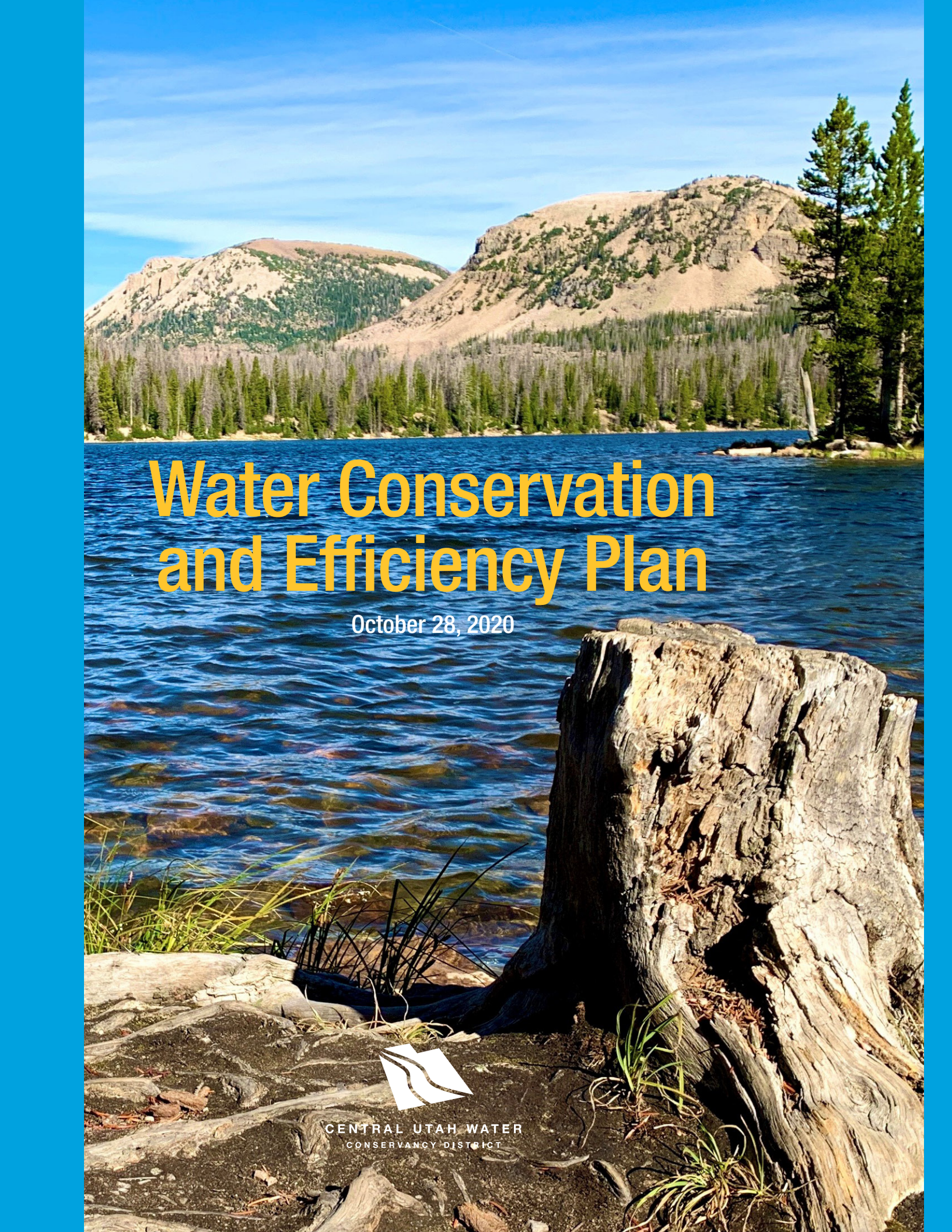




Water Conservation and Efficiency Plan

October 28, 2020



CENTRAL UTAH WATER
CONSERVANCY DISTRICT

TABLE OF CONTENTS

- 1 — Introduction
- 2 — Water Conservation in the District
- 3 — Stakeholder Input
- 4 — District Goals
- 5 — Conservation Programs
- 6 — Conservation Roadmap
- 7 — Sources

The State of Utah requires retail water providers and water conservancy districts to prepare and adopt a water conservation plan every 5 years. **Brown and Caldwell and Maddaus Water Management** worked closely with Central Utah Water Conservancy District (District) staff to prepare this plan.



“With 62% of our growing state living in Central Utah Water’s boundaries we are dedicated to planning for the future by developing, delivering and efficiently using our limited water resources. Thank you for your trust.”
— Gene Shawcroft, General Manager

Participant Acknowledgment

This Water Conservation and Efficiency Plan was developed with participation from the following agencies:

Cities		CUWCD	Water Districts
Cedar Hills	Nephi	Derek Bruton	Duchesne County Water Conservancy District
Duchesne	Orem	Tom Bruton	
Eagle Mountain	Payson	Casey Finlinson	
Elk Ridge	Salem	Chris Hansen	Johnson Water District
Heber	Salt Lake	Richard King	Jordan Valley Water Conservancy District
Lehi	Sandy	Rick Maloy	Metropolitan Water District of Salt Lake and Sandy
Lindon	Santaquin	Dave Pitcher	
Mapleton	Saratoga Springs	Sarah Sutherland	Uintah Water Conservancy District
Mona	Spanish Fork		
Mt Pleasant	Springville		
Myton			

Executive Summary

The District promotes water conservation to:

- Provide industry leadership
- Secure reliable water supply
- Address environmental impacts
- Serve community expectations

The State of Utah has estimated that \$7.4B should be spent on conservation in the District service area over the next 50 years to ensure there is enough water supply to support projected growth.

The District does not directly supply water to any residential customers, resulting in a limited direct influence on conservation. Instead, we support the efforts of communities we serve through:

> RESOURCES > LEADERSHIP > REPRESENTATION

Just like infrastructure planning, we need robust planning for conservation to secure our water future.

Conservation Plan Vision

Use our limited water resources efficiently to responsibly support our community, now and in the future

- GOAL: Use District water efficiently
- GOAL: Support water retailer’s conservation efforts
- GOAL: Encourage conservation by the public

Next Steps

The recommendations in this plan propel our water conservation efforts forward efficiently and effectively, with metrics for measuring progress along our Conservation Roadmap. Successful implementation of this plan over the coming years requires many diligent (and at times bold) actions by our District board, staff, water retailers, customers, and our community partners. To succeed in achieving our shared vision, the District must be vigilant in efforts and funding of these programs.

Proposed District Conservation Program Funding and Staffing Support*

	For FY2022	By FY2026
Education	\$603,000 4.2 FTEs	\$934,000 7.0 FTEs
Incentives	\$1,934,000 0.8 FTEs	\$2,926,000 0.9 FTEs
Policy	\$195,000 0.5 FTEs	\$45,000 0.5 FTEs

*subject to annual budget approval

Why is Water Conservation Important?

The District promotes water conservation and efficiency to:

Provide industry leadership

The District has a responsibility to provide an adequate water resources portfolio that includes enough water supply. The Utah Division of Water Resources (UDWR) has recently set statewide water use goals to secure an adequate water supply through 2065. To achieve the 2030 goal, an estimated \$2 billion will need to be spent on conservation in the District service area over the next 10 years.¹ The District's extensive experience provides insight into the long-term big picture, and can guide the most effective conservation spending. The District is finding future water inadequacies, and making connections locally, nationally, and internationally that support water conservation progress to provide information to our cities.

Statewide UDWR Conservation goals for Utah²:

17.6%	22.8%	25.5%
average gpcd reduction goal by 2030	average gpcd reduction goal by 2045	average gpcd reduction goal by 2065

Address environmental impacts

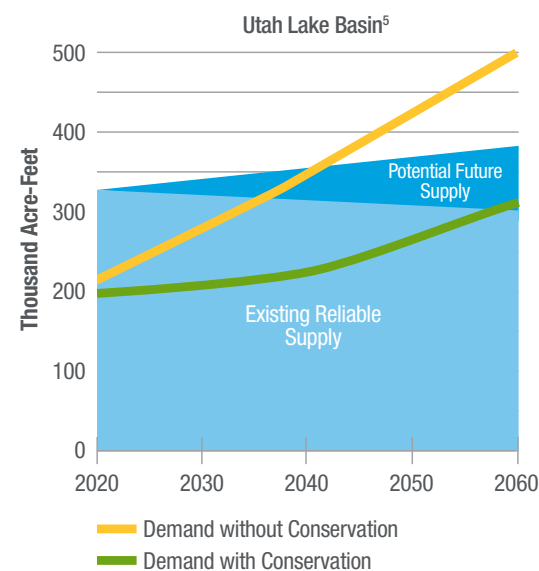


Efficient use of water reduces pollution and means more water can be left in streams, lakes, and reservoirs for fish, wildlife, and for recreation. Our community's dedication to prioritizing our water resources is critical. Prioritizing our environment supports long-term supply reliability.

Protecting our watershed doesn't mean that our economy needs to suffer—when one succeeds, the other will thrive.

Secure reliable water supply

Utah has a finite supply of water that can be developed and eventually water will be a factor in how Utah grows. For example, Utah County is expected to add 66,000 households over the next 10 years.³ Each community's ability to conserve water will determine whether our water supply has the resiliency to allow our grandchildren and great-grandchildren to live here.⁴



Serve community expectations

Envision Utah's Valley Visioning study found that Utah County residents anticipate efficiently using limited water resources to support themselves and future generations while maintaining a high quality of life. They found that residents are willing to further reduce water consumption.

#1 water management is the top priority for Utah County's future
(Valley Visioning 2019 survey⁶)

Water issues affecting the District service area:

Utah Valley Groundwater ●●

Due to over appropriation, the State Engineer closed further development of major aquifers in Utah Valley.⁷ **This makes development of future water supplies from groundwater in Utah Valley difficult.**

Colorado River Water ●●●●

The District delivers a major portion of Utah's allocation of the Colorado River as allocated in the 1922 Colorado River Compact. The Central Utah Project (CUP) was designed with large carryover storage to capture high runoff and winter flows for use during the high demand summer months and sustain deliveries during drought periods. Demands on the Colorado River continue to increase in the midst of a 20 plus year extended drought. The District will be very vigilant as negotiations of river operations continue. **Projections show the gap between demand and supply is growing.⁸**

Recreation ●●

Utah's reservoirs, lakes, and rivers are popular tourist attractions and are heavily used for recreation and fishing. **If these water resources are diminished, water recreation and income from water-based tourism activities will decrease.**

Shifting Use ●●●

New development is reducing agricultural land. **Development of agricultural land can potentially increase the overall water use.**

Local Availability of Water ●●●

Easy access water has already been developed. **Population growth, which formerly occurred in areas where there was an existing water supply, is now happening in areas that desperately need water.**

Public Awareness ●●●

The community is more aware and willing to conserve water and demanding conservation before or in conjunction with development of new water sources. **With increased awareness, water conservation opportunities are gaining support.⁹**

Climate Variability ●●●●

Utah is already one of the driest states in the nation. Much of Utah's water infrastructure is designed around capturing snowmelt, but snowpack has been decreasing since the 1950s.¹⁰ Scientists say the southwest US is experiencing a "megadrought".¹¹ **Climate variability impacts both water supply and demand for water. Careful planning is needed to provide supply resiliency to adapt to climate variability.**

Pollution ●●

Excess outdoor water use increases runoff, which can contaminate water bodies with fertilizers that encourage toxic algae blooms.¹² Algae blooms threaten fisheries and cause problems for downstream users and recreation. **Water that experienced algae blooms requires costly additional treatment to make it drinkable.¹³ Efficient water use reduces runoff and the risk of algae blooms.**

- Provide industry leadership
- Address environmental impacts
- Secure reliable water supply
- Serve community expectations

Utah's population is expected to double by the year 2060. Without conservation, demand for municipal and industrial (M&I) water will likely also double but supply cannot.⁴ We need a robust plan to balance conservation and new supply development cost-effectively.

To meet growing demands for water in our service area, the **Statewide Water Infrastructure Plan** estimates **\$25.7 billion** should be spent over the next 50 years:

\$11.7 billion for repair and replacement¹

\$6.6 billion for new supply development¹

\$7.4 billion for conservation¹

The District's mission: responsibly plan for the future by developing, delivering, and efficiently using our limited water resources.

Central Utah Water's primary responsibility is to deliver clean water to our customers by managing the vast CUP, the Central Water Project (CWP), and District network of water facilities. Every day the District works to maintain and improve those systems. The District monitors and tracks precipitation levels and makes decisions on how best to serve current customers. Large water users and the District partner together to develop ways to use water more efficiently and host the public at activities promoting conservation. The District operates three water treatment facilities, two hydroelectric plants and eight reservoirs while administering the sale of water to customers. As one of the largest water suppliers in Utah, the District delivered 135,000 acre-feet (AF) of drinking water and 73,000 AF of irrigation water in 2019.¹⁴



DAMS



HYDROPOWER



PIPELINES



TREATMENT FACILITIES

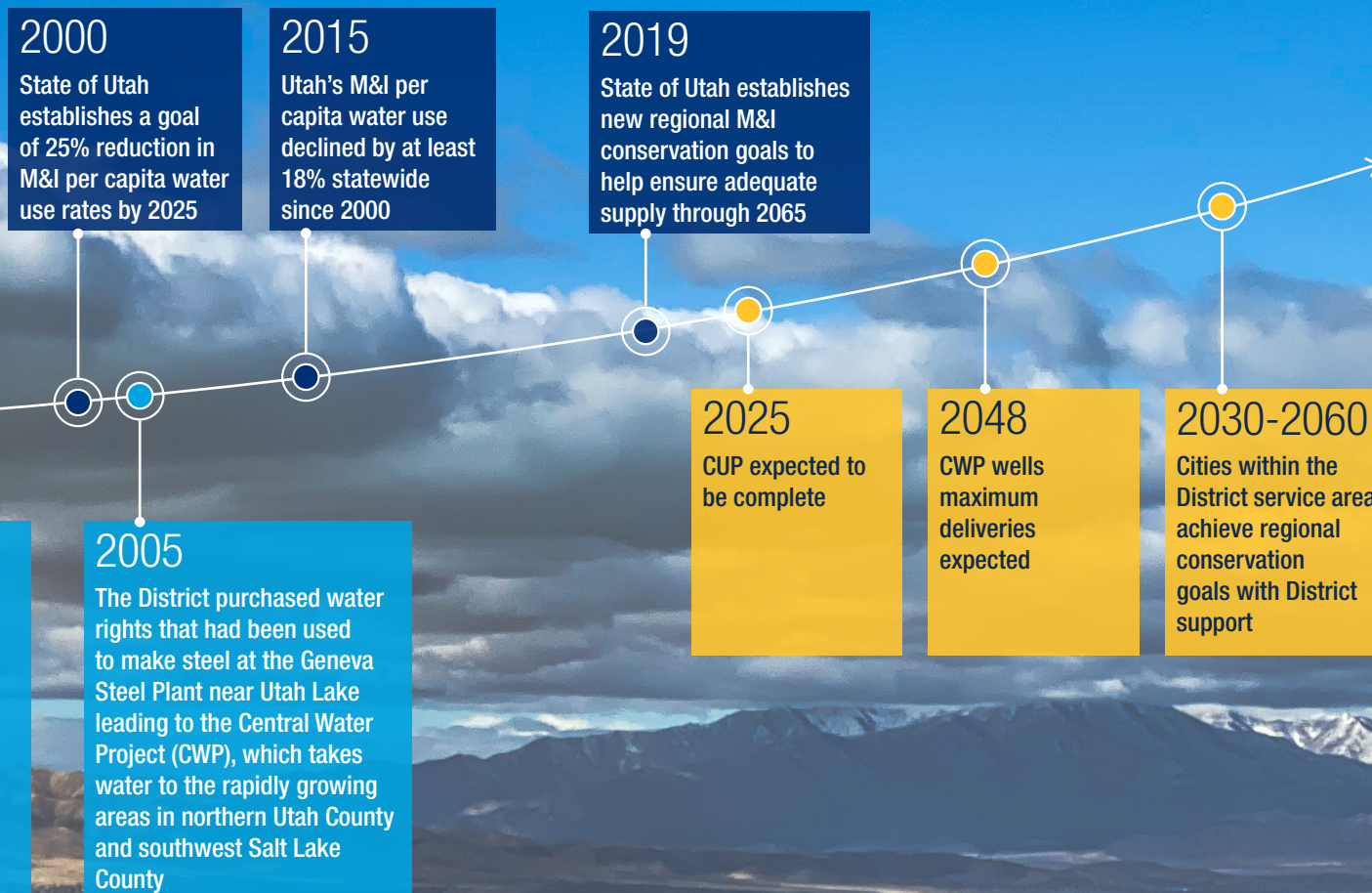


CONSERVATION

The Future

Will clean, usable water be available for our children and grandchildren?

Statewide Conservation Goals



The District's Unique Role

Coordinating Planning and Conservation Efforts

The District does not directly supply water to any residential customers, resulting in a limited direct influence on conservation. Instead, the District supports community efforts through:

> RESOURCES

The District develops conservation programs and provides resources to support cities and towns that do not have the human resources or funding to develop their own conservation programs.

> LEADERSHIP

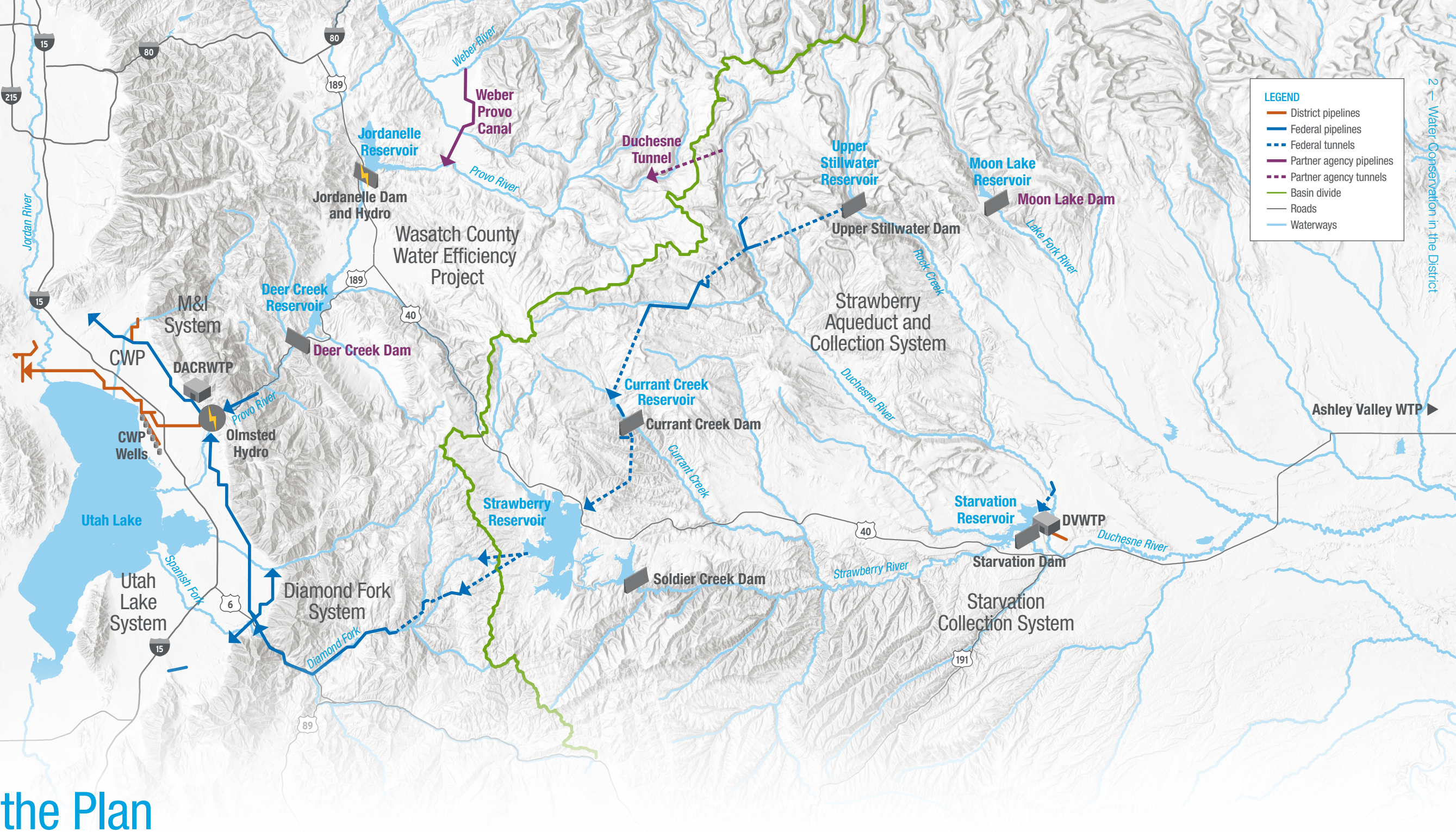
District leadership is based on years of experience operating and maintaining the state's largest water project and developing new water projects and facilities. The District has a staff of highly respected water experts.

> REPRESENTATION

The District brings together the biggest and most diverse water systems in the state. To help guide water regulations, the District leverages insights from years of involvement in conservation to represent water providers at local, state, and federal levels.

Just like infrastructure planning, we need robust planning for conservation.

Federal projects and financing drove past development of Utah's water infrastructure. Future supply projects need to be financed locally and will be more costly than before. Conservation impacts when new water supply projects are implemented.



Purpose of the Plan

Utah has benefited from robust infrastructure planning efforts, and now there is an opportunity for additional conservation benefits moving forward.

Foresight by water planners and engineers over the past century contributed to Utah's growth and success. For example, water stored in reservoirs managed by the District have saved the Wasatch Front from severe water shortages through many drought cycles, and helped prevent flooding by capturing runoff during exceptionally wet years. In 2005, the District purchased the water rights that had been used to make steel at the Geneva Steel

Plant on the east side of Utah Lake. Those water rights, combined with other District surface and ground water rights, make up the CWP. While the CUP is a federal project, the CWP is the District's project that takes water to the growing area west of Utah Lake in Utah County and to southwest Salt Lake County. The vision for, and execution of, these supply projects have supported growth and quality of life in the District service area for decades.

Roadmap for conservation efforts

➤ A water conservation strategic plan for the District.

This document defines the purpose for conservation efforts, identifies specific conservation goals, documents current and past water conservation efforts, identifies the most effective activities to achieve the goals, and sets out an implementation plan for those activities.

The District's Past and Current Efforts

The District is a proven conservation leader in Utah. The District works to reduce leakage and waste at our own facilities, educate the public about efficient water use, provide financial assistance for utilities and consumers to conserve water, and provide input to state legislators and policymakers on water-related issues. Declining per-capita use rates and increasing public awareness suggest that these efforts (and the efforts of others) are successful.



10,500 visitors in 2018

Conservation Garden (PAST PROJECT)

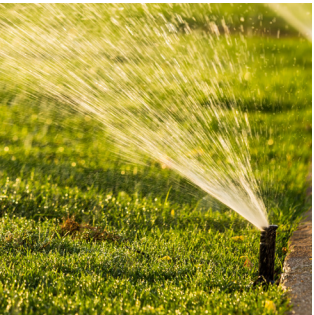
The District maintained a conservation garden at the old office site in Orem. The garden was sold when the District moved to a new office in 2019. The garden saw a peak of approximately 10,500 visitors and 275 group tours in 2018.

Education Outreach, Conservation Classes, and Workshops

The District facilitates educational activities informing the public on water efficiency and minimizing outdoor water consumption while maximizing aesthetics and functionality.



approximately 1,300 people attended classes in 2018



33 people Landscape Plan Reviews in 2019

Model Water Efficient Landscape Ordinance

The District, along with other regional conservancy districts, uses model landscape ordinances designed to improve water efficiency in city owned, commercial, and residential landscapes. A city can easily adopt new ordinances and improve on existing ordinances through ongoing evaluation to leverage current best practices involving water efficient landscaping. Education and training on these ordinances is a key effort to ensure more sustainable growth.

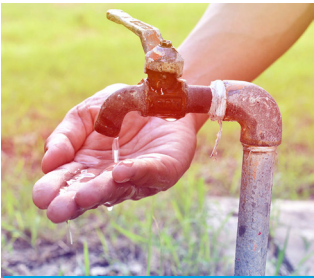
Landscape Rebates

The District currently operates two water efficient landscape incentive programs. The Landscape Leadership grant provides funds for commercial landscapes that implement a water efficient landscape. The second program is the Localscape Rewards for Home Builders, which is an incentive for home builders to install waterwise landscapes in new residential construction.

10,000+ rebates in the past 7 years

Grants/Rebates

The District participates in the Utah Water Savers residential toilet replacement rebate, and the Utah Water Savers residential/commercial smart controller rebates. The District also provides custom grants for retail water providers and cities.

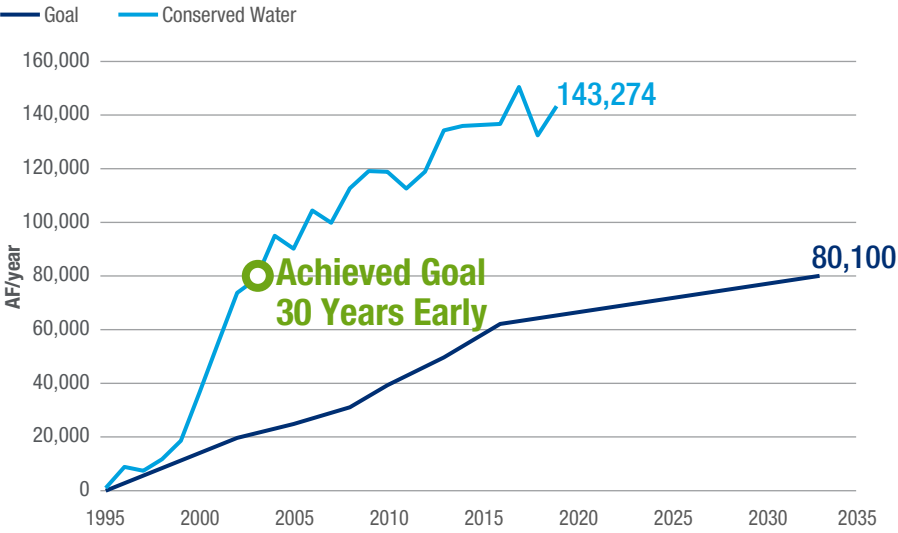


2,689 smart controller rebates in 2019

Federal and District Water Conservation Credit Program

As part of the 1992 Central Utah Project Completion Act, the District established a Water Conservation Credit Program to distribute funds for water conservation. Since the program inception, over \$122 million in federal funds have been distributed, financing up to 65% of a project's cost. The program currently includes 45 approved projects at various stages of implementation, selected from 132 applications. Many are large capital-intensive construction projects, such as canal linings/enclosures, secondary water systems, or irrigation improvements. In 2019 alone, the savings from these projects were nearly enough to fill Deer Creek Reservoir.

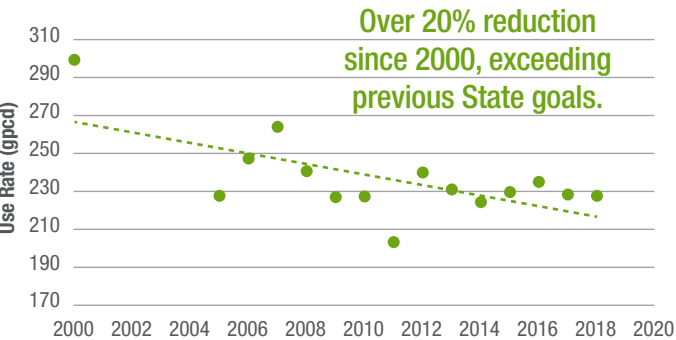
- Since inception, water savings of the program are enough to fill Strawberry, Jordanelle, and Deer Creek Reservoirs.
- The District achieved the ultimate goal for the program in less than 10 years, and is currently conserving twice as much water each year than planned.



1,438,779 AF conserved from 2009-2019

Water Conservation Progress

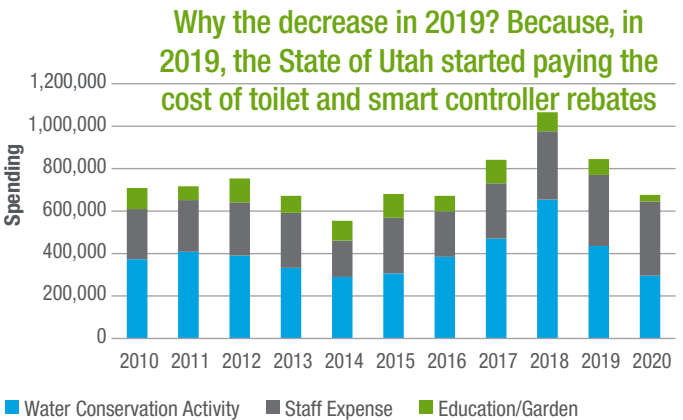
Through aggressive conservation efforts, the District and partner agencies achieved an average of 1% per year reduction. Since 2000, average water use continues to decline.



Average use rate for large customers (Jordan Valley Water Conservancy District, Metropolitan Water District of Salt Lake and Sandy, Southern Utah Valley Municipal Water Agencies)

The District's Conservation Budget

Typically spend between \$600k and \$1M. Approximately 3-5 full-time equivalent (FTE) staff.



Stakeholder Input

The stakeholder input process was collaborative, involving input from both internal and external stakeholders. Buy-in was accomplished by:



External stakeholder discussions and survey provided the following answers to three key questions:

- 1
- Why is conservation important to you?
- It's the right thing to do
 - Customer awareness/interest
 - Supply constraints (capacity or quality) due to high projected growth in specific cities
 - Conveyance system capacity constraints
- 2
- What steps are you taking to conserve water?
- | | |
|--|---|
| <ul style="list-style-type: none">— Tiered rates— AMI meters— Install meters on secondary system— Customer web portals— System water audits— Customer water checks— Leak detection | <ul style="list-style-type: none">— K-12 education— Distribute educational materials— Time-of-day restrictions— Canal enclosures— Conversion of ditch to pressurized irrigation— Smart controllers for city properties |
|--|---|
- 3

How can the District help?

Some common themes emerged from the stakeholder meetings and survey. The greatest needs revolve around the following areas:

Education

Retailers have a difficult time clearly communicating the importance of conservation to customers, city councils, and water staff.

The District's reputation and expertise in this area is helpful. The District can supply educational materials that the retailer can distribute to their customers. They can also support city staff with education about how to implement programs like leak detection or perform an AWWA water audit. Many cities were interested in a customer water check program.

Human Resources

Cities have numerous priorities and many employees wear multiple hats and have limited time to work on conservation.

The District can help reduce the burden on cities by working as a partner to assist the development and implementation of conservation and efficiency strategies.

Funding

Smaller retailers often struggle to pay for conservation programs.

The District can support funding efforts or provide valuable help applying for state/federal grants. Bulk purchases and selection support for the most cost-effective equipment are other ways the District can help.

Common themes from individual meetings

In Duchesne and Uintah Counties large industrial conservation is difficult to figure out. Industrial demand can make winter demand almost as high as summer; requiring a balanced consideration of conservation in multiple land uses.

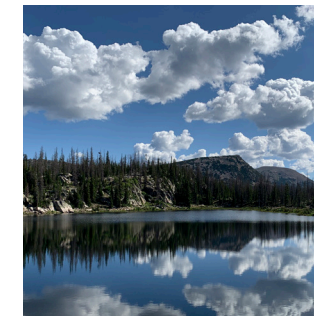
Conservation goals and metrics are inconsistent between the various water providers in the service area.

The 1:1 meetings were a good relationship builder and education tool.



State Regional Conservation Goals and environmental concerns are notably absent drivers.

Water savings from converting open canals to enclosed pipelines can be almost as effective as building storage.



Most feel like they have plenty of water rights and don't anticipate over-appropriation of Utah County groundwater or GSL water level issues limiting their supply.

Many public works directors and leaders are new to their roles.

While City staff have the ultimate responsibility for water conservation, they have many competing priorities, and some are not water conservation experts. So, conservation measures that are easy to implement are key.

There is limited awareness of what programs the District offers.

Educating customers on conservation is an opportunity for water providers to inform them what they do.

Unified messaging on conservation is critical and the District is a voice for the municipalities to policy makers, communicating how the District and retailers have supported conservation so far.

Current water rights law discourages conservation because demand is needed to justify development of new sources to demonstrate beneficial use.

There is repeated interest in using city parks/properties as examples of water efficient landscapes.

Coordination with cities and the District is a growing interest.



Conservation can be used as a tool to support equity goals in a community.



The State's message is that conservation investment needs to be in the \$Bs instead of the \$Ms.

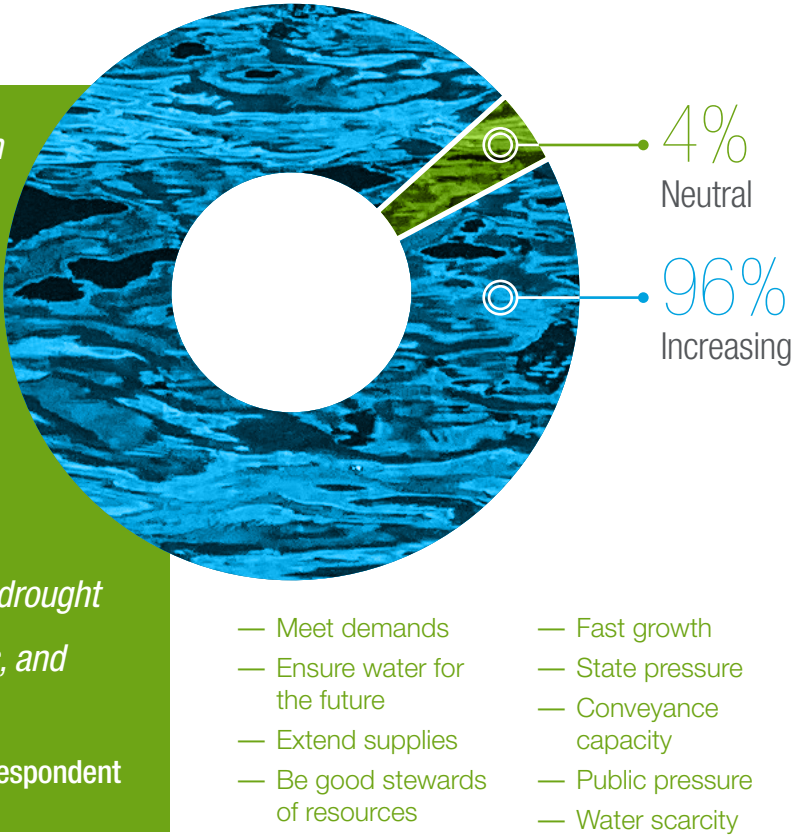
Stakeholder Survey Results

Survey respondents provided a wealth of insight into water conservation priorities, challenges, and opportunities. The responses from 21 cities helped align conservation goals for the best path forward. The results represent a portion of the total survey.

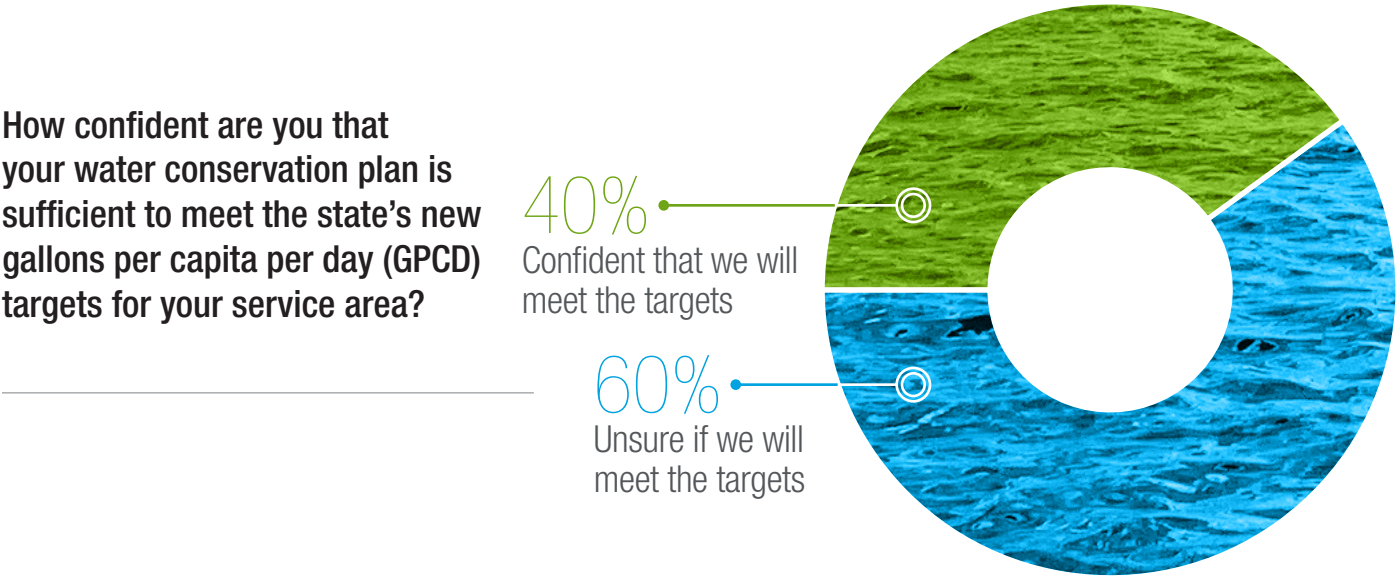
“We are in a position to learn from how other western states managed growth and development in the past (like Nevada and California) and what they are doing now as a consequence. We believe more emphasis on water conservation is needed to proactively hedge against future environmental complications, drought periods, water shortages, water supply costs, and conservation expenses.”

— survey respondent

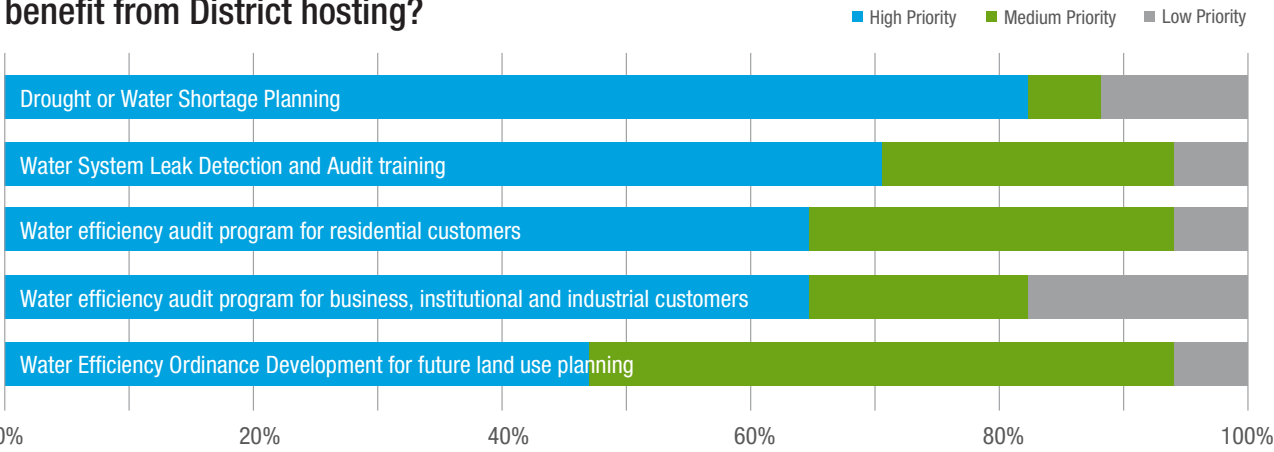
Do you see conservation as increasing or decreasing in importance for your service area? Why?



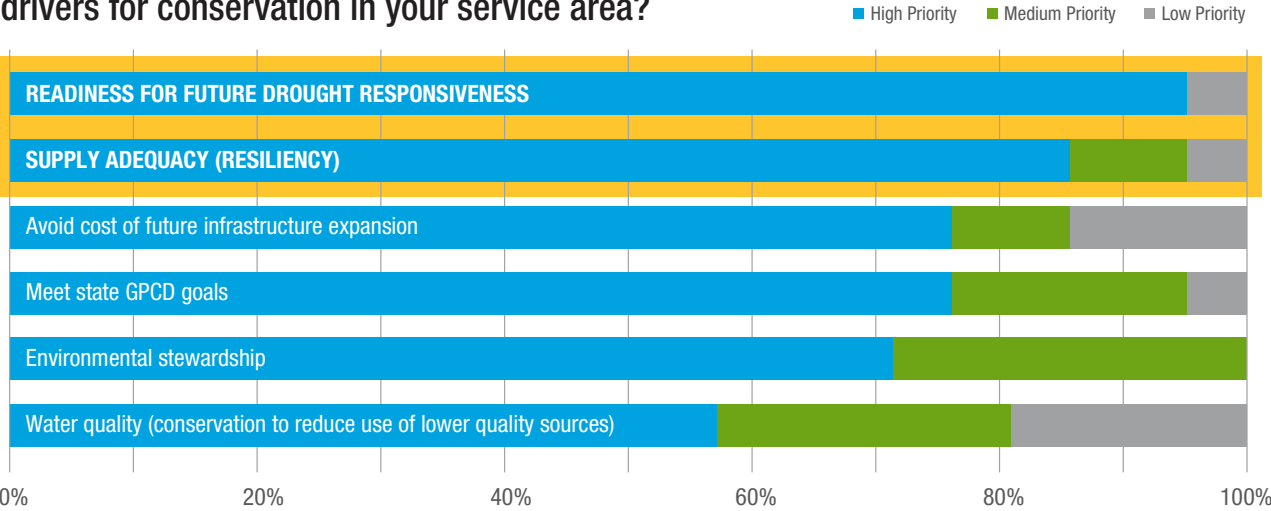
How confident are you that your water conservation plan is sufficient to meet the state's new gallons per capita per day (GPCD) targets for your service area?



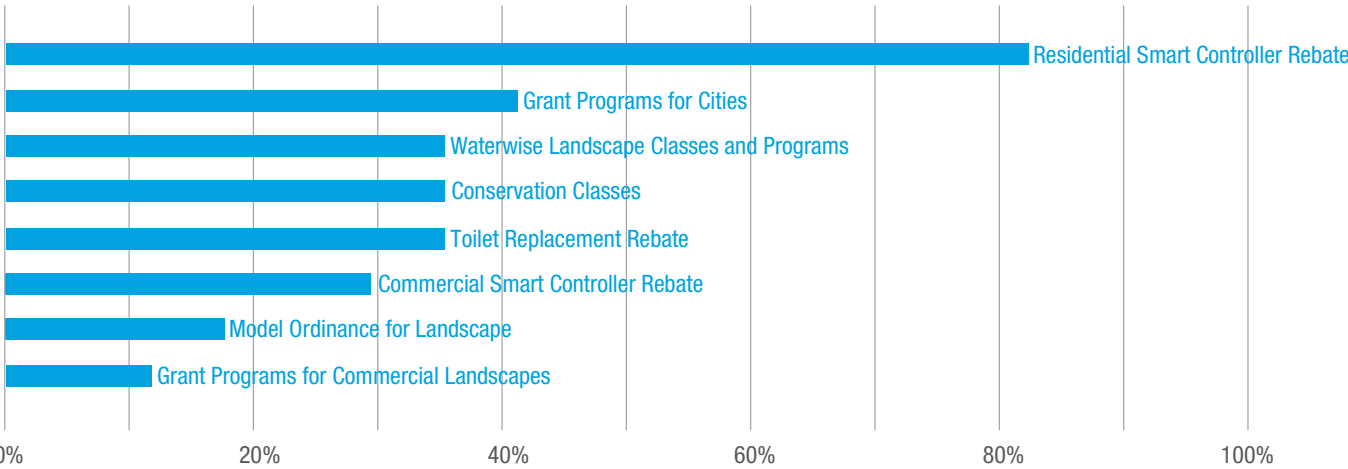
Are there specific types of conservation training for your own retailer's staff that your agency would benefit from District hosting?



What are the current or potential future drivers for conservation in your service area?



Which of the current District conservation programs are you familiar with, have participated in, or are aware of residents having participated in?



District Conservation Goals

Conservation Plan Vision: Use our limited water resources efficiently to responsibly support our community, now and in the future

The stakeholder survey results directly impacted the following goals and vision forward.



GOAL > Use District water efficiently

- Demonstrate waterwise practices and policies throughout District facilities
- Minimize District water loss and leakage
- Track water use and conservation progress across the District's service area
- Include conservation in contracts
- Partner with retailers and other organizations for regional water supply planning



GOAL > Support water retailer's conservation efforts

- Represent interests of retailers in state water policy discussions
- Educate retailer staff, leaders, and policy makers about the purpose and importance of water conservation, and the programs the District offers
- Train retailer staff on implementing conservation programs
- Engage retailer leaders and staff to develop goals and metrics appropriate to each situation
- Support retailer efforts to demonstrate water conservation at their own facilities
- Provide opportunities for retailers to learn from local successes and failures



GOAL > Encourage conservation by the public

- Partner with retailers to educate their customers on why and how to conserve water
- Provide financial incentives to speed up the adoption of efficient indoor and outdoor fixtures
- Educate and provide incentives to encourage waterwise landscaping
- Publicize successful water-saving efforts by utilities, end-users, and the District
- Support the development of water efficiency legislation and policies at the state and local level

How do we know if our efforts are successful?

Here are a few general indicators we will measure to gauge our success.

Number of utilities with a water conservation liaison with the District (or, how many attended round-table meetings)

Water use and non-revenue water (NRW) for customers across our service area

Waterwise landscape attendance (if a new waterwise landscape is constructed)

Water saved by District water efficiency projects, or water in streams

Number of cities with ordinances requiring water-efficient landscaping for new developments, or number/percentage of homes with water efficient landscaping

Total AF savings (over the next 10 years, we estimate over 32,795 AF savings for incentive programs, as detailed in Section 6)

Website visit statistics

Attendance at classes and events

Participation in rebate/incentive programs

Market penetration of water-efficient devices and practices compared to expected natural progress, such as:

- Households with efficient toilets
- Households with efficient faucets/showerheads
- Households with efficient washing machines
- Secondary connections with a meter
- Households with a smart sprinkler controller
- Average lot size

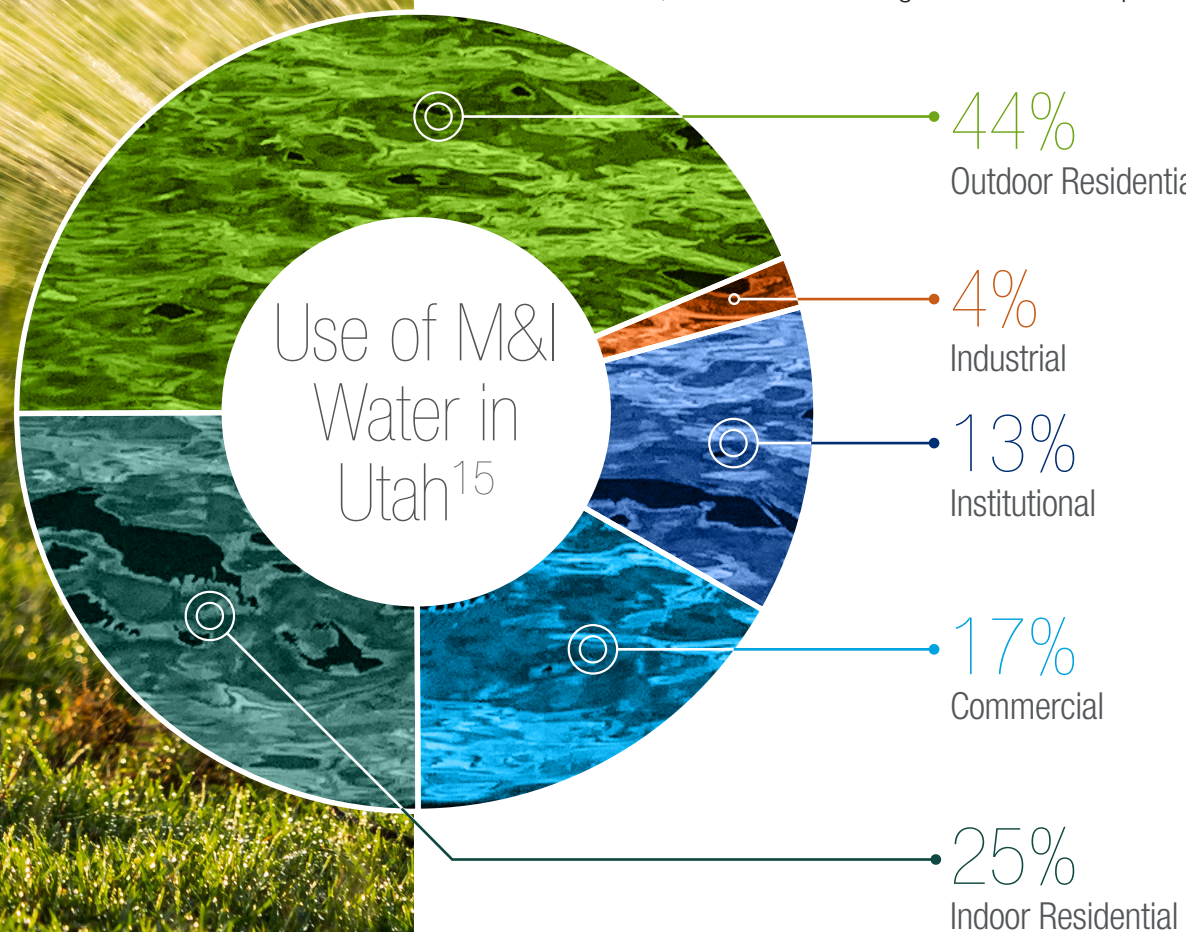
“Utahns use more culinary/potable water to irrigate landscapes than they use for cooking, flushing and cleaning combined.”

— USU Center for Water Efficient Landscaping

Water Usage Patterns Influence Conservation Program Selection

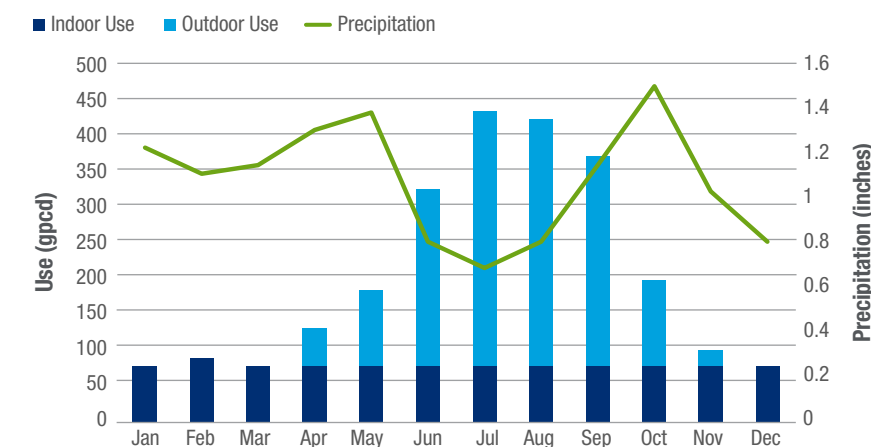
We have significant opportunities for increasing water efficiency and conservation. While agriculture accounts for most of the diverted water in Utah, water used for residential, commercial, institutional, and industrial purposes is growing rapidly as agricultural land is developed, particularly on the Wasatch Front. This water, also known as M&I water, is the most expensive and difficult to develop, treat, and deliver.

Even though Utahns are constantly using water **indoors** every day throughout the year, the majority of residential water use occurs **outdoors** (approximately 60%). This is due to the current landscaping practices in relation to the dry climate of Utah. Programs that target the peak water use (outdoor) are typically more effective than those that target the base (indoor) because they reduce the need for improvements to conveyance infrastructure, which must be designed to handle the peak.



The highest impact conservation programs focus on reducing outdoor use.

Typical Utah County Residential Water Use^{16, 17}

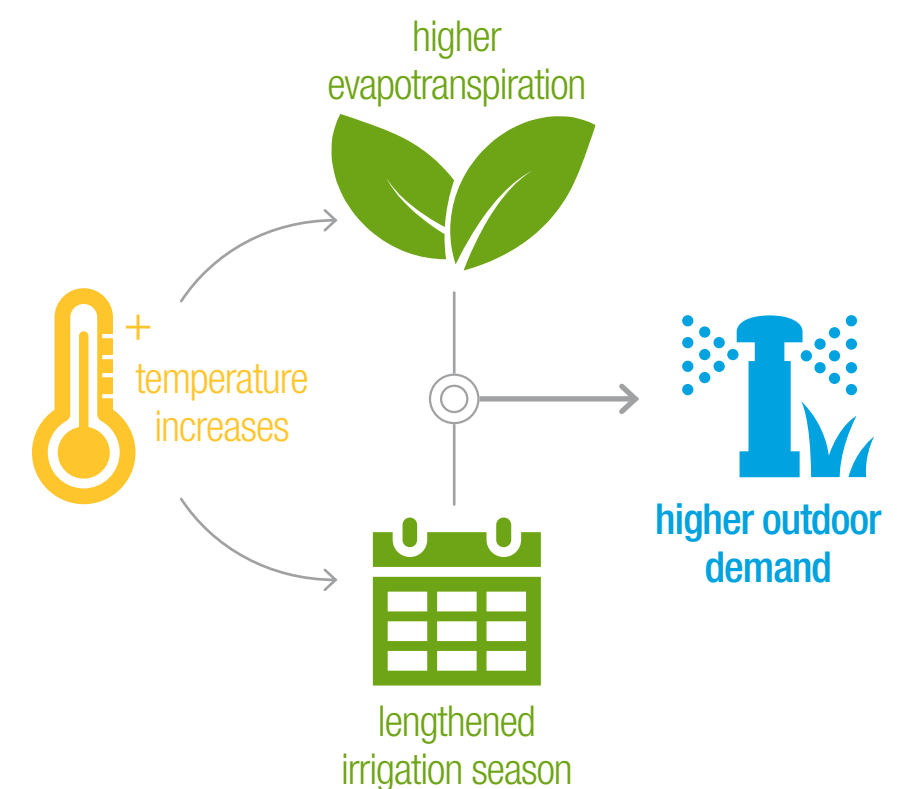


Reducing the peak (outdoor) water demand will allow existing infrastructure to last longer.

Indoor use is constant throughout the year, but the design of collection, treatment, and distribution infrastructure is driven by peak demand, which comes from outdoor water use.

Climate variability will continue to impact outdoor water demand in Utah.

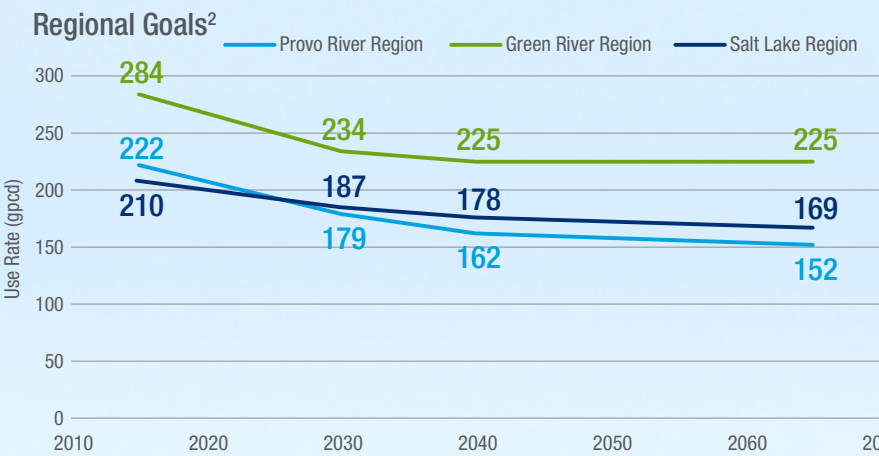
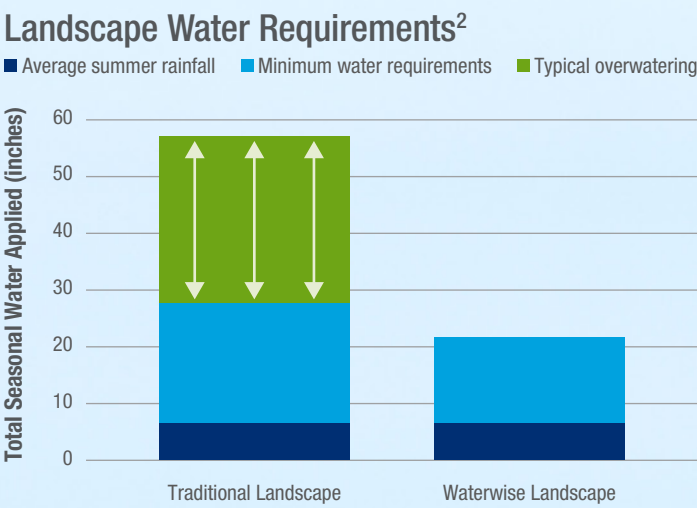
Climate variability is having an oversized impact on the southwest United States when compared to other regions.¹⁰ Precipitation patterns in Utah are shifting towards more rain and less snow. Hotter temperatures will result in more evapotranspiration, a longer irrigation season, and more demand for water.¹⁸



Opportunities for Water Savings

A typical landscape in Utah requires over 21 inches of supplemental water. Utahns frequently apply up to 50 inches.

Over watering landscaping is a concern throughout Utah. Traditional landscapes require at least 21 inches of water above average summertime precipitation. That supplemental water is only available due to the mountain snowmelt collection, storage, and transmission infrastructure provided by the CUP and other large water projects. Switching to less water-intensive landscaping and reducing overwatering will have a significant impact on overall water use.



2019 Utah Regional Conservation Goals

Water use across the state declined 18% between 2000 and 2015. Building on this success, the State of Utah Division of Water Resources developed new conservation goals in 2019 as recommended by a legislative audit. We can only successfully achieve these goals if the water wholesalers, retailers, and end-users work together.

The new goals are based on reducing water use in 9 regions and are largely based on reductions in outdoor use. The District service area primarily encompasses the Provo River, Green River, and Salt Lake regions. **Utah Division of Water Resources’ goals for these regions were based on specific assumptions:**

Continued Current Progress

- Conservation education
- Conservation pricing
- Implementation of efficient toilets, faucets, showers, etc.
- Indoor leak repair and water use habits
- Reduction in new residential lot size and irrigated area*

Aggressive Improvements

- Metering all secondary water connections by 2040**
- Irrigation efficiency (driven by smart controller rebates, water audits, conservation education, and aggressive pricing tiers)
- Water efficient landscaping (new landscaping and existing conversions, particularly in Utah County)

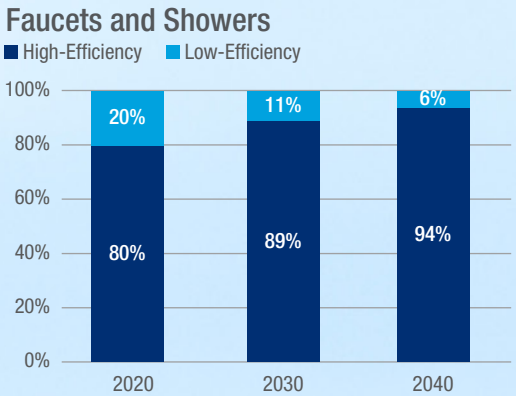
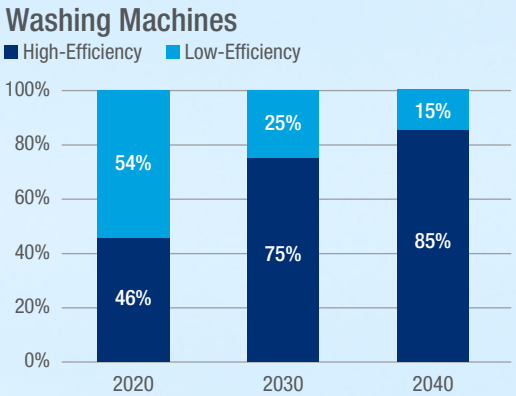
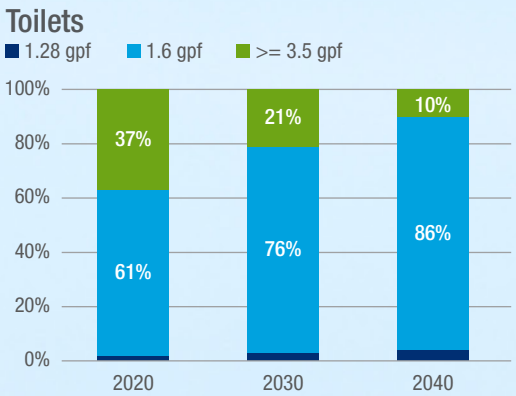
*Average lot size in Salt Lake County declined 20% between 2007 and 2016, from 9,926 square feet to 7,953 square feet.¹⁹
 **Senate Bill 52 required all new secondary connections to be metered. Currently, approximately 2% of secondary connections are metered statewide.² The State regional goals are based on an assumption that future legislation requiring all existing secondary connections be metered by 2040 will be enacted.

The primary focus for District conservation programs should be on reducing the M&I water used outdoors, but reducing indoor water use should not be discounted.

Indoor use will continue to decline naturally as old, inefficient devices and fixtures wear out and are replaced with new, more efficient models. District investment in indoor conservation programs will impact how fast progress is made in these areas.

For typical households, showers, toilets, faucets, and clothes washing account for 81% of indoor use, so many indoor conservation programs revolve around reducing water use in these areas. Clothes washing, while significant, can be expensive to influence and is mostly being addressed by federal energy efficiency standards. Leaks are typically addressed through customer education.

Anticipated Indoor Conversion Rates²



Typical indoor water use²⁰

26%
Showers

22%
Toilets

18%
Faucets

15%
Clothes Washers

12%
Leaks

7%
Bathtubs, Dishwasher, Other

How can the District affect water use and conservation?

> Education

Education provides the backbone for any conservation program. Public awareness and knowledge of how to conserve water can drive widespread action with minimal effort. While effectiveness of many education programs is difficult to directly measure, education increases awareness, and ensures effectiveness with incentive programs.

> Incentives

Incentives offer financial encouragement to adopt efficient fixtures, appliances, landscaping, etc. Incentives can be targeted at high water users or at low income customers and can help speed up adoption of water saving practices. Typically, the costs and affects of incentives are quantifiable (for example, \$100 rebate for a toilet nets a 60% reduction in gallons per flush).

> Policy

Policies have significant impact on conservation by affecting large numbers of customers at once. For example, water-efficient landscaping standards reduce water use significantly, so policies requiring efficient landscaping for new homes can have a large impact on water use associated with growth.

Stakeholder feedback was considered to filter dozens of potential conservation programs down to the following list. As shown, each program was scored in four categories.

Program Description	Potential	Water Saving Potential	Cost Effectiveness	Interest from Stakeholders	Time
Conservation classes Teach conservation classes on a variety of topics. Can be at District facilities, city facilities, or online.	Ongoing interest in classes by the public. Self-selecting participation.	Medium	Medium	Medium	Low
School education programs★ Teach youth about importance of conservation. District staff can travel to schools, host field trips, and provide educational videos or other materials that teachers can use.	Long term investment in water conservation ethic. Large number of schools in service area means it will be difficult to visit very many schools in person without a large number of staff.	Medium	Low	to Medium to High	Medium
Public outreach/awareness efforts Develop websites, fliers, and other educational materials, attend community events, and run ads. Events can be hosted by others or hosted by the District.	Necessary program to inform of the need to conserve and the availability of incentives/education.	Medium	High	High	Medium
Water checks/surveys/consultations Provide free on-site water use surveys or water efficiency checks for end users. Target those with high water use and provide a customized report. Designed to overcome barriers faced by owners by identifying inefficiencies and providing important information about their fixtures, landscapes, and irrigation systems. Consider pairing with fixture incentives.	Voluntary program. Self-selecting participation. Limited by number of staff. Focus on outdoor water saving to be most effective.	High	Low	Medium	High
Retailer education/training★ Educate retailer policy makers about need for conservation and the role of the District. Educate/train retailer staff about effective conservation programs, what District/federal conservation programs are available, how to measure water use, perform leak detection, etc. Organize an annual conservation workshop/conferenced for utilities aimed at sharing success stories and lessons learned. Offer CEUs/PDHs to encourage attendance.	Requested by utilities, important for long-range success of meeting District and state goals.	High	High	High	Low
Indoor incentives Offer incentives, typically rebates or vouchers, directly to end-users for replacement or purchase of indoor fixtures and appliances that save water. Incentives can be contingent on taking a class, or for inexpensive fixtures, can be given away at public events and conservation classes. Certain areas will be targeted based on age and low financial ability to convert existing fixtures.	More effective in areas with older homes, and therefore older fixtures. New developments should already have higher efficiency fixtures.	Medium	High	High	Low
Outdoor equipment incentives Offer incentives, typically rebates or vouchers, directly to end-users for replacement or purchase of outdoor fixtures that can save water. Incentives can be contingent on taking a class, or for inexpensive fixtures, can be given away at public events and conservation classes.	Lots of potential for reduction of M&I usage because approximately 60% is used outdoors.	High	High	High	Low
Landscape incentives Offer incentives to replace portions of turf with low water use plants or permeable hardscape. Park strip replacements are a common example. Rebate can be based on square feet of turf removed and require a minimum amount of replacement.	Lots of potential for reduction of M&I usage because approximately 60% is used outdoors.	Medium	Low	Low	High
Grants for utilities and large users★ Utilities and/or large water users apply for a grant program. Selection criteria, number and size of grants, and winners are decided by the District. Grants can be contingent on a specific minimum water savings (e.g., 15%) or require an on-site water check/audit. The District supports grants for retailers to run their own rebate program.	Competitively ranked proposals based on water savings potential and cost effectiveness.	to Low to High	to Low to High	High	Medium
Policy/legislation★ Use influence with government and HOAs to promote conservation policies/legislation.	Significant potential because you can influence multiple categories of water use at once for relatively low effort. Particularly effective for areas that will experience high growth.	High	High	Medium	Low
Conservation contracts Requirement for utilities to meet conservation targets with financial penalties for not meeting targets. Build requirements for waterwise landscape ordinances, tiered rates, etc. into contracts with utilities.	Builds incentives for utilities to partner with the District through joint conservation efforts to meet long-range regional water supply reliability goals.	High	High	Medium	Low

★Increased potential and opportunity if implemented in partnership with a retailer

High Medium Low

Conservation Roadmap

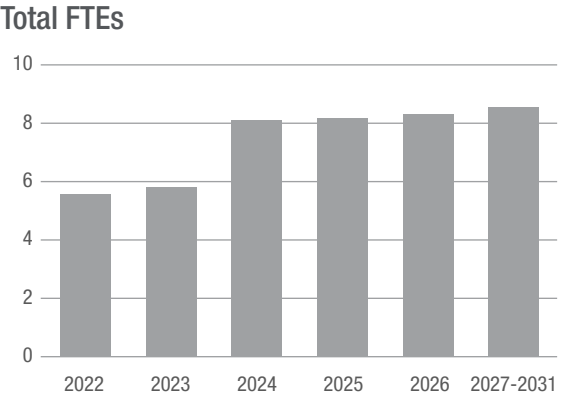
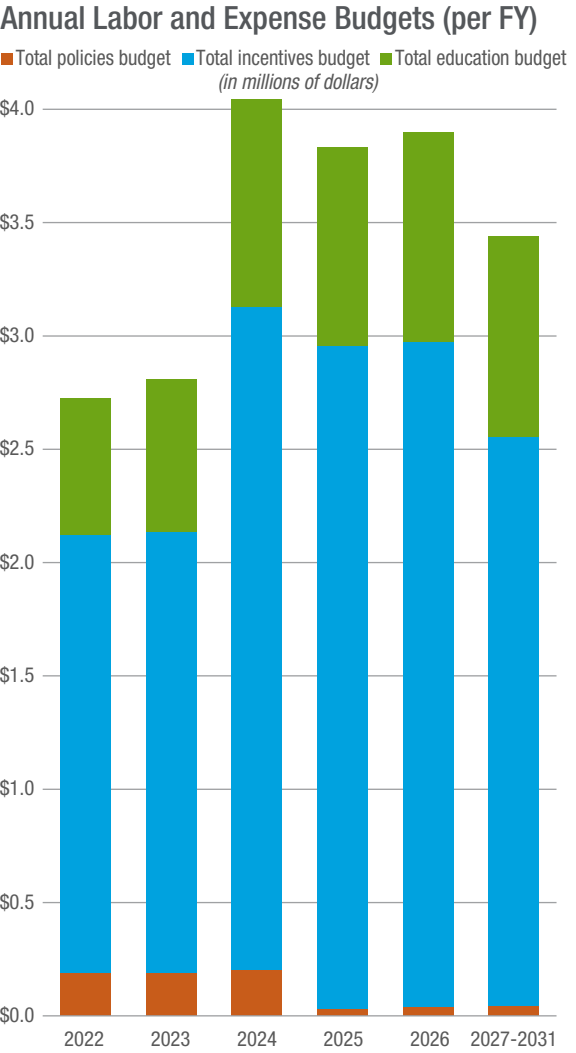
The program scoring influenced the level of investment in each program and informed a roadmap for District conservation activities in the next 10 years.

More details for **high-impact activities** are on the next page.

Specific Activities	Annual Labor + Expense Budget FTEs					
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027-2031
Conservation classes Landscape classes, youth classes, kids classes, online resources/videos training	\$50,000 0.5	\$50,000 0.5	\$105,000 0.8	\$75,000 0.8	\$75,000 0.8	\$75,000 0.8
School education programs Visits to schools, tours, lesson plans and educational curriculum	\$100,000 1.0	\$100,000 1.0	\$100,000 1.0	\$100,000 1.0	\$100,000 1.0	\$100,000 1.0
Public outreach/awareness efforts Publicize successful projects, landscape water requirements calculator , hidden waterwise landscape tour, waterwise landscaping/education at model homes, educational materials, attend and host community events, new homeowner landscape information, landscaper training programs, and advertising campaigns	\$191,000 0.8	\$256,000 1.0	\$206,000 1.0	\$206,000 1.0	\$206,000 1.0	\$206,000 1.0
Water checks/surveys/consultations Water checks, audits, consultations, and landscape design consultations	\$62,000 0.6	\$62,000 0.6	\$272,000 2.6	\$272,000 2.6	\$272,000 2.6	\$272,000 2.6
Retailer education/training Water audit support, conservation conference/round table , retailer leadership education, water loss training, leak detection equipment rental, integrated long-term regional water supply planning, and overall District conservation program management	\$200,000 1.3	\$210,000 1.4	\$226,000 1.5	\$226,000 1.5	\$281,000 1.6	\$231,000 1.6
EDUCATION TOTAL	\$603,000 4.2	\$678,000 4.5	\$909,000 6.9	\$879,000 6.9	\$934,000 7.0	\$884,000 7.0
Outdoor equipment incentives Residential and commercial smart controller rebates, and other new outdoor technology rebates	\$442,500* 0.4	\$442,500 0.4	\$442,500 0.4	\$442,500 0.4	\$442,500 0.4	\$116,500 0.1
Landscape incentives Home builder landscape incentives, waterwise landscape rewards, and other landscape conversion incentives	\$214,000 0.1	\$210,000 0.1	\$210,000 0.1	\$210,000 0.1	\$210,000 0.1	\$350,000 1.0
Grants for utilities and large users Secondary meter funding , customer web portals, install water efficient landscaping, AMI implementation, and custom grant program for cities	\$1,270,800 0.2	\$1,286,550 0.2	\$2,271,550 0.3	\$2,267,550 0.3	\$2,267,550 0.3	\$2,047,550 0.1
Indoor incentives Toilet replacement rebate* and other new technology rebates	\$6,250 0.1	\$6,250 0.1	\$6,250 0.1	\$6,250 0.1	\$6,250 0.1	\$6,250 0.1
INCENTIVES TOTAL	\$1,933,550 0.8	\$1,945,300 0.8	\$2,930,300 0.9	\$2,926,300 0.9	\$2,926,300 0.9	\$2,520,300 1.3
TOTAL ANNUAL ESTIMATED QUANTIFIABLE WATER SAVINGS FROM INCENTIVES (AF/yr)	1,303	3,260	3,529	3,529	3,529	3,327
Policy/legislation Water efficiency policies and state legislation , model water efficient landscape ordinance, regional drought shortage planning, education support on conservation easements/impact fees schedules, and overall conservation program management	\$195,000 0.5	\$195,000 0.5	\$205,000 0.3	\$35,000 0.4	\$35,000 0.4	\$35,000 0.4
Conservation contracts Water efficiency standards in contracts	\$- 0.0	\$- 0.0	\$- 0.0	\$- 0.0	\$10,000 0.1	\$10,000 0.1
POLICIES TOTAL	\$195,000 0.5	\$195,000 0.5	\$205,000 0.3	\$35,000 0.4	\$45,000 0.5	\$45,000 0.5
TOTAL	\$2.73 M 5.5	\$2.82 M 5.8	\$4.04 M 8.1	\$3.84 M 8.2	\$3.91 M 8.4	\$3.45 M 8.8

*State funded

Startup and ongoing costs are calculated for each program from typical costs from District and other Utah water utilities’ experience. Labor costs and number of full-time equivalent (FTE) employees needed are based on a \$50/hour rate and 2,000 hours per year. For this strategic planning level of analysis, potential water savings could only be estimated for incentive programs. More refined budget and water savings estimates will be developed when annual budget requests are prepared for selected conservation programs.





The District will focus on these high-impact activities

> Conservation conference/roundtable

Organize an annual conservation conference for retailers to provide training, learn best practices, and share successes and failures. This would also facilitate relationship building between District and retailer staff, and help the District monitor progress and tailor conservation programs as needs change.

> Secondary meter funding

Secondary water is a major component of outdoor water use, but very few secondary connections are currently metered. Measuring how much secondary water is actually being used is one of the first steps to reducing usage in this area. The Utah regional conservation goals rely on all existing secondary connections being metered by 2040—a significant effort. The District can support secondary retailers by 1) identifying areas in its service area with the highest secondary water conservation potential, 2) funding grants to install secondary meters, perhaps targeted at the largest or least efficient water users, and 3) helping retailers apply for federal and state grants.

> Water efficiency policies and state legislation

Provide support and testimony as needed for conservation legislation that can have a major impact on how water is used and conserved throughout the state. For example, beneficial use requirements currently penalize water rights holders who use less than their right, discouraging conservation. Water banking (facilitating temporary transfers of water rights to other users) can encourage water rights holders to use only what they need. To maintain attractive communities, homeowner association (HOA) rules and city ordinances can sometimes prevent or discourage efficient landscaping. The District can also work with HOAs and cities to encourage adoption of new policies and comply with existing ordinances to promote conservation while maintaining community aesthetics.

> Water efficiency standards in contracts

Continue setting up contracts with conservation goals in all contracts. Where applicable upon renewal, consider lower wholesale rates for those that adopt water efficiency standards, or penalties for those that don't meet conservation goals. For example, water efficiency standards could be based on rules for low-water landscaping on new developments, the percentage of metered secondary connections, or implementation of tiered rate structures.

> Landscape water requirements calculator

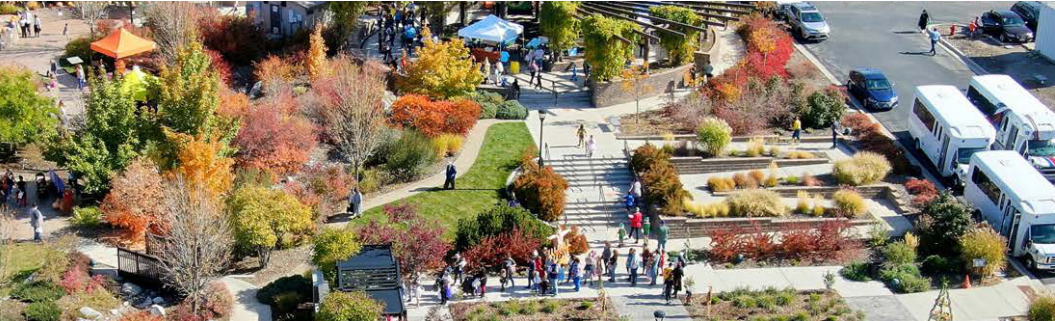
“One of the most empowering ways to promote landscape water conservation is to help people understand how much water their landscapes actually need.”²¹ Weber Basin Water Conservancy District (WBWCD) has seen significant reductions in secondary water use simply by showing users their landscape water requirements and their actual secondary water use. Utilizing methods like the WaterMAPS software developed by Utah State University, similar reports could be provided for all water users in the District's service area, even those that irrigate with potable water. Partnering with retailers to enable the integration of billed water use would make this information even more valuable to the user.

The future of demonstrating waterwise landscapes

Waterwise landscapes are suited for Utah's unique climate, beautiful and easy to maintain, and designed to use water efficiently. Good landscape examples allow homeowners, contractors, and designers to see water efficient landscapes before they implement them, and provide an ideal education space. Education and hands-on classes directly influence decision makers on smart investing in waterwise landscapes, which have a higher initial cost than water-thirsty turf-centric designs. The true value of demonstration landscaped areas extends beyond immediate water savings at individual homes, as waterwise landscapes can provide great learning opportunities for children as future water users too.

The best time to plant a tree was 20 years ago.

The second-best time is today.



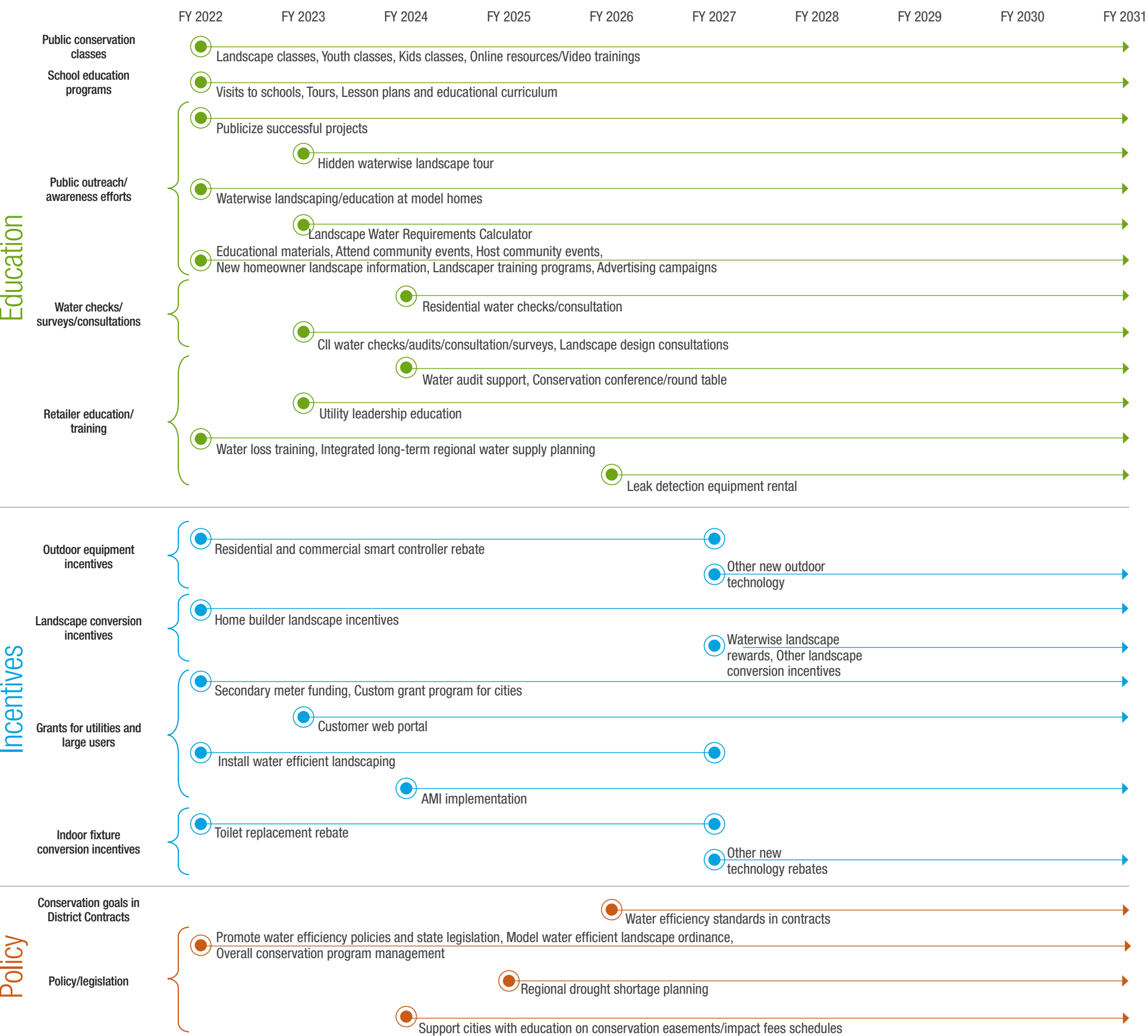
With approximately 66,000 households expected to be added in Utah County over the next 10 years, we need to demonstrate how to best use water in Utah landscapes.³

Investigations for this plan identified three preferred strategies for waterwise landscapes. Costs vary widely, therefore they were not included in the roadmap on the previous page.

three strategies:	1	2	3
	District-owned waterwise landscape	Partner with retailers	Existing District properties
	Single, large District-owned waterwise landscape similar to the garden at the old office. The old garden was very popular, and a new waterwise landscape should be just as popular. The location needs to be carefully selected to maximize the impact. This option is the most expensive.	Several retailers expressed interest in partnering to construct shared waterwise landscapes. City parks could be converted to smaller-scale education spaces that could potentially reach a larger audience. Costs would be split between the District and the retail partner. The District could promote a self-guided tour of the sites, specifying what could be seen at each location.	The District identified four properties that could potentially be converted to waterwise landscapes and education spaces. With a wide geographic span, this option could reach a larger audience than a single location. This option would likely be low cost, as the District already owns the land.
	Estimated construction cost	Estimated construction cost	Estimated construction cost
Annual labor costs and ongoing expenses	Estimated construction cost	Estimated construction cost	Estimated construction cost
Effectiveness and impact potential	Estimated construction cost	Estimated construction cost	Estimated construction cost

Next Steps

> to achieve outcomes of the Conservation Roadmap



Protecting our water is a shared responsibility that requires focus and dedication.

The District is committed to serving the community, as water sustains our families, cities, homes, and environment.

The broad spectrum of strategies and recommendations outlined throughout this plan are designed to continue progressing on the right path towards achieving water conservation goals. Each conservation activity outlined in this plan requires cooperation and collaboration, and the District is dedicated to providing resources and leadership as each activity is implemented. By leveraging both short-and long-term strategies to use District water efficiently, support water retailers' conservation efforts, and encourage customer conservation, our grandchildren will have clean, usable water.

The recommendations in this plan propel our water conservation efforts forward, with metrics for measuring progress along our Conservation Roadmap. Successful implementation of this plan over the coming years requires many diligent actions by our District board, staff, water retailers, customers, and our community partners. To succeed in achieving our shared vision, the District must be vigilant in efforts and funding of these programs.

We are all in this together, and the future is dependent on everyone doing their part to protect valuable water resources.

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RESOLUTION NO. 2020-10-12

RESOLUTION OF THE CENTRAL UTAH WATER CONSERVANCY DISTRICT BOARD ADOPTING THE 2020 WATER CONSERVATION AND EFFICIENCY PLAN

WHEREAS, pursuant to § 73-10-32, Utah Code Ann. (1953) (“Act”), Central Utah Water Conservancy District (“District”) prepared a Water Conservation and Efficiency Plan (“Plan”) and will update the Plan every five years; and

WHEREAS, the District has prepared the Plan and established goals to encourage its users to conserve and efficiently use water to meet District goals; and

WHEREAS, the District has made significant efforts in past conservation construction projects to improve efficiency; and

WHEREAS, in the last 10 years District efficiency projects have resulted in conservation of over 1.4 million acre-feet of water, or enough to fill Strawberry, Jordanelle, and Deer Creek reservoirs to capacity; and

WHEREAS, the District has participated in many statewide, conservation efforts, including the Governors Water Conservation Team, and will continue to lead in this and other statewide efforts; and

WHEREAS, the District has determined that the efficient use and conservation of water will help sustain current supply and help provide water supplies for future growth; and

WHEREAS, pursuant to the Act, the District has held a public hearing, after reasonable advanced notice, for the purpose of inviting discussion and public comment on the Plan.

NOW, THEREFORE, BE IT RESOLVED that the Board of Trustees of the Central Utah Water Conservancy District hereby affirms that:

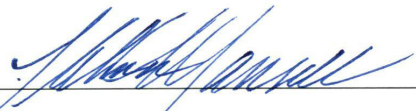
1. The District has met the requirements of the Act in its preparation of the Plan.

2. The General Manager is authorized and directed to cause a copy of the Plan to be submitted to the Utah Division of Water Resources along with all other persons or entities deemed appropriate.

3. The Plan is not a commitment of resources without annual budget review and approval by the Board of Trustees.

4. This resolution shall take effect immediately upon execution by an authorized member of the Board of Trustees.

Dated this 28 day of October, 2020.

By: 

L. Alma Mansell, Chairman



CENTRAL UTAH WATER
CONSERVANCY DISTRICT

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