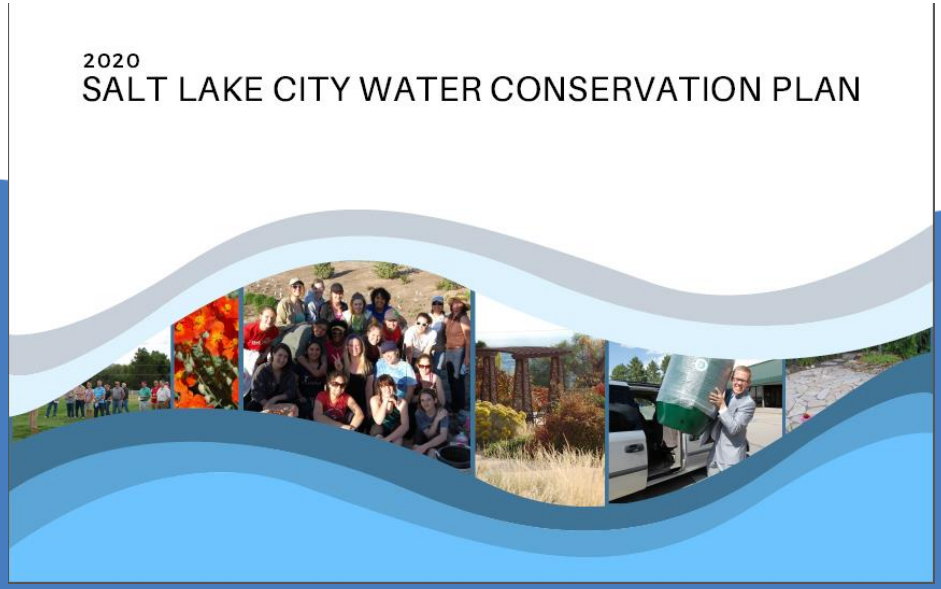
Public Utilities



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Why do we need a water conservation plan:

- To meet provisions articulated in Utah State Code 73-10-52: Water Conservation Plan.
- Planning allows the City to budget and innovate to help meet goals to benefit the water consumers.
- Planning helps to ensure that conservation programing occurs throughout the service area, across all water connections, and for as many of our customers as possible.
- Conservation planning helps in assessing water supply and demand, and to establish goals so that we know we are achieving and sustaining the necessary levels of water use reduction.
- Conservation planning helps to ensure that water use reduction occurs in a manner that minimizes negative impacts to the community, our economy, or the environment.

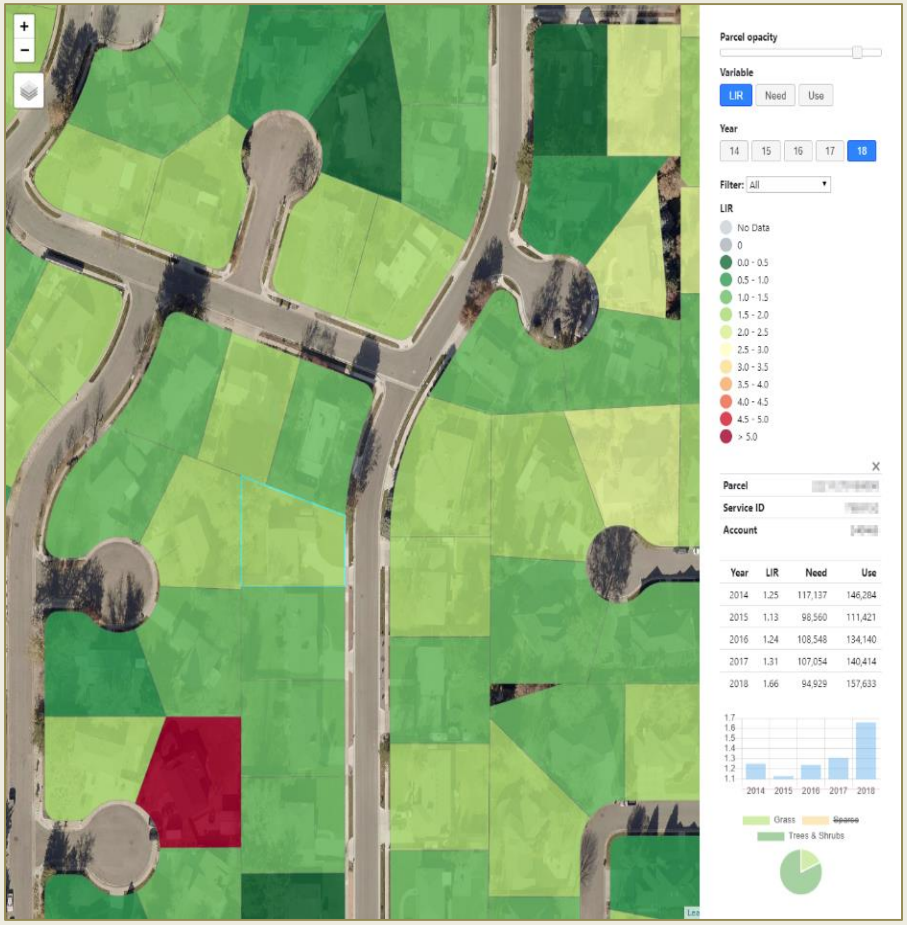
What's in this plan:

- Estimates of projected future water supply and water demand
- Analysis of past water use
- 5-, 10-, and 40-year goals for water conservation
- Water conservation program practices to help achieve short- and long-term water conservation goals
- Communication plan to guide the public process before and after plan adoption

Water conservation is an important component of how we plan for our critical water resources, and your support of water conservation efforts is critical to our success at achieving short- and long-term water conservation goals.

How you can help:

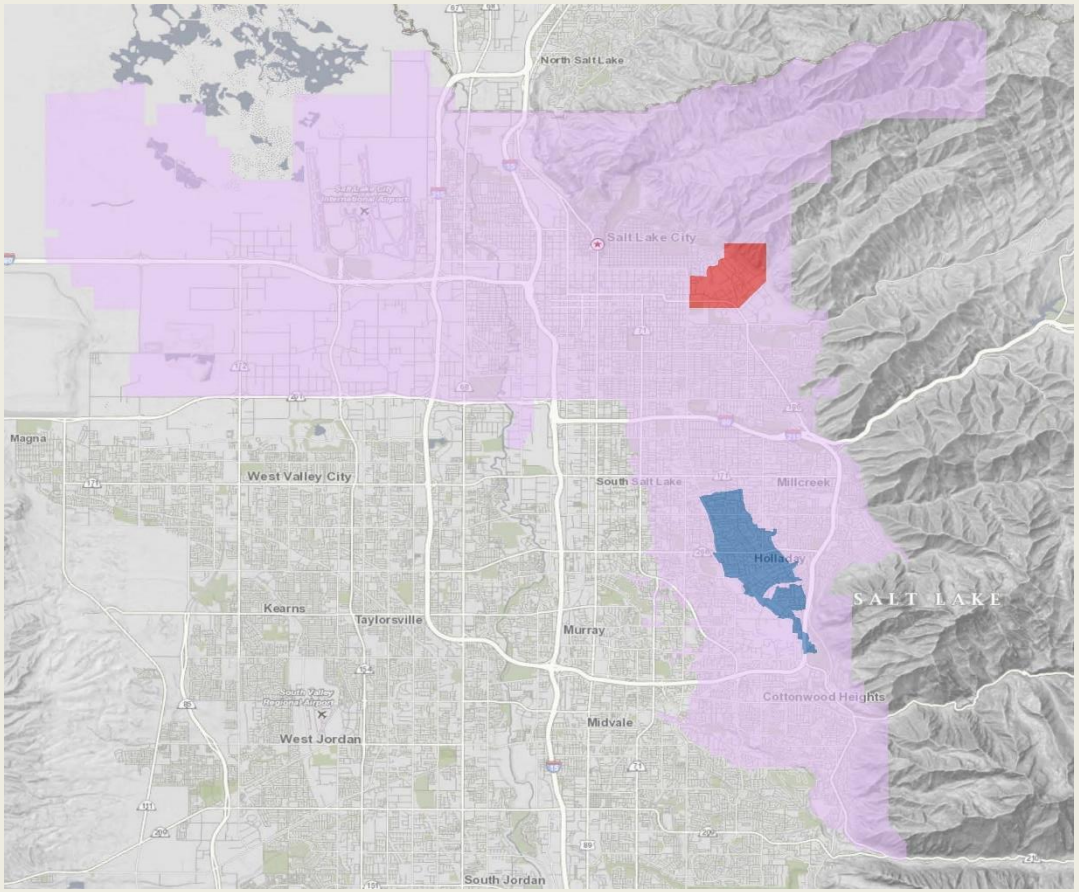
- Review the Water Conservation Plan 2020
- Take the survey
- Participate in water conservation programing opportunities
- Encourage your workplace or school to do their part by creating water conservation plans



Our water service area:

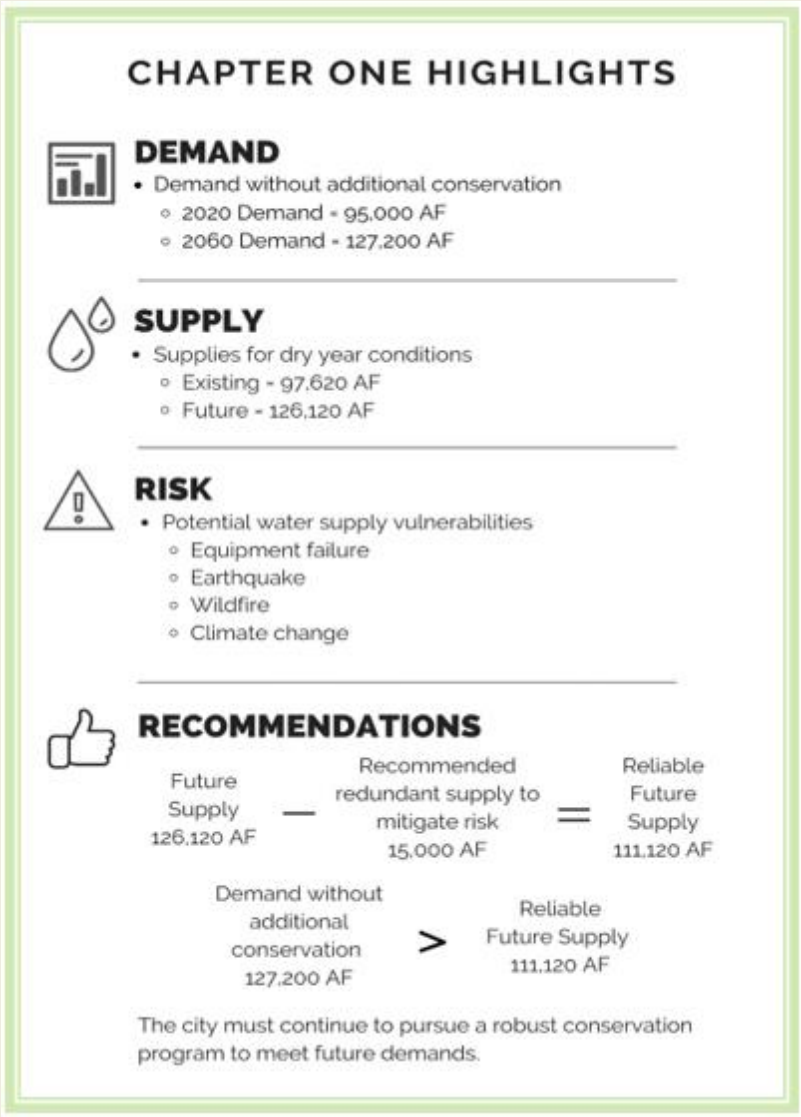
- 90,000 water connections
- 360,000 people
- Spread across:
  - Salt Lake City
  - Mill Creek
  - Holladay
  - Cottonwood Heights
  - And portions of Murray, Midvale, and South Salt Lake

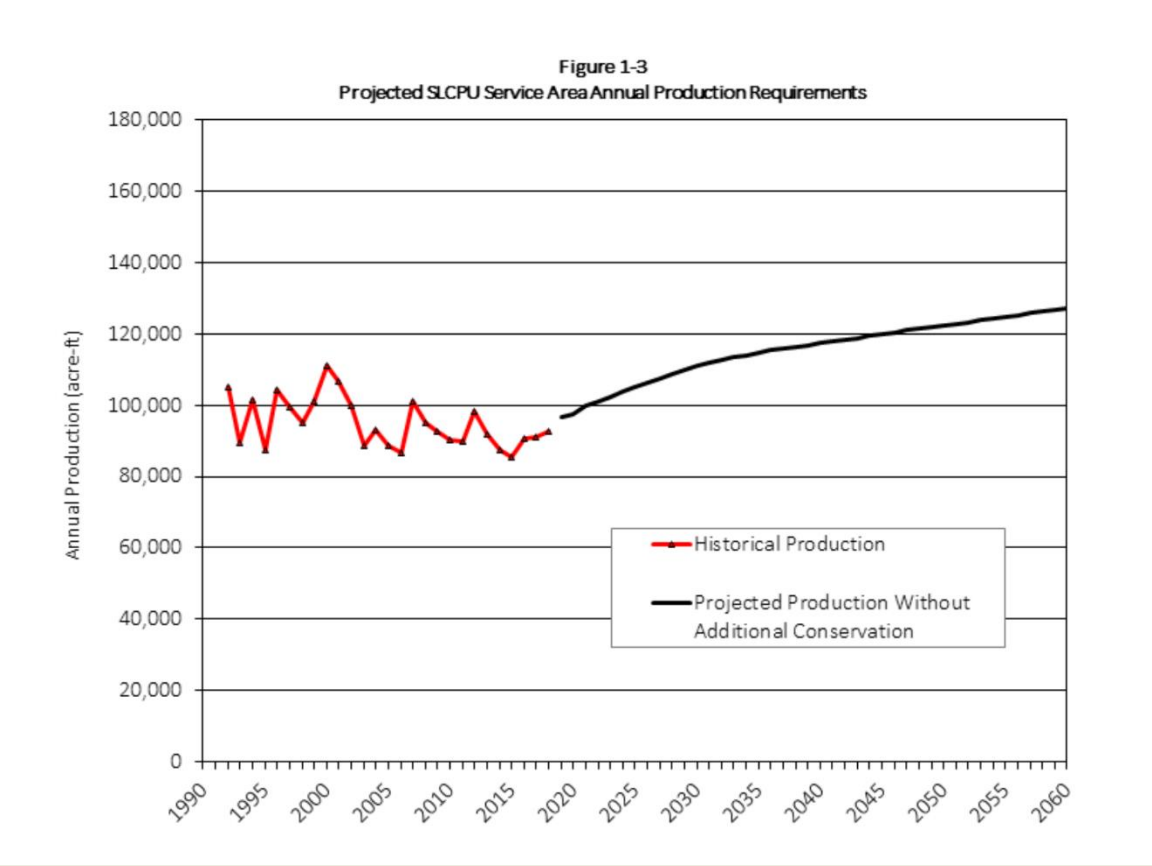
The red and blue areas are areas inside of the service area that do receive water from Salt Lake City but also have some of their own water sources.



Chapter 1: Supply and Demand

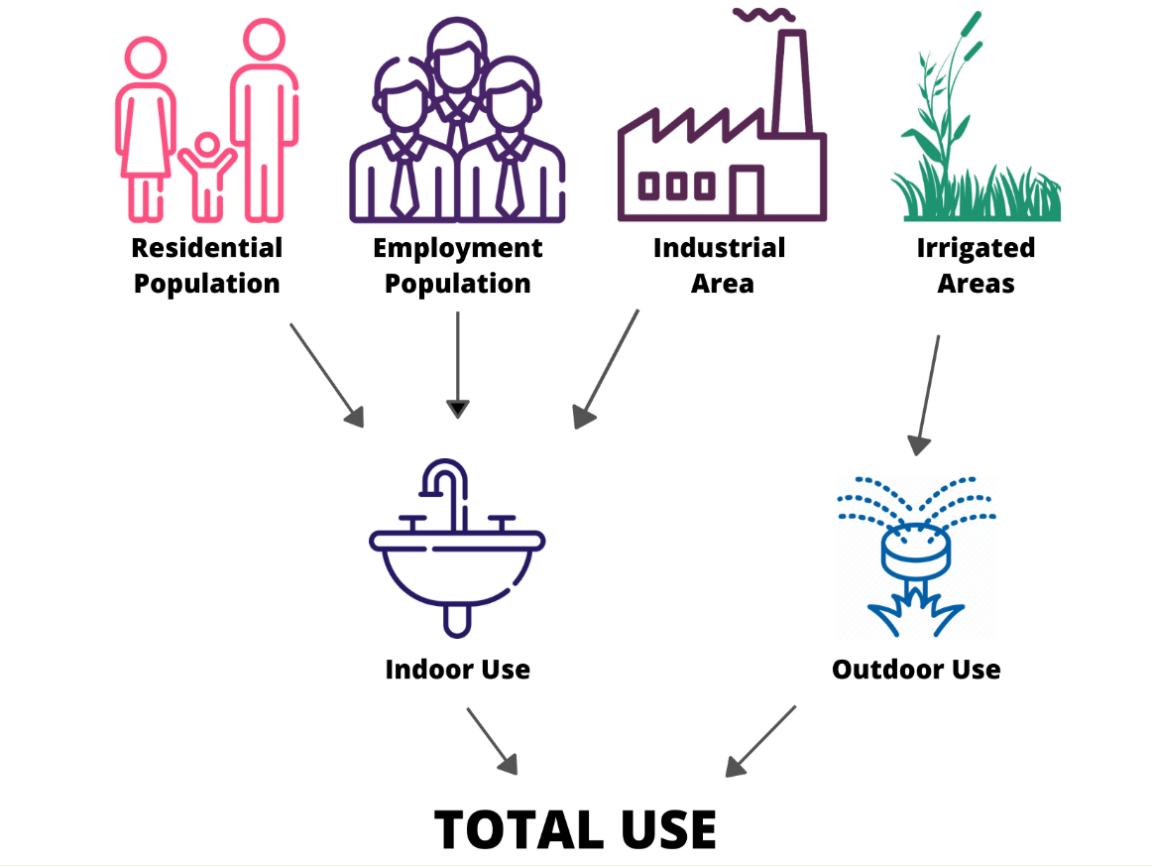
- Our reliable water supply estimate is based on historic supplies during dry years.
- Also, proactive water planning includes a minimum, though necessary level of water held in reserve. Our plan allows for 15,000 acre-feet of reserved water. This helps us manage or mitigate impacts from potential events such as equipment failure, earthquake, wildfire, and drought.
- Demand without additional conservation will exceed planning supply (the water supply in a dry year minus stored water) by 16,080 acre-feet (2060), annually, if conservation level remains constant and does not increase.
- Continued and increased efforts in conservation will be an important component of meeting future demand





Without additional conservation, we could exceed our water supply in the next 40 years.

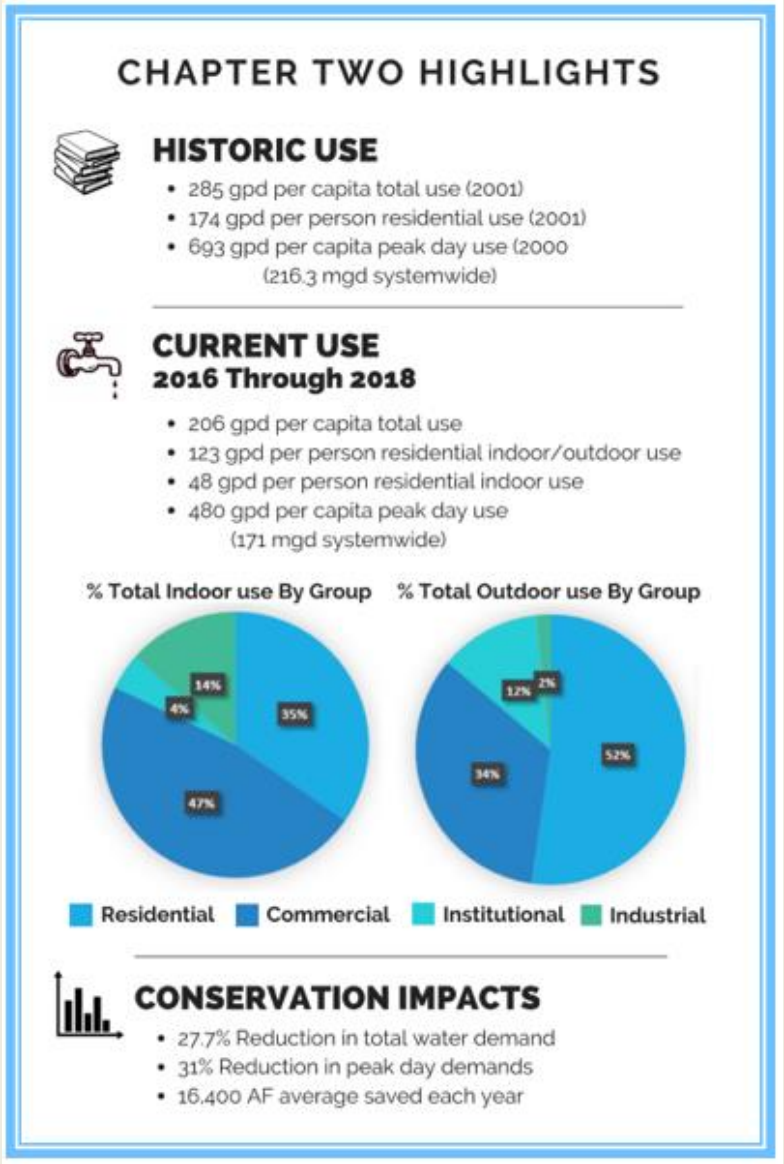
Over the past 20 years, we have grown our water conservation ethic and helped conserve this precious and limited resource. But we have new goals and more work to do to ensure this resource is sustained and protected for current and future generations.



Demographic Factors Predictive of Demand

Our service area is diverse, and includes residents, businesses, industry, schools, churches, and government facilities using water indoors and outside. Effective water conservation planning considers all of these diverse users and their specific relationships with water demand.

Chapter 2: Historical Use



Since 2001:

- 27.7% reduction in total demand
- 31% reduction in peak day demand. “Peak day” refers to the day of the year when the most water is used. This determines the size of our water infrastructure. Reducing peak demand helps extend the life of our infrastructure, helping to manage or reduce capital costs.
- As a community, we have saved 16,000 acre-feet of water each year, averaged over the last 19 years. This is a tremendous effort and puts us on the right path to achieving our next level of conservation goals.

What does “gallons per capita day” (gpcd) mean?

Gallons per capita day, or gpcd, refers to an average volume of water used each day within a water service area. Ours is very diverse, and includes people, businesses of all types, industries, hospitals, airports, schools, and more.

All those people and places use water. To calculate gpcd, the total amount of water used during a year is divided by the census population estimate.

This helps us to understand how much water we need to produce every day and helps us plan for future water use needs.

It is helpful to understand that gpcd does not mean that an individual uses that much water in one day, but rather that collectively, it takes that much water per person to live, work, and recreate each day.

There is a great deal of variability between communities when it comes to population and commercial characteristics, which can make comparing the gpcd of different communities difficult. This is why we rely on other methods to analyze water use in our service area.

FIGURE 2-3

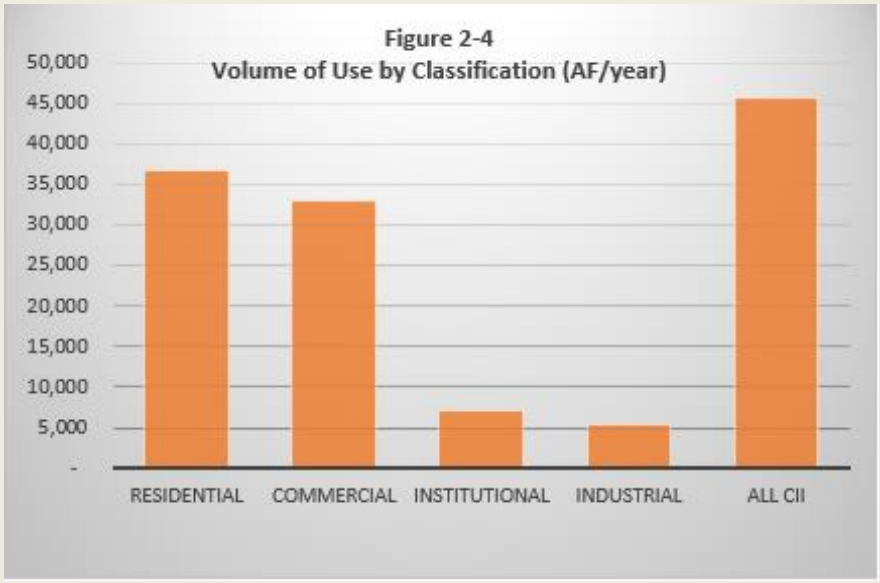
WATER USE CLASSIFICATION AND SUB-CLASSIFICATION

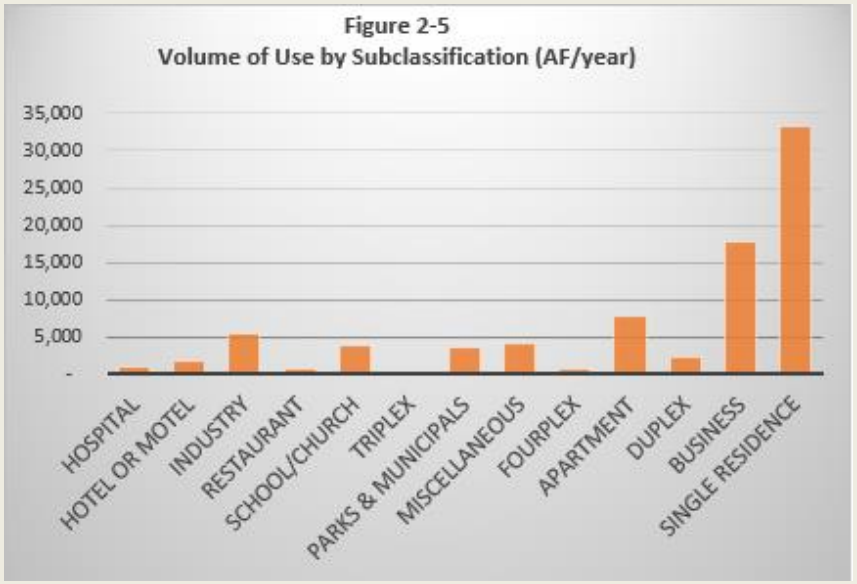
Residential	Commercial	Institutional	Industrial
Single Residence	Business	School	Industrial customers of all types
Duplex	Hospital	Church	
Triplex	Hotel or Motel	Parks	
Fourplex	Restaurant	Government	
	Apartment		
	Miscellaneous		

Water use classifications and subclassifications

These are the classifications and subclassifications we use to collect and analyze water use for water conservation planning purposes. By organizing water users by shared characteristics, we can better understand how groups need and use water and how to help them achieve the necessary water use reductions established in the plan.

Total annual water use by classification (2016-18)

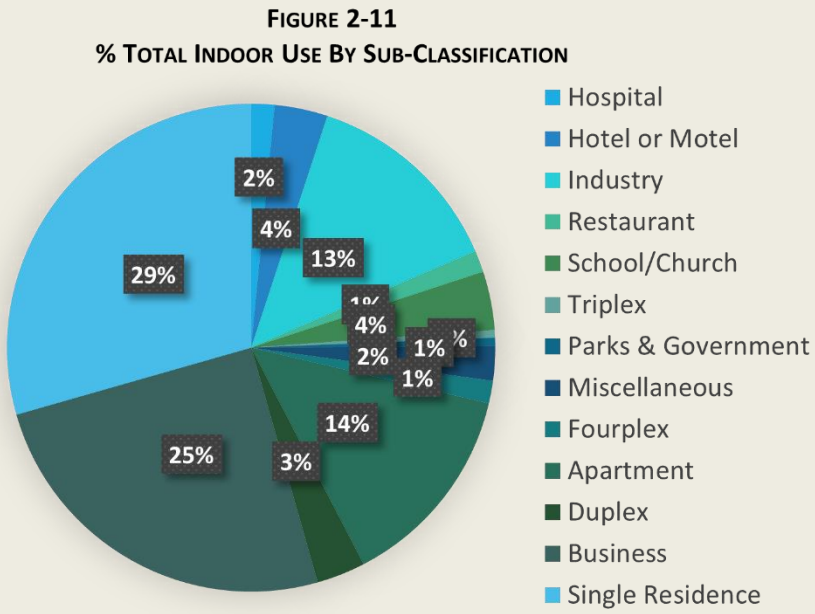




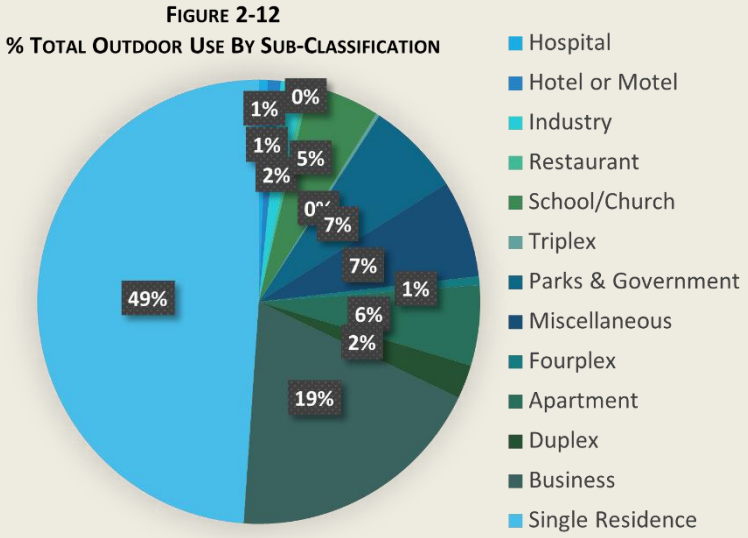
When we look are classifications, the combined Commercial, Institutional, and Industrial classifications (CII) is the largest water user (though there are only 12,000 to 14,000 connections; compared to the 45,000 connections in the Residential classification). However, when we examine subclassifications, single-family residential is seen to have the highest water use. Though it appears “Triplex” has no water use, it is just a very small subclassification and the use doesn’t show here due to the reduced size of the charts shown here.

Total annual water use by subclassification (2016-18)

Indoor



Outdoor

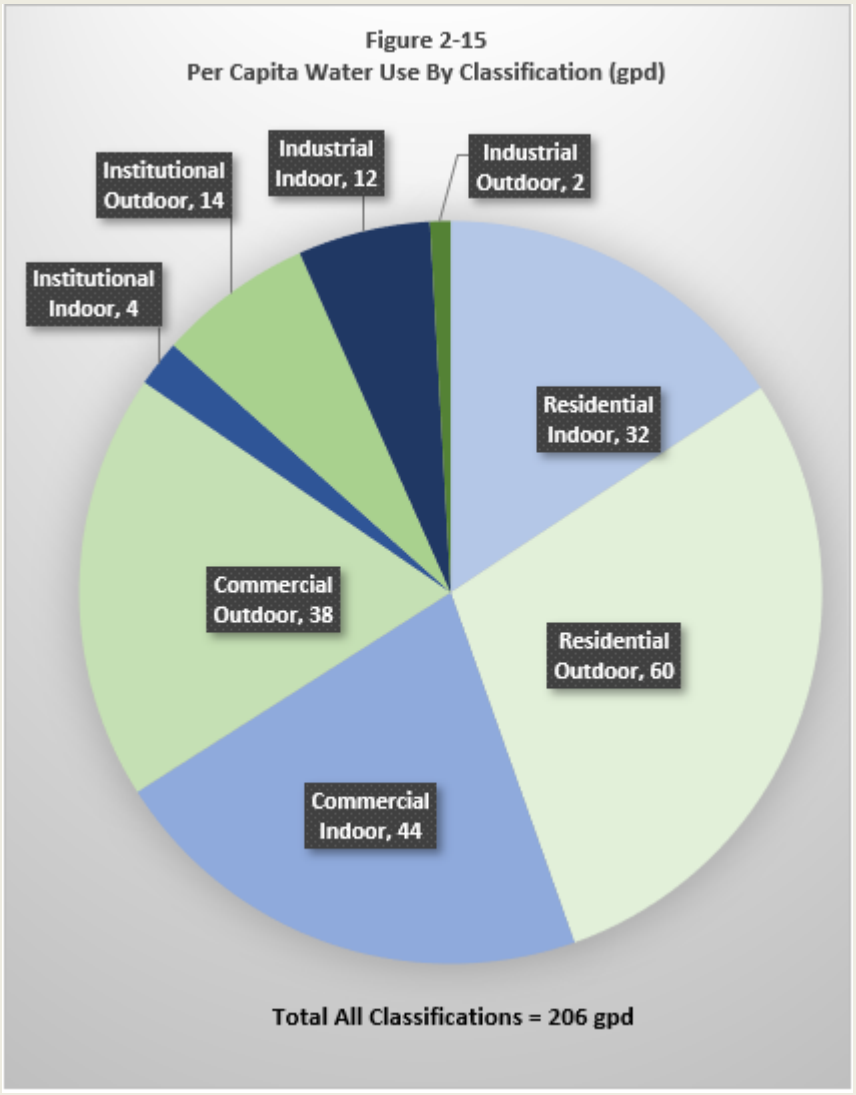


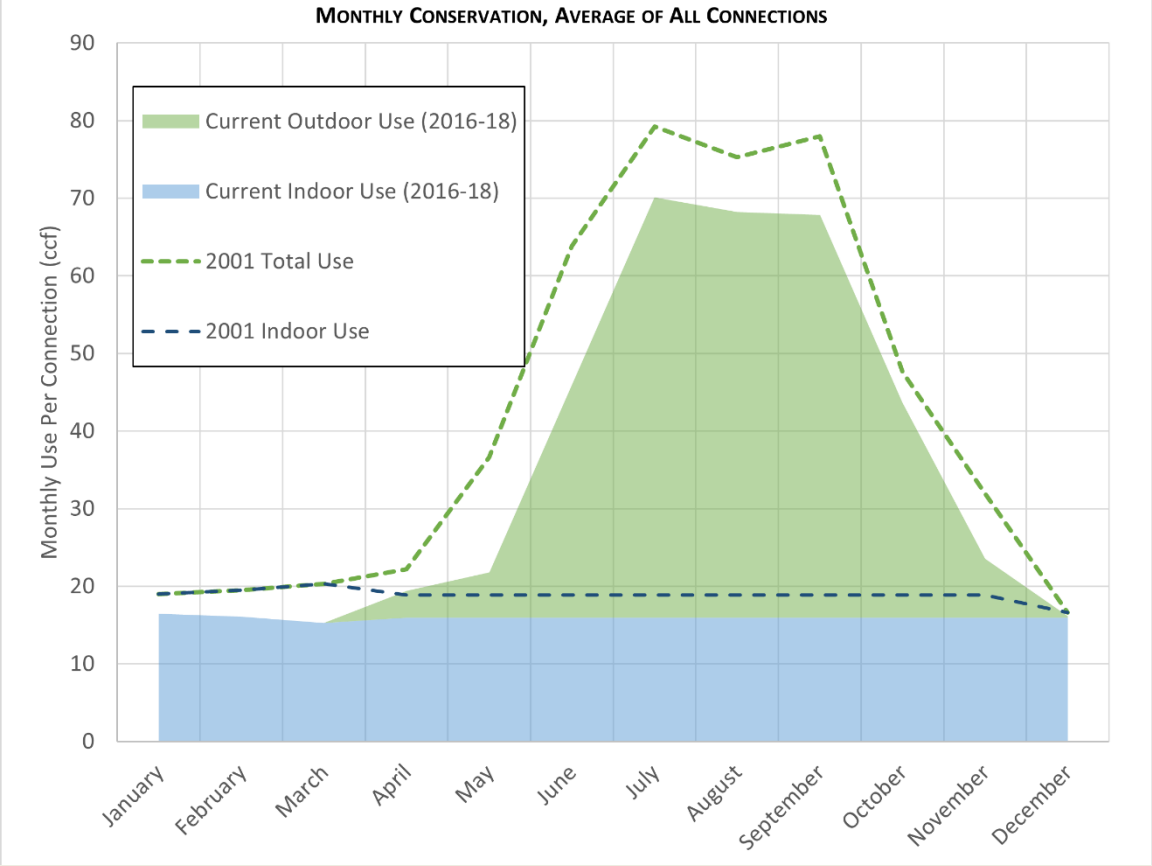
When we separate indoor and outdoor uses (assumed to be predominately landscape use), single family residential and Business represent the two highest use subclassifications.

We estimate outdoor use by averaging the amount of water used over the winter months to arrive at an estimated average for daily indoor water use. We then subtract that number from an averaged daily summer water use.

Calculating per capita water use by classification (gpcd) has limitations:

- Varied demographic characteristics within a classification (particularly in Commercial/Industrial/Institutional sectors) makes it difficult to estimate an actual gpcd for each water user. For example, restaurants, hotels, and office buildings are all in the Commercial sector, but have different water use patterns.
- Average gpcd does not reflect the seasonality of water use.
- This is why we don't rely solely on gpcd as the primary benchmark for measuring water conservation demand or in establishing goals.





Water Use Comparison: 2001 to 2016/18

But what all these graphs and charts are showing is that, as a community, we have successfully sustained a reduction in water use. This sets us on the right path to achieve our next level of water conservation goals.

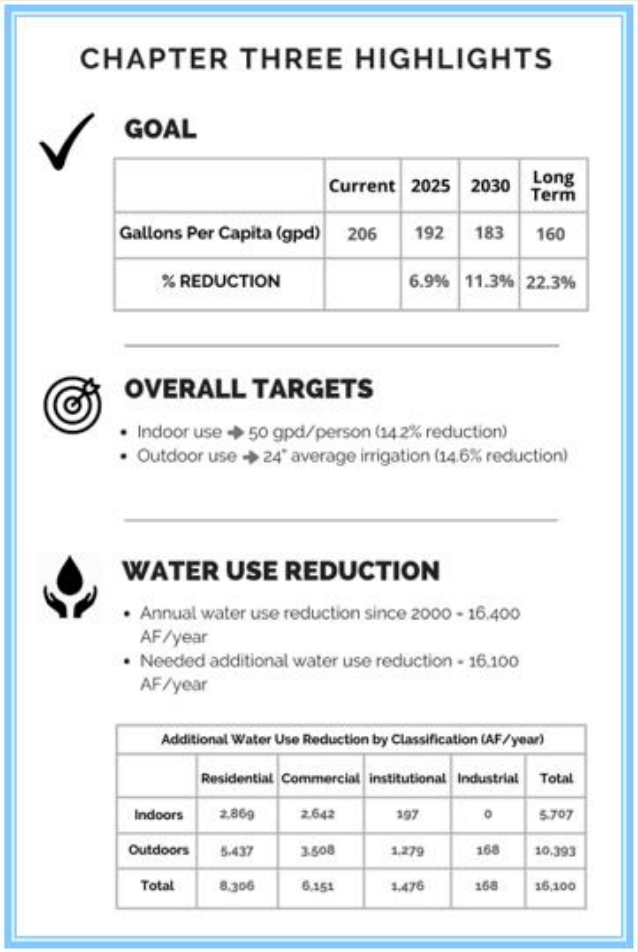
Chapter 3: Conservation Goals

Factors in establishing conservation goals:

- Outcomes from the *Salt Lake City Supply and Demand Study, 2019,* identified future available water supply and projected water demand
- Utah's Regional Conservation Goals

In order to sustain our current and future water supplies, over the next 40 years we will need to reduce our annual water use by 16,100 acre-feet of water, additional to current conservation levels.

These goals may change as analysis of current use patterns continues. Changes in projected population growth, or the effects of weather variability and climate change on water supplies may also prompt a reevaluation of these conservation goals.



CHAPTER THREE HIGHLIGHTS

GOAL

	Current	2025	2030	Long Term
Gallons Per Capita (gpd)	206	192	183	160
% REDUCTION		6.9%	11.3%	22.3%

OVERALL TARGETS

- Indoor use → 50 gpd/person (14.2% reduction)
- Outdoor use → 24" average irrigation (14.6% reduction)

WATER USE REDUCTION

- Annual water use reduction since 2000 - 16,400 AF/year
- Needed additional water use reduction - 16,100 AF/year

Additional Water Use Reduction by Classification (AF/year)

	Residential	Commercial	institutional	Industrial	Total
Indoors	2,869	2,642	197	0	5,707
Outdoors	5,437	3,508	1,279	168	10,393
Total	8,306	6,151	1,476	168	16,100

Past and projected water conservation trend, 2000 - 2065

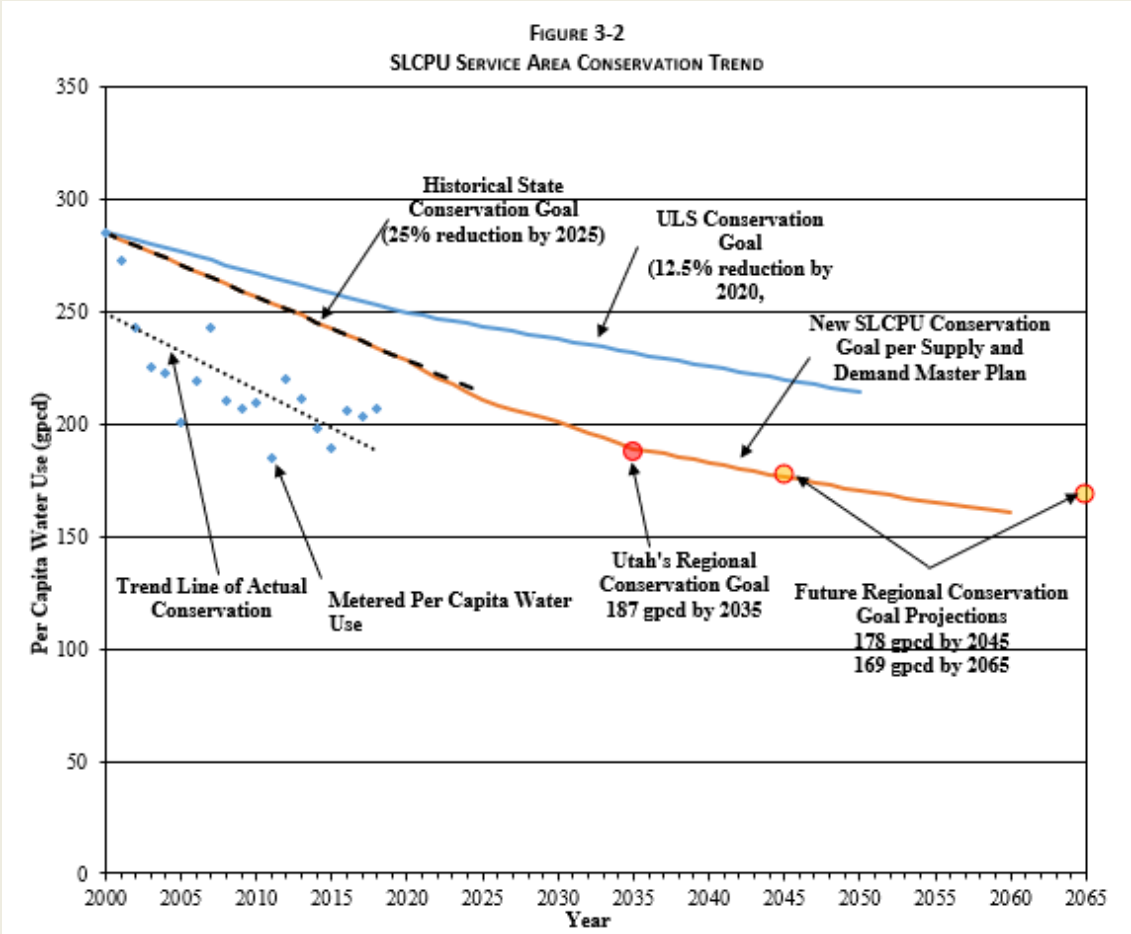
Having conservation goals helps us by creating a shared vision and to measure our successes.

These are the various goals against which we have compared our water conservation efforts since 2001.

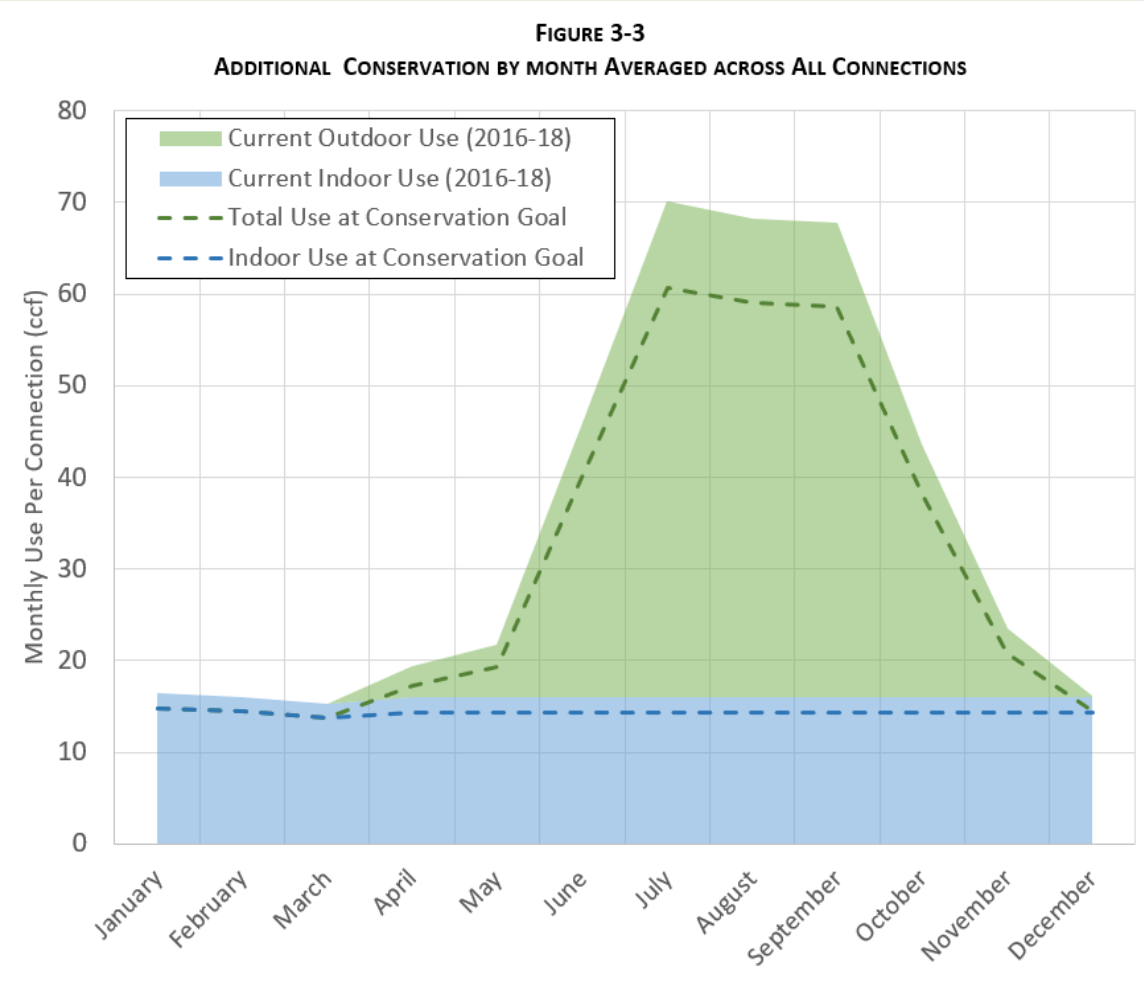
Notice that, since the beginning of our efforts, we have exceeded both the Governor's Statewide Goal and the ULS Conservation Goal.

Our new goals also exceed the Regional Goals recently adopted by the State of Utah.

We have accomplished a great deal with our past and current water conservation efforts. It is evident that, working together, we can achieve and sustain water conservation goals.



Total annual future demand goal



16,100 acre-feet may sound like a lot of water, but we only need to reduce enough to bring our use under the dashed lines. Well, maybe just a little more, to be safe! Notice that water conservation needs to come from both indoor and outdoor uses. This means everyone can help, and that there are a lot of different ways to use less water. To learn more, visit www.slc.gov/utilities/conservation.

5-, 10-, and 40-year conservation goals, expressed as annual total water use

TABLE 3-4

RECOMMENDED INTERIM CONSERVATION GOALS

	2018	5-year	10-year	Long-Term
Per Capita Use	206	192	183	160
Percent Reduction Per Capita	-	6.9%	11.3%	22.3%
Percent Reduction Indoors	-	3.0%	5.0%	9.9%
Percent Reduction Outdoors	-	4.5%	7.4%	14.6%
Percent Reduction Total Use	-	3.8%	6.3%	12.5%

These goals may sound like a lot, but when looked at by each water connection, the amount of water we need to reduce is very achievable. For instance, the average household will need to reduce water use by only 21 gallons of water indoors and 43 gallons of water outdoors each day. But achieving our goals will take all of us doing our part. For information on how to reduce water use, visit www.slc.gov/utilites/conservation.

Chapter 4: Conservation Programs, Practices, and Measures

Program Selection Criteria:

- Help to reduce water use or water waste
- Enhance water stewardship ethos
- Have community and political support
- Be equitable and fair
- Provide a cost-benefit to the City and water customers

Program focus

Outreach

Educational programs to guide behavior or influence product choices. Primarily voluntary participation, though sometimes acts as pre-qualification or post-verification program qualifier.

Economic

Ensure pricing signals are consistent with conservation goals, while being fair and equitable. Provide incentives to overcome impediments to change.

Utility

Ensure the Utility is acting as a model in behavior and stewardship roles.

Policy and Law

Institutionalize better choices regarding landscape design and maintenance, as well as fixture and best practices where appropriate through adoption of policy, ordinance, or rates

Research and Metrics

Focus on actionable science and research. Establish meaningful benchmarks, evaluate program effectiveness, and gain deeper understanding of water use patterns and relationships.

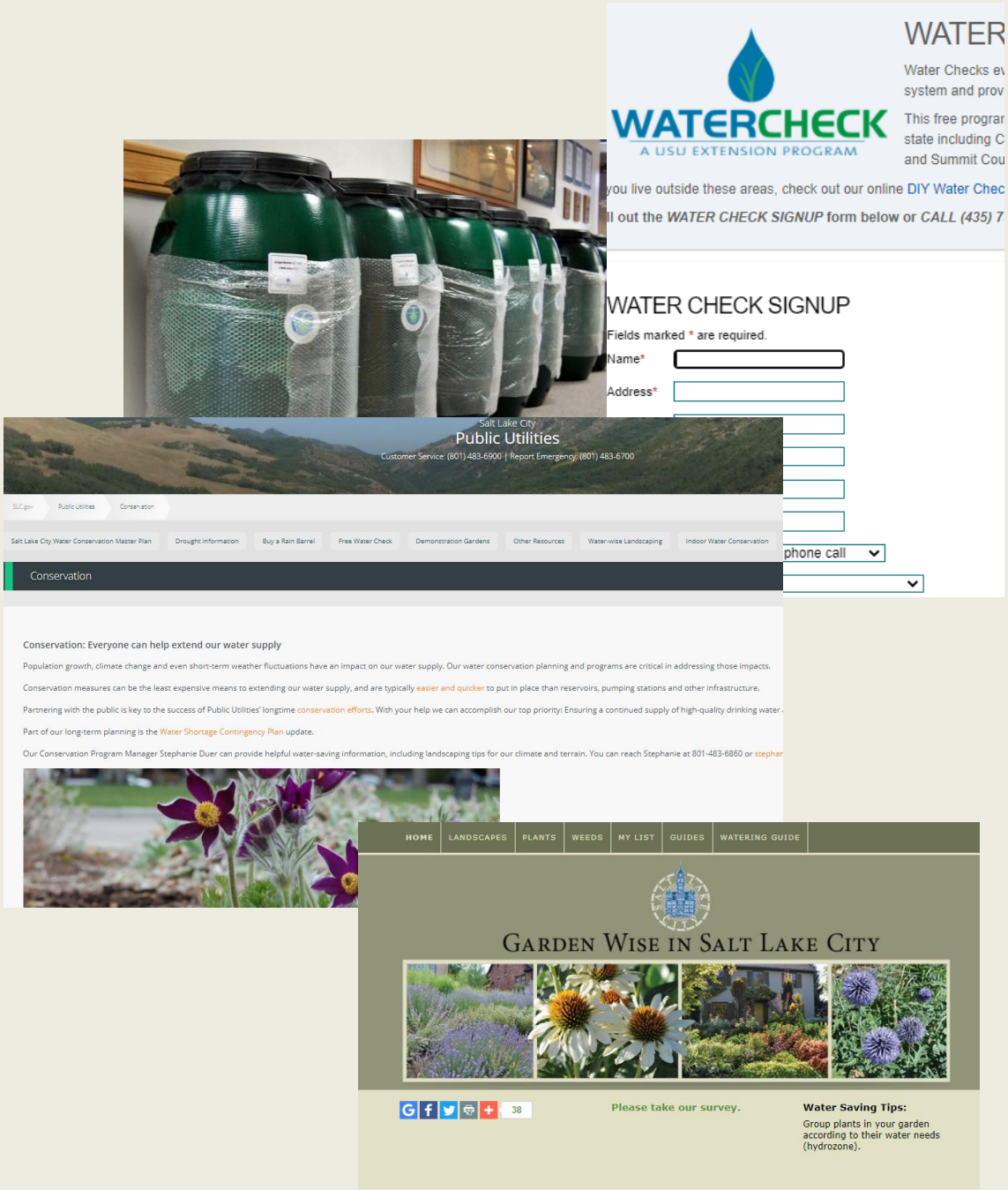
Tools and Resources for Conservation

www.slc.gov/utilities/conservation

www.slcgardenwise.com

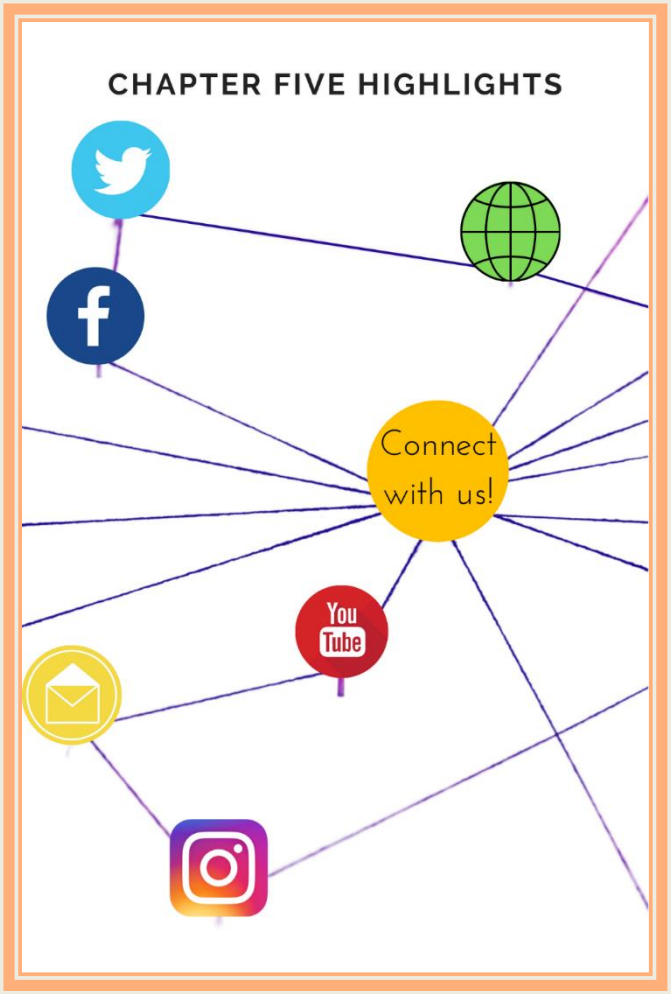
www.cwel.usu.edu

stephanie.duer@slcgov.com



Chapter 5: Public Outreach and Communication Plan

- Engage stakeholders (internal and external), subject experts, and community.
- Utilize a variety of communications venues to increase and enhance engagement opportunities.
- Build community support for the adoption of the conservation plan update.
- Achieve the conservation goals through a shared understanding of the need to conserve.



You can help use achieve these goals by reviewing the plan, taking the survey, and letting your City Council member know you support water conservation. Most importantly, you can help by learning new ways to save water. Visit www.slc.gov/utilities/conservation to learn more.

Public Utilities

www.slc.gov/utilities/water-conservation-plan-2020