

**South Platte River Urban Waters Partnership (SPRUWP) Quarterly Meeting**  
**February 21, 2023, from 1:00 pm to 4:00 pm**  
**Colorado State University (CSU) Spur Campus Hydro Building**  
**1093 National Western Drive, Denver, CO**  
**Meeting Summary – FINAL**

**ATTENDANCE**

*In-person participants:* Solomon Abel, Matt Ashley, Ryan Banta, Dana Coelho, John Davenport, Matt Ely, Stacey Eriksen, Emily Hertz, Joseph Hughey, Lesley May, Lisa May, Greg McGrath, Sarah Miley, Jordan Parman, David Rausch, Tess Robeson, Donny Roush, Adrienne Sedlak, Summer Siggins, Jessica Swinden, Jessica Thrasher, Brian Tietze, Weston Toll, and Alison Witheridge

*Virtual participants:* Nona Shipman

*Facilitation:* Samuel Wallace and Izzy Sofio

**PARTNER UPDATES**

SPRUWP partners provide updates. Below are key points from the partner updates.

***Environmental Protection Agency (EPA)***

- Over the past year, the SPRUWP Science and Data Committee worked on updating the Water Quality Assessment Tool. The updated version is nearly complete and will include data from the upper watershed and pull live data from the EPA Water Quality Portal and the Colorado Data Sharing Network. The Science and Data Committee and LRE Water are currently working on minor updates to the storylines and parameters before the tool is finalized.
- The draft version of the tool is available to any SPRUWP partner who is interested in reviewing the draft before it is published. SPRUWP Partner should contact Samuel Wallace, Peak Facilitation Group (Peak), for access to the draft.

***eDNA Biodiversity Sampling on the South Platte River***

- At the previous SPRUWP meeting, John Davenport, Trout Unlimited (TU); Jordan Parman, Metro Wastewater Reclamation District (MWRD); and Donny Roush, Denver Public Works (DPW), presented about eDNA sampling on the South Platte River. The presentation on the eDNA sampling findings led to a project with high school students to continue sampling efforts.
- Through the project, high school and middle school students collected 30 samples, and they have 18 more to collect. The data provides information to identify different DNA strains and track fish and macroinvertebrates in the river. For example, students at the American Indian Academy of Denver discovered five different rainbow trout strains. They were able to track the fish as they moved upstream in the river over a year.
- When the sampling is complete and there is more information about the results, John would be interested in presenting the information at a future SPRUWP meeting.

***Colorado Environmental Film Festival (CEFF)***

For the first time since 2020, the CEFF will be an in-person event at the American Mountaineering Center in Golden over the weekend of February 22. The event will showcase hundreds of environmental films and documentaries created by filmmakers, including student filmmakers.

### ***World Water Day at CSU Spur***

- World Water Day is on March 22, and several organizations are hosting an event at CSU Spur from 4:30 pm to 8:00 pm. Donny Roush, Adrienne Sedlak, CSU Spur, and Jessica Thrasher, Colorado Stormwater Center (CSC), will host events and activities, including a rain barrel construction workshop and an opportunity to learn from live river sampling. There will also be at least one Spanish presentation and many other tables and events.
- All SPRUWP partners are welcome to host a table or event. SPUWP partners can contact Adrienne or Sarah Miley, CSU Spur to learn more about hosting a table or event.

### **COLORADO STORMWATER CENTER (CSC) RAIN GARDENS AND RAIN BARREL RESOURCES PRESENTATION**

Jessica Thrasher, CSC, presented CSC resources and findings from the CSC's Residential Rain Garden Pilot Program. Below are key points from the presentation and the resulting discussion.

#### ***CSC Overview, Course/Certification Offerings, and Resources***

- The CSC is housed within the One Water Solutions Institute in CSU's Department of Civil and Environmental Engineering. The Water Technology Acceleration Platform (TAP) at CSU Spur is part of this program. The CSC offers training, certifications, and resources, as well as conducts research and hosts events.
- In stormwater management, there is a gap in equitable access to education, as identified in the updated Colorado Water Plan. Aside from English, Spanish is a primary language for many Coloradans. Ensuring that CSC resources are accessible to Spanish speakers is important. To ensure accessibility, the CSC recently added pages and resources to its website in Spanish. Additionally, the CSC offers training and certifications, online and in person, in Spanish.
- While some of the courses and certifications offered by the CSC have associated costs, the CSC strives to offer affordable (e.g., free, sponsorships, or low-cost) options. Additionally, many courses and certifications are offered online and in person, and some follow an asynchronous pace.
- The CSC offers several resources about rain gardens, rain barrels, green infrastructure, extended detention basins, Stormwater Control Measures (CSMs), and rainwater harvesting in English and Spanish. Many of these resources are useful for practitioners, while some are geared toward residential homeowners.

#### ***The Residential Rain Garden Pilot Project***

- In 2022, the CSC established the Residential Rain Garden Pilot Project with the support of funders and the community. Through this project, the CSC examined barriers to installing residential rain gardens and installed several in Denver Metro communities.
- In partnership with the Horticulture Department, the CSC developed three categories of rain garden planting layouts. Residential homeowners can use these layouts to plant rain gardens. These layouts looked similar to the commonly known "paint by number" activities, making it easier for residents to plant rain gardens. CSC staff developed a rain garden plant guide and a rain garden installation course in English and Spanish. After facing sourcing challenges, staff eventually developed a subscription list for rain garden plants.
- After developing rain garden installation and care resources, CSC staff developed bi-lingual marketing materials and selected demonstration sites for installation. There were over 300 applications; however, the CSC could only select 19 demonstration rain gardens within the Northern Front Range communities. In the future, Groundwork Denver will assist with rain garden installations, which will help meet the interest.

- CSC staff, partner volunteers, and community volunteers installed the 19 demonstration rain gardens. Installation sites ranged from 50 to 100 square feet (sqft), which matched the size of the pre-developed layout plans. Through the pilot program, CSC staff determined that having at least one smaller layout option would be helpful.
- Each demonstration rain garden varied slightly. One successful detail of the program was allowing the homeowners to select the mulch.
- A few challenges during the pilot project included planting timeframes and the ground's hardness. Some of the installations occurred in September when the ground was quite hard. Watering the area the night before the installation helped mitigate this challenge. Another challenge was the summer heat. It was critical to take breaks; however, breaks added to the time it took to install the demonstration gardens. Lastly, it was challenging to find volunteers to help with installation.
- By the end of the process, the CSC and volunteers planted 589 plants, worked with 48 installers, contributed 870 hours of work, and installed 1,200 sqft of rain gardens. Assuming that all of the demonstration sites were previously turf, the rain gardens are estimated to save 14,952 gallons of water each year.
- CSC staff have been and will continue to monitor the health and height of the plants in each of the demonstration rain gardens.
- There are many opportunities to increase the number of rain gardens throughout Front Range communities. Partnering with nurseries to provide rain garden plants and native plants would increase the availability of necessary plants. Establishing partnerships with homeowner's associations (HOAs) to establish pre-approved plant lists would increase the number of rain gardens in neighborhoods. Lastly, partnering with builders to install rain gardens earlier would increase rain garden popularity. There could even be opportunities to offer stormwater fee reductions to homes with rain gardens.
- SPRUWP partners are welcome to share the resources provided by the CSC to increase awareness and education on stormwater management and tools like rain gardens.
- The Stormwater Symposium at the CSU Spur Campus in May needs more presenters. SPRUWP partners with presentations are welcome to sign up for the Symposium.

### ***Clarifying Discussion***

- EPA allocated additional funding to the Clean Water State Revolving Fund (CWSRF), creating an opportunity to sub-grant the funding. EPA is partnering with Water Now Alliance to host workshops to establish rain gardens in environmental justice communities with funding forgiveness opportunities.
- There are opportunities to connect with the Colorado State Forest Service (CSFS) on rain garden efforts if trees are involved in the future.
- In addition to saving water, benefiting wildlife, establishing plants, and creating wildlife corridors, rain gardens also capture pollutants in the rain garden to protect water downstream.
- There are several programs in the Denver Metro area to help homeowners transition from turf, including the Gardens in a Box program offered in Arvada.
- Planting in the early fall can reduce the likelihood of plants dying from the summer heat. If there is early snow, the snow helps water the new plants.

### ***Clarifying Questions***

SPRUWP partners had the opportunity to ask clarifying questions about the CSC and the Residential Rain Garden Pilot Project. Questions are below in italics, and corresponding answers are in plain text.

*Does the CSC plan to install additional demonstration rain gardens this year?*

The CSC plans to partner with other organizations to share information about how to plan rain gardens because the CSC does not have the funding for another round of installations.

*Can the SPRUWP website include a link to the CSC website?*

Yes.

*Is it beneficial to plant trees in or around rain gardens?*

Trees can be planted around the outside of a rain garden.

*Are there concerns about the water quality coming from a roof into the rain garden system?*

- Groundwork Denver is analyzing data on this topic this week. There are typically some metals in the runoff, but the metals have not yet been compared to the standards.
- There are some risks that water quality could affect the health of the plants in the rain garden. It is possible that low water quality could kill plants in the rain garden.

*Audubon Rockies has a bird-friendly native plant program. Is there an opportunity for Audubon Rockies and the CSC to partner?*

The CSC could see how its rain garden resources compare to the Audubon Rockies' resources, including the Habitat Hero certification checklist.

*Are rain gardens a low-cost home improvement? If so, could that be a helpful talking point to use with builders and homeowners?*

Rain garden installation costs are low, especially for those with the necessary tools. Native plant subsidies from municipalities could be a good tool to implement in the future. The lawn replacement/turf removal statewide subsidies and available xeric landscape grants are other resources builders and homeowners could use to reduce costs. Lastly, educating homeowners about the low-maintenance aspect of rain gardens compared to fertilizing and mowing lawns could be useful, as homeowners often express that it's "easy" to take care of a lawn when in reality it takes a lot of work.

*The State of Colorado recently passed legislation to explore a Turf Replacement Program. What opportunities does the statewide Turf Replacement Program offer?*

The Turf Replacement Program legislation lists rain gardens as one turf replacement option. Other options include native grasses and low-water landscapes. Native grasses present potential challenges, but Colorado Water Wise is creating a native grasses guidebook. Later in the summer, there will be a presentation about the program in the Hydro building.

### ***Impervious and Pervious Surfaces Model Demonstration***

Using an impervious and pervious surfaces model, Jessica demonstrated how water and pollutants travel through these two environments.

### **CSU SPUR CAMPUS TOUR**

Sarah Miley and Adrienne Sedlak provided a tour of the CSU Spur's Hydro, Terra, and Vida buildings for SPRUWP partners. The meeting was adjourned after the campus tours.