

# Fort Collins Utilities Water Efficiency Plan (WEP)

## City Council Work Session

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1. What is Council's vision for the WEP and how it addresses water conservation and efficiency?
2. What does Council need to know from our engagement, equity analysis, and water demand modeling efforts?





# Background

## 1. Planning and modeling

- Water Supply and Demand Management Policy
- Water Supply Vulnerability Study

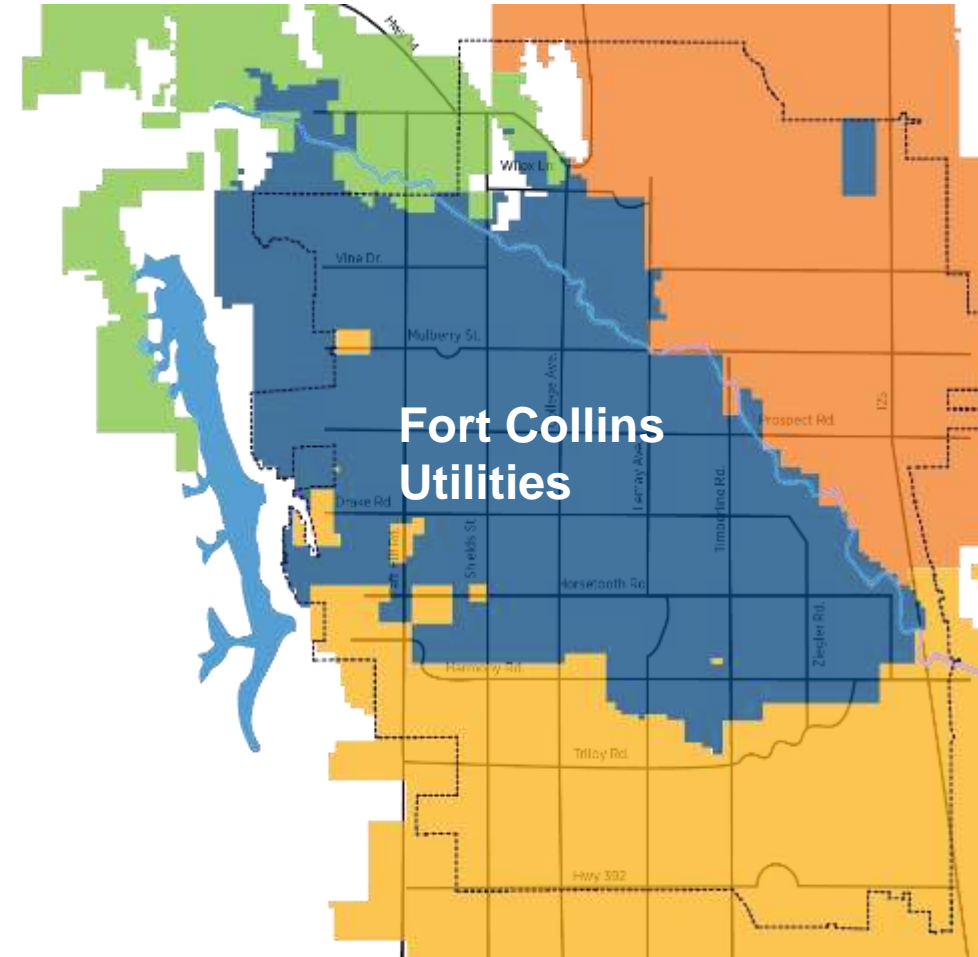
## 2. Water supply storage

- Halligan Reservoir enlargement

## 3. Conservation and efficiency (demand management)

- WEP
- Water Shortage Action Plan

**Continued collaboration with neighboring water providers**



- Fort Collins Utilities
- West Fort Collins Water District
- ELCO Water District
- Fort Collins-Loveland Water District

# Many Ways to Manage Demands

## Pros

- Resiliency
- Conservation behaviors
- Water literacy
- Flexibility

## Cons

- Requires mandatory efforts to go beyond low-hanging fruit
- Requires ongoing resources
- Takes years to see accumulated savings

## Long Term

Water Conservation and Efficiency

Rates/fees

Mandatory

Voluntary

Education

## Short Term

Water Shortage Restrictions

Voluntary water shortage watch

Outdoor restrictions

## Pros

- Fast-acting
- Can achieve deep reductions

## Cons

- Living infrastructure
- Business
- Time
- Water revenue
- Little flexibility





Warmer, drier climate poses largest risk



Potential reduction in Colorado-Big Thompson poses risk



Adequate storage is crucial to meet future water demands



Managing demands is crucial to minimize water restrictions



Warmer, drier climate poses largest risk

- Historical restrictions
  - **1-in-10 years**
- 2065 predictions without Halligan
  - **9-in-10 years**
- Even with Halligan, climate change will drive more frequent restrictions
  - **6-in-10 years:**
    - temperature ↑ 5°
    - precipitation ↓ -5%
  - **3-in-10 years:**
    - temperature ↑ 5°
    - precipitation no change



Potential reduction in Colorado-Big Thompson poses risk

- No reductions currently planned
- Ongoing challenge
- Solutions: more demand management and Halligan Reservoir enlargement



Adequate storage to meet future water demands

## Halligan

- Increase storage
  - Would store 2.7 billion gallons (~8,200 AF)
    - 39% of current annual demand
- Prepare for future demand
- Drought resilience
- 16x more than 2022's annual water conservation program savings



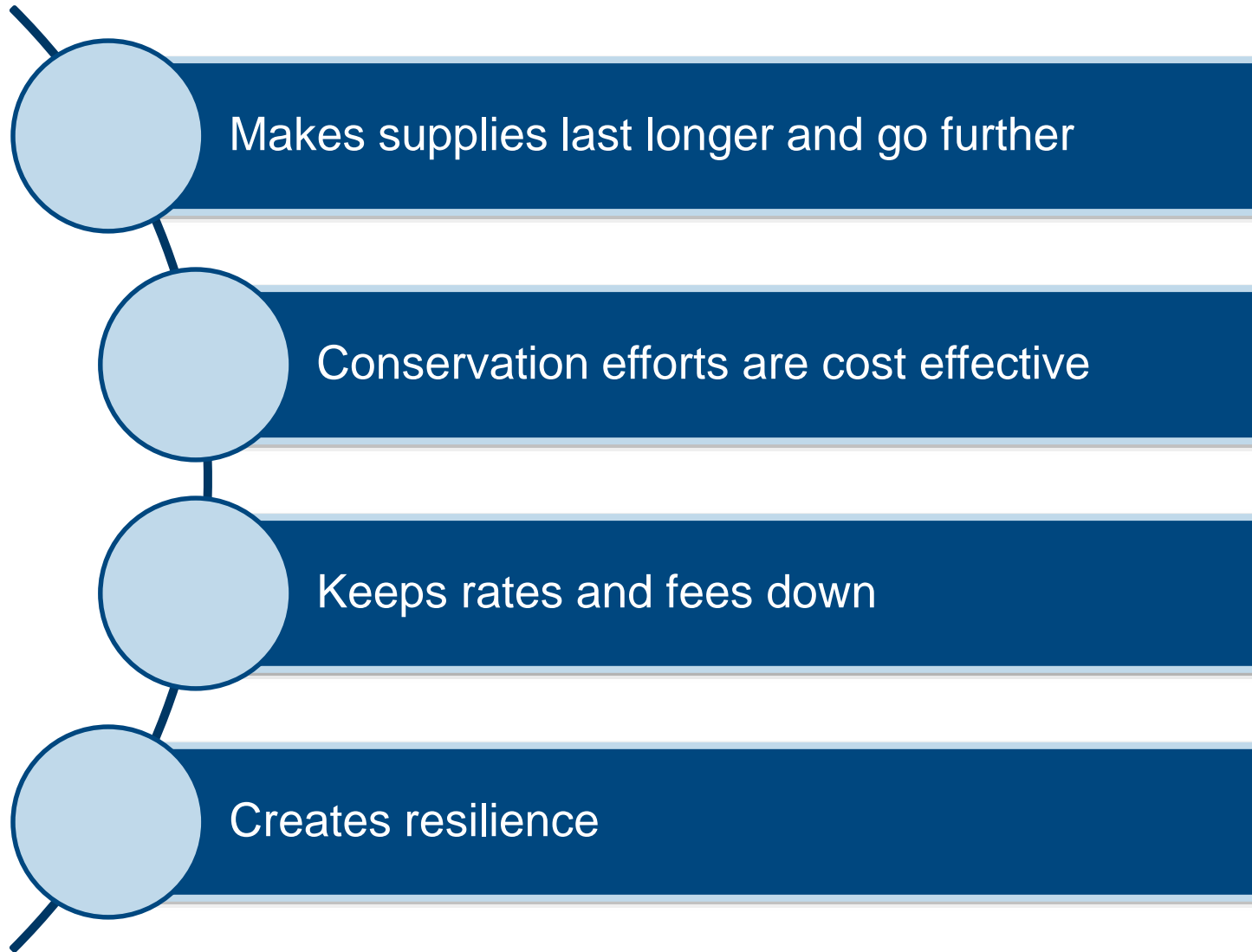
Using conservation and efficiency strategies to minimize water restrictions

## WEP

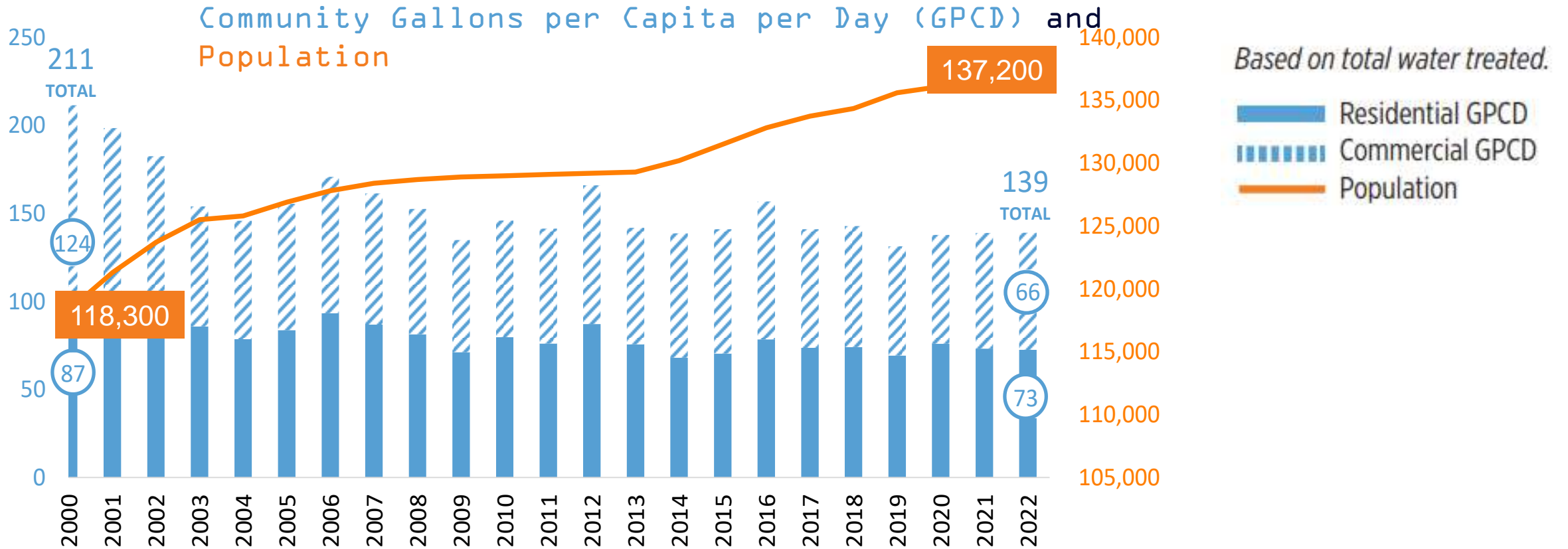
- Water conservation activities
  - Saved 173 million gallons (531 AF) in 2022
    - 2.5% of current annual demand
- Reduced per capita use by 34% over the last two decades



# Why Water Conservation and Efficiency?



# Current WEP Goal: 130 GPCD by 2030



## Water conservation works

- 16% increase in population
- 34% decrease in GPCD

## Current WEP goal: 130 GPCD by 2030

- 5-year average (2018-2022) = 138 GPCD
- 2023 preliminary result = 132 GPCD
  - Precip was 123% more during irrigation season compared to average (2018-2022)



# WEP Update

Creating an informed future state





## Guide

Guide Water Conservation, Utilities and City on water demand management



## Set

Set water use reduction goals



## Identify

Identify conservation and efficiency strategies (roadmap to goals)

### What's a WEP?

- State requirement
- Planning document with a seven-year cadence
- Developed with extensive community input
- [fcgov.com/WEP](http://fcgov.com/WEP)

### It does not...

- Create standards or regulations without additional process
- Apply to temporary water shortages
- Apply to areas outside of Utilities' water service area

## Re-evaluate goals and metrics (130 GPCD by 2030)

- Consider future demand, vulnerabilities, climate, growth, attainability

## Identify and prioritize demand management strategies (incentives, standards, codes)

- Evaluate based on water savings, engagement, equity, cost, resources, feasibility

## Quantitative demand model

- Model water savings from demand management strategies under different climate and growth scenarios

## Engagement and equity analyses

- Inclusive public engagement
- Analyze for equitable outcomes and identify/resolve gaps

## One Water integrated water management

- Cross-departmental engagement
- Emphasis on land use planning
- Utilize OCF framework and make progress on Big Move #3



## Project and Model Set-up

Q1 2023 – Q1 2024

- Plan, build teams, retain consultants
- Water demand model development, data processing, and inputs
- Develop guiding principles & goal framework
- Plan and test engagement

## Analyze to Prioritize

Q1 – Q3 2024

- Analyze equity of process and potential strategy gaps/outcomes
- Model conservation strategy savings
- Prioritize conservation strategies
- Share: second Council Work Session (Q3)

Engage to inform conservation strategies and goals

- Include marginalized community members
- Track equity in participation
- Broad, diverse engagement
- City departments

## Engage

Q2 2023 – Q3 2024

Draft, revise, finalize WEP

- Seek Board, Commission, Council input
- Council first reading (Q4)
- Submit to state

## Prepare and Submit

Q2 – Q4 2024



## **Outreach to marginalized community members: identify motivations/barriers to conservation**

- Four Community Consultants
- Focus groups/open houses
- City resources: Equity Office, Climate Equity Committee

## **Broad engagement throughout community: align conservation with culture and values**

- Online platform: [ourcity.fcgov.com/wep](https://ourcity.fcgov.com/wep)
- Movie theater ad with survey link
- Key Accounts, business community
- Landscape professionals
- Environmental and community organizations
- Other ads, emails, social media posts, events, meetings
- Synthesize and incorporate past engagement / survey responses from related efforts

## **City staff and leadership engagement: organizational water use goals and strategy priorities**

- Facilitated meetings with City departments
- City Council work sessions (Q3); WEP first reading (Q4 2024)
- Water Commission, Natural Resources Advisory Board (Q3)
- Super Issues meeting (Dec. 2023)

# What Success Might Look Like

- More informed planning decisions
- Minimize frequency and severity of water shortages
- More equitable and resilient outcomes for all
- Better utilization of resources



1. What is Council's vision for the WEP and how it addresses water conservation and efficiency?
2. What does Council need to know from our engagement, equity analysis, and water demand modeling efforts?





# Thank you!

[ourcity.fcgov.com/WEP](http://ourcity.fcgov.com/WEP)



# Extra Slides

## State requires each water provider to have a WEP

### 2022

- Met to discuss opportunities for coordination on the Utilities WEP

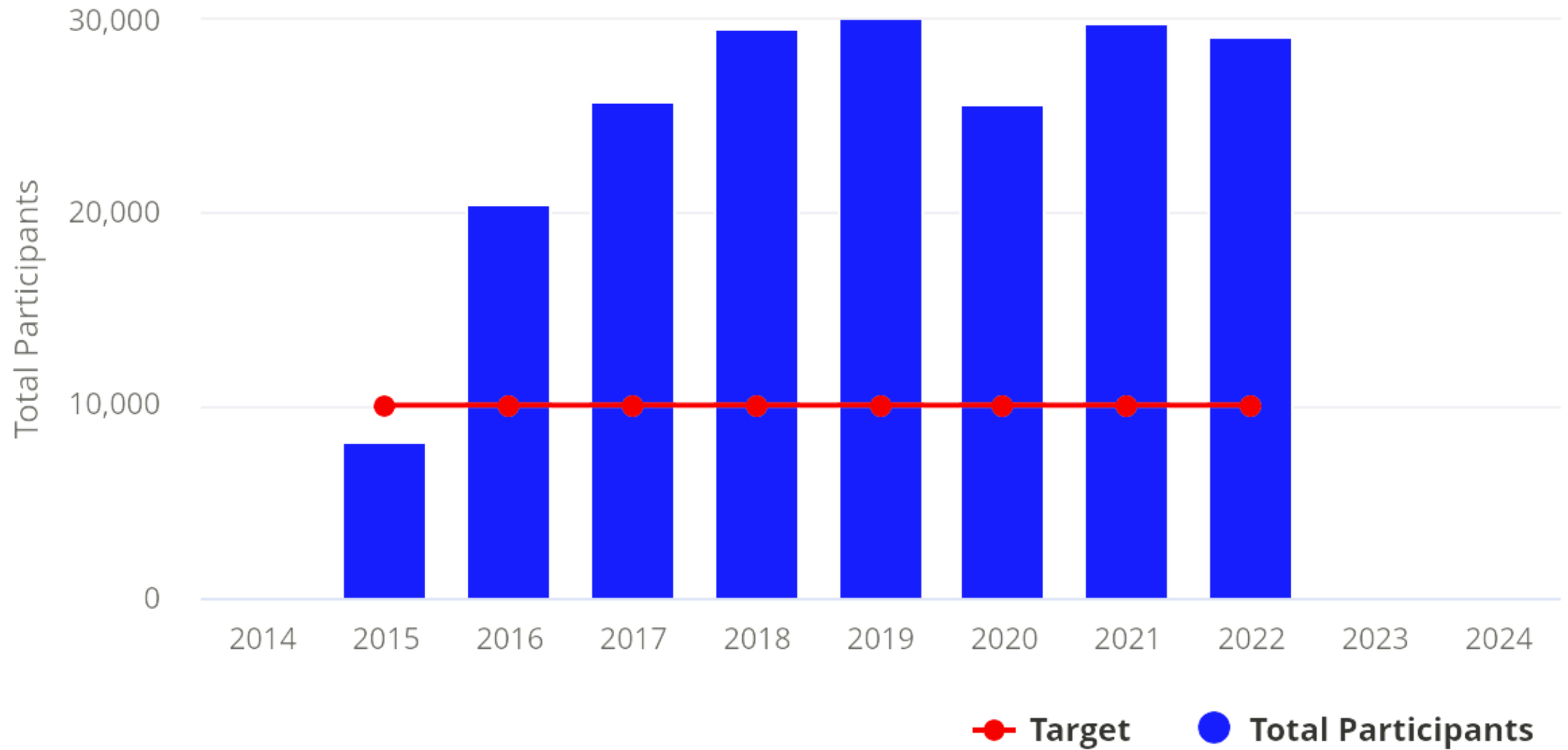
### 2023

- Met 1-2 times in 2023 to discuss:
  - Opportunities to coordinate on the water demand model
  - Update on our WEP and learn more about theirs and timing of plans

### 2024

- Request to meet again before finalized to discuss opportunities to collaborate on various strategies, as appropriate
- Planning for a section in the WEP that addresses:
  - Coordination to-date
  - Possible areas of opportunity and barriers

# Historical Program Participation and Engagement





## Water Terms

### Examples:

Conservation  $\approx$  Taking shorter showers

Efficiency  $\approx$  WaterSense/high-efficiency showerhead

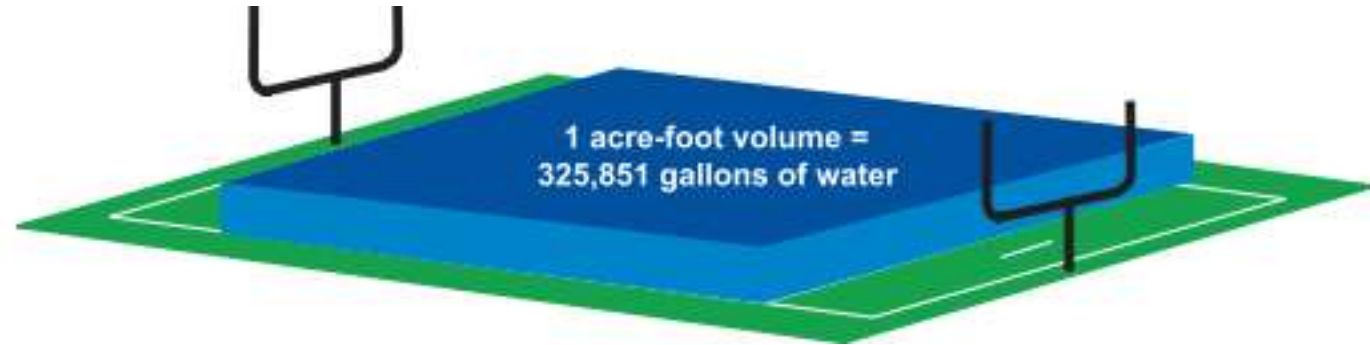
Reuse  $\approx$  Graywater



## Water Measurements

### **Acre-Foot (AF)**

- About one football field filled up with water to your shin



- Four single-unit homes' annual indoor and outdoor use in Fort Collins



- 325,851-gallon sized milk jugs

## Funding

- \$160,000 – Colorado Water Conservation Board grant
- \$145,000 – BFO cash match + \$47,000 of staff in-kind match

## Staff Support

- Water Conservation and Customer Connections
- Water Resources and Planning
- Cross-departmental leadership team
- Broad staff engagement

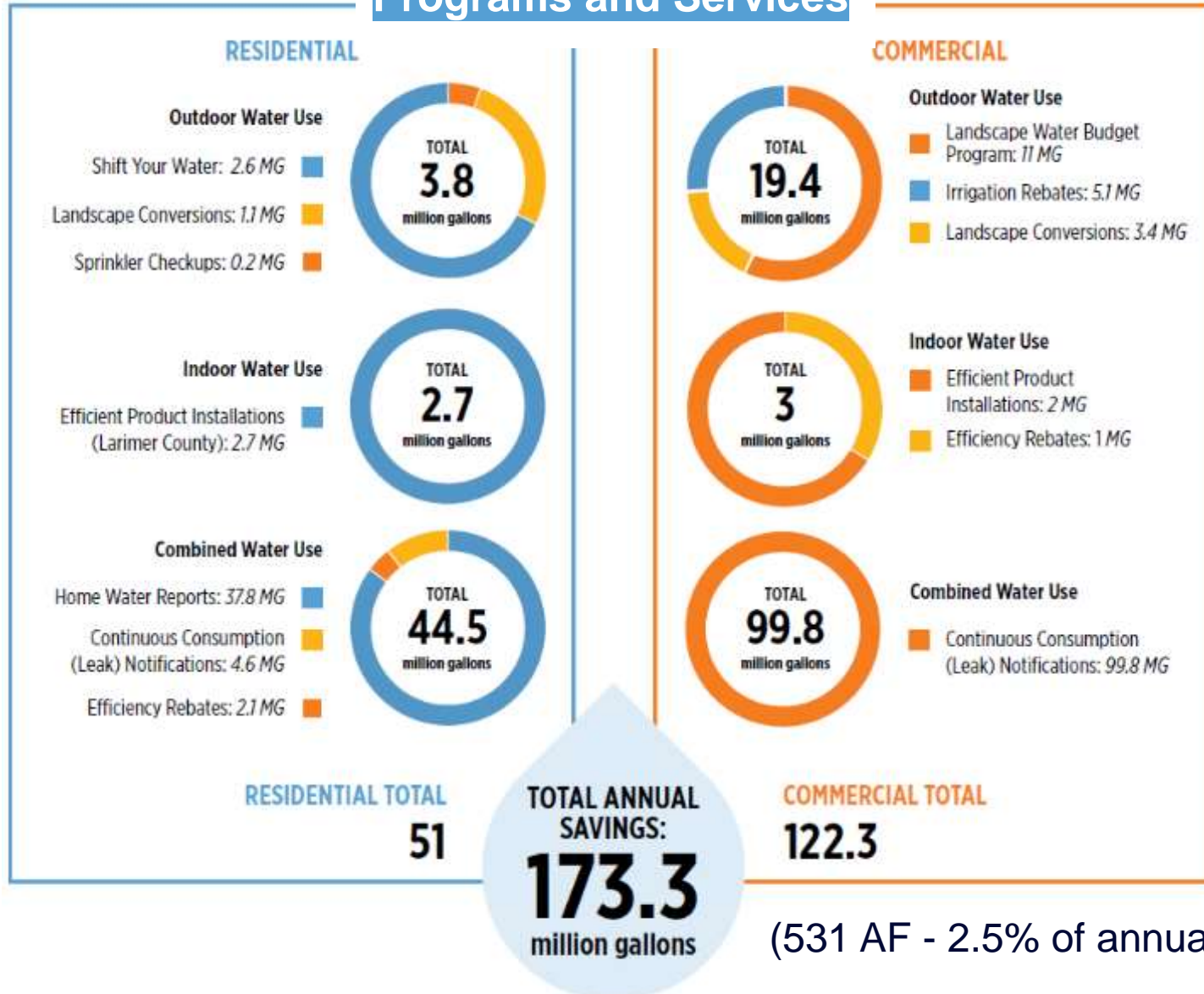
## Consultant Support

- Water demand model
- Engagement
- Equity analysis



# Current State: 2022 Conservation Programs

## Programs and Services



(531 AF - 2.5% of annual demand)

## Regulations and Codes

- Land use
- Building/plumbing
- Wasting water prohibitions
- Graywater
- Shortage responses

## Rates and Fees

## Education and Engagement

# What Other Colorado Communities are Doing

## Affordability, Rates and Fees

- Free plumbing assistance for income-qualified customer for leaks (Aurora)
- Free turf replacement for income-qualified customers (Aurora)
- Customized water rates based on landscape and occupancy (Greeley, Castle Rock)
- Water-use based tap fees to incentivize water-wise development (Various)

## Lawn Watering Requirements

- More than half of 30 different Front Range communities researched limit watering during normal drought conditions in the following ways:
  - No daytime watering (e.g., no watering between 10 a.m. – 6 p.m.)
  - Number of days per week (e.g., three days per week)
  - Seasonal window (e.g., watering only between May 1 – Sept. 30)

## Non-functional Turf

- Denver Water, Castle Rock and Aurora committed to reduce non-functional turf grass by at least 30%
- Of 38 communities with turf replacement programs in CO, about 17 also limit turf in new development

## Education

- Required registration for landscape and irrigation professionals who install and maintain non-residential landscapes (Castle Rock)
- 100% reimbursement for irrigation and landscape professionals' training and certification programs (Greeley)

## Goals

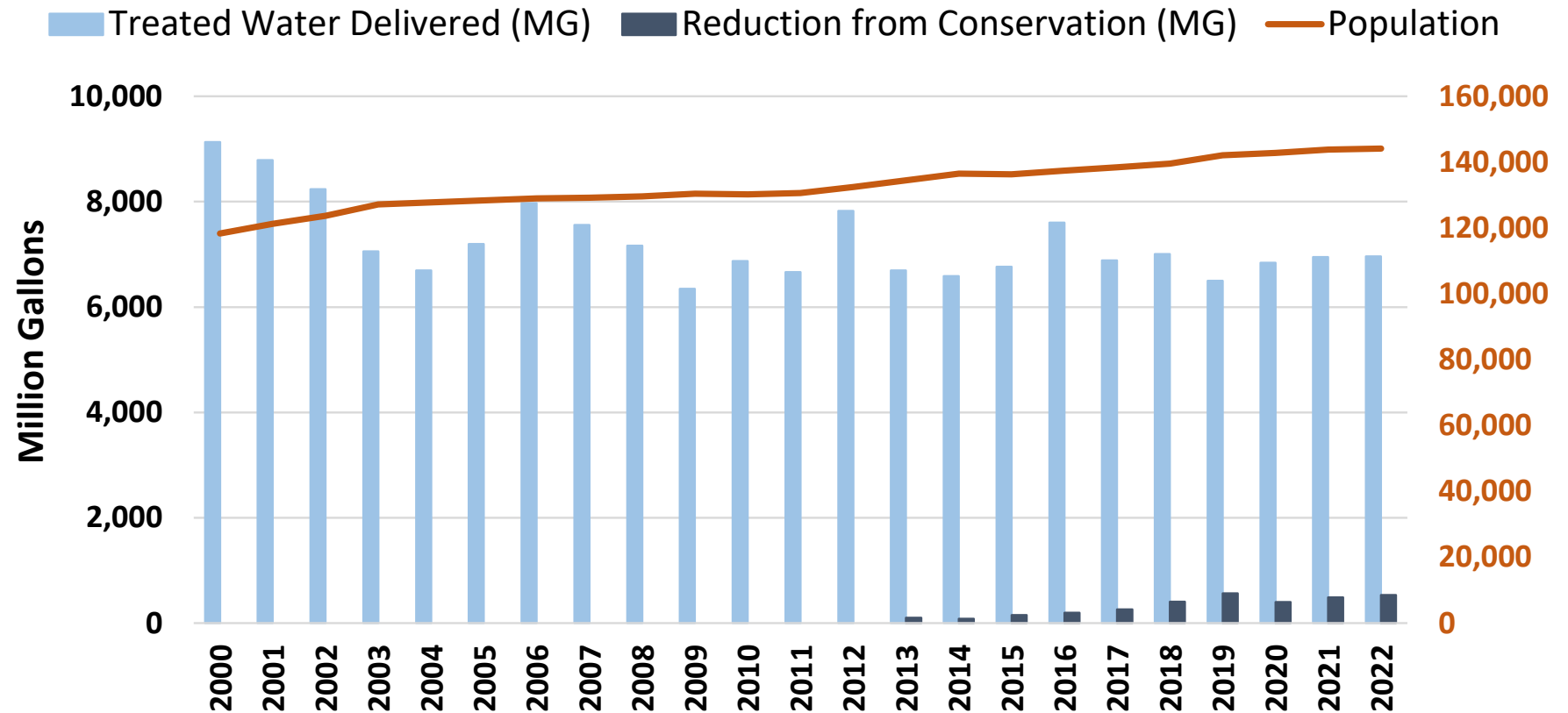
- Reduce total water demand by 2,034 AF by 2030 (Greeley)
- Ensure water consumption is below 100 GPCD by 2025 (Castle Rock; 14.5% reduction from current)

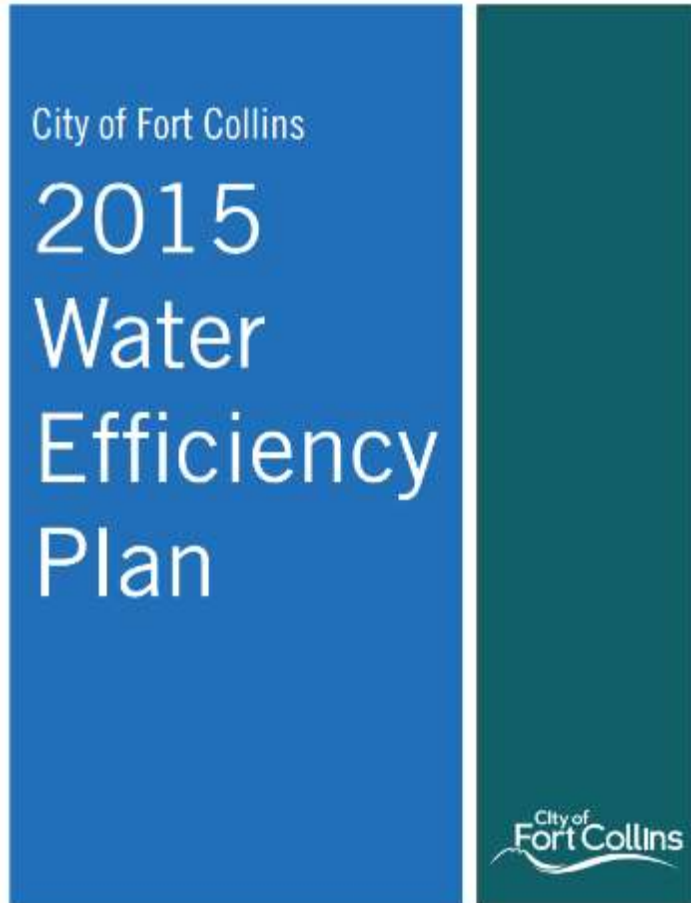


## Water Use and Conservation: 2022 vs 2000

- Population increased by 16%
- Treated water delivered decreased by 19% (rolling average)
- Annual water use reduction due to select conservation programs estimated at 2.3% of total demand (rolling average)

### Annual Treated Water Delivered & Conserved





[fcgov.com/WEP](http://fcgov.com/WEP)

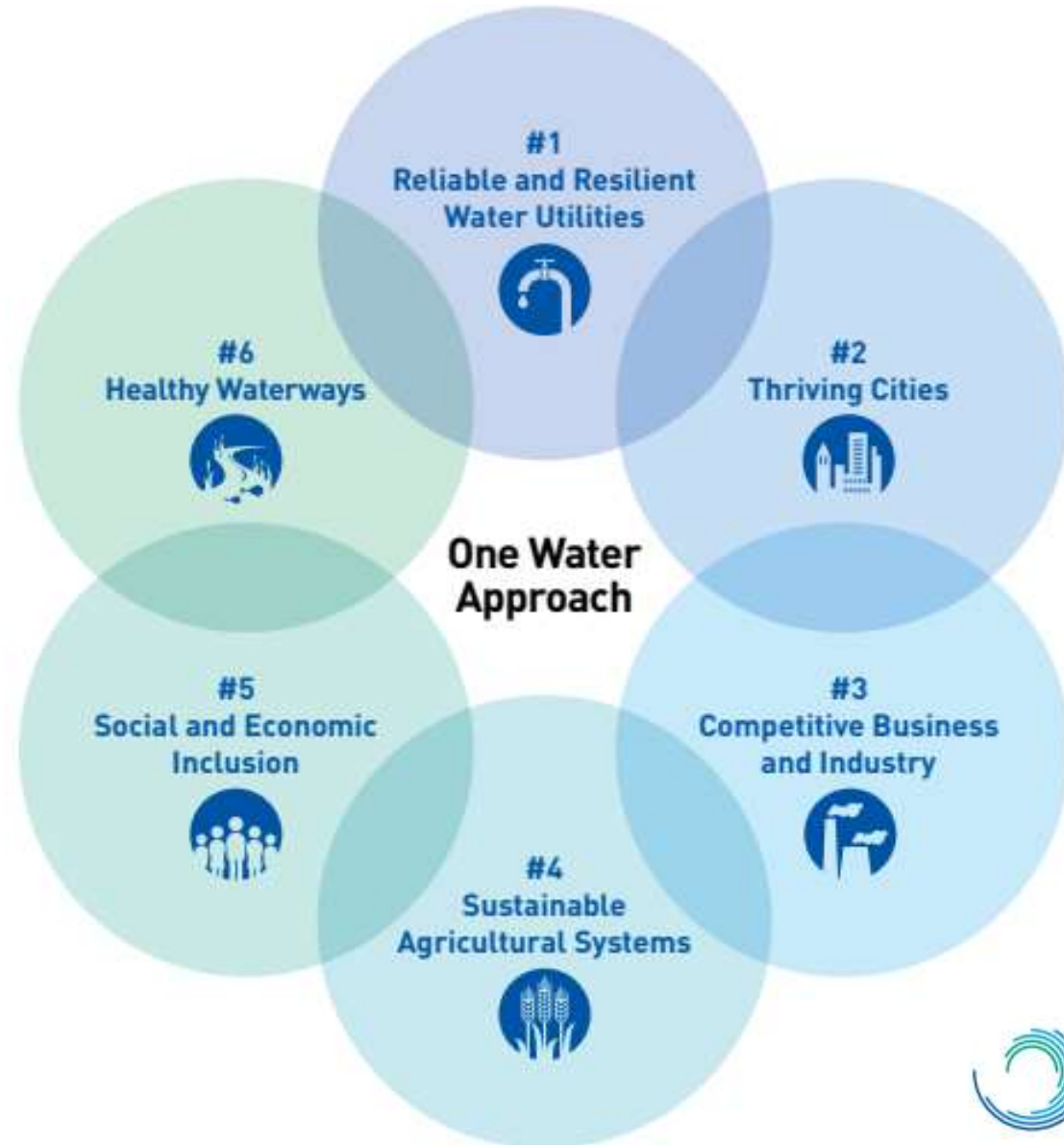
Current WEP goal: 130 gallons per capita per day by 2030

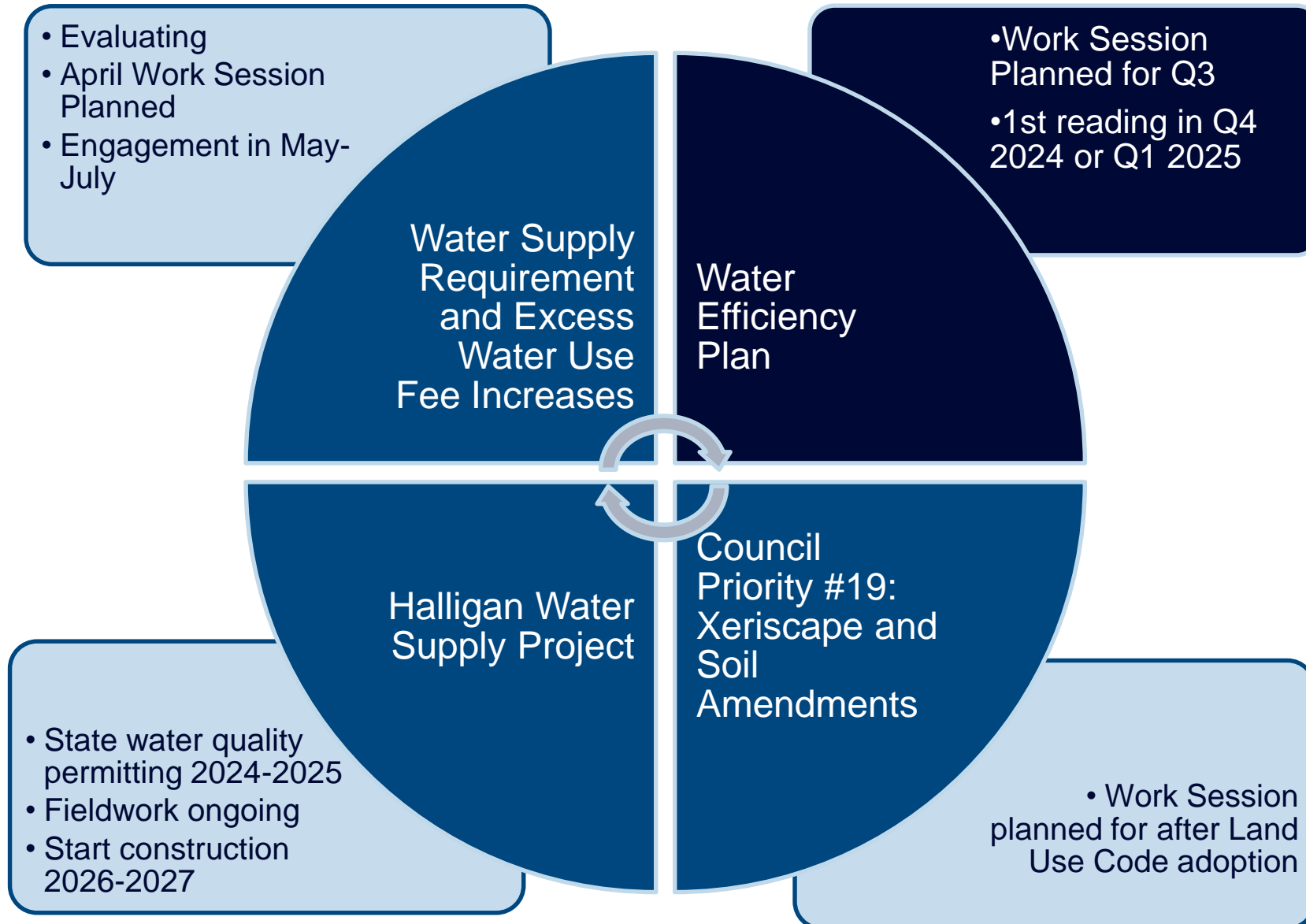
## Areas of Opportunity

1. Leverage Advanced Meter Fort Collins data and capabilities
2. Promote and support greater outdoor water efficiency
3. Encourage greater integration of water efficiency into land use planning and building codes
4. Expand commercial and industrial sector strategies
5. Increase community water literacy

**One Water: All water has value and should be managed in a sustainable, inclusive, integrated way.**

- WEP update = integrated, inclusive approach to water management
- WEP process will contribute to overall One Water foundation-building
  - Guiding principles
  - Cross-departmental relationships







# Strategic Alignment

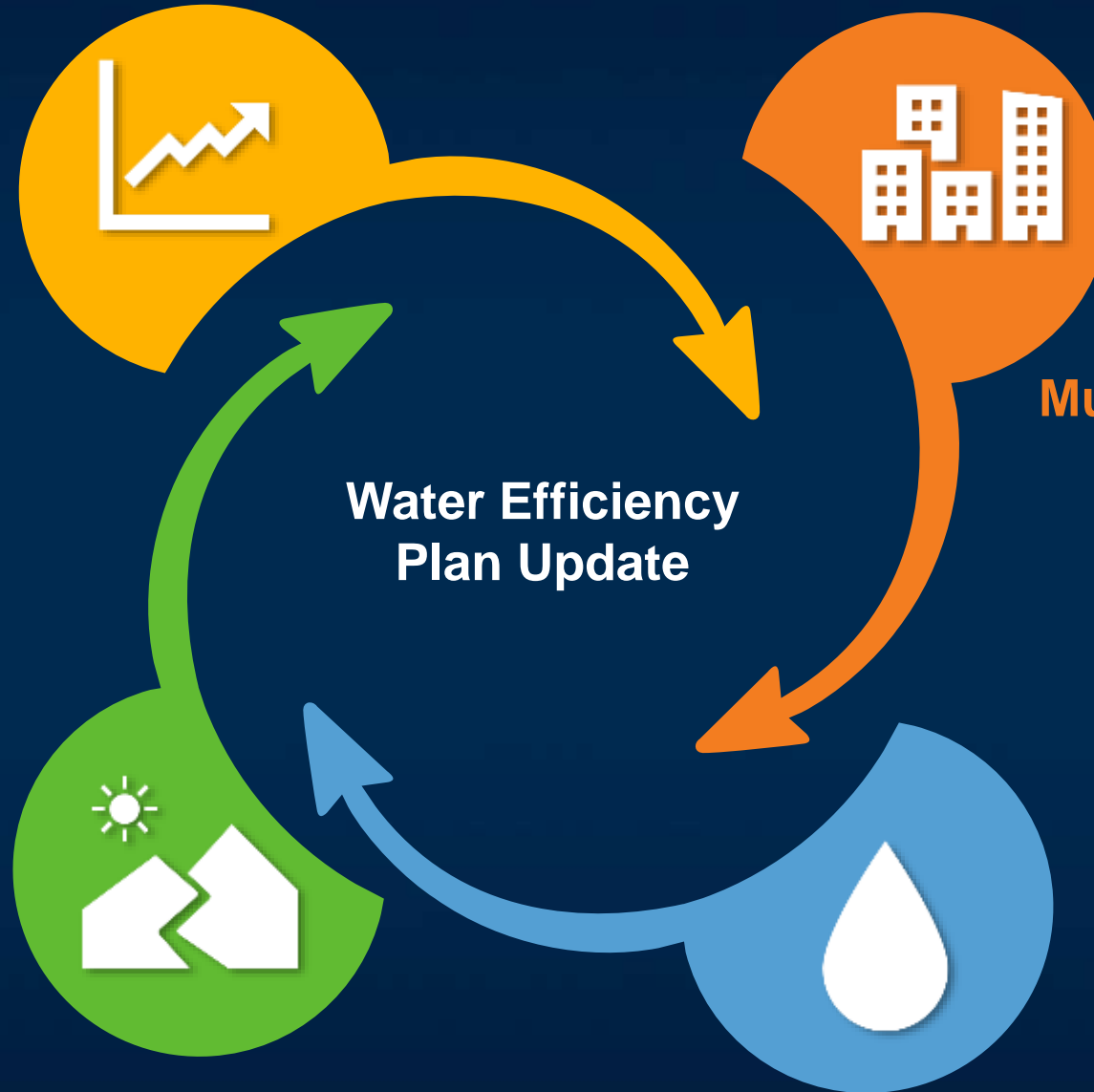
Council Priorities

City Strategic Plan

Utilities Strategic Plan

State Laws

Colorado Water Plan



City Plan

Our Climate Future

Municipal Sustainability and  
Adaptation Plan

Water Supply & Demand  
Management Policy

Water Shortage  
Action Plan

Halligan Project