



July 7th, 2023

Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, CO 80203

Re: Colorado Water Plan Grant Final Report

To Whom It May Concern,

The Park People (TPP) is grateful for support from the Colorado Water Conservation Board. With support from the Colorado Water Plan Grant, The Park People launched WATERED: Water Advocacy via Trees and Engagement to Relieve Effects of Drought, a distinct program at the intersection of water conservation and urban forestry.

Colorado faces a water crisis: experts project current drought prevalence and temperatures will continue to increase, contentions between Western Colorado water resources and Front Range water utilization run high, and, to strain an already precarious situation, the state's population is experiencing intense, rapid population growth. Fortunately, a recent study by Rasmussen at Colorado State University demonstrated that trees directly improve water conservation measures¹. However, Colorado cannot reach water goals without the involvement of residents and community stakeholders who will change the norms around daily behaviors like landscaping practices, rainwater utilization, faucet management, etc. This complex social and ecological system requires intentional procedures that engage local communities in grassroots, nature-based efforts to truly mitigate Colorado's future water shortages.

To this end, WATERED planted nearly 2,000 trees in one year. With an average life expectancy of 40 years, this green infrastructure will intercept an estimated 96 million gallons of rainfall. Investment in green infrastructure will increase drought impact mitigation in the long-term.

Summary of Project And How It Was Completed

We achieved this through the following tasks:

¹ Rasmussen, Shaundra. "When Small Is Not Beautiful: The Unexpected Impacts of Trees and Parcel Size on Metered Water-Use in a Semi-Arid City." *Remote Sensing*, vol. 13, no. 5, Mar. 2021.

1. TPP collaborated with Colorado State Forest Service, The City of Denver's Office of the Forester, and other tree experts to establish methodology, which includes optimal tree species, tree size, tree age, planting time, and planting location for drought resiliency and urban durability.
2. After establishing a tree planting methodology and schedule, TPP led a two-pronged training approach to ensure that the greater Denver area had stewards capable of planting trees and maintaining the trees being planted. The first of these is the *Community Forester* program, an annual five workshop program that encourages grassroots community leadership in tree planting and care, water systems, drought resiliency, and Colorado Water Plan awareness. The second program is *TreeForce*, an eight-week pre-apprenticeship which provides pathways to employment in urban forestry to formerly incarcerated individuals, with a robust curriculum focusing on critical skill building and knowledge acquisition as it relates to drought resilient trees and urban environments to ensure Denver's green infrastructure functions to mitigate drought impacts. These stewards were critical in planting and maintaining the trees planted through support from CWCBC.
3. The final step was mass mobilization, establishing and hosting large-scale impact planting events to reach the stated goal of 2,000 trees. TPP also took a two-pronged approach in tree planting. The first of which is a corporate responsibility program, *Mile High Tree Champions*, which encouraged corporate responsibility and environmental stewardship via drought resistant tree plantings at public parks and affordable housing communities in Denver. Through these events, we planted 328 trees and taught 10 corporate groups about Colorado Water Plan initiatives. The second program is Denver Digs Trees, an annual event that resulted in nearly 1,500 trees planted and distributed throughout Denver, on both private property and public lands. Denver Digs Trees recipients (over 700 households) received informative collateral pieces regarding proper watering techniques and maintenance practices to ensure longevity, overall maximizing the trees' impacts on Denver's water system.
4. After the completion of this year of programming, TPP convened with the following Denver community stakeholders: Colorado State Forest Service; United States Forest Service; Denver Water; Denver Parks and Recreation; The Office of the City Forester; The Nature Conservancy; and Denver's Office of Climate Action, Sustainability, and Resilience. This meeting allowed urban forestry and water conservation leaders to discuss the perceived conflicts between the two industries and establish ways to move forward based on the progress made this past year. This meeting allows for future wholistic programming that these organizations might conduct separately or together.

Through this process of creating methodology, training tree and water stewards, and facilitating planting and community educational events, TPP planted nearly 2,000 trees total. These impacts will likely be scaled up, and innovations will be incorporated to future work thanks in part to outcomes and suggestions from the meeting Water and Trees: Advancing Community Engagement in Denver.

Obstacles Encountered And How We Overcame Them

TPP found that some community members were hesitant to accept, or previously unaware of, the inherent connection between water conservation and urban forestry. This connection is strong, but not obvious to the public. To overcome this obstacle, TPP worked with the community partners listed above to revitalize the curriculum to highlight the following information:

- Trees provide shade, which can decrease temperatures by 15 degrees, which in turn reduces water lost to evaporation
- The process of evapotranspiration, aka the process of water evaporating from trees, releases water molecules into the air, increasing the humidity of the microclimate
- Tree foliage reduces the speed of rainfall, allowing soil more time to absorb it, reducing flooding
- Tree roots infiltrate soil, allowing soil to be more permeable to water

TPP also learned via our Community Climate Ambassador program, a separate grassroots community involvement program that distributed surveys in neighborhoods with the lowest tree canopy in the city, that people are afraid to use water to water their trees, thus creating a drought perpetuating loop. TPP has started to address this by incorporating community-based events like rain barrel demonstrations as part of its programming to encourage community members to conserve and use water in effective ways. While The Park People's WATERED program was not funded for a second year, The Park People plans to continue this work and facilitate more community engagement efforts.

Match Commitment Fulfillment

The Colorado Water Conservation Board generously contributed \$104,000.00 to The Park People through the Colorado Water Plan Grant. The Park People matched these funds in full at \$464,948 via a combination of in-kind support, private donations, and grants from the following parties: Colorado Department of Human Services; Denver Climate Action, Sustainability & Resiliency; and Great Outdoors Colorado.

Photos From Programming And Meetings

We have attached photos from the following:

- Meeting: Water and Trees: Advancing Community Engagement in Denver
- Rain barrel demonstrations in low-canopy neighborhoods
- Denver Digs Trees distribution
- Mile High Tree Champions planting events
- *TreeForce* planting and pruning days

We are honored to receive your support and are grateful to count you among our allies who understand the important role that water conservation, parks and trees, and other community resources play in supporting quality of life in our Denver community and at large. Thank you for demonstrating your support with this grant.

Sincerely,

A handwritten signature in blue ink, appearing to read 'K. Yuan-Farrell', with a stylized, cursive script.

Kim Yuan-Farrell
Executive Director