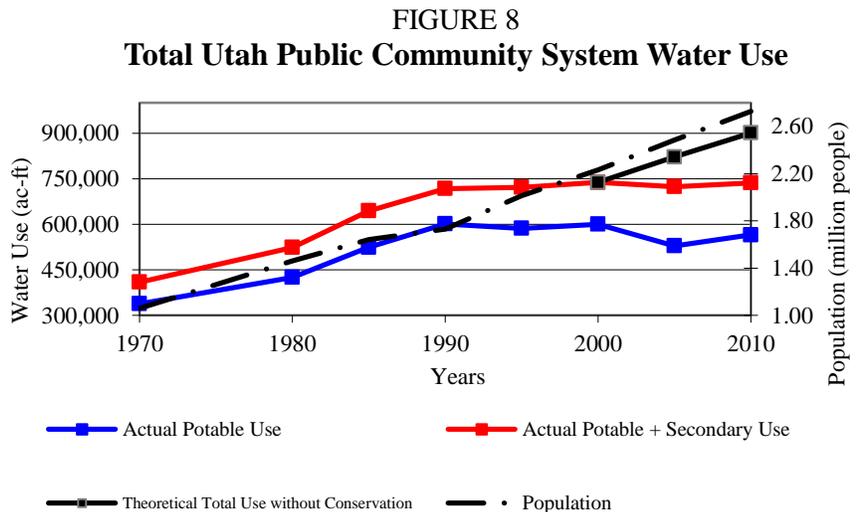
PROGRESS MADE THUS FAR

Utahns are on their way to meeting the 25 percent reduction goal of water use by reducing their 2000 base year gpcd from 295 gpcd to a more sustainable 220 gpcd by 2025. DWRe compiles a thorough statewide water use study every 5 years. The latest dataset (2010) indicates that the total water use statewide is at 240 gpcd. This is about an 18 percent reduction from the



2000 base year analysis. The data indicates that the state is ahead of the projected reduction trend line (Figure 7). However, more effort is required to align consumption with actual water needs.

Prior to 1990, the amount of water use was increasing with the state's population. However, since the efforts by the DWRe, the state's major public water suppliers, the establishment of the GWCT and the push for Utah residents to conserve water, total M&I water use has not risen with population growth since about 1990. If Utah's residents still consumed the same

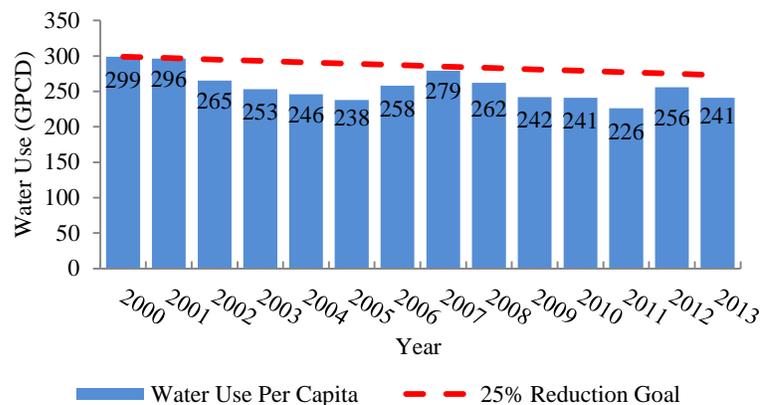


amount of water as they did in 2000 (295 gpcd), public community system water deliveries today would be approximately 909,000 af/yr (Figure 8) – nearing the existing developed supply.

The latest data (2010) indicates that Utah’s public community system deliveries are about 736,000 af/yr. This is a water savings of 173,000 af/yr, thus far. This amount is greater than the capacity of one of the state’s larger water supply storage facilities, Deer Creek Reservoir (153,000 af). Utahns have responded well to the water conservation efforts.

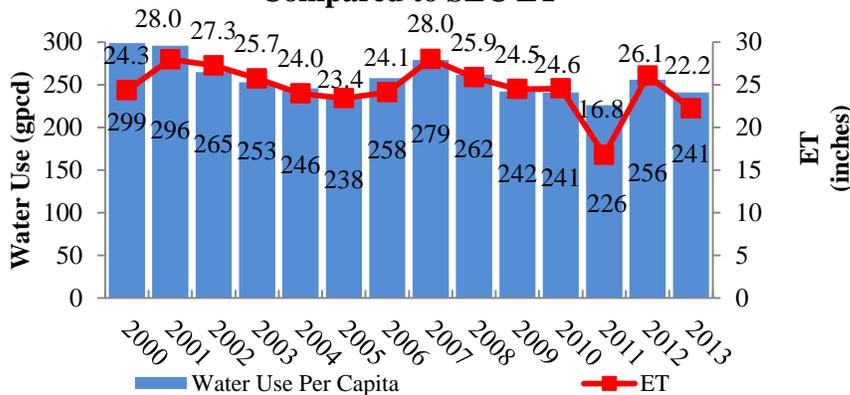
According to the GWCT, that monitors the water use of 18 water providers around the state, a 24 percent decrease has occurred since 2000 (Figure 9). These numbers are slightly different than DWRe official water use number described above, since this only represents a sampling of all of Utah’s water usage and also extends to the year 2013. However, both of these datasets indicate that Utahns are responding to the initiative to use

**FIGURE 9
GWCT Year End Per Capita Water Use**



water wisely. This is in large part due to the consistent message that is provided by the DWRe,

**FIGURE 10
GWCT Year End, State Per Capita Water Use
Compared to SLC ET**



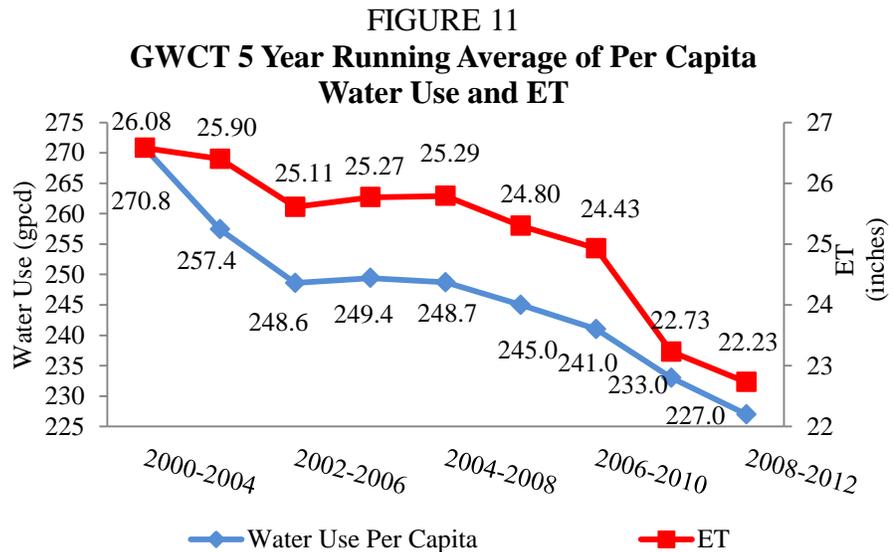
the GWCT and local water providers. In addition, media outlets are highlighting key information regarding the status of reservoirs, how much water is being consumed by Utahns, and how often dif-

ferent parts of the state should water their lawns in a given week. The information that they use in their broadcasts is provided by DWRe and the GWCT in the “Slow the Flow” media cam-

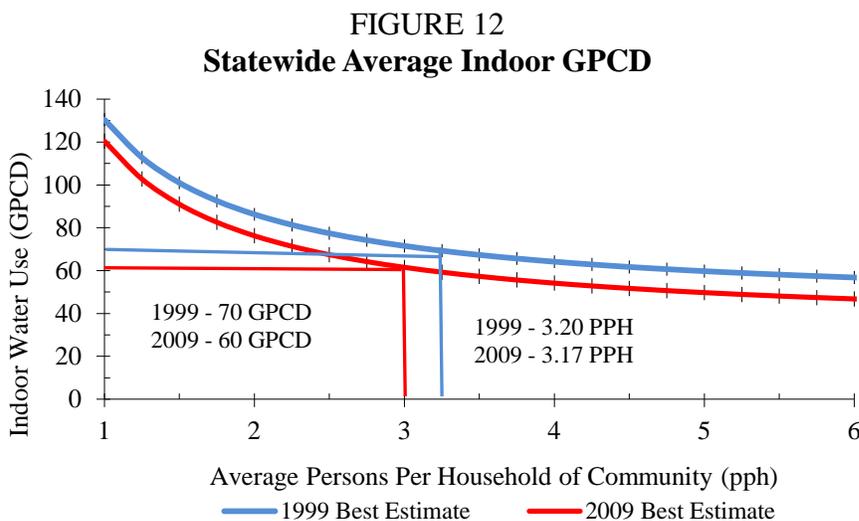
paign. Evidence that Utahns are listening can be seen in recent year's data. When weather conditions have allowed Utahns to water less, they have done so, as displayed in Figure 10. Also, water districts have indicated that in recent years, daily water use has decreased drastically after rainstorms. This water wise practice helps save millions of gallons of water every year. Prior to the year 2000, this wasn't nearly as prevalent.

DWRe also uses a five year running average in order to demonstrate how Utah's water use aligns with climatic conditions. Figure 11 indicates that the five

year water use average has been reduced by 14 percent since 2000 and that water use is following similarly to actual water needs (Et).



It appears the water conservation message is being heard, and Utahns are modifying their water



use habits to align their outdoor water usage with actual needs. The other aspect of water use that is crucial for Utah to reach its goal is indoor water conservation. In 1999, DWRe performed a survey of residential water use and determined that the

indoor water use was 70 gpcd. This was similar to a 2000 AWWA national report that indicated

nationwide, indoor water use was 70 gpcd. In 2009, DWRe conducted the survey again and found that residential indoor water use is now 60 gpcd (a reduction of 13 percent) (Figure 12). DWRe believes that the state's residents are conserving indoors with more efficient water saving plumbing fixtures (from the 1992 National Plumbing Code changes), new water saving appliances and just adopting better indoor water use habits due to media messaging.

The data indicates that Utahns are doing what they need to do in order to achieve the state's goal and align their water consumption with actual water needs, both indoors and outdoors. The finish line, 2025, is only 11 years away. To reach the goal of a 25 percent reduction, it will require a more focused and united effort from the DWRe, the GWCT, other state water agencies, water providers, communities, and citizens.

CONCLUSION

Utah is growing rapidly. This growth has prompted legitimate concerns about the state's ability to meet continually increasing M&I water demands with the current available water supplies. As part of its ongoing state water planning efforts, DWRe has identified water conservation as a critical component in overcoming these concerns and helping meet future needs. The Governor, the Utah Division of Water Resources and the Governors Water Conservation Team have set a water conservation goal for the state to make sure water conservation becomes a permanent part of Utah's water use ethic. This goal is to reduce the 2000 per capita water demand from public community systems by at least 25 percent by 2025. To ensure that this goal is achieved, the state has developed this M&I Water Conservation Plan. The plan presents the state's water conservation strategy and articulates some important policies that will help guide the water conservation efforts of water providers and residents throughout the state. This strategy includes the following elements:

- 1 - Emphasize Water Conservation in State Water Plans**
- 2 - Implement State Water Funding Boards' Water Conservation Policies**
- 3 - Administer the Water Conservation Plan Act**
- 4 - Support and lead the Governor's Water Conservation Team's media campaign**
- 5 - Manage the State's Youth Water Education Program**
- 6 - Research New Water Conservation Technologies and Practices**
- 7 - Recommend Best Management Practices for Utah's Water Providers**
- 8 - Set the Example of Efficient Water Use at Institutional Facilities**
- 9 - Manage the Water Conservation Public Information Program**

DWRe will update this plan as necessary to gauge the effectiveness of these programs and monitor progress toward achieving the state's goal. As has been done in the past, the conservation goal may need to be updated. This water conservation plan, as well as the strategies, is flexible enough to allow this. Future updates will provide further detail regarding the state's water conservation efforts, as well as any future changes to the water conservation goal, and what strategies will be incorporated to ensure success. The data collected thus far indicate substantial water savings have occurred during the past decade. The challenge now is to promote a long term water conservation ethic that ensures that Utahns continue to use water efficiently, even in times of plenty. The strategies outlined in this plan will help make this possible.

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APPENDIX

SLOW THE FLOW MEDIA CAMPAIGN SUMMARY

The past media campaigns can be found online at www.conservewater.utah.gov. Each year the media campaign tried to highlight a few key ideas and practices in order to conserve the maximum amount of water. The same commercials were used throughout the year with different water saving tips stated at the end of each commercial.

In 2001, with the organization of the Governor's Water Conservation Team (GWCT) by former Governor Leavitt, the first year's campaign wanted Utahns to know of the importance of water conserva-

tion in Utah. The GWCT used former Governor Leavitt as the spokesperson for the initial campaign. The commercials were simple letting Utahns know simple ways they could conserve water. The tips were mostly about how Utahns could conserve water in their outdoor water use.

2001 Television Campaign



Former Governor Leavitt acted as the spokesperson for the early "Slow the Flow: Save H₂O" campaign asking Utahns to conserve water when possible

In 2002, the second year of the "Slow the Flow: Save H₂O" campaign Vanguard Media Group (VMG) performed their first survey to understand how well the water conservation message was being received and what else they could do to get the word out to the residents of

Utah. The survey was performed twice during that year, once in January and again in November. The results were that Utahns understood the importance of water conservation but were unaware

2002 Television Campaign



"Every Drop Counts"



"Legacy"

The commercials this year featured former Governor Leavitt and Kevin Eubank as they stressed the importance of water in Utah

how to conserve water with proficiency. In addition to these surveys commercials were produced to help Utahns think about the simple ways to save water. The campaign worked closely with KUTV and Kevin Eubank that year to help with slogan recognition. In addition to this work, Bill Gephardt produced a special news report about the importance of water conservation in Utah. Other campaign messages were produced for radio and in printed materials. To make sure the message reached every resident of Utah water conservation news stories were written in the local papers for each region of Utah. These articles were designed to generate excitement so Utahns would conserve water.

The media campaign in 2003 used several small commercials to help Utahns understand the importance of water conservation in this state. The commercials feature local celebrity Merlin Olsen, who educates the public with simple water saving tips. In addition to these commercials, ra-

2003/2004 Television Campaign



"Concrete"



"Water World"

Merlin Olsen attempts to explain what the world would be like without water

water conservation in a particular community. The same brochures from 2002 were reprinted in 2003 to help spread the word of water conservation at fairs and conventions.

dio commercials were produced to help residents understand the importance of saving water for the generations to come. Attempting to reach every audience, news stories on both TV and in print were generated to focus on good examples of

Once again, in 2004, using local sports celebrity, Merlin Olsen, and former Governor Olene Walker, the "Legacy" Ads were created and used to educate and enlighten Utahns as to what the future would be like without water attempting to help create a long term water conservation behavior. This was accomplished through television, radio commercials and a 30-minute infomercial highlighting the Legacy Ads. The "Slow the Flow: Save H₂O" campaign participated

in the Days of '47 Parade by sponsoring a parade float. The media campaign worked with the Desert News in order to develop a newspaper insert that would be distributed with the paper.

2004 Television Campaign



"Boulder Stream"



"Governor Walker"

The objective of these messages was to generate a long term water conservation behavior among Utahns

Half way through the year, focus groups were created to understand how well the media campaign was doing. The results of these were that the overall perception of the media campaign was very easily accessible and the focus groups had a positive sentiment towards the message and campaign. Valuable information that was received from the focus groups was that people thought it would require too much time and effort to conserve water. This information was used in later years to develop commercials showing easy ways to conserve water.

In 2005 the slow the flow campaign built upon a sturdy foundation that was created in the years prior. With positive brand recognition the GWCT was able to use the "Slow the Flow: Save H₂O" campaign slogan to their advantage. The media campaign utilized all forms of advertising, television, radio, and printed materials.

All of the TV and radio commercials had tips at the end of the message informing Utahns on easy ways to conserve water. In addition to the "Legacy" and "Astroturf" television commercials the campaign sponsored a 30-minute infomercial that was all about water conservation practices.

This same insert was given to the Ogden Standard Examiner and the Spectrum in hopes to reach a greater audience with the valuable information. The link to the slow the flow website was embedded in the KSL television and Bonneville radio websites.

2005 Television Campaigns

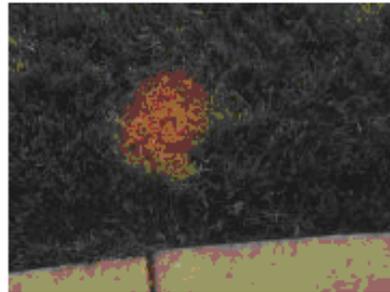


"Astroturf"

"Astroturf" tells residents that they don't have to resort to extreme measures in order to save water

Similar in the years prior and following 2006 the media campaign used TV, radio, internet ads and printed ads to inform Utahns about water conservation and the “Slow the Flow: Save H₂O” campaign. The new commercial produced for this year was “Little Brown Spot” which helped Utahns understand that they don’t need to water their entire lawn to save one little brown spot. Also in 2006 the campaign sponsored an entry in the Days of ’47 Parade and the Tooele High Marching Band carried a “Slow the Flow: Save H₂O” banner as part of the sponsorship. Also something different that occurred this year was that the campaign produced 11,500 royal blue “Slow the Flow: Save H₂O” wristbands that were given out at media events and local water fairs. The KSL Weather Van also received a portion of the wristbands to deliver to the elementary schools that they visited throughout the year.

2006 Television Campaign



"Brown Spot Needs"

Utah’s weather is constantly changing and so Utahns should change their watering habits along with the weather

In 2007 a survey was performed to assess the awareness and knowledge of water conservation in Utah. The campaign was recognized by more than three-fourths of Utahns with 77 percent saying they were familiar with the campaign’s goals. The television commercials were the most recognized form of advertisement with 90 percent of the surveyed saying they had seen or heard the slow the flow message on the TV ads. When questioned in the survey which is the biggest environmental issue facing Utah at that time, water conservation was second only to air quality. Approximately two-thirds of the respondents say they were encouraged by the “Slow the Flow: Save H₂O” campaign to change their water habits and just under half of the surveyed indicated that they improved their watering habits because of the campaign. In addition to the survey performed that year the VMG also distributed information about the “Slow the Flow: Save H₂O” campaign several ways using local media networks to inform the public. They also created and

placed ads on the internet that directed users of local websites to the slow the flow website. During the year there was over 13,000 visitors to the main slow the flow website

2007 Television Campaign



"Changeable Weather"

Utah's weather is constantly changing and so Utahns should change their watering habits along with the weather

(www.slowtheflow.org). During 2007 a couple of other information products were tested with former Lt. Governor Herbert generating podcasts providing information and tips to Utahns about water conservation. Also a float was entered into the Days of '47 Parade. A new television commercial was released in 2007 entitled "Changeable Weather," informing Utahns that the weather changes and so should their watering habits.

In 2008 the media campaign was well rounded attempting to get the information to the public in several different formats. VMG used media relations such as editorial boards, and generated news stories to ensure that local media groups were spreading the word about water conservation. Much like other years VMG put internet ads on local websites such as KSL.com and these ads helped direct internet traffic to the "Slow the Flow: Save H₂O" website. The slow the flow website (www.slowtheflow.org) was also a focus in 2008 and on average the website was visited 64 times a day during the media campaign. In addition to all of this, TV ads were generated to inform Utahns that we live in a state with a rapidly increasing population and water conservation is necessary if we are going to meet the future water needs of Utah. Each ad was followed with a helpful tip such as using a broom to clean your driveway rather than the hose.

Also in 2008 the newspaper insert about water conservation, which was created in 2002, was re-done with a message from former Governor Huntsman.

2008 Television Campaign



"Mother Nature"

Television campaign educating Utahns about the importance of water conservation to protect our precious resources

In 2009 the “Slow the Flow: Save H₂O” campaign focused on spreading the word through all facets possible. The main publication was the TV commercials using short water conservation messages to inform Utahns about the importance of conserving water. In addition to TV commercials there were radio and internet ads that informed the public about where they could get valuable water conservation information and tips on simple ways to save water.

The 2010 - 2012 media campaign changed hands from VMG to R&R Partners. The new campaign managers wanted to obtain current information that would allow them to design advertisements directed at the target audience. This goal was accomplished by focus groups made up of every day Utahns that represent the target audience. In order to maintain the momentum gained

over the past several years of the previous media campaign the commercials from 2009 were once again used to educate Utahns about water wise practices. Each commercial had a valuable tip at the end of the commercial with information on where water users could get more information.

2012 Television Campaign



The campaign is geared toward the target audience of men ages 18 to 44 in hopes to conserve more water

2009 Television Campaign



"Plants Don't Waste "

The campaign helped Utahns realize that plants only use as much water as they need plants don't waste water

To ensure that the message of the “Slow the Flow: Save H₂O” campaign was unified the website was updated with up to the date information about the water conservation message. In 2012 the media campaign altered the main commercial using a water jug that has depleting water. The commercial provides facts to Utahns stating that we are the 2nd driest state in the U.S. A helpful water conservation tip follows the information provided.

In 2013 the Slow the Flow media campaign focused on Governor Herbert’s recent announcement that the state’s water reduction goal would be dramatically accelerated. The governor’s new goal called for Utahns to reduce water usage 25% by 2025—25 years earlier than previously planned. With this important call to action, the campaign developed two new TV spots, online Pandora radio ads and online banner ads to draw attention to the new objective. The TV spots featured “Water,” personified as a good guy, that often gets ignored and taken for granted—all dressed up in a blue suit, right down to the blue suede shoes. Water is seen running around a front yard in the middle of the day, very frustrated at being wasted. Finally, the homeowner realizes his mistake and turns Water off. As Water collapses to the ground, viewers are reminded to “Show water some respect. Help use 25% less water by the year 2025.”

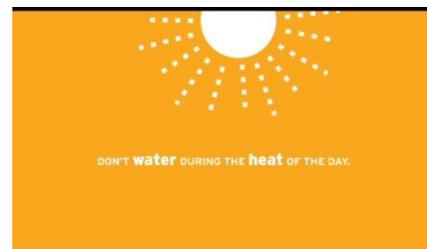
Because over 60% of all water waste involves outdoor usage, the second TV commercial addressed the common misperception that overcoming brown spots requires daily watering. The character, Water, is placed in an uncomfortable evening tryst with a woman who is convinced she needs him every night—because she has brown spots. Water then educates the homeowner that turning on the sprinklers every night only makes her lawn’s roots shallow.

The campaign also expanded its news sponsorships with water conservation messaging integrated into the weather forecasts of KSL with Kevin Eubank and KUTV with Sterling Poulsen. Each

week during the summer season, the meteorologists discussed current water levels and directed viewers to *slowtheflow.org* to check the weekly lawn watering guide. Other tips were also shared through Facebook posts, interviews at Jordan Valley’s Water Conservation Garden, etc.

Finally, Slow the Flow participated in a *Deseret News* Classroom Connections publication dedicated to Earth Day. Water conservation, along with other conservation messages, were discussed in detail in this 12-page educational insert that was distributed to 65,000 readers and delivered to over 200 schools and classrooms across Utah.

2013 Television Campaign



2013’s campaign focused on the renewed goal to reduce water usage 25% by 2025

In 2014 the Slow The Flow campaign expanded its reach to include community partnerships. The objective of this community-mobilization effort is to raise public awareness about the importance of water conservation and to show residents of the state that local business and community institutions are also engaged in supporting this important issue. REAL Salt Lake, Utah's professional Major League Soccer (MLS) Club, has become Slow the Flow's first community partner by incorporating water conservation mes-



saging into their soccer matches—both in-stadium and via TV and radio broadcast—and by promoting and implementing water conservation principles at their facilities. REAL felt this partnership was important for a number of reasons: 1) in light of the amount of water it takes to keep a MLS play/practice pitch in outstanding condition, they wanted the public to know their staff of expert horticulturalists utilize the latest water conservation technologies and principles to ensure they irrigate efficiently, with conservation in mind; 2) REAL believes water conservation is an important community issue and wants to be a part of a sustainable future in Utah and lead by example; and 3) the team anticipates that by supporting the Slow the Flow effort, they can help encourage their large and loyal fan base to join in the water conservation effort and become part of creating that sustainable future.

The GWCT welcomes REAL Salt Lake as a community partner in its Slow the Flow media campaign efforts and hopes this will lead to other community partnerships that will help to ensure the establishment of a long-term ethic of reduced water use among Utah's citizens, resulting in the state's future water needs being met!

2010 R&R PARTNERS SURVEY RESULTS SUMMARY

Near the end of 2010 the new media consultant, R&R Partners, performed a survey of Utahns to quantify perceptions and behaviors regarding water conservation, to determine optimal messaging in order to promote water conservation among Utah homeowners and to establish a baseline aid in tracking success. The following areas were the key areas assessed by the survey:

- Importance of water conservation
- Current water conservation practices and likelihood of future conservation efforts
- Barriers to conserving water
- Perceptions of water use, water availability, and the need to conserve water
- Awareness and impact of water conservation advertising and messages
- Persuasiveness of messages to encourage conservation
- Compelling offerings to promote water conservation
- Credible spokesperson to deliver messages
- Utilization of the *www.conservewater.utah.gov* website
- Identification of a sub-target audience

The Survey was performed via telephone, 602 Utah residents were surveyed, with a margin of error of +/- 4.0%. The survey was performed by Dan Jones and Associates from October 5 through November 3. The key findings of the survey are as follows:

- 97% of the surveyed think that water conservation is important
- 82% of the surveyed feel that they have a personal responsibility to conserve water
- 91% of the surveyed practice some form of water conservation
- Of the people that did not practice water conservation they said the main reasons why they don't are:
 - Not thinking about the need to conserve water
 - Lack of education about how to conserve water
 - Perception of not wasting water

- Watering the lawn less often was the most commonly recognized method for homeowners to save water
- Environmental conditions (drought) is most often the reason why Utahns conserve water
- Almost three-fourths of the surveyed recalled the “Slow the Flow” message
- More than half of the surveyed (61%) said that the message they heard about water conservation altered their water use habits
- 66% of the surveyed said that businesses and public/government organizations waste a lot of water
- Some of the respondents (39%) said it is difficult to understand water usage by looking at the bill
- The majority of the surveyed (90%) said they have never been to the “Slow the Flow: Save H₂O” website

In an attempt to make the survey have more useful results, a sub-target analysis was conducted to understand which of Utah’s demographics required extra attention. The additional analysis indicated that males 18 to 44 had a greater need of hearing the water conservation message. This group’s responses to the survey showed the least amount of interest and concern for water conservation. Table 3 shows that the sub-target group of males 18 to 44 consistently responded lower than the total survey group. Therefore, the survey indicates that a greater effort needs to be made to help this group understand the importance of water conservation. A few of the tactics that could be implemented to help the sub-target group conserve water are listed below:

Table 3 Comparison of Survey Responses with Sub-Target Group Responses

Question	Total	Men 18 to 44
Importance of water conservation		
Important	97%	88%
Very important	62%	37%
Practice water conservation	91%	79%
Very likely to conserve water in the future	74%	52%

- Savings on the water bill
- Lower rates for water users that consistently use less water
- Ensuring that the metering is accurate and that the user understands how the metering works

- Free sprinkler and water audits for water users
- Use the most persuasive verbiage to help water users understand the importance of water conservation (the following phrases were top performers during focus groups)
 - “We live in a desert. There’s always the need to conserve water in Utah.”
 - “Conserving water is easy. Change your watering clock as the seasons change. Water your yard one day less each week. Turn off your water when it rains. It’s simple.”
 - “In addition to Utah being the second driest state in the nation, we also have one of the top 10 fastest growing populations. No additional water, plus more people equals a consistent need to conserve.”

2014 R&R Partners Qualitative and Quantitative Research

A survey done in 2014 indicated that the most significant results of the Slow the Flow campaign have occurred in the area of behavior change among homeowners.

- 48% of respondents “Water less often” in 2014, versus 36% in 2010
- 39% of respondents “Run the tap or shower for less time” versus 13% in 2010
- 35% of respondents reported “Watering the yard at certain times” versus 12% in 2010

Later in the survey, two-thirds of respondents who had been exposed to water conservation messages reported being encouraged to change their water usage habits. When given a list of conservation behaviors they had taken, the percentages who implemented the changes dramatically increased from 2010 results.

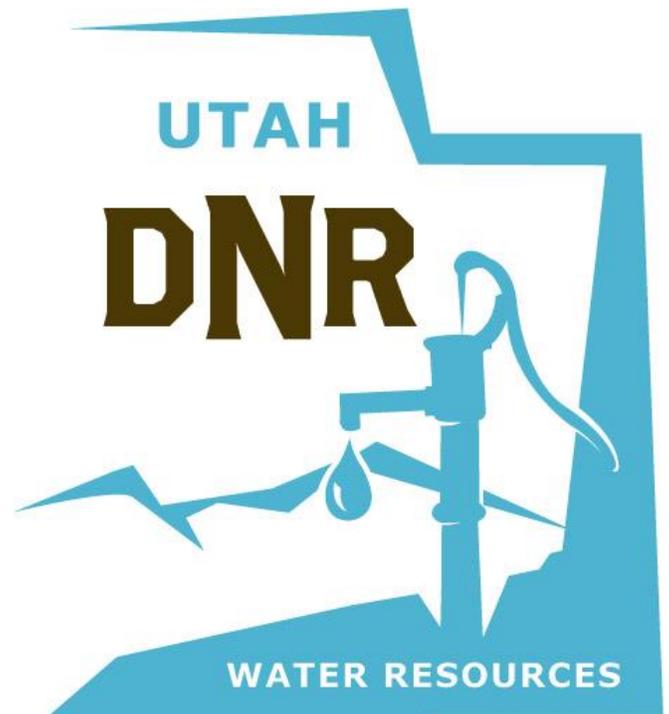
- 65% “Turned off the water when it rained” versus 10% in 2010
- 61% “Watered the lawn less often” versus 41% in 2010
- 57% “Became more aware of the amount of water used indoors and outdoors” versus 25% in 2010
- 54% “Watered the lawn at a better time” versus 13% in 2010
- 52% “Adjusted the sprinklers when the seasons changed” versus 9% in 2010

Awareness of water conservation advertising, in general, increased slightly from 55% to 57% across the past four years, and again, Slow the Flow was the most frequent advertisement recalled, unaided, at 38% versus 31% in 2010. Further, Slow the Flow awareness was over double that of the next highest response. However, when measuring aided recall of Slow the Flow-specific advertising, awareness decreased from 72% to 64%. While this is of some concern, it must be considered in relation to the overall recall of water conservation messaging in general, which remained consistent across the four years. When our “product” is a social behavior message rather than something to purchase, it is always more important to recall the message, even over the brand.

Among twelve attitude statements presented to respondents, respondents most strongly agreed with:

- I have a personal responsibility to conserve water (72%)
- Businesses and public and government organizations waste a lot of water (64%)

These two attitudes correspond exactly with the new 2014 Slow the Flow campaign. The first attitude is reinforced by Slow the Flow's messaging that encourages individual homeowners to do their part in conserving Utah's precious water resource. But recognizing that homeowners cannot solve the problem alone, community partnerships are now being emphasized in Slow the Flow messaging to overcome the second most prevalent attitude--Businesses and government organizations waste a lot of water--and thereby create a sense of community mobilization around the water conservation effort.



Utah Division of Water Resource Mission: To Plan, Develop, Conserve, and Protect Utah's Water Resources

Hours: 8 am to 5 pm Monday-Friday

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