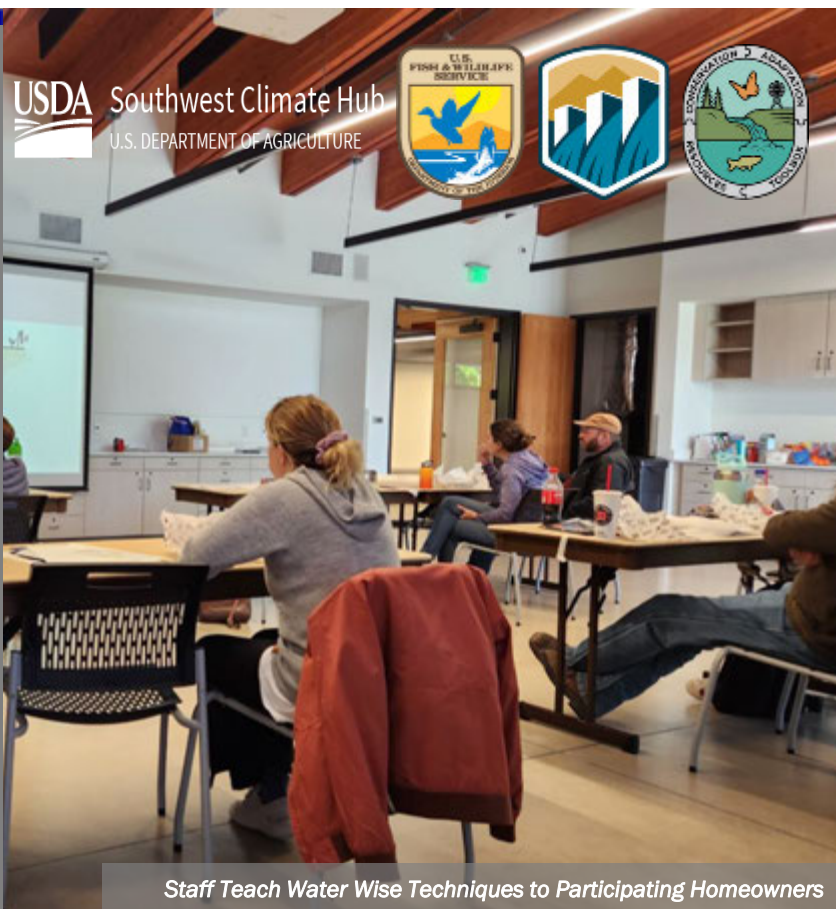


# COMMUNITY ENGAGEMENT AND EDUCATION

## Teaching Water-Wise Landscape Design to Conserve Water in the Intermountain West



In the Intermountain West, mountain streams and snowpack support populations in the arid valleys and population centers below. Between 1955 and 2022, regional April snowpack declined by 23%. Reliance on water sources originating outside of population centers makes these cities sensitive to drought, and the demand for water now exceeds supply. In 2022, Utah's Division of Water Resources implemented a landscape incentive program to provide homeowners with rebates when they install water wise landscapes. A water wise landscape remains healthy with minimal irrigation. To promote water wise design, Utah State University's Landscape Architecture and Environmental Planning (LAEP) Extension staff administers Design 4 Every Drop, a landscape design course for homeowners.



*Staff Teach Water Wise Techniques to Participating Homeowners*

### KEY ISSUES ADDRESSED

In Utah, 60% of municipal water is used as irrigation, and is ultimately lost through runoff and evaporation. European colonization established landscape designs based on Europe's wetter climate, such as turf lawns, which act as water sinks that do not often provide benefits beyond aesthetics. Homeowners can reduce water use through water-wise design principles, including reducing the area of lawns, and installing drip irrigation. However, homeowners need help overcoming the perception that water-wise landscapes lack functionality and aesthetics. Adapting water-wise landscaping from demonstration gardens and online resources can be difficult for homeowners without additional guidance. There also needs to be communication with participants over time to measure course effectiveness, and adapt course formats based on participant feedback.

### PROJECT GOALS

- Overcome stigmas associated with water-wise design by teaching homeowners design principles that provide multiple benefits
- Facilitate knowledge sharing and mentorship among participants
- Evaluate water-wise teaching strategies via pre- and post-surveys of participants

## LEADING BY EXAMPLE

USU's Center for Water Efficient Landscaping installed water wise landscapes in a new housing complex in Cedar City, and created the Main Street Water Wise Demonstration Garden.



Participant's Site Inventory

## PROJECT HIGHLIGHTS

**Online Coursework:** In fall 2023, LAEP Extension staff administered the Design 4 Every Drop hybrid course to teach 50 homeowners the step-by-step design process behind water-wise design. The online modules included activities for homeowners to complete, including creating base maps, site inventories, and materials on water-wise techniques including mulch, plant selection, and smart irrigation.

**In-Person Workshop:** After completing the online course, participants attended a 1.5-day-long workshop. Specialists reviewed their concept plans and taught homeowners how to create professionally drawn designs with symbology for landscape features, uniform scale, and directionality. Participants learned how to visualize the movement of water to design landscapes that promote water to slow, sink, and spread.

**Post-Workshop Survey:** Comparisons between the pre- and post-workshop surveys demonstrated participants gained the most knowledge on how to create multiple landscape design alternatives and how to utilize hydrozones. The most common steps of water-wise design taken by participants after the workshop included using mulch to retain soil moisture, using drip irrigation systems, and smart irrigation controllers.

## Collaborators

- USU's Landscape, Architecture and Environmental Planning Extension

CART Author: Jackelyn Alessi, Drought Learning Network (DLN), June 2024.

Photos courtesy of Jake Powell/USU.

For more information on CART or DLN, contact Karlee Jewell ([karlee\\_jewell@fws.gov](mailto:karlee_jewell@fws.gov)) or Maude Dinan ([mdinan@nmsu.edu](mailto:mdinan@nmsu.edu)).

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## LESSONS LEARNED

After the course, participants used an average of 20% less water to maintain their landscapes. Course instructors attribute the success of the course to its hybrid format, which holds participants more accountable than an online-only course. The in-person workshop boosted homeowners' confidence as they received feedback from the instructors and fellow participants.

The design process takes several months to years and involves many design iterations, so it is important for participants to recognize the amount of time and critical thinking required. Staff found allowing ample time for idea sharing and feedback helped participants gain confidence in their landscape design abilities.

To improve the effectiveness of the course, staff suggest permitting more time for online coursework, and providing more real-world examples of water-wise design. Instructors would include all elements of concept designs during the online coursework, such as the symbology, scale, and directionality, to allow more time for drafting schematic plans and planting design during the in-person workshop.

## NEXT STEPS

- Follow up with 2023 course participants in 2025 to see how many implemented their designs, and what barriers still remain to realizing their designs
- Teach additional Design 4 Every Drop courses in spring of 2024
- Prior to the start of the spring 2024 course, ask participants their expectations for the course, then adjust the course format accordingly

For more information on this project, contact Jake Powell:

[jake.powell@usu.edu](mailto:jake.powell@usu.edu)



Landscape Design Sketching