Weber Basin Water Conservancy District

# Water Conservation Plan Summary

**JUNE, 2021**

# We are at a pivotal point in water supply planning

## This document provides a plan for water conservation

### Supporting State Goals

The Utah Division of Water Resources (UDWRe) has set water use goals for our region for the next 45 years[1]. The District has solutions to support each goal.

### Weber River Region UDWRe gallons per capita per day (gpcd) conservation goals:

**20%**
reduction by 2030
(to 200 gpcd)

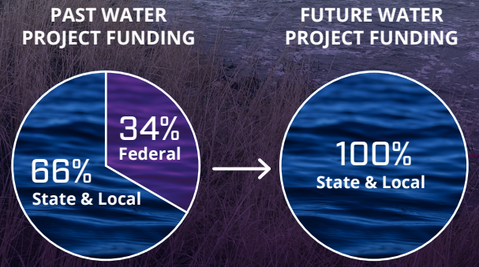
**26%**
reduction by 2045
(to 184 gpcd)

**30%**
reduction by 2065
(to 175 gpcd)

**To meet growing demands for water in our service area, the 2019 Statewide Water Infrastructure Plan estimates $6.9 to 7.2 billion[2] should be spent over the next 40 years, including:**

**$1.4 to 2.1 billion**
**on new supply infrastructure[2]**

**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[3].**




We need a robust plan to balance conservation and new supply development cost-effectively.

### Water conservation helps us:

**Secure a reliable water supply**
- Without conservation, water supply will limit population and economic growth.

**Manage infrastructure costs**
- Conservation will reduce demands and delay costly conveyance facilities by extending the life of existing infrastructure.

**Serve community expectations**
- Utahns are willing to take significant steps to reduce how much water they use, even at some personal expense[4].

**Minimize environmental impacts**
- Efficient water usage reduces pollution, leaving more water in streams, lakes, and reservoirs for fish, wildlife, and recreation.

### Water Use

Without conservation, **water use will continue to increase[3],** putting us on an unsustainable path.

### Development

Water used for residential, commercial, institutional, and industrial purposes is the most expensive and difficult water to develop, treat, and deliver. As more agricultural land is developed, particularly on the Wasatch Front, **the cost for water will continue to increase[3].**

### Population

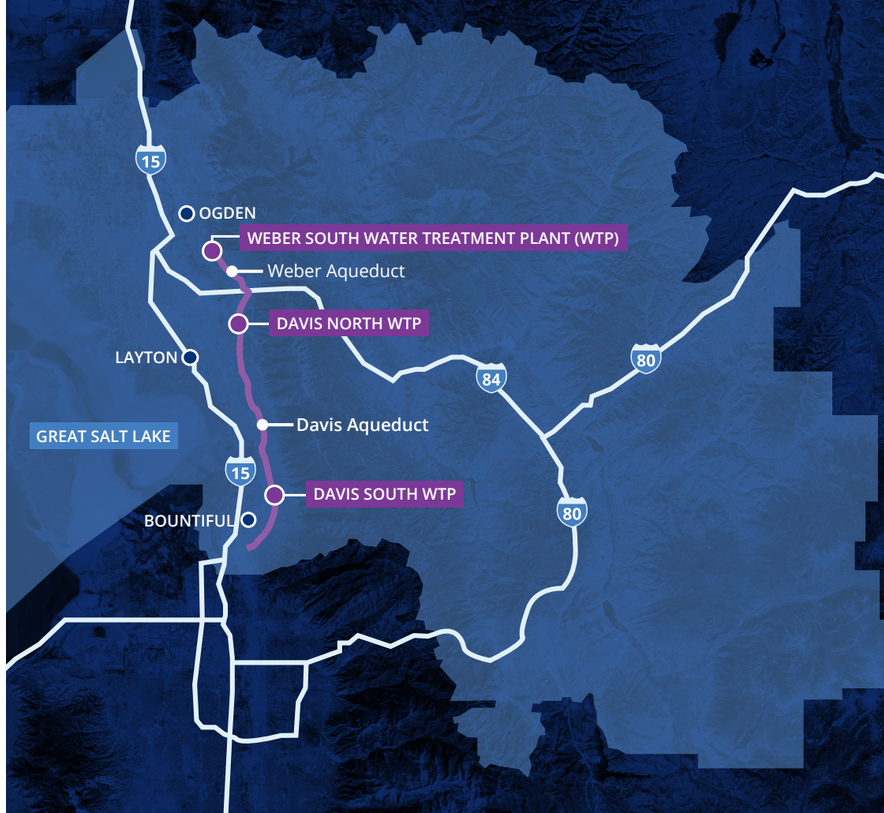
By 2060, the population in our region is expected to increase from over **650,000 to approximately 1,000,000[5].**

### Climate Pressure

Planning for the impacts to our water supply and water demand as a result of a changing climate is critical to ensuring sustainability and resiliency. Studies show that the impacts of the **changing climate will reduce streamflow, shift runoff timing, and increase demand for water[6].**

# The District plays a critical role in water supply on the Wasatch Front.

**The District collects water from the Weber River Basin and delivers agricultural, municipal, industrial, irrigation, and replacement waters to both retail agencies and individuals.**




**Serving nearly**
**700,000**
**people[5]**
**in five counties in northern Utah, the District supplies secondary (irrigation) water directly to over**
**23,000**
**individual customers**
**with almost**
**235,000**
**Acre-feet [AF]**
**of annual delivery contracts**

# A rich history sets a path of success moving forward

## Since 1950, the District has reliably provided water to local communities

As a wholesale water supplier, the District provides water to 53 wholesale irrigation contracts, 10 wholesale untreated water contracts, and 42 retail culinary water providers. The District is developing new strategies to conserve our water and extend existing supplies to support a growing population.

**With the District supporting state goals and robust water supply planning, we can ensure that water will be available for our children and grandchildren.**

## The District's Mission is to:

- **Conserve and develop water resources to provide for the needs of our customer agencies**
- **Use our water resources responsibly for the greatest benefit to the public**
- **Supply high-quality drinking water**
- **Protect the watersheds of our source rivers and groundwater supplies**

## In support of this mission, the District has three primary conservation objectives:

### The District supports customer agencies' conservation efforts

**CURRENT EFFORTS**

**Rebates**

1,900 residential smart controller and 200 residential toilet rebates processed in 2020

**Water audits**

Average 400 assessments of individual properties per year from 2015-2019

### Demonstrate the effectiveness of outdoor water conservation

**CURRENT EFFORTS**

**Retail secondary water metering and reports**

Typically, 700-1,000 meters installed per year; combined with secondary water use reports, results in a reduction at metered customers of ~25%

### Encourage public conservation efforts through education and incentive programs

**CURRENT EFFORTS**

**Conservation garden and education center**

Average 8,500 visitors per year

**Conservation classes and education**

Total attendance in 2019: 1,385

Total attendance in 2020: 1,721 + 844 viewed recordings

**FUTURE EFFORTS**

These current efforts are making great strides toward improving water conservation. Moving forward, the District has future goals to continue supporting each of these objectives, described on the following pages.

# The District has a well-researched path forward to efficiently use our water resources through 2060

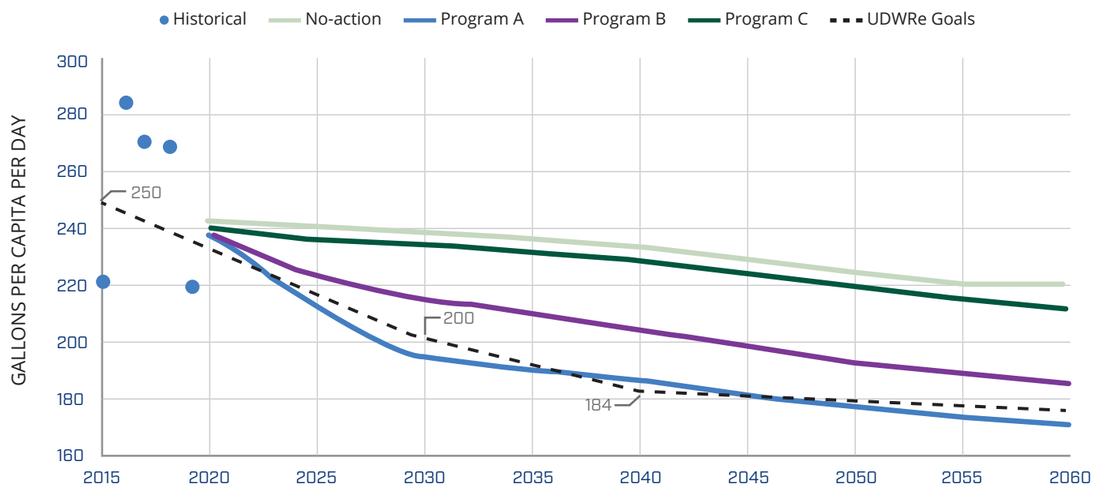
Potential conservation measures were screened for appropriateness to the area, evaluated and ranked by the District, and formed into programs. A survey was distributed to District customers which helped inform the measures selected for evaluation.

## The District evaluated three conservation program options

Saving water will cost money, but the benefits outweigh the costs. To achieve the state conservation goals (Program A) will require a significant increase in effort and funding in the next 40 years. Based on District modeling of three program options, the District selected Program B to implement.

| | **PROGRAM A**<br>UDWRe gpcd goals | **SELECTED**<br>**PROGRAM B**<br>Moderate improvements | **PROGRAM C**<br>Current path |
|---|---|---|---|
| | Meet state gpcd goals for the Weber Basin region. | Increase in District level of investment in conservation and assume a tolerable increase in spending from customer agencies and end users. | Maintain existing measures, with minimal additional effort by non-District secondary water providers. |
| | Approximately 35,445 average annual water savings (AF/year). | Approximately 17,989 average annual water savings (AF/year). | Approximately 2,614 average annual water savings (AF/year). |
| The District and Other Water Providers | $231.17 M | $154.62 M | $65.09 M |
| End Users* | $374.74 M | $334.42 M | $13.81 M |
| **TOTAL** | **$605.91 M** | **$489.04 M** | **$78.90 M** |

**Note: High costs for end users are due to the cost of implementing conservation landscaping ordinances for new construction, estimated at about $4,000 per new home.*



## Measures in Program B include:

### Education

Education provides the backbone for any conservation program.

### Incentives

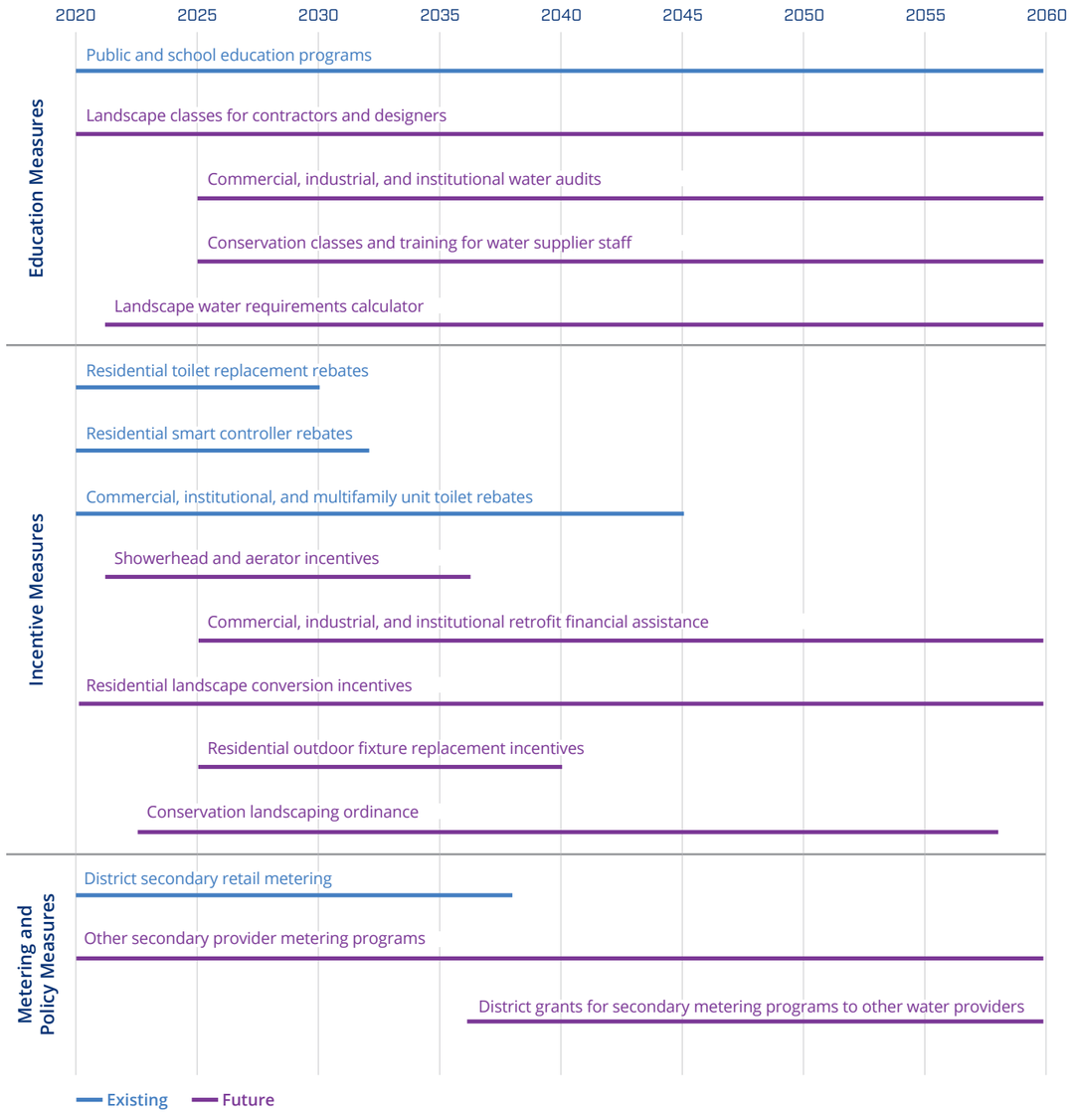
Incentives offer financial encouragement to adopt efficiencies such as fixtures, appliances, and landscaping.

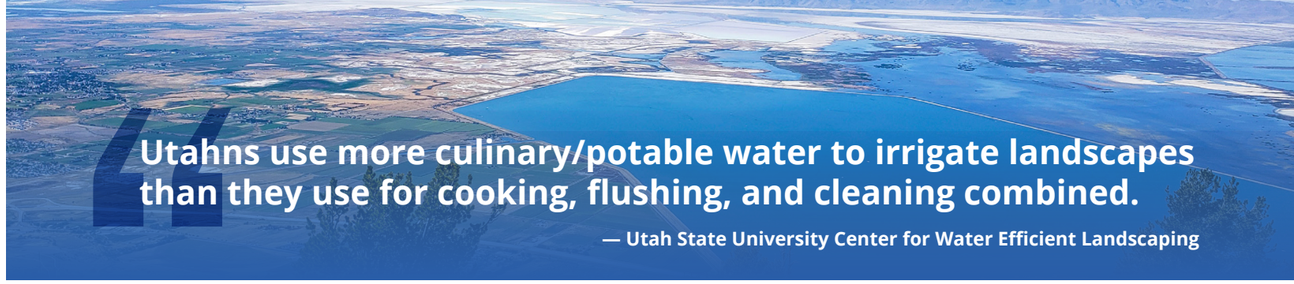
### Policies

Policy implementation has a substantial impact on conservation by affecting large numbers of customers at once.

### Metering

Most of the secondary water in our region is not metered at the end user. Measuring how water is being used is one of the first steps to reducing usage.



> **Utahns use more culinary/potable water to irrigate landscapes than they use for cooking, flushing, and cleaning combined.**
>
> — Utah State University Center for Water Efficient Landscaping

## The highest impact water conservation efforts should include reducing outdoor use. We need your help with:

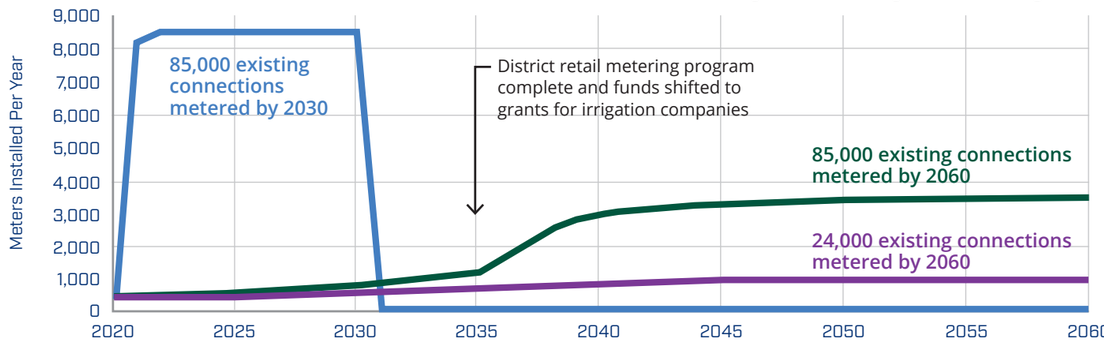
### Developing policies and laws that facilitate conservation

The need for conservation-friendly policies is twofold; regulations accompanied with funding are needed to drive conservation faster, and policies are needed to address beneficial use requirements in current water right law that discourage conservation by forcing water rights holders to use their water or lose their right.

### Secondary metering

This District is making steady progress towards installing meters for all its retail secondary customers. However, these customers only account for 20% of the total secondary connections in the region. Achieving meaningful conservation will require metering of all customers, a significant effort if the state goals are to be achieved.

> **Local research shows "One of the most empowering ways to promote landscape water conservation is to help people understand how much water their landscapes actually need."**[7]




### Conservation landscaping ordinances and legislation

To maintain attractive communities, homeowner association rules and city ordinances can sometimes prevent or discourage water-efficient landscaping. Communities that adopt new policies and ordinances can promote conservation while maintaining community aesthetics. Implementing such standards results in homes that can consume half of the average annual consumption for a typical household on the Wasatch Front.


Weber Basin Water Conservancy District

PREPARED BY: Brown AND Caldwell | Maddaus Water Management Inc.

## SOURCES:


1. Utah Division of Water Resources (UDWRe), "Utah's Regional M&I Water Conservation Goals", Regional Water Conservation Goals, 2019 water.utah.gov/regional-conservation-goals
2. Bear River Water Conservancy District, Cache Water District, Central Iron County Water Conservancy District, Central Utah Water Conservancy District, Jordan Valley Water Conservancy District, Utah Division of Water Resources, Washington County Water Conservancy District, Weber Basin Water Conservancy District, "Statewide Water Infrastructure Plan – 2nd Edition", Prepare 60 Securing Utah's Economic Future, 2020 prepare60.com/Content/SWIP2.pdf
3. Prepare60's Guide to Securing Utah's Water Future prepare60.com/Content/P60Guide2021.pdf
4. Envision Utah, "Water Survey Results", Your Utah, Your Future, 2015
5. Wasatch Front Regional Council (WFRC), "Household Projections (City Area)", Socioeconomic Data, June 24, 2020
6. Khatri, Krishna B and Strong, Courtenay, Utah Division of Water Resources (UDWRe), Climate Change, Water Resources, and Potential Adaptation Strategies in Utah, March 2020 data.wfrc.org/datasets/household-projections-city-area yourutahyourfuture.org/topics/water/item/63-your-utah-your-future-survey-results
7. Endter-Wada, J., D.T. Glenn, C.S. Lewis, R.K. Kjelgren, and C.M.U. Neale, Water User Dimensions of Meter Implementation on Secondary Pressurized Irrigation Systems, Research Report for Weber Basin Water Conservancy District and the US Bureau of Reclamation, 2013


## KEY TERMS:

**Acre-feet per year (AF/year):** An acre-foot is the volume that would cover one acre of land to a depth of one foot. It is equal to 325,851 gallons.

**Gallons per capita per day (gpcd):** The amount of water used by 1 person in 1 day. Usually calculated by the water used in a geographical area divided by the population.

**Secondary water:** Untreated, unfiltered water used for irrigation of outdoor residential landscaping and gardening. This water is non-potable (not suitable for human consumption). The District primarily wholesales secondary water to water providers, who in turn retail it to their customers. The District also retails secondary water directly to some residents in Davis and Weber County where there is not another secondary water purveyor.

**Water Audits:** Designed to help homeowners be as efficient as possible with landscape irrigation. Audits consist of well-trained interns from the District doing a personal assessment on the property. They check the irrigation system and make suggestions if they see anything that could make it more efficient. A simple field soil test is performed to determine general soil type and texture. A catch-cup test is performed to see how quickly the sprinklers are applying water to the lawn and to determine how uniform the water is being applied.

**Learning Garden:** The center of water education and demonstration at the District and is focused to reach water users and motivate positive change in water behaviors. The garden showcases landscapes suited for Utah's unique climate that are beautiful and easy to maintain, but are also designed to use water efficiently.

## FOR MORE INFO:

weberbasin.com | water.utah.gov | prepare60.com
slowtheflow.org | localscapes.com