



Shore Stewards News

GUIDELINES AND RESOURCES FOR LIVING NEAR WATER | ESTABLISHED 2003

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Xeriscaping: planning and executing a waterwise landscape



Figure 1: Refining irrigation practices can help conserve water during dry summers and droughts, but it's just one of seven principles of xeriscaping that can help create a long-term waterwise landscape. Image Credit: [Oregon State University](#) / [CC BY-SA 2.0](#). [Wikimedia Commons \(link\)](#).

Introduction

Despite its reputation for gray skies and rain that lasts seemingly months on end, the Puget Sound region actually receives significantly less rain than many other regions of the United States. That's largely because the type of rain matters. What some regions might receive in a few minutes during a daily summer thunderstorm might take days to accumulate in Puget Sound's dreary drizzles. And in some areas are sit in the rain shadow of the Olympic Mountains, resulting in even less rain. For example, data from Washington State University's [AgWeatherNet](#) show that some areas in Island County such as Coupeville receive less than 20 inches of rain annually, compared with about 37 inches in Seattle. With only about a third of our rain coming in the six months of April through September, much of western Washington also typically has pretty dry summers. Drought conditions are not uncommon in summer months.

Dry conditions, especially during summer, can lead many residents to increase the amount they water their lawns and gardens. In the United States, the Environmental Protection Agency (EPA) estimates that one third of

all residential water use is used for landscape irrigation—totaling nearly 9 billion gallons per day in 2013—and that half of this water is wasted due to runoff, evaporation, or irrigation system issues. With summer upon us, you may be noticing that you are having to spend more time providing supplemental water to your landscape – not to mention that costly water bill. If you’ve found yourself wondering if there’s a way to reduce water used in irrigation, a practice called *xeriscaping* may provide some helpful guidelines.

Xeriscaping (from the Greek word “xeros,” meaning dry, and “scaping,” from landscape or view) is the practice of planning and implementing a landscape design that focuses on the reduction of water use. The practice is common in desert regions, although the same principles can apply here. Some might use phrases such as “waterwise landscaping,” “sustainable landscaping,” or “creating a drought-tolerant landscape” and be referring to largely the same thing. Xeriscaping generally follows seven principles. This newsletter will briefly address each of these principles, list some of the other benefits of xeriscaping, and provide resources for further information.

The 7 principles of xeriscaping

1. Planning and design

Waterwise landscaping starts with understanding your landscape and developing a solid plan. Considering the six other principles of xeriscaping as part of your plan will also make your job easier later on. First, take time to understand your property. This might begin with observing how light, water, and wind move through your property at different times of the day and different times of the year. Are there areas that are shadier than others? Poorly drained? On steeper slopes? What type of soil does your landscape have? These factors will help determine what plants could and should be planted in those areas.

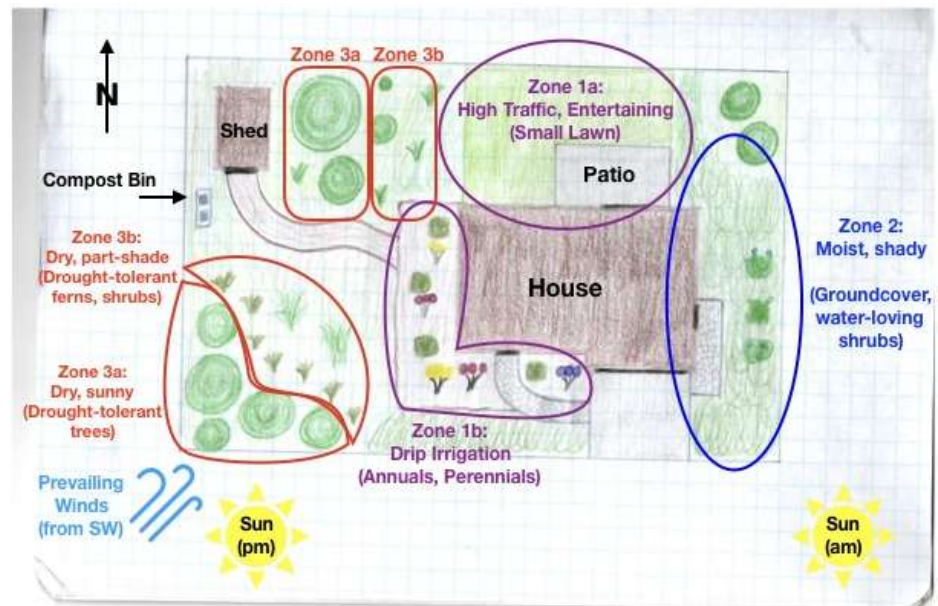


Figure 2: Grouping plants with similar watering needs into hydrozones will help with effective irrigation later. In this drawing, Zone 1 has the highest water needs, and Zone 3 the lowest. Image Credit: Jerilyn Ritzman.

Understanding these factors on your property will allow you to create **hydrozones**—areas within your landscape where plants with similar watering needs can be grouped together. You can plot your proposed hydrozones (ranging from low to high watering needs) on a map of your property drawn to scale. To save the most water, you should aim for the largest zones on your property to be low-water zones. The medium and high-water zones should generally be closer to your house, as they will be easier to keep an eye on when they need to be watered and the shade and additional transpiration in these zones can help keep your home cool in the summer. Always remember to locate utility lines and other obstructions such as a septic system before digging. Also know that you can always consult a licensed landscape professional to plan your landscape if you do not feel comfortable doing so. Finally, remember that you can create your xeriscape in stages as time and money allow.

2. Soil amendment

Before planting, you should have a good idea of what kinds of soil you have on your property. Texture, water holding capacity, organisms, and nutrient/mineral content can all impact the vitality of different plants. You can tell certain aspects of the soil such as texture (grain size) just from hand testing, while other properties such as nutrient content are best determined through lab testing. WSU's Puyallup Research and Extension Center has [a wealth of information](#) about soil health, lab locations and interpretation guides, a helpful how-to video for soil sampling, and much more. Your local County Extension office can also lend you the tools necessary to complete your soil tests. Regardless of method, you will want to test several locations on your property, including in each of your hydrozones and areas where soil appears different from surrounding areas. It isn't a bad idea to retest your soil nutrients every 3–5 years after your initial tests.



Figure 3: A soil testing tube can help you take a sample more easily, but a trowel can work too. Image Credit: Natural Resources Conservation Service (NRCS), USDA / Public Domain. Soil Testing: Small Scale Solutions for your Farm ([link](#)).

Based on the test results for each soil zone, you can refine your landscape management plans. For example, soil with a higher percentage of sand particles will drain water more quickly (and have lower water-holding capacity) than soils made of finer particles such silt or clay. Fast-draining soils might necessitate different irrigation practices or plant selection. Another approach, known as **soil amendment**, can improve many soil aspects including water-holding capacity, aeration, and organic content. Soil amendment involves periodically mixing organic matter such as compost or leaves into soil, typically 6–12 inches deep, either across the entire planting bed or in a wide circle around newly planted individual plants. Amendments of organic matter like these can also help provide plants with important nutrients to thrive in your xeriscape.

3. Practical turf areas



Figure 4: Kinnikinnick is just one example of groundcover as an alternative to turfgrass. It is native to Washington, drought tolerant, and low maintenance after it's established. Image Credit: [Walter Siegmund / CC BY 2.5](#). Wikimedia Commons ([link](#)). Cropped from original.

Turf areas are sometimes known for high water requirements, but that doesn't mean they have no place in a xeriscape. Depending on the desired functions of your landscape, turf can be an appropriate choice in certain zones such as high-traffic areas. Is there an area in your landscape plan where you envision entertaining guests or playing with the kids or a pet? Turfgrass could work well in these areas. The key takeaway for incorporating turf areas into your xeriscape is **place turfgrass where you identify a practical need for it.**

Avoid the temptation to simply “fill in” gaps between other plants with turfgrass where there isn't a practical need. Growing grass around trees and shrubs can lead to water competition and difficulties establishing hydrozones, and large plants can cast shade on the grass. In addition, you should consider how practical the turf area will be to maintain. Avoid planting turfgrass in narrow or irregular

strips or in sloped areas that will be difficult to mow. If you want to avoid bare earth in these areas, there are many other groundcover plants that can serve a similar role with greater drought-tolerance and a wider variety of landscape zones they can cover. A good rule of thumb is if the only time you're on your lawn is to mow it, you might benefit from using mulch or alternative groundcover plants instead.

4. Appropriate plant selection



Figure 5: OSU and USDA have created a Plant Hardiness Zone Map that allows you to search for plants that are suitable for your zone. Island County is in Zone 8b. Image Credit: PRISM Climate Group, Oregon State University, and Agriculture Research Service (ARS), USDA / [Public Domain](#). Plant Hardiness Zone Map: Washington ([link](#)).

example, King County has developed a set of [sample planting plans](#) for different landscape types using only native plants from western Washington. Be sure to also consider the practical components of plant selection as well, most importantly that the plants will fit where you plant them at their *mature* sizes without excessive pruning, and that they don't interfere with power lines, utilities, or your septic drainfield if your property is on septic.

5. Use of mulches

Mulching is the placement of a layer of material on top of the soil surface to help improve certain functions. Mulch use has many well-documented benefits for soil in a xeriscape, including retaining moisture, encouraging healthy plant rooting, preventing weeds, reducing erosion, and moderating extreme temperatures. Some common mulching materials include organic mulches, such as compost, wood chips, bark, leaves, or grass clippings, and inorganic mulches such as rocks or landscape fabric. All of these materials have advantages and disadvantages that are important to compare before selecting (see the Resources section for more information).

Apply your selected mulch on top of the soil to the depth specified for the material, usually 1–4 inches. Mulch around trees and shrubs out to the dripline or further, but leave a few inches of bare soil directly surrounding the trunks and stems to avoid damaging them. Try to avoid compacting the mulch, as this shrinks the air pockets needed for gas and moisture exchange between the soil and air. For organic mulches, replenish them every couple of years as they decay. Even decaying mulch helps your plants by providing additional nutrients!

Appropriate plant selection is one of the most impactful actions you can take to create a more sustainable landscape. Generally, the more adapted a plant is to the environment on your property, the less maintenance it will require. Native and/or drought-tolerant plants are typically the best place to start, but you can also mix together native and adapted plants that will maintain beauty, variety, and function in your landscape. You will also want to group plants together by similar watering needs, following the hydrozones in your plan (principle 1). This will allow you to irrigate more effectively.

If you're having trouble picking out the right plants for different areas on your property, there are many online and in-person resources that can help (see the Resources section). For

6. Efficient irrigation

Did you know that the average family in the United States uses more water outdoors—with most of that going towards irrigation—than they do for showers and laundry combined? That’s a lot of water! Along with appropriate plant selection, efficient irrigation practices can help cut down on your outdoor water use, saving you time and money.

First, it’s important to note that many drought-tolerant plants will still gladly accept additional water if you provide it. To fully realize the water-conservation benefits of your xeriscape, you might need to resist the urge to water as often as you were accustomed to. This might also involve adjusting your expectations for how quickly your plants grow or accepting that some plants, especially turfgrass, may go into a less aesthetically pleasing “dormant” phase during the hottest months. That said, remember that even the most drought-tolerant plants typically need additional watering in their first 1–3 years in order to fully establish.

With the hydrozones established according to your plan (principle 1), you now have the option to irrigate different areas according to their unique needs. In low-water landscape beds, for example, you can use drip irrigation, soaker hoses, or in-line emitter tubing to provide water slowly directly to the root zones of plants. This helps cut down on water loss due to evaporation, runoff, and misplacement (such as watering sidewalks) that might accompany traditional sprinkler irrigation. Micro-spray stakes can provide extra water to individual plants, which is helpful while they establish. Irrigation timing is also important. For turfgrass lawns, sprinkler irrigation is more effective when done less often, but for a longer duration at a time, as this encourages deep rooting. Watering a few hours before dawn is also typically more efficient as less water is lost to evaporation—programmable irrigation controllers can help with this. In all cases, test soil moisture frequently to make sure you aren’t over- or under-watering and monitor your water use and irrigation systems for leaks, clogs, and other issues to keep them functioning well. (See the Resources section for more details on irrigation best practices.)



Figure 6: Make sure to monitor your irrigation systems periodically for any maintenance issues and to ensure that the intended amount of water is reaching the right plants and not ending up on paved areas.
Image Credit: Jerilyn Ritzman.

7. Appropriate maintenance

By choosing drought-resistant, native, and/or adapted plants and establishing hydrozones, you may find that your landscape requires less maintenance than a traditional landscape. However, a xeriscape is always a work in progress. To optimize the health of your xeriscape, be on the lookout for pests and diseases in your plants and manage them quickly. Appropriately manage the timing and amounts of fertilizer applications and sweep up (as opposed to washing off) any spills to limit polluted runoff and avoid excess growth that can make your plants more vulnerable to droughts. Finally, minimize the amount of water loss in your landscape by avoiding bare soil, aerating soils, and mowing turfgrass frequently. Don’t cut turfgrass too short. Keeping turfgrass in the longer portion of its appropriate length range, which depends on the type of grass, will help shade and cool the soil and prevent weed seed germination, all of which help to conserve water. Ultimately, each landscape is unique and will require more attention to some aspects than others, but the seven principles of xeriscaping can help give you a starting place to developing a water-conscious plan for your landscape.

Benefits of xeriscaping

Besides conserving water, there are several other benefits to a *well-planned and executed* xeriscape:

- A well-executed landscape may add an additional 5–15% to a residential property’s value.
- Often requires less maintenance (after plant establishment) than alternative landscaping styles.
- Helps create habitat for local wildlife (especially if using native plants).
- Reduces soil erosion and stormwater runoff.
- Can help reduce excess carbon dioxide levels.
- Helps keep homes cooler in the summer and warmer in the winter.
- Creates a beautiful and functional environment to relax, entertain, and show off to friends and family!

Resources

You can often find resources on waterwise landscaping tailored to your local area from [your county’s WSU Extension website](#) or [your local conservation district](#).

WSU Extension also offers a volunteer program called Master Gardener, which hosts plant clinics and has staff and volunteers available to answer specific questions about your site. Local plant nurseries in your area might also have people who can help answer your questions or direct you to more resources.

The following table has some more general resources on landscaping and xeriscaping principles in Washington State. Some of these resources may be more applicable to eastern or western Washington.

Topic	Organization	URL
drought-tolerant landscaping (all)	WSU Extension	https://pubs.extension.wsu.edu/drought-tolerant-landscaping-for-washington-state-home-garden-series
backyard health	Whidbey Island Conservation District	https://www.whidbeycd.org/backyards-habitat.html
example landscape plans	King County	https://green2.kingcounty.gov/gonative/Plan.aspx
plant selection	King County	https://green2.kingcounty.gov/gonative/index.aspx
plant selection	Natural Yard Care	https://www.naturalyardcare.org/plant_right.aspx
plant selection	WSU Extension Chelan and Douglas Counties	https://extension.wsu.edu/chelan-douglas/gardening/generalgardening/native/
plant selection	WSU Extension Spokane County	https://extension.wsu.edu/spokane/master-gardener-program/home-lawn-and-garden/inw-gardening/native-plants/
plant selection	Great Plant Picks	https://www.greatplantpicks.org/plantlists/search/
native plants	Washington Native Plant Society	https://www.wnps.org/native-gardening
landscaping over septic drainfield	Clallam County	http://www.clallam.net/HHS/EnvironmentalHealth/onsite_landscaping.html
turfgrass	Utah State University Extension	https://cwel.usu.edu/lawn-low-water-landscape
soil testing	WSU Puyallup Research and Extension Center	https://puyallup.wsu.edu/soils/soils/
soil and mulch	WSU Extension Spokane County	https://extension.wsu.edu/spokane/master-gardener-program/home-lawn-and-garden/soils-and-mulches/

compost and mulch	WSU Gardening in Washington State	http://gardening.wsu.edu/compost-and-mulch/
building healthy soil	Natural Yard Care	https://www.naturalyardcare.org/build_healthy_soil.aspx
irrigation	US EPA WaterSense Program	https://www.epa.gov/watersense/outdoors
irrigation	The Saving Water Partnership	https://www.savingwater.org/lawn-garden/watering-irrigation/
irrigation	Natural Yard Care	https://www.naturalyardcare.org/smart_watering.aspx
natural yard care	The Saving Water Partnership	https://www.savingwater.org/lawn-garden/
natural yard care	Natural Yard Care	https://www.naturalyardcare.org/Default.aspx

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