Landscape Education for Water Conservation

Glenwood Springs, CO

12/3/2024

Golden, CO

12/6/2024

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Introduction and Overview

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Welcome Remarks

Project Team

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Thank you to our sponsors!

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

We Welcome Your Input

- Discussion opportunities
- Poll questions
- Board activities
- Worksheets

Welcome Remarks

Time	Topic
9 – 10:10AM	**Introduction and Overview** • Colorado's Water Situation • Project Overview
10:10 – 10:20AM	**Break**
10:20AM – 12:00 PM	**Outcome, benefits, and goals** • Drivers For and Against Activity • Project Goals Review and Activity
12:00 PM – 12:30 PM	**Lunch**
12:30PM – 2:30PM	**Topic Breakouts** • Knowledge and Skills Brainstorming • Knowledge and Skills Goals Alignment • Discussion
2:30PM – 3 PM	**Wrap Up and Next Steps**

Connect to Wifi

- **Network:**
- **Password:**

Poll Question 1

- What is your favorite holiday treat?
  - Gingerbread cookie
  - Peppermint bark
  - Roasted chestnuts
  - Hot chocolate and marshmallows
  - Fruitcake

Poll Question 2

- What industry do you represent?
  - Landscape industry
  - Parks/Municipal/County
  - Water provider
  - Education/Extension
  - Non-profit
  - Other

Project History

- ALCC Fall Forum
  - Future of water in the landscape
  - Educational needs
  - Many certifications
  - Educational needs
  - An itemized list
  - Grant application

Colorado's Water Situation

Lisa Pace
Water Conservation Lead
Colorado Springs Utilities

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Poll Question 3

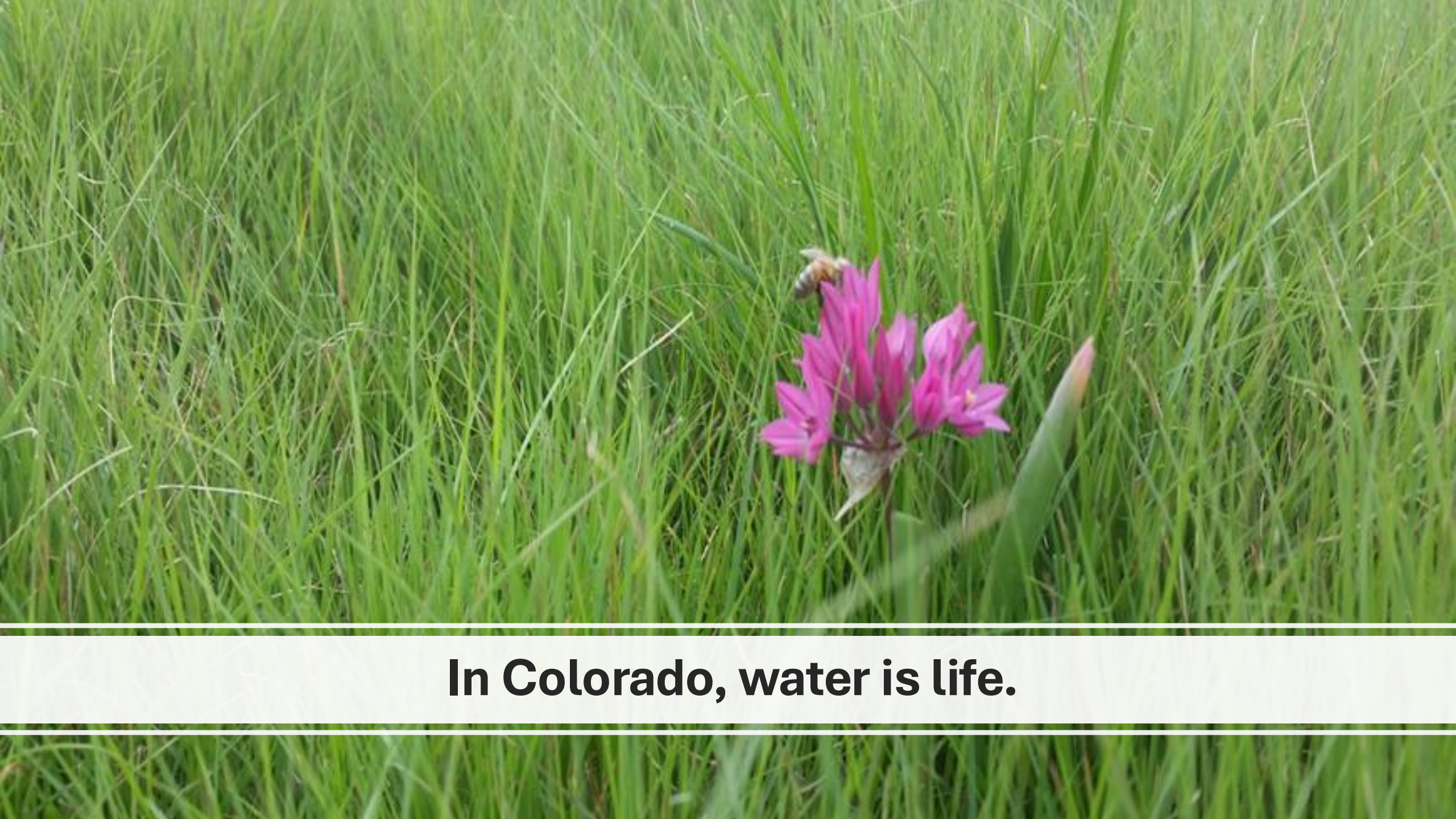
- What word(s) come to mind when you think about Colorado's water future? (**word cloud**)

Poll Question 4

- What do you see as the largest challenge facing urban landscapes today? (**open ended**)

Poll Question 5

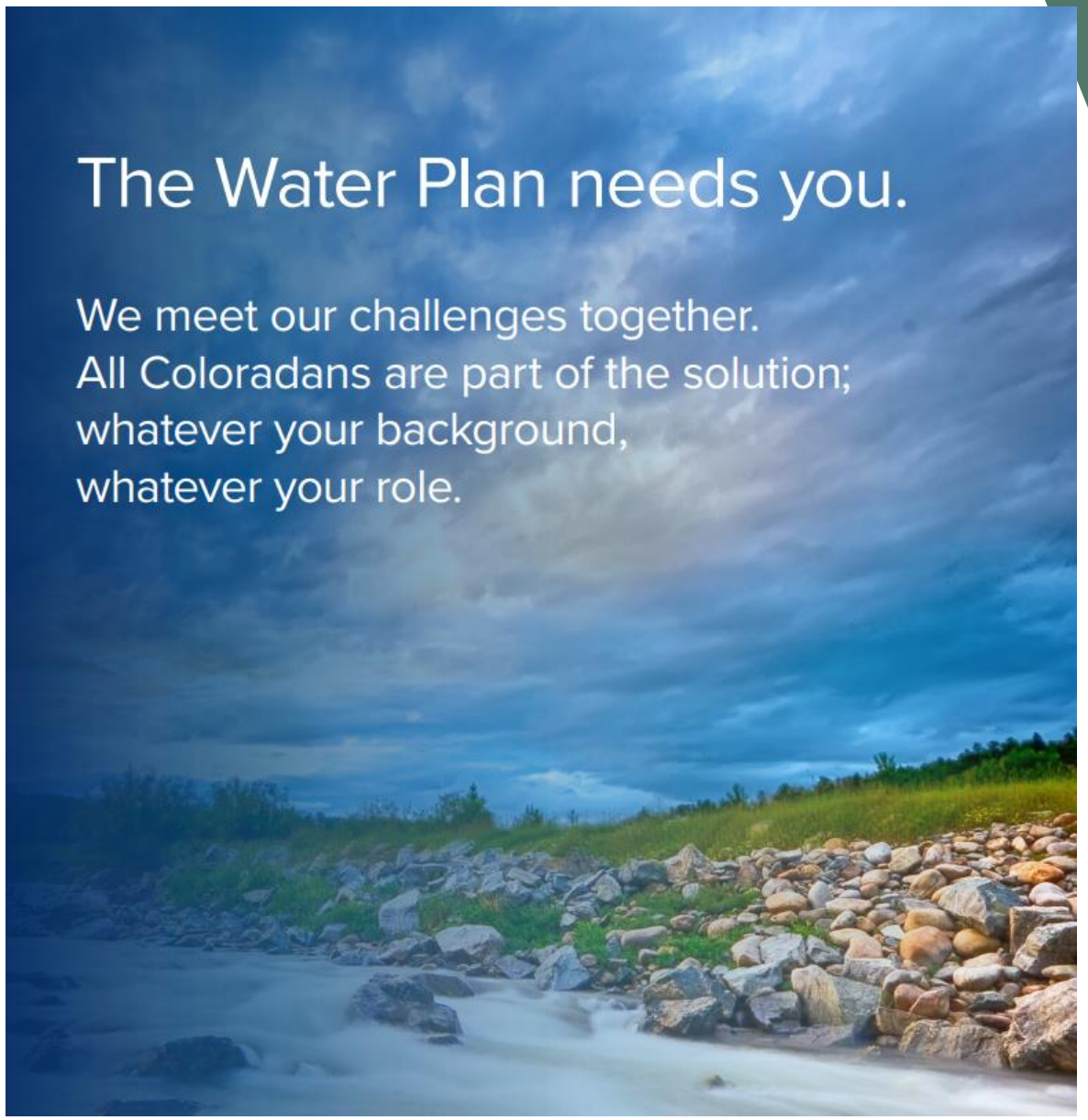
- What do you see as the largest opportunity for urban landscapes? (**open ended**)



In Colorado, water is life.

Colorado's Water Plan

- Provides a roadmap for the future of water.
- Sets a vision for vibrant communities, to support a more resilient future.
- Serves as a framework.



Planning for Future Water Need

- Water supply is limited and highly variable
- One Water approach
- Headwater state/border obligations
- Looking for innovative solutions
- Do more with less

Conditions Driving Change

- Population growth
- Aridification
- Wildfires
- Unreliability/decrease in supply
- More intense weather events
- More scrutiny
- Lack of resiliency in current landscapes

Photo credit: CNN, Lake Mead, May 26, 2022

Recent Efforts Addressing Landscape Water Use

- 2022 Water Provider MOU
- HB22-1151 Turf Replacement Program
- **SB24-005 Prohibit Landscaping Practices for Water Conservation**
- Increase in local regulations

Major municipal water providers act on Colorado River crisis

By Denver Water

Editor's note: We are sharing on TAP this important Aug. 24 announcement from major water providers in Colorado and other states that rely on the Colorado River. Subscribe to TAP to stay up to date on water issues affecting the metro area and the West.

Photo credit: Your Hub, Denver Post

Why is Landscaping Targeted?

- Very visible
- Consumptive use vs. reusable
- Landscape watering is discretionary
- Largest end use

Outdoor Water Conservation is a Priority

- Primary strategy to stretch supplies for the future.
- Demonstrates participation in solutions.
- Expected for new supply projects.

Landscapes provide a tremendous value.

Economic | **Environmental** | **Human Health**

Living landscapes sustain our communities.

And most depend on irrigation.

How can we work together?

- Advisory committees for conservation programs.
- Landscape industry education.
  - Water management
  - Landscape transformation
- Creating a setting for ongoing conversations.

Now is the time.

- Your input is valued.
- Help identify solutions.
- Proactive vs. solutions imposed by others.

Industry Speakers and Facilitators

West Slope

- **Susan Carter,** Water Conservation Specialist, Grand Junction
- **Kelli Guadagnoli,** Water Conservation Concierge, Colorado Springs Utilities
- **Kerry Miller,** Program Manager, WaterNow Alliance
- **Will Sollish,** Program Manager, WaterNow Alliance
- **Victoria Arling**, Colorado Basin Program Director, WaterNow Alliance

How might this affect landscapes?

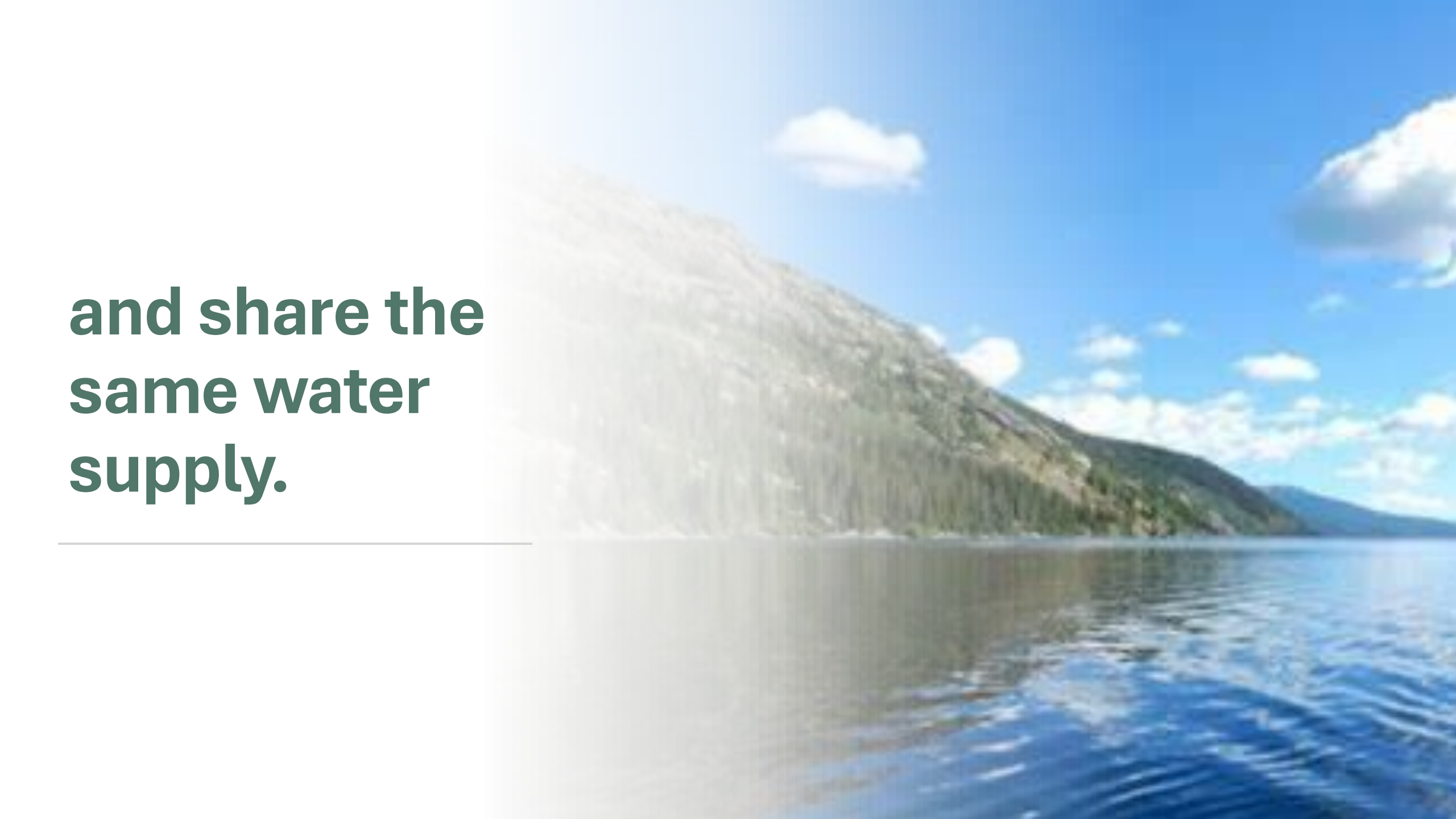
- Less turfgrass, less mowing.
- Plant health impacts.
- More native and low-water plants.
- Increase in conversion projects and incentives.
- More water management.

The Landscapes of the Future

- Create vibrant communities.
- Serve as infrastructure to support economic vitality, resilient environments, and healthy lifestyles.
- Thrive with limited watering and adapt to changing conditions.

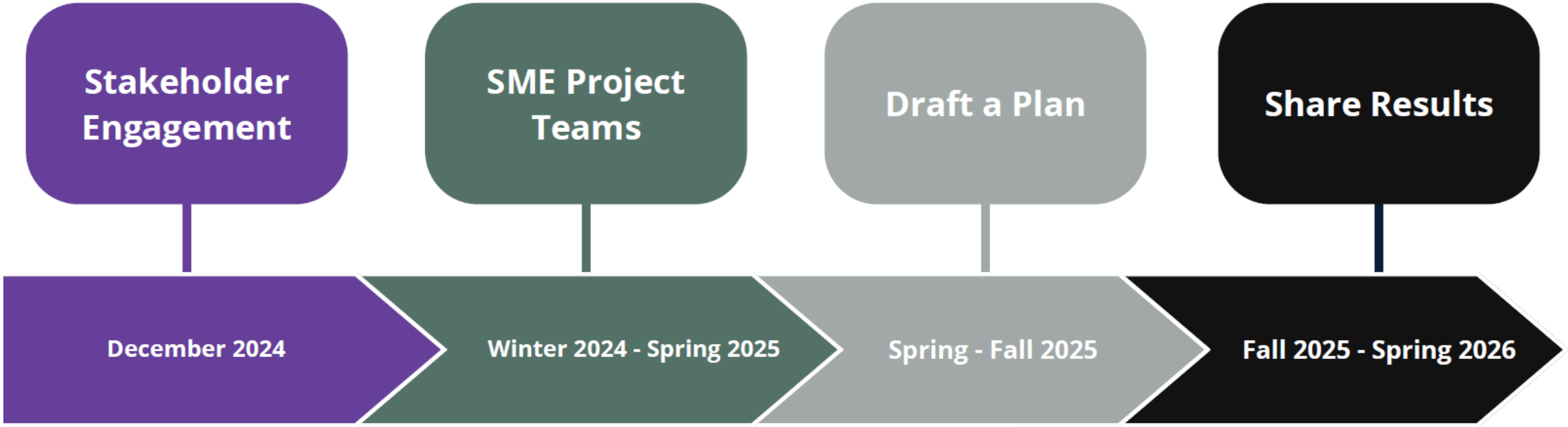
We serve the same customers...

and share the same water supply.



Let's work together to build the vibrant communities of the future.

Project Overview



What this project is and isn't.

What it is:

- ✓A way to gather information.
- ✓A way to be collaborative.
- ✓Focused on water conservation.

What it is not:

- ⊗A certification.
- ⊗Comprehensive on all landscape or water conservation practices.

Landscape and Irrigation Professional Licensing Research Project

- Understanding opportunities to expand landscape professional certification or licensing in Colorado.
- Research on how other states approach landscape and irrigator licensing.
- Extensive stakeholder engagement with the landscape and irrigation industry.

COLORADO STATE UNIVERSITY EXTENSION

COLORADO WATER CENTER
COLORADO STATE UNIVERSITY

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Sign up here to receive updates, a survey, and follow outreach event opportunities:

Break

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Outcomes, Benefits, and Objectives

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This concept
is not new...
.....but the
product is different.

Objective and Goals

- **Project Objective:**
  - Identify Training Needs
- **Goals:**
  - Water efficiency
  - Stewardship & Co-benefits
  - Support evolving industry

Project Objective

Identify Training Needs

Identify a list of skills and knowledge needed to improve water conservation statewide to support resilient and attractive landscapes.

Drivers For and Against Activity

- **Place 1 – 2 sticky notes in each section:**
  - What forces support this effort?
  - What are the barriers for this effort?
  - What is your vision of a resilient, water efficient landscape?
- **Place your sticky in the appropriate area.**
- **When you place your stickies review other stickies on the board.** If you agree with any place a check mark on that sticky.

What's your vision of resilient, attractive, water efficient landscapes?

What forces support?

What are the barriers?

Goal: 1
Water Efficiency

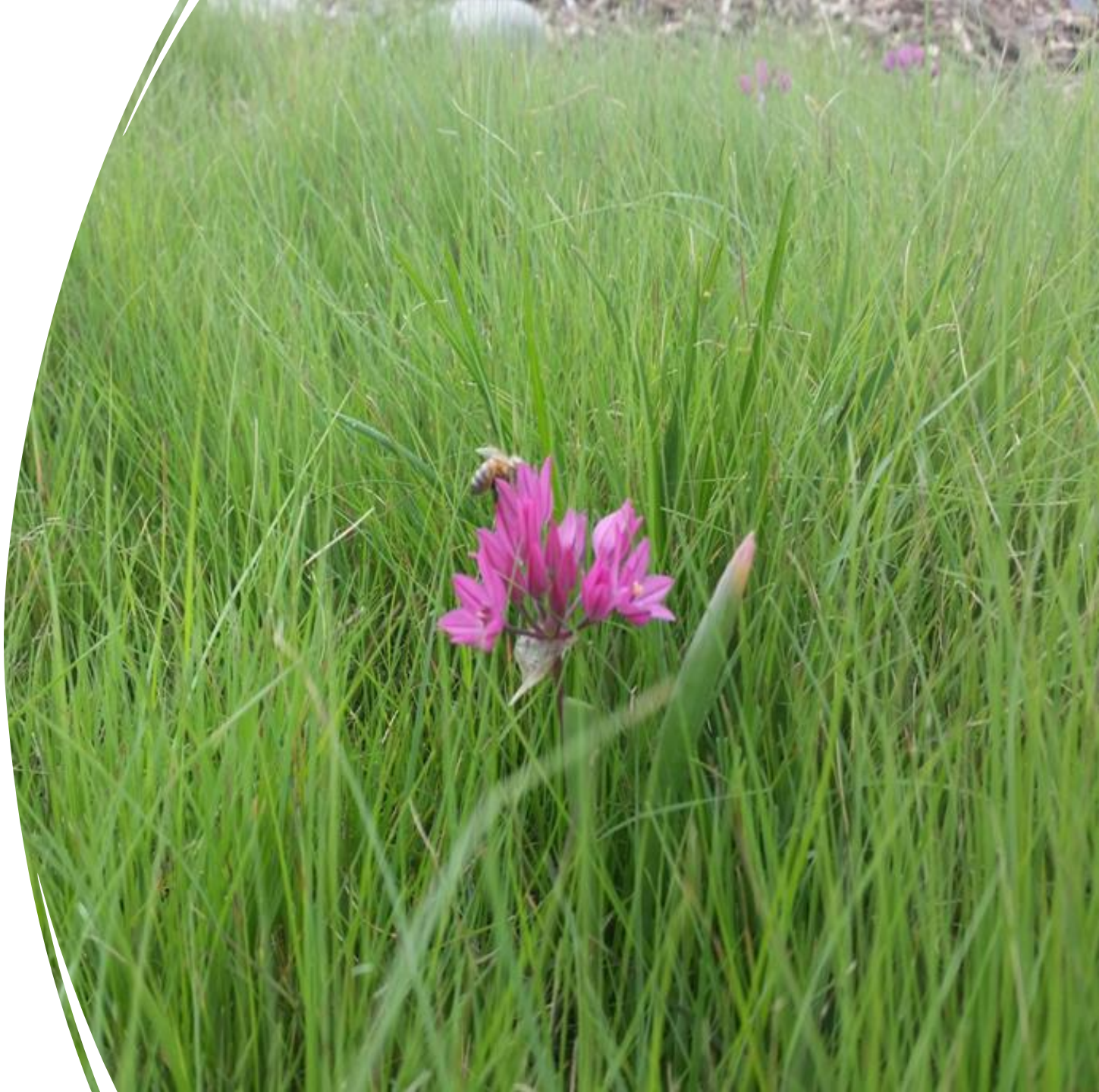
Ensure water efficient landscape practices are integrated at all professional levels of the Green Industry (design, construction, irrigation, and maintenance).

Poll Questions 7

- Given what you know now, what is your impression of the water efficiency goal?
  - **1 –** I do not support this goal.
  - **2 –** I am somewhat supportive, but parts need to be modified.
  - **3 –** I am supportive of this goal.
  - **4 –** I am very supportive of this goal.

Goal 2:
Stewardship & Co-benefits

Support natural resources including water and air quality, and wildlife habitat.



Poll Questions 8

- Given what you know now, what is your impression of the stewardship and co-benefits goal?
  - **1 –** I do not support this goal.
  - **2 –** I am somewhat supportive, but parts need to be modified.
  - **3 –** I am supportive of this goal.
  - **4 –** I am very supportive of this goal.

Goal 3:
Support Evolving Industry

Support Colorado’s Green Industry in the face of new standards and regulations.

Poll Questions 9

- Given what you know now, what is your impression of the support evolving industry goal?
  - **1 –** I do not support this goal.
  - **2 –** I am somewhat supportive, but parts need to be modified.
  - **3 –** I am supportive of this goal.
  - **4 –** I am very supportive of this goal.

Poll Question 10

- Do you feel any other goal(s) should be added to this project?
  - No – I feel that current list of goals is sufficient.
  - No – I feel that with minor modifications the list of goals is sufficient.
  - Yes – I feel that an additional goal would benefit the project (please be prepared to elaborate on the next poll question).

Poll Question 11

- If you feel a new goal should be added, please propose what the new goal should be **(open –ended):**

Goals Discussion

- **Based on the polling results, does anyone want to elaborate on their polling answers?**
  - What modifications should be made to the existing goals?
  - What new goals should be added?
    - Why?

Thank you!

Now, here's how your role is valuable in the afternoon...

Lunch

Time	Topic
12:00 PM – 12:30 PM	**Lunch**
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Topic Breakouts and Discussion

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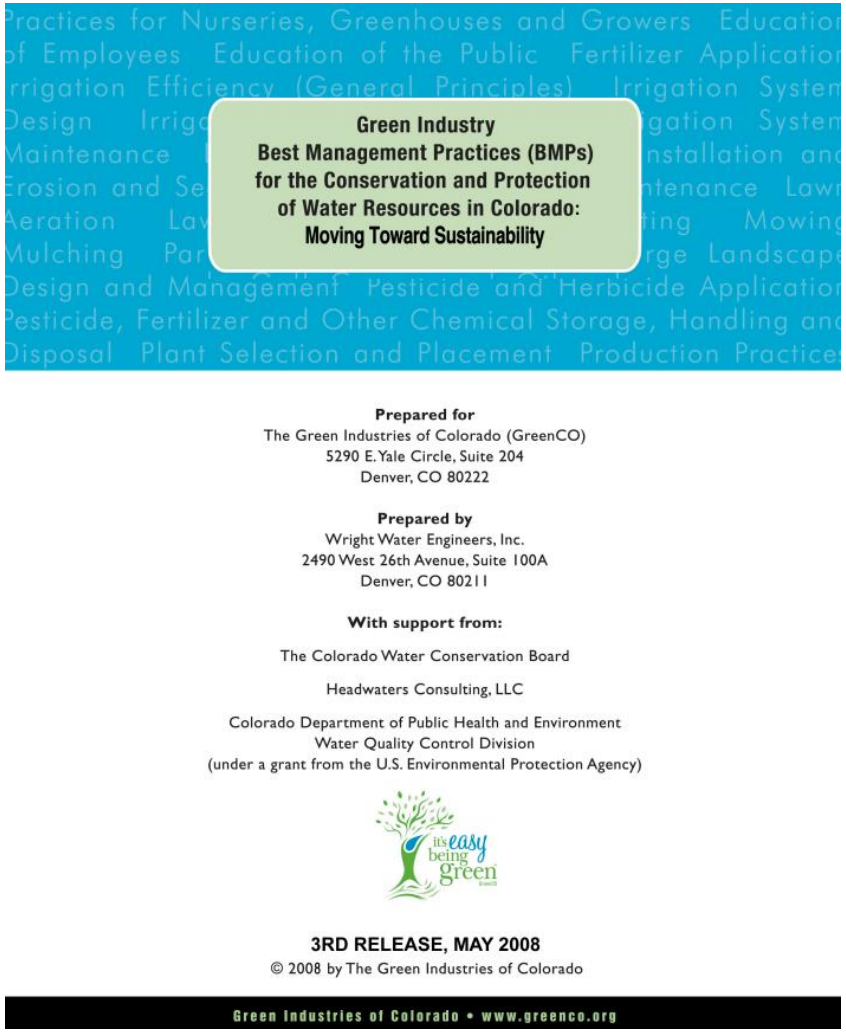
Background and Topic Overview



Practices for Nurseries, Greenhouses and Growers Educatio
of Employees Education of the Public Fertilizer Applicatio
rrigation Efficiency (General Principles) Irrigation Syste
Design Irriga gation Syste
Maintenance nstallation an
Erosion and Se ntenance Law
Aeration La ting Mowing
Mulching Par rge Landscap
Design and Management Pesticide and Herbicide Applicatio
Pesticide, Fertilizer and Other Chemical Storage, Handling an
Disposal Plant Selection and Placement Production Practice

Green Industry Best Management Practices (BMPs) for the Conservation and Protection of Water Resources in Colorado: Moving Toward Sustainability

Prepared for
The Green Industries of Colorado (GreenCO)
5290 E. Yale Circle, Suite 204
Denver, CO 80222

Prepared by
Wright Water Engineers, Inc.
2490 West 26th Avenue, Suite 100A
Denver, CO 80211

With support from:

The Colorado Water Conservation Board

Headwaters Consulting, LLC

Colorado Department of Public Health and Environment
Water Quality Control Division
(under a grant from the U.S. Environmental Protection Agency)

it's easy being green

3RD RELEASE, MAY 2008

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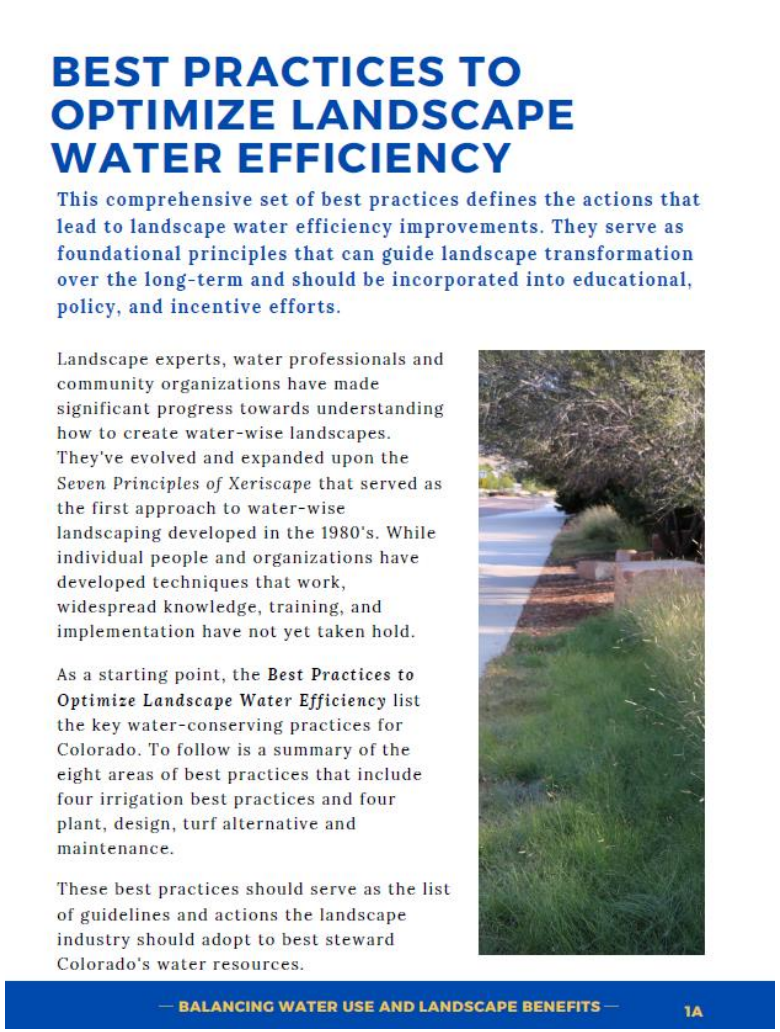

BEST PRACTICES TO OPTIMIZE LANDSCAPE WATER EFFICIENCY

This comprehensive set of best practices defines the actions that lead to landscape water efficiency improvements. They serve as foundational principles that can guide landscape transformation over the long-term and should be incorporated into educational, policy, and incentive efforts.

Landscape experts, water professionals and community organizations have made significant progress towards understanding how to create water-wise landscapes. They've evolved and expanded upon the *Seven Principles of Xeriscape* that served as the first approach to water-wise landscaping developed in the 1980's. While individual people and organizations have developed techniques that work, widespread knowledge, training, and implementation have not yet taken hold.

As a starting point, the ***Best Practices to Optimize Landscape Water Efficiency*** list the key water-conserving practices for Colorado. To follow is a summary of the eight areas of best practices that include four irrigation best practices and four plant, design, turf alternative and maintenance.

These best practices should serve as the list of guidelines and actions the landscape industry should adopt to best steward Colorado's water resources.

Components of Landscape Water Efficiency

Irrigation

Construction

Design

Maintenance

What will we achieve:

Skills and Knowledge

- ✓Draft list of skills and knowledge
- ✓Identify those that align with project goals
- ✓Discuss and report out

Value and Capacity of Certifications

- ✓Gather feedback on the value and capacity of certifications
- ✓Discuss and report out

Topic Activity: Skills and Knowledge

Part 1: Knowledge and Skills Brainstorm

- **Place one sticky** under the appropriate sub-topic area for an individual knowledge and/or skill
  - Identified skills and knowledge should:
    - ✓ Support water conservation
    - ✓ Support the development of attractive, resilient landscapes
    - ✓ Support co-benefits
    - ✓ Be achievable by the Green Industry
- **Review stickies** that are already on the board. If you agree with a sticky that is already on the board **add a checkmark** to the sticky.
- Once you have completed your review travel to a new station.

Example

KEY SKILLS & KNOWLEDGE FOR MAINTENANCE

CRITERIA

To meet the project's goals each skill and knowledge topic should:

- ✓ Support water conservation and/or efficiency.
- ✓ Support the development of attractive, resilient landscapes (e.g., no "zero-scapes").
- ✓ Support co-benefits like water quality, air quality, and wildlife habitat.
- ✓ Be achievable by the Green Industry with appropriate training.

PART 1 INSTRUCTIONS

Under each topic area add a sticky for skills and knolwedge that are critical to this topic. Ideally, identified skills and knolwedge should meet all criteria outlined above. ***If you see a sticky you agree with place a check mark on it. If you like to provide additional written comments, please use a note card.***

PART 2 INSTRUCTIONS

Review the skills and knolwedge identified in Part 1. Place **up to three** of the appropriate colored dots on the identified skills that you feel meet any of the following criteria:

- **Green dot:** knowledge and skills that are the most important for the landscape.
- **Blue dot:** knowledge and skills that save the most water.
- **Yellow dot:** knowledge and skills that have the most co-benefits (e.g., water quality, air quality, habitat benefits).

TURF MANAGEMENT

PLANT & BED MANAGEMENT

PESTICIDE & HERBICIDE MANAGEMENT

OTHER

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Maintenance

- TURF MANAGEMENT
- PLANT & BED MANAGEMENT
- PESTICIDE & HERBICIDE MANAGEMENT
- OTHER

Irrigation

- DESIGN
- INSTALLATION
- MAINTENANCE
- WATER MANAGEMENT

Design

- PRE-PROJECT SITE ANALYSIS
- WATER EFFICIENCY GOALS, OBJECTIVES, & PRINCIPLES
- REGULATIONS, LAND PLANNING, & LOW IMPACT DESIGN REQUIREMENTS
- PRODUCT SOURCING & SELECTION
- PLANT SOURCING & SELECTION

Construction

- PLANT INSTALLATION
- SEED/ALTERNATIVE LAWN INSTALLATION
- GRADING & DRAINAGE
- SITE/SOIL PREPARATION & MANAGEMENT
- MATERIALS

Topic Activity: Skills and Knowledge

Part 2: Goal Alignment and Worksheets

- Identify the skills that **align most closely with the project objective and goals**. Place **up to three dots** of each color on each sticky to identify:
  - **Green dot**: knowledge and skills that are the most important for the landscape
  - **Blue dot**: knowledge and skills that save the most water
  - **Yellow dot**: knowledge and skills that have the most co-benefits
  - If you have additional context or comments for an identified skill or knowledge, please share on a note card and leave at the station.
- Once you have completed your review travel to a new station or the **worksheet station**. Answer the questions using colors that align with your industry:
  - **Green dot**: Landscape industry/Parks/Municipal/County
  - **Blue dot**: Water provider
  - **Yellow dot**: Education/Extension/Non-profit

Example

KEY SKILLS & KNOWLEDGE FOR MAINTENANCE

CRITERIA

To meet the project's goals each skill and knowledge topic should:

- ✓ Support water conservation and/or efficiency.
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TURF MANAGEMENT

PLANT & BED MANAGEMENT

PESTICIDE & HERBICIDE MANAGEMENT

OTHER

Topic Activity: Skills and Knowledge

Part 3: Discussion and Report Out

- Break!
- Report outs on the results of worksheets and boards
- Small discussions

Report Out Summary

Maintenance

- Turf management, irrigation leaks, audits (high water savings), natives theme (blue, green, and yellow), No weed fabric (green), IPM (yellow), Irrigating tree in rocks (yellow), hands on training, water needs by plant type and hydrozone for water savings

Construction

- Most dots on the Plant Installation sub-topic (right plan, right place, hands on training)
- Seed Alternative Lawn Installation (greens/blues, but not yellow)
    - Temporary irrigation for native seeds
    - Understanding establishment watering needs
- Stormwater BMPS, low-impact development, understanding soil minimum requirements, soil testing (green, trees!

Design

- Right plant, right place (blue dots), firewise plants, Regulations, LID requirements
- Design maintenance with long term maintenance in mind
- How to identify right products, and plants

Irrigation

- Need for certification/degree to design, knowing principals for retrofit (water savings/blue), using the right irrigation type for the right irrigation design
- Understanding hydrozones and installing to spec, Hands on training in Spanish, Managing overspray and avoiding overwatering
- Site visits
- Water budgets! Use of controllers and scheduling

Worksheets

- Need for additional Spanish language options, time away from billable hours/too busy, high turn over rates
- Industry wide advancement, quantifiable water savings, personal professional advancement/additional funding

Boards Discussion

- Of the four topics (e.g., irrigation, design, maintenance, construction) which do you think are most important to elevate for identifying key skills and knowledge? Why?
- What is the role of certification in maintaining identified skills and knowledge?
- Are there any follow-up items you would like to elaborate on following the board activity?

Wrap Up and Next Steps

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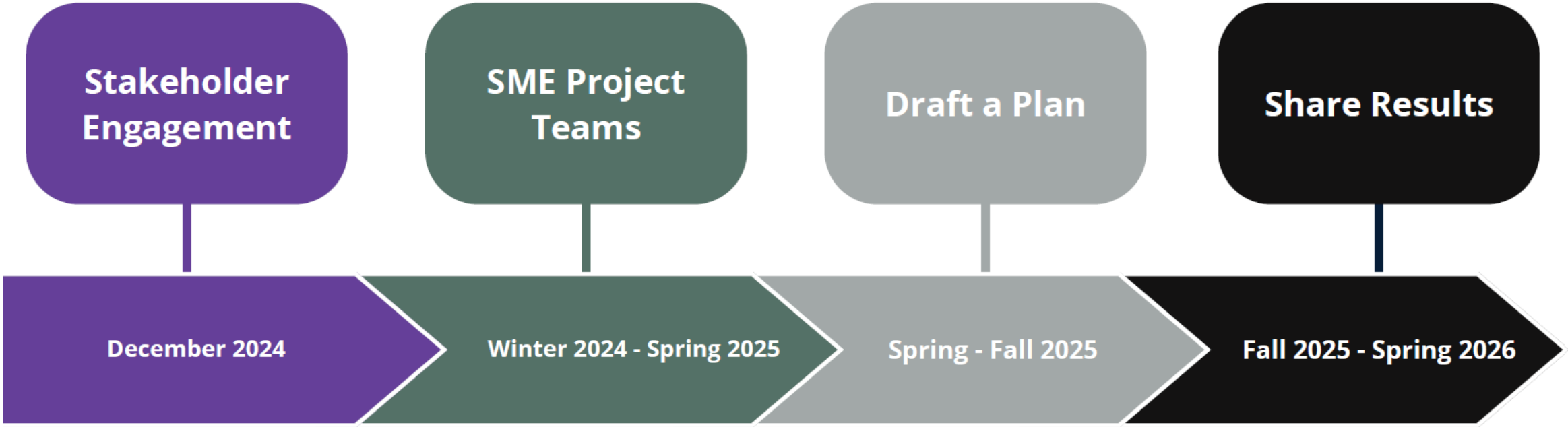
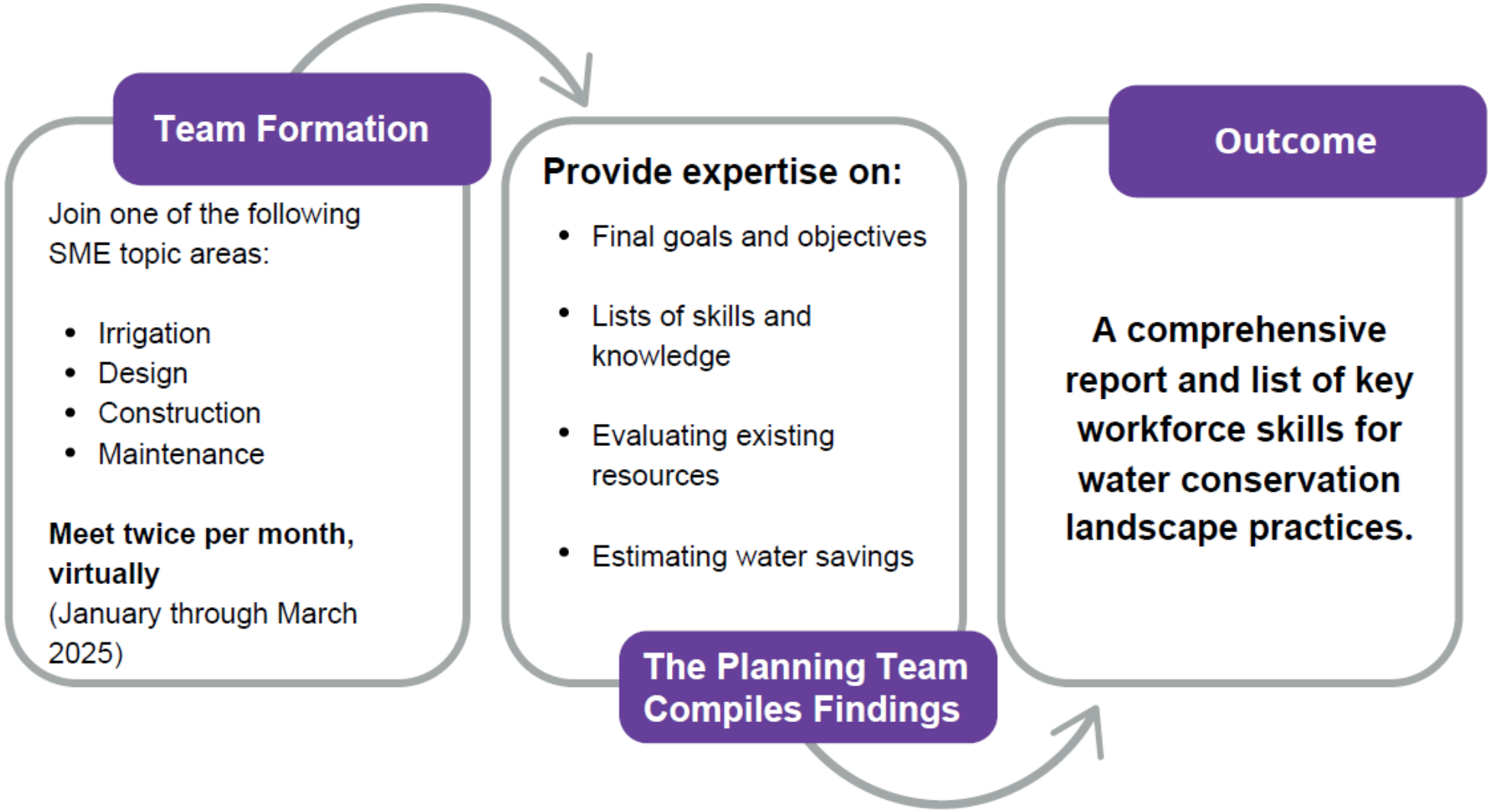
Project Overview



Next Steps


Team Formation
Join one of the following SME topic areas:
• Irrigation
• Design
• Construction
• Maintenance
Meet twice per month, virtually
(January through March 2025)
Provide expertise on:
• Final goals and objectives
• Lists of skills and knowledge
• Evaluating existing resources
• Estimating water savings
The Planning Team Compiles Findings
Outcome
A comprehensive report and list of key workforce skills for water conservation landscape practices.

Poll Question 11

- Based on what you learned today, what do you think is the most important thing for project to achieve **(open –ended)?**

Poll Question 12

- Based on what you learned today, what are you most excited about (**select all that apply**)?
  - Joining a Subject Matter Expert (SME) Group
  - Seeing the compiled results from this effort
  - Water savings potential from better industry alignment
  - Additional opportunities that may stem from the results of this effort
  - The opportunity to share my knowledge and expertise

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