



Wild Ones

NATIVE PLANTS, NATURAL LANDSCAPES

SPRING 2023 • *Journal* • VOL. 36, NO. 1

Cover Photo: Kay Searfoss

A voice for the natural landscaping movement.

Rainscaping: A gateway to native plant gardening

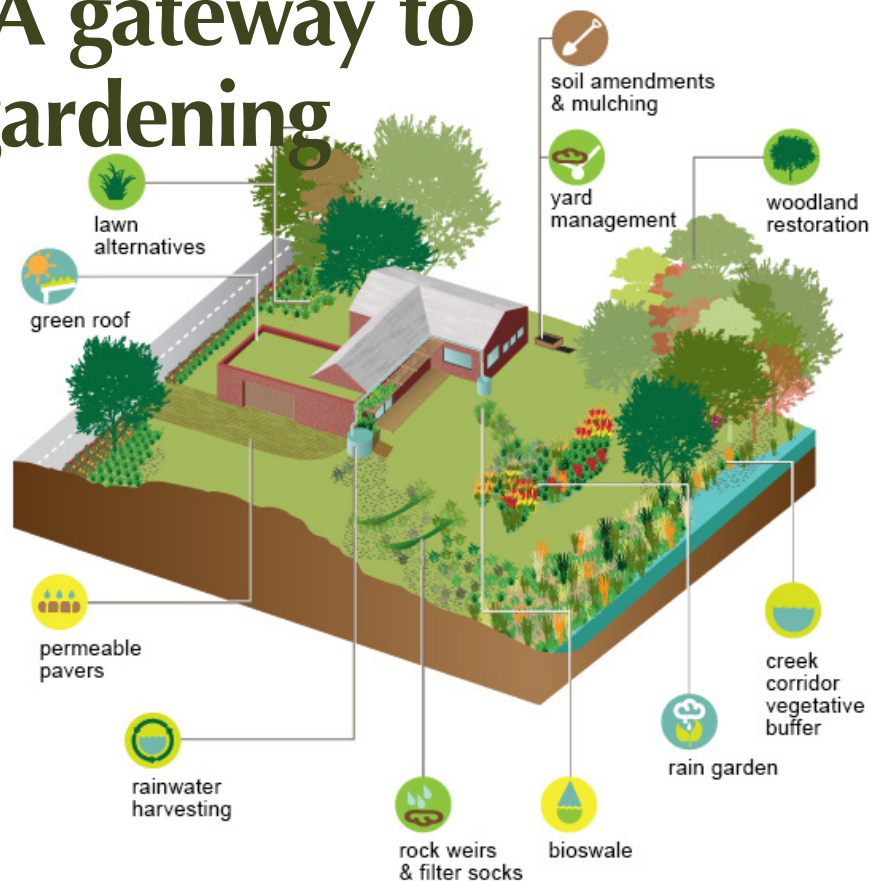
By Allison Joyce

Rainscaping is a sustainable landscaping practice that offers a wide range of benefits to the conscientious gardener: stormwater management, habitat creation and water quality improvement. Technically speaking, rainscaping is any combination of plantings, water features, catch basins, permeable pavement and other activities that manage rainwater where it falls, rather than moving it someplace else. The goal of rainscaping is to slow water down enough that it soaks into the ground instead of running off to become a problem in storm drains and basements.

The best way to slow water down is to remove or reduce impervious surface areas, such as concrete and turf grass, and replace it with permeable surfaces populated with native plants. There are valuable non-plant-based solutions in the rainscaping toolchest like permeable paver patios and rain barrels. However, the deep roots of native plants are the most efficient at holding water in soil and, as Wild Ones members will appreciate, provide a host of collateral benefits.

Native plants are uniquely suited for rainscaping. Over millennia, these plants evolved to thrive with nature's flows of changes in environmental conditions that ambitious humans have instead strived to bend to our will.

The primary reason that native plants do such a great job managing stormwater is that they improve soil quality through their diversity of root systems. Whether deep and ropy or fibrous and mat-like, they fight their way into compacted, neglected earth.



There is a wide variety of rainscaping solutions available to property owners. Learn more about the technical aspects of rainscaping from the Missouri Botanical Garden's Rainscaping Guide at www.mobot.org/rainscaping.

The roots aerate soils simply by being there, creating fissures as they grow. Eventually, even the hardiest plants die, leaving behind organic matter that decomposes in place to feed worms and fungal networks.

Rainscaping can provide a variety of micro-habitats that allow you to feature a diversity of plants in your landscape, such as in the prototypical rain garden. Rain gardens contain a shallow basin surrounded by a berm and have inflow and outflow areas. The basin should be planted with species that are happy with wet feet since water will collect there as it slowly percolates into the soil. For the lower Midwest, a few examples of plants that work well in the basin are soft rush (*Juncus effusus*), rose mallow (*Hibiscus lasiocarpus*) and bur sedge (*Carex grayi*).

Species in the rain garden berm should be OK in standing water during a rain event and be able to tolerate dry conditions as the raised elevation makes them the first to dry out. The same deep roots that can manage stormwater make many native plants very drought tolerant. Good plants to use on a berm in the lower Midwest are shining blue star (*Amsonia illustris*), swamp milkweed (*Asclepias incarnata*) and sneezeweed (*Helenium autumnale*).

Finally, native plants help improve water quality by removing, degrading and stabilizing pollutants, a process known as "phytoremediation." As if you needed another reason to plant a tree, a 2021 study by the USDA cites the success of fast-growing trees at waste clean-up sites near Lake Michigan and



Clockwise from above: When selecting plants for your rainscape, consider species that bloom in different seasons and will keep you and wildlife interested year-round; This before and after comparison shows how native plants and permeable paver systems can work together to create habitat for wildlife and people. Right: Including people-friendly features such as walkways and benches will make your landscape an inviting retreat from the world.

Lake Superior, including landfills. Trees and woody shrubs that take up stormwater in the lower Midwest include river birch (*Betula nigra*), bald cypress (*Taxodium distichum*), button bush (*Cephalanthus occidentalis*) and prairie willow (*Salix humilis*). In all cases, check with your Wild Ones chapter or regional native plant program to identify the best plants for rainscaping in your area.

Rainscaping is a valuable way to put native plants to work in your landscape. Where to start? As with any gardening initiative, start by evaluating the current conditions in your yard. Wherever you live, you can readily determine if a rain garden is right for you:

- Is the site already populated with trees? If your site is wooded, you can't excavate, ruling out the necessary rain garden basin. Instead,



you can rainscape by removing any invasive species and replacing them with natives.

- Is the soil permeable enough to absorb water? Conduct a simple percolation test to find out. If your soil drains slower than 1/4-inch an hour, consider a lawn alternative strategy instead.
- Is your site on a gentle or moderate slope? A gentle slope helps the rain garden basin collect more water

as it runs away from your home, but a steep slope is not a good place for a rain garden. You need to focus on controlling erosion by stabilizing the slope.

- Is there enough space to build a rain garden at least 10-15 feet from nearby buildings? Rain garden basins encourage water to soak into the ground right there, so avoid this anywhere drainage issues might be exacerbated.

Rainscaping to the rescue

By Dan Pearson

When we applied for a rainscaping small grant in 2015, my partner Leah and I were new to our century-old house and trying to figure out what to do about the tremendous amount of water gushing through the stone foundation into our basement with every rainfall. The main downspout from the flat roof was apparently not making its way into the sewer lateral as originally intended.

We now regard this as a lucky defect that set us on a path of learning about rainscaping and the ecological necessity of stormwater management in general. We learned about the devastating environmental impact that our city's old, combined stormwater and sewer system has had.

As we explored ways to bypass the sewer altogether, we soon discovered that we would need far more than a single rain barrel to handle the estimated 26,000 gallons of rainwater from our roof each year. We needed at least a 250-gallon rainwater harvesting system, a rain garden and a plan for overflow. Unfortunately, this was far out of our financial reach at the time. But fortunately, we happened to be eligible for a grant through MSD Project Clear to completely cover the cost of our planned installations.

By June of the same year, everything was installed. We were thrilled with how well the system worked and

looked in our yard. And it has only improved with time.

By the second year, the rain garden was producing colorful blooms throughout the seasons and attracting a variety of birds and pollinators. The deep-rooted plants were helping even more rainwater soak into the heavy clay soil. Eight years later, we have eliminated nearly all stormwater runoff with many more rainscaping enhancements such as bioswales, a dry well, more trees, replacing concrete walkways with permeable brick, and converting every inch of our grass lawn to native gardens.

The grant requirement to use Missouri native plants for the original raingarden planted a seed in me that blossomed into a deep interest and passion for native landscaping. The St. Louis Audubon Society and their Bring Conservation Home program provided a consultation about what more could be done to restore wildlife habitat in our yard. After several years of implementing their recommendations, they came back to assess our progress and awarded us with a platinum level wildlife habitat certification. They also trained me to volunteer as a habitat adviser, which ultimately resulted in a major career change and administering the program full time. And it all started with a leaky basement!

Dan Pearson is the Bring Conservation Home program manager with the St. Louis Audubon Society.

If you went through these questions and found that your site is unsuitable for a rain garden, there are still plenty of rainscaping options available. It is far better to work with your current conditions and avoid complex, highly engineered projects. Take a cue from native plants and adapt to the existing landscape, rather than forcing it to conform to your idea of how it should look.

Native plants and soil functionality vary by ecological zone. Therefore, the species best suited to anchor a high-performance landscape like this will come from your own native plant community. Work with local landscape professionals who specialize in ecological planting to explore and implement a project that will meet your needs, whether the

result is called xeriscaping, rainscaping, green infrastructure, or simply sustainable gardening.

Climate change is affecting both average rainfall and rain extremes from coast to coast. Functional landscapes are much better equipped to handle the full spectrum of moisture extremes. While a rainscaping feature does not guarantee against water in your basement, it is a good investment against property damage, whatever your "normal" precipitation pattern may be.

The St. Louis region is fortunate to have programs that provide financial support for rainscaping installations at residential, institutional and commercial properties, such as [MSD Project Clear](#) and the [Deer Creek Watershed Alliance](#). If your region

does not have this kind of resource, maybe the time is right to start one. Tap into your local Wild Ones chapter to learn about how existing grant programs got started and how they might work for your area.

Rainscaping is a powerful way that native plants are proving their worth and reaching new audiences. Financial resources, stormwater management and habitat creation are all part of the repertoire of incentives bringing people to the wild side. Whatever brings you here, we are glad to have you.

Allison Joyce is sustainability coordinator on the rainscaping team at the EarthWays Center of Missouri Botanical Garden in St. Louis. Learn more at the Missouri Botanical [rainscaping guide](#).