



# Greeley, CO

## Expanding long standing traditions of water conservation

Fig. 1

### Project at a Glance

#### Utility Overview

- Utility: Greeley Water and Sewer Department
- Location: Greeley, Colorado
- Population served: 149,512
- Service area: 99 square miles

#### Challenges

- Aging infrastructure
- Changing State and Federal regulations
- Change in demand
- Climate change & ongoing drought
- Wildfires

#### Solution

• Greeley, Colorado, takes a multi-pronged approach to addressing challenges to its water supply, by (1) creating household water budgets to help residents reduce their water use; (2) performing water audits on homes to assure residents are using their water efficiently and within their budget; (3) educating residents on the best ways to conserve water; and (4) providing rebates for water efficient fixtures and replacing their lawns with more water efficient landscape to further incentivize wise water use.

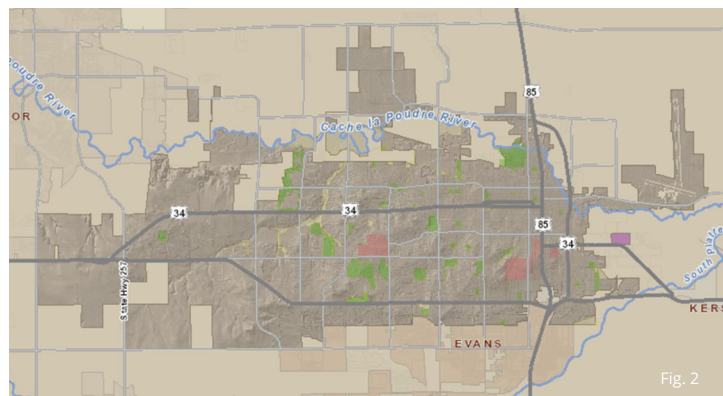


Fig. 2

#### Costs and Funding Sources

- Total Project Cost
  - Overall Conservation Budget: ~\$740,000 (as of 2020)
  - Indoor Audits: \$7,000 (annual average; \$150/ outdoor audit)
  - Irrigation Audits: \$39,000 (annual average; \$55/ indoor audit)
  - Rebates (as of 2022): \$50,000
  - Life After Lawn ~\$150,000 per year from 2022-26
- Funding Sources:
  - Water Rates

#### Benefits



**Reduced water usage by 20% even as the City's population has grown**



**Residents are better informed about their water usage**



**87% of single family homes stayed within their water budget in 2020**



**Residents save money because of more efficient fixtures and reduced water usage**



## BACKGROUND

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Greeley, Colorado, sits between the South Platte and the Cache La Poudre Rivers, about 60 miles north of Denver, and is home to just over 100,000 people. Similar to other Front Range communities located in the high desert, Greeley enjoys an average of 244 sunny days per year and receives 15 inches of rain and 40 inches of snow annually. Because of its semi-arid climate, Greeley has a long history of water conservation, dating back to 1907, and currently has one of the largest water conservation programs in Colorado. In recent years, the City has added measures, such as water budgets and rebates, to expand on this long standing tradition of water conservation.

Greeley is in a **semi-arid climate, with just over 13" of rainfall per year and a fast growing population...**



**...To meet future demand, Greeley has developed one of the most robust water conservation programs in Colorado.**

City of Greeley, CO, Water Conservation Website

## CHALLENGE

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A range of challenges impact Greeley's water supply. Anticipated population growth in the South Platte River Basin has the potential to increase water demand by an additional 110,000 acre-feet per year—resulting in a potential 50 percent gap between water supply and demand. Along with population growth, growing commercial development and increased density are changing the nature of water demand in Greeley and other communities Greeley service. State and federal regulations governing the amount and timing of the City's water use, including land use and zoning ordinances, are also an ever-present consideration for Greeley water managers. Climate change is accelerating wildfires, drought, and changes to snowpack, intensifying these challenges.

## SOLUTIONS

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To help meet these myriad water challenges, Greeley implements a comprehensive water conservation program and treats conservation as a source of supply. In other words, reduced demand and increased efficiency create an additional, and affordable, source of water. Greeley's conservation programs include:

### Audits

Greeley offers free water audits to residents, businesses, and organizations. An indoor water audit seeks out leaks and unintended sources of water waste and checks high water use appliances. Once an audit is complete, the auditor provides the resident or business with free low-flow showerheads and aerators and shares any suggestions for repairs and upgrades. Outdoor water audits involve inspecting automatic sprinkler systems to determine water pressure; examine how the sprinkler system is performing; and measure how uniformly it applies the water across watering zones. Auditors share recommendations, such as changes to watering schedules, that enable customers to lower their water use and bills.



### Water Budget

Greeley calculates water rates for single-family homes using water budgets: the amount of water a single-family residence needs each billing period, as determined by family size, landscape size, and real-time weather conditions. Each home is allotted 45 gallons per person per day for their indoor water use, while the outdoor budget is determined by the size of the irrigable area, and the daily irrigation water requirements. The water budget is intended to help residents use their water efficiently, lowering their water use and water bills. If a resident's water use is within their water budget, they pay a lower price. The more a household exceeds their water budget, the more they will pay for their water. Residents can use online portals to view and understand their home water use, update their water use profile, and get answers to common questions.

### Indoor Water Rebates

Homeowners can receive up to \$50 for installing ultra-low flow toilets and \$25 for recycling the old toilet. Between 2013 and 2018, an average of 128 customers participated in the toilet rebate program each year. Greeley also offers commercial rebates for industrial and institutional customers, sharing industry specific suggestions and rebates for plumbing fixtures and appliances. The majority of these commercial rebates go toward landlords and property managers.

### Life after Lawn Program

To further encourage wise outdoor water use, the City offers rebates for retrofitting lawns with more sustainable landscape. Rebates of \$1 per square foot are available for up to 2,000 square feet of lawn removed per single-family residence and \$1 per square foot for up to 5,000-20,000 square feet for non-residential or HOA properties. Because this is a capital program that results in a source of water supply, Greeley includes Life After Lawn in its Capital Improvement Plan, and plans to invest a total of ~\$780,000 in these turf replacement rebates over the next five years.

### Community Education

Public information and education help inform the community of the City's water conservation programs and determine which will options may work best for them. A mix of media and events work best in reaching a diverse community. Greeley also finds that talking with people face to face helps build personal connections. Staff go into the community to reach as many residents as possible, attending public events to share information about water conservation programs and answer questions about water budgets. Greeley also sponsors training programs on water and conservation issues for local teachers, and provides speakers for classrooms, civic clubs, and other groups upon request. Expanding the impact of its public outreach, the City also hosts a Landscape Lecture Series, leads tours of its facilities and Xeriscape garden, advertises over the internet and television, and distributes promotional items to help keep water conservation on resident's minds.

*"Greeley water has done the planning and laid the groundwork to ensure...a resilient and secure water supply."*

Chambers, Sean & Evans, Harold. "Greeley water supply is ample, reliable." *Greeley Tribune*, 10 June 2022, p.B08.

## RESULTS

### Water resources benefits

Greeley's conservation programs have resulted in significant water savings. In the last 20 years water demand has been reduced by 20 percent even as the City's population has almost doubled. In this timeframe, the City has seen residential average gallons per capita per day decrease from 162 to 100.

### Economic benefits

Customers participating in Greeley's rebate programs not only use water more wisely both indoors and out, they save money on their water bills. These savings are vital, as water prices are currently at an all-time high due to drought.

The City's water conservation programs are also cost-effective for the utility. Conserved water is the cheapest source of supply when compared to purchasing new water rights or traditional water sources. Thus, conservation as a source of supply is the City's first, best option for meeting water needs and keeping up with its growing population.

### Social benefits

Various social benefits result from the City's comprehensive conservation efforts. Residents are now more aware of their water usage and how much they should be using creating a community conservation ethic and an increased community awareness on ways to save. To gauge public sentiment about the water budgets in particular, Greeley distributed surveys to residents that participated in the water budget program and found that 94.6 percent of participants thought their water budget was helpful and 68 percent supported higher rates for wasteful water use.



Fig. 4

#### Sources

Greeley Water Conservation Report 2016

Water Master Plan, City of Greeley

TIR Case study Interview

The City of Greeley Water Budget: <https://greeleygov.com/services/ws/water-budget/about>

The City of Greeley Water Efficiency Audits: <https://greeleygov.com/services/ws/conservation/water-audits>

The City of Greeley Water Conservation Rebates: <https://greeleygov.com/services/ws/conservation/water-conservation-rebates>

The City of Greeley Life After Lawn Program: <https://greeleygov.com/services/ws/conservation/life-after-lawn>

#### Image Credits

Fig. 1. Smith, Jeff. "Focal Point of the xeriscape garden." *Treatment Plant Operator*, 2020. [www.tpomag.com/editorial/2020/06/this-high-desert-city-proves-that-the-right-landscape-can-be-beautiful-and-save-water](http://www.tpomag.com/editorial/2020/06/this-high-desert-city-proves-that-the-right-landscape-can-be-beautiful-and-save-water). Accessed 17 June 2022.

Fig. 2. "City of Greeley Boundry Map." *City of Greeley ORIGIN*, 2022. [www.gis3.greeleygov.com/Geocortex/Essentials/REST/sites/TempFiles/8x11%20Landscape%20Image%20Capture.jpg?guid=1ea3cd69-c82f-4c47-847f-ec6c2e89df7c&contentType=image%2Fjpeg](http://www.gis3.greeleygov.com/Geocortex/Essentials/REST/sites/TempFiles/8x11%20Landscape%20Image%20Capture.jpg?guid=1ea3cd69-c82f-4c47-847f-ec6c2e89df7c&contentType=image%2Fjpeg). Accessed 17 June 2022.

Fig. 3. "Front yard turf removal and replacment | Poway, CA." Houzz Featured Garden Discussions, 2017. [www.houzz.com/discussions/4033814/front-yard-turf-removal-and-replacement-poway-ca](http://www.houzz.com/discussions/4033814/front-yard-turf-removal-and-replacement-poway-ca). Accessed 17 June 2022.

Fig. 4. City of Greeley. *Get Outdoors Greeley, A 5-year Strategic Plan for Natural Areas, Open Lands, and Trails*. Natural Areas and Trails Division, 2021. [www.greeleygov.com/docs/default-source/natural-areas/get-outdoors-greeley-strategic-plan---02-02-21.pdf](http://www.greeleygov.com/docs/default-source/natural-areas/get-outdoors-greeley-strategic-plan---02-02-21.pdf). Accessed 17 June 2022.