

Transforming Non-Functional Turf to Waterwise Landscapes Achieves Multiple Benefits

Overview

Transforming non-functional turf to waterwise landscapes achieves a wide range of benefits that enhance water supply and community resilience. These benefits include:



- Water savings

- Improved public health



- Costs savings

- Improved water quality



- Pollinator habitat

- Ecosystem improvements



- Neighborhood beautification

- Increased soil health



- Improved air quality

- Wildfire mitigation



- Increased recreation opportunities

- Local green jobs



Many of these benefits, such as water and cost savings, are quantifiable. Other co-benefits, such as neighborhood beautification and pollinator habitat, are qualitative. Waterwise landscaping provides environmental, economic, and social benefits. These qualitative benefits are also important considerations when making the case for landscape transformations. These landscapes also help build community resilience to the impacts of climate change, reduce stresses on local resources from population growth, and supplement aging infrastructure. **All these benefits—both quantifiable and qualitative—should be taken into account when considering whether to make these investments. Comparing the cost of replacements to water and cost savings alone would not capture the full meaning of the investment for the community.**

To support communities' triple bottom line assessment of local turf conversion programs, short descriptions of the qualitative benefits waterwise landscapes generate and access to additional resources, including frameworks for evaluating benefits, are provided below.

QUALITATIVE TURF CONVERSION BENEFITS

Improved Physical & Mental Health

Non-functional turf conversions and green space on public and private property support improved physical and mental health, improving public health overall. These benefits have been characterized in a growing list of examples.

- A [California Water Efficiency Partnership literature review](#) found that landscape transformations: “improve human health by performing such services as filtering particulates from the air and reducing carbon dioxide, filtering pollutants from stormwater runoff and in turn improving surface water quality.”
- According to [USDA's](#) 2018 report summarizing some of the most prominent research related to nature and public health, people living near parks and green space have less mental distress, are more physically active, and have extended life spans.
- Professor Kathleen Wolf with the Nature and Health Initiative at the University of Washington [finds](#): “Urban nature, when provided as parks and walkways and incorporated into building design, provides calming and inspiring environments and encourages learning, inquisitiveness, and alertness.” And “children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) performed better on an objective concentration test after exposure to a relatively natural urban setting as compared to a less natural urban setting.”

Pollinator Habitat

By increasing biodiversity waterwise landscapes provide enhanced habitats for pollinators. Healthy pollinator populations means healthier plants and ecosystems that rely on them to survive and thrive. “[Without pollinators, the human race and all of earth's terrestrial ecosystems would not survive.](#)” Several studies describe the benefits of converting turf to climate appropriate landscapes.

- The EPA estimates that lawns and gardens in the US are sprayed with [more than 90 million pounds](#) of insecticides and herbicides a year. According to the [National Wildlife Federation](#), native plants provide wildlife habitat and allow property owners to cut back on those

chemical inputs, which in turn attracts more pollinators and other wildlife.

- The [Lawn \(Re\)Disturbance Laboratory](#) has shown that one-by-one meter plots of converted turf, where nothing is planted and the dormant seeds underneath are allowed to grow unimpeded, shows an uptick in insects. This rewilding attracts bees, ants, moths, spiders, and more.
- San Antonio Water System's turf conversion programs [create wildlife habitat for monarch butterflies and other critical pollinator](#) species by encouraging the use of native plants through water-smart landscaping initiatives.

Neighborhood Beautification

Waterwise gardens not only save water, but these landscapes are also beautiful. Colorado-appropriate landscapes provide a variety of colors, textures, and fragrances even during times of drought—times when non-functional turf may suffer and lose any aesthetic appeal. This neighborhood beautification has been demonstrated in a growing number of communities.

- In Greeley, Colorado, well-designed, installed, and maintained waterwise landscapes [can increase property values up to 15%](#).
- An [Alliance for Water Efficiency survey](#) found that of homeowners who converted their turf to a water-wise landscape, 91% reported that they are satisfied or very satisfied with their new landscape. 85% thought the conversion was worth the investment.
- According to [UCLA Luskin Center for Innovation](#), “[a]ttitudes have been changing about lawn desirability. Generally, the more aesthetically pleasing the landscaping, which potentially requires costlier investment, the more likely it is to have a positive impact on the property value.”
- [Waterwise Yards](#) shares examples of inspiring turf conversions and testimonials across Colorado.



Increased Soil Health

Replacing turf with native plants supports healthy soils because vegetation adapted to Colorado have much deeper root structures compared with conventional lawns, which promotes water infiltration and prevents erosion. This, in turn, creates drought resiliency and flood mitigation. Turf conversion experts have described the soil health benefits of waterwise landscapes.

- [Resource Central](#) advises, “In the compact clay soils of Colorado, a large portion of water is lost to run-off and turf roots are often very shallow. Replacing these shallow-rooted grasses with longer-rooted Xeric plants produces healthier soil, which has the ability to

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absorb more water and leads to less run-off.”

- Boulder, Colorado’s [Climate Ready Landscapes Reference Guide](#) explains, “Carbon rich and healthy soils have an increased water holding capacity, helping to mitigate flood risk and aid in times of drought, while native vegetation have much deeper root structures than traditional turfgrass, reducing the chance of mudslides and soil erosion.”

Wildfire Mitigation

“[In Colorado, in the wildland-urban interface \(WUI\), it isn’t a matter of if a wildfire will impact residences and properties, but when.](#)” Drought tolerant landscapes, such as waterwise lawns planted with native Colorado vegetation, are wildfire resilient landscapes.

- As [CSU Extension explains](#), creating “defensible space” around buildings can mitigate wildfire risk. That defensible space is more effective when it is managed by how, where, and what is planted. In some cases, there is a strong correlation between drought tolerance and fire resistance.
- The [Colorado State Forest Service](#) recommends using [low-growing ground cover](#) plants because they are “succulent or have other FireWise characteristics that make them useful, functional and attractive.”

ADDITIONAL RESOURCES

To continue learning about the benefits of switching non-functional turf for Colorado-appropriate landscapes, check out these additional resources:

- WaterNow and Western Resource Advocates’ [Turf Conversion Database](#)—includes examples of both qualitative and quantitative turf conversion benefits
- [Waterwise Landscapes: A Cost-Effective HOA Investment in Resilience](#)—outlines the benefits of turf replacements for Homeowners Associations
- [Advancing Resilience through Distributed Stormwater Capture and Conservation](#)—outlines water savings and stormwater capture benefits of landscape transformations in Southern California
- [Water Infrastructure Jobs Calculator](#)—estimates the jobs created by investing in turf replacement programs
- [Water Use Efficiency Case Studies](#)—collection of case studies across the West highlighting communities’ water use efficiency successes

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