Embracing Utah's Climate Through Landscaping

Why It Matters

In the last three decades, Utah's climate has experienced increasing dryness, more pronounced weather extremes and increased population growth. However, how we use our water hasn't changed at the same pace. To ensure the well-being of current and future generations, it is crucial that we adapt our approach to water use.

How We Adjust

Communities, businesses and organizations statewide are proactively changing their water consumption habits. For homeowners, the most significant impact on water usage lies in improving the efficiency of their landscapes. Enhancements such as efficient sprinkler system designs, the replacement of areas of unused lawn (such as parkstrips) with waterwise plants and the installation of smart irrigation controllers can lead to a 40% reduction in a home's overall water usage.

Available Resources

The Utah Homeowner Landscape Resources series aims to provide reliable information from Utah's horticulture and landscaping experts. This series covers topics such as converting lawns to waterwise landscaping, improving irrigation system efficiency and selecting, installing and maintaining plants.

Instructions

& How to Use this Online Manual

1. Use the Table of Contents on the next page to navigate between pages.
2. Underlined text and QR codes are hyperlinked; clicking on them will direct you to the page they describe.
3. Clicking on the leaf graphic at the top of each page will direct you back to the Table of Contents.
4. These resources provide the basics for creating and maintaining a waterwise landscape in Utah. For more in-depth information, please visit Utah State University Extension's website; or add "USU Extension" to any internet search.
5. For feedback or questions, please send them to our conservation team at WaterWise@utah.gov .

Our Partners

This resource is made possible through the Division of Water Resources and its various partnerships. You can learn more about our partners and the resources they have by clicking on their logo.

Extension
Utah State University

Central Utah Water Conservancy District

CWEL
Center for Water-Efficient Landscaping

Jordan Valley Water Conservancy District

Utah Water Ways
Conservation Through Collaboration

Weber Basin Water Conservancy District

Localscapes®
Localscapes.com

Washington County Water Conservancy District

Slow the Flow
Save H_2O

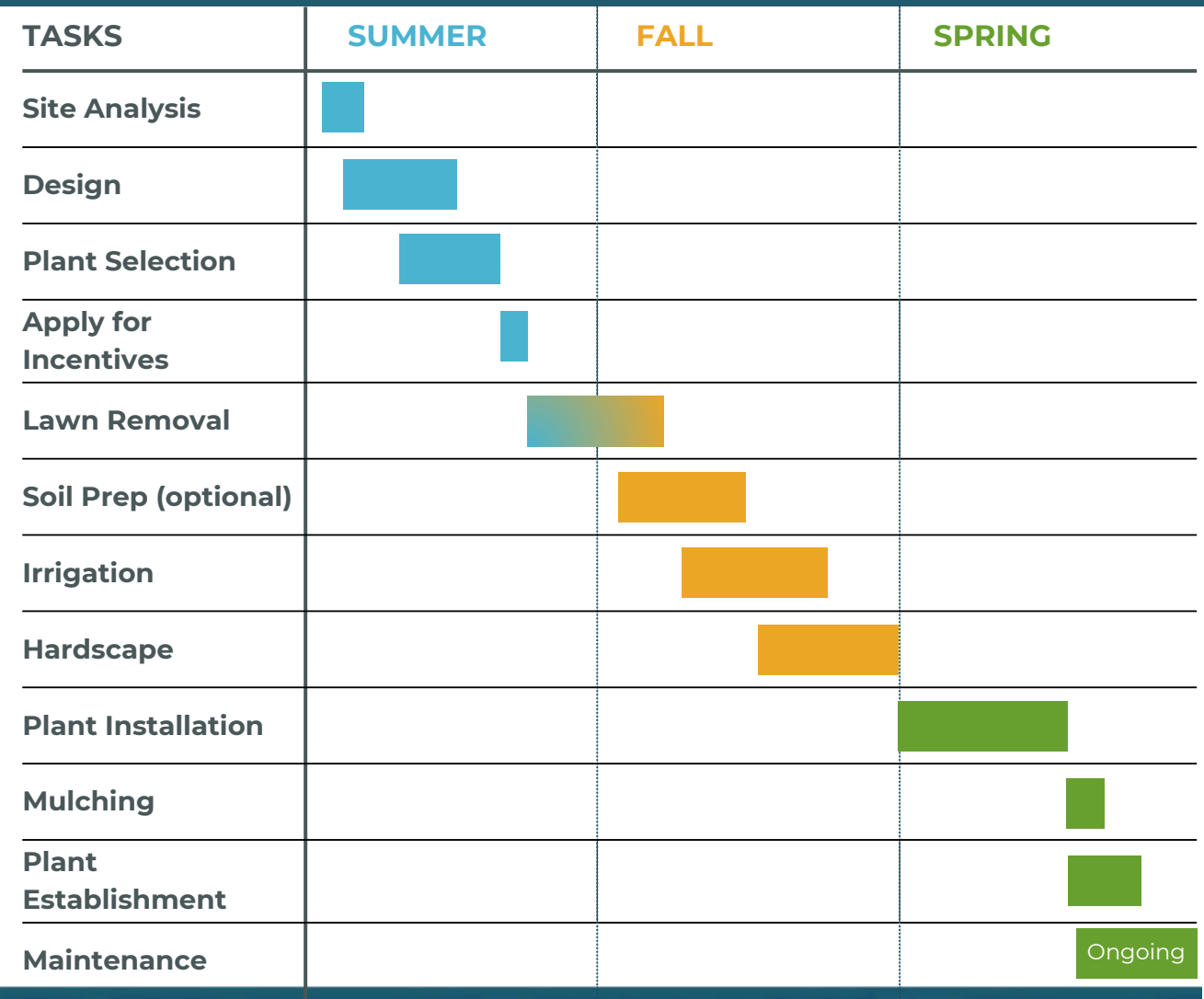
Table of Contents

Designing, installing and maintaining a landscape can be daunting. All the resources in this series can be found at: **ConserveWater.utah.gov/landscape-resources**. The Table of Contents is grouped by topic. The entire manual is in order of project sequence.

Getting Started

Transforming your landscape to be waterwise can feel overwhelming. To make it easier, divide your landscape into smaller project areas. The easiest place to start is the parkstrip or side yard. To avoid burnout, focus on planning for and completing one project each year. Check out the Table of Contents for resources on each task listed below.

PROJECT TIMELINE



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Landscape Incentive Program

Convert your grass to receive cash.

DO NOT REMOVE OR KILL GRASS BEFORE APPLICATION APPROVAL

Eligible Locations

Citizens in locations that have adopted qualifying water-efficient landscape ordinances are eligible for rebates. Program funding is available statewide.

Common Requirements

- Perennial plant coverage (coverage amount varies by location).
- Sprinklers capped or converted to drip irrigation.
- Drip zones separate from overhead spray zones.
- Bare soil must be covered with organic or inorganic mulch.
- Do not leave or create any grass areas less than 8 feet wide.
- All hardscape materials permeable to water.
- Landscape fabric is not encouraged but is allowed as long as permeable to water and air.

Apply through **UtahWaterSavers.com**

Funding

Apply today and earn up to $3.00 per square foot of lawn replaced by water efficient landscaping. Incentive amounts and requirements vary by location. Visit UtahWaterSavers.com for more information.

If your community does not currently qualify for rebates, contact your elected municipal representative and encourage them to adopt qualifying landscape ordinances.

UTAH DNR WATER RESOURCES

801-538-7230 WaterWise@utah.gov ConserveWater.utah.gov @UtahWaterRes

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Low-Cost Resources

Creating a waterwise landscape can be costly, but there are many strategies to help reduce expenses.

Online Resources

KSL, Facebook and Nextdoor often have plants, tools and rocks for sale and both will often promote local nursery sales. Make sure to check in Spring and Fall.

Local landscaping stores typically sell landscaping rock for much cheaper than large retailers.

Localscapes

Knowing how to landscape with water in mind means that you'll be able to do most of the labor yourself; consider attending a Localscapes class or visiting their website for resources.

Collecting

Whether you're foraging seeds or taking cuttings, make sure you have up-to-date permits wherever you're collecting from. Permits are usually affordable and provide you with information on what plants are threatened or endangered in the area. Utah's Geological Survey has resources for rock collecting.

Mulch & Compost

Buying your mulch and compost at a nearby landfill can drastically reduce costs because of a lower bulk cost.

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Localscapes®

Localscapes.com

Localscapes is a free educational DIY design resource and was created for Utah. Localscape principles not only improve the curb appeal of your home, but also increase the functionality of your yard, simplify your irrigation, use less water and can be easier to maintain.

1. **Central Open Shape:** The defining element of a Localscape, the central open shape can be lawn, hardscape or groundcover.
2. **Gathering Areas:** Hardscape spaces to gather with friends and loved ones — like patios, seating areas, fire pits and decks.
3. **Activity Zones:** Areas outside of lawn designed for your favorite activities, like horseshoe pits, trampolines and hot tubs.
4. **Paths:** Connect the previous elements with pathways. Paths are never made from lawn but can be concrete, pavers, stone or compacted mulches.
5. **Planting Beds:** The remaining spaces become the planting beds — the finishing touch to your Localscape.

Find an in-person class or watch online at Localscapes.com.

UTAH DNR WATER RESOURCES

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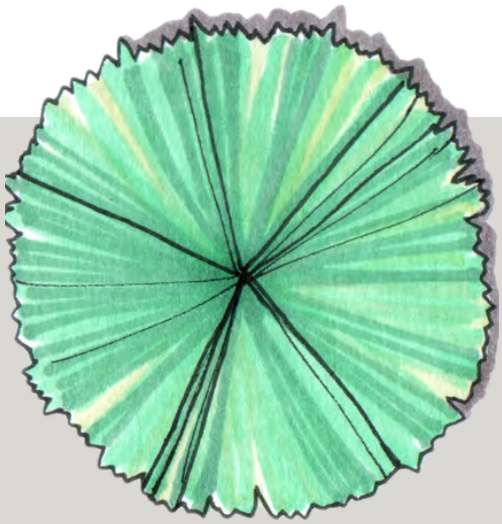


Landscape Design & Hydrozoning

Overview

Landscapes are most waterwise and at their healthiest when plants are organized by their water need. Hydrozoning is the practice of planting plants with similar water requirements near each other and on the same irrigation zone.

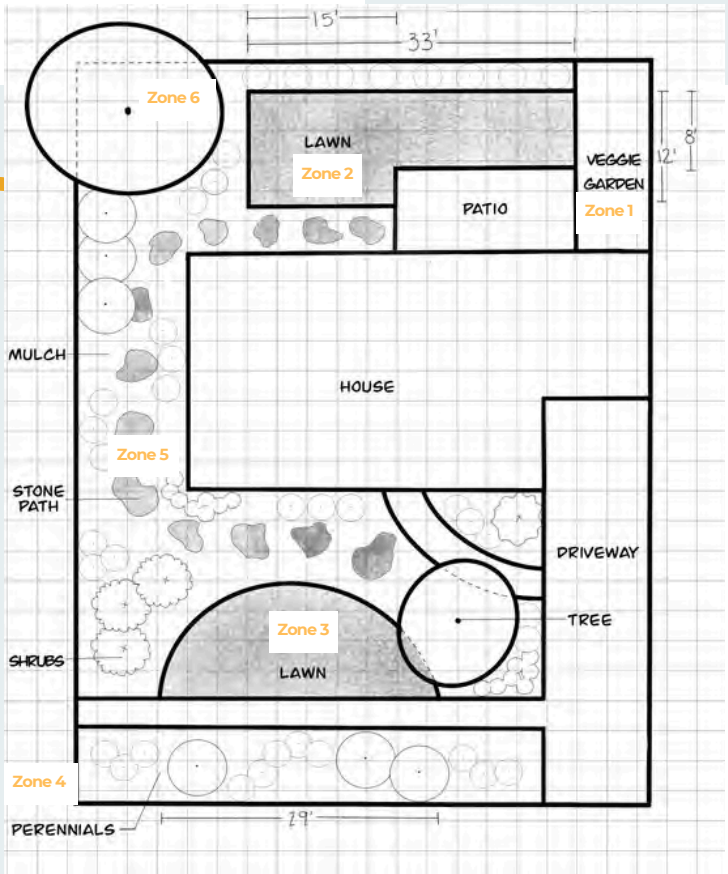
Design

Create a central open shape.

Determine hardscape areas, including activity areas and pathways.

Create any leftover space as planting beds.

Determine plants for planting beds. Divide by veggie garden, annuals, perennials and trees. Each type should be on their own drip irrigation zone.



Hydrozone

Zone 1: Veggie Garden

Zone 2: Backyard Lawn

Zone 3: Front Lawn

Zone 4: Parkstrip

Zone 5: Perennials

Zone 6: Trees & Shrubs

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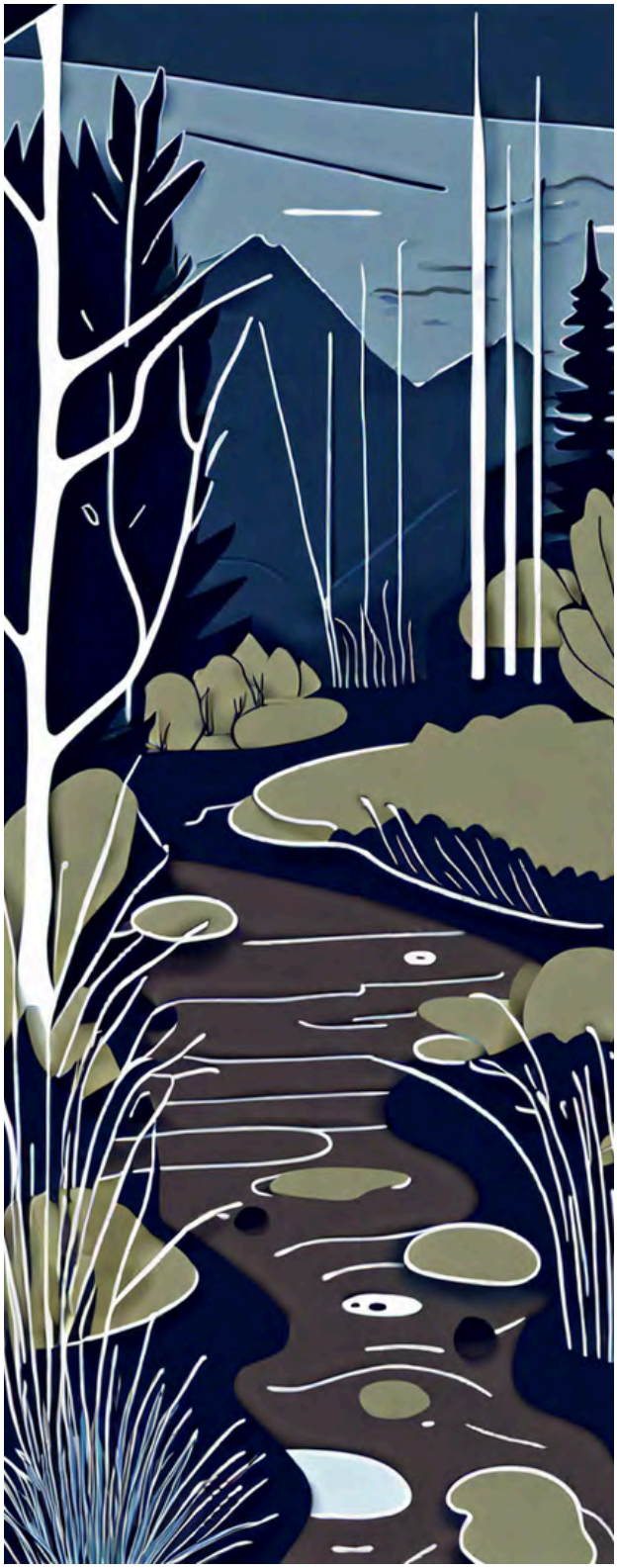
Rain Gardens

A strategy for managing stormwater and reducing irrigation requirements.



A rain garden is a vegetated depression in the landscape that collects water runoff from roofs and surrounding surfaces. Rain gardens are a cost-effective way to reduce water runoff, enhance groundwater quantity and quality and provide food and shelter for butterflies, songbirds and other wildlife.

Choosing the Right Location

Things to notice:

- Soil should be well-draining.
- Sunlight, aspect and exposure.
- Distance from trees.
- At least 10 feet from any structures.
- Distance from water systems and pipes: call 811.

Soil Drainage Test

Dig a hole 12 inches deep and fill. If water does not drain from your project site within 24 hours, choose a different site.

Determining the Right Size

Your rain garden should be at least 9 inches deep and 10% of the size of the area from which it collects water. Every rain garden needs an area for excess water, this is the overflow zone.

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Considerations for Choosing Plants

When designing a waterwise landscape, selecting plants that thrive in your climate can increase overall landscape satisfaction. By understanding your site conditions and choosing plants suited to your area, you can create a beautiful, low-maintenance and sustainable landscape.

To simplify plant selection, use our Waterwise Plant List Tool (Water.utah.gov/water-wise-plants). This tool provides a curated list of plants well-suited to your area, all requiring minimal water. With handy filters, you can quickly narrow down your options and select plants that meet your needs. This resource also assigns each plant a water use classification, helping you understand how much water each plant will need once established in your landscape.

By selecting plants suited to your local conditions and grouping them wisely, you'll enjoy a thriving, low-maintenance landscape for years.

Plant Hardiness

Choose plants suited to your hardiness zone, which indicates a plant's ability to survive winter temperatures. If you're unfamiliar with your zone, the Waterwise Plant List tool can help determine this.

Light Requirements

Consider how much sun each part of your yard receives daily and choose plants that meet this requirement. Plants requiring full sun will need 6+ hours of sunlight each day.

Function

Think about the purpose of each plant. For example, select a ground cover to act as a no-mow lawn alternative, a tree for shade or shrubs to add structure.

Mature Size

Ensure plants have enough space to grow to maturity without overcrowding.

Hydrozoning

Grouping plants with similar water requirements (hydrozoning) can streamline your irrigation design and watering routine, further reducing water waste.

No-Mow Lawn Ideas

Transform your conventional lawn into a low-maintenance, waterwise landscape with no-mow alternatives. Many creeping plants require less water, spread naturally and can even handle light foot traffic. These versatile options provide an eco-friendly, visually appealing solution for your yard, delivering the charm of a lawn without the upkeep.

While these options require less water than traditional lawns, pairing them with drip irrigation increases the savings. Drip irrigation delivers water directly to plant roots, reducing waste from evaporation or runoff. By selecting the right plants and adopting smart watering techniques, you'll create a vibrant, eco-friendly yard that's practical and easy to maintain.

For more inspiration, explore our Waterwise Plant List (Water.utah.gov/water-wise-plants).

Creeping Speedwell (*Veronica*)

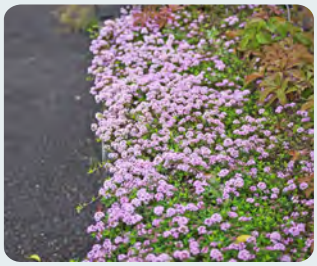
Highlights:

- Full sun.
- Blue Flowers.
- Light foot traffic.
- Deer-resistant.
- Suitable for Zones 3-8.

Creeping Thyme (*Thymus*)

Highlights:

- Full sun.
- Attracts pollinators.
- Light foot traffic.
- Deer-resistant.
- Suitable for Zones 2-9.

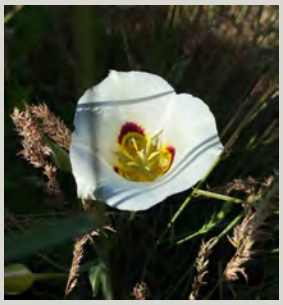


Creeping Sedum (*Sedum*)

Highlights:

- Full sun.
- Variety of leaf and flower. colors available.
- Light foot traffic.
- Suitable for Zones 3-9.

Edible Native Plants


Edible Species Traditionally Utilized by the Goshutes

Balsamorhiza sagittata — Arrowleaf Balsamroot

Goshute Names: ku'-si-a-kên-dzîp; ku'-si-ak. a'-kên-dzîp.

This plant grows abundantly in the foothills and was once essential to Indigenous economies. During spring, the large leaves and their petioles were boiled and eaten. The root was made into a medicinal paste and applied to fresh wounds.

Amelanchier alnifolia — Saskatoon Serviceberry

Goshute Name: ti'-ûm-pi

Serviceberries are an important food source for the Goshutes. They can be eaten fresh and mashed up, dried and preserved in large quantities for winter. This plant is also a preferred material for arrows, cradles and other forms of basketry.

Stipa hymenoides — Indian Ricegrass

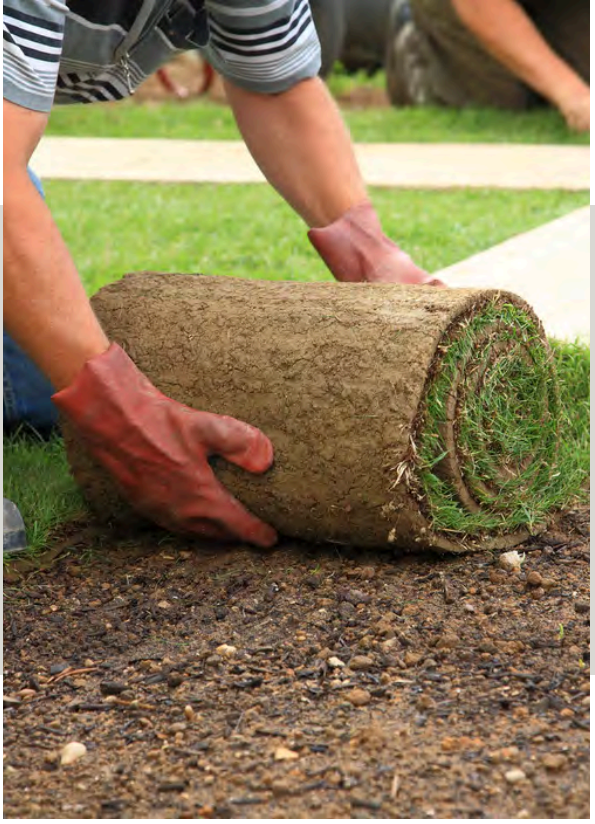
Goshute Name: wai

This drought-tolerant bunch-grass provided an abundance of seeds or grain for the Goshutes. Indian ricegrass was a food staple for the Goshute, Havasupai, Hopi, Paiute, Apache, Diné and Zuni Nations.

Visit our plants list for more!

WARNING: Interact with plants at your own risk.

Tips for Removing Lawn



Overview

Creating a waterwise landscape starts with properly removing the existing lawn. Investing time in thorough lawn removal will set the stage for a beautiful, low-maintenance landscape.

Sod Cutter

Sod cutters can make quick work of lawn removal, but they also strip away organic matter that benefits your soil. In some cases, removing lawn and excess soil may be necessary to achieve the appropriate grade for your new design. If this is the case, consider adding compost to improve soil health.

Herbicides

To ensure complete removal, consider using a nonselective herbicide like glyphosate. Carefully follow the label instructions for safe and effective application. Keep in mind that achieving thorough results may require several weeks and multiple treatments.

Cardboard

Proper lawn removal and weed control is critical to preventing weeds in your new landscape. In situations where weeds are a constant issue and time is limited, placing cardboard (as an alternative to landscape fabric) between the soil and mulch can effectively inhibit growth and establish a neat, manageable base. For more detailed guidance, check out our Weed Barrier Resource Sheet.

Chemical Free Options

If you'd prefer not to use chemicals, solarization — covering the soil with clear plastic to heat and kill weeds — is an option during the summer months, though it's not always 100% effective. Another alternative to herbicides is to cover the lawn with cardboard and a 2-4 inch layer of mulch. Both processes take a few months, so plan accordingly.

Soil Preparation

Soil preparation is a crucial step in ensuring a healthy, thriving landscape. Before planting, it's essential to understand your soil type and improve its structure and fertility if needed. By investing time and effort in soil preparation, you set the foundation for your plants to thrive.

Understanding Soil Types

Soil is typically categorized into three types: sand, silt and clay, each affecting drainage, aeration and nutrient availability. The soil texture triangle illustrates the relationship between these types. Understanding your soil's texture and composition can help determine the best mix for plant growth.

Sand: Well-draining but poor at retaining nutrients.
Silt: Retains moisture and nutrients, but drains slowly.
Clay: Dense and compact, retains nutrients but drains poorly.

Determining Soil Texture

Mason jar test

To determine your soil type at home, try a mason jar test:

1. Fill a mason jar about halfway with soil from your landscape.
2. Add water almost to the top.
3. Shake the jar vigorously and let it sit undisturbed for 24-48 hours.
4. Once settled, observe the layers: sand at the bottom, silt in the middle and clay at the top. Use the soil textural triangle to assess your soil's texture based on rough percentages.

Professional testing

Professional soil testing provides detailed insights into your soil's pH, nutrient levels and texture. Universities like Utah State University and Brigham Young University offer affordable soil testing services that can provide you with valuable insight. These services can provide you with detailed information to help you amend your soil correctly, ensuring it's nutrient-rich and properly balanced for your plants.

Improve Soil Health

After assessing your soil, prepare it for planting by adding organic matter like compost to improve structure and nutrient retention. Use lab analysis to add specific nutrients if needed. For compacted clay soils, aerate to enhance root penetration and water flow.

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Compost

What's composting?

Composting helps create the right conditions for organic materials to break down. This process allows helpful microbes to decompose the waste and return nutrients to the soil. Check out the following tips to compost in your own yard:

Do's and Don'ts

Green Materials (for nitrogen)

- Lawn clippings
- Coffee grounds
- Food scraps
- Tea bags
- Fresh plant clippings
- Weeds

Brown Materials (for carbon)

- Dry leaves
- Sawdust or woodchips
- Dead plant clippings
- Hay or straw

Do Not Add

- Animal waste
- Meat, bones or fat
- Cooking oil

Methods for Success

Larger sticks or twigs should be placed at the bottom of the pile to increase airflow.

Layer, like a cake, brown and green materials with six inches of brown material for every three to four inches of green materials.

Food scraps should be placed towards the middle of the pile for maximum microbial activity and to deter pests.

Composting weeds requires higher temperatures for longer periods. Most weed seeds will decompose after a month at 130 °F, but some resistant seeds will need a week at 145 °F.

Common Issues

Foul Odors: Anaerobic microbial activity can cause unsavory smells. Try turning your pile while adding dry material like newspaper or sawdust. When squeezed tightly, a handful of material should release only a drop or two of fluid.

Low Temperatures: If your compost isn't getting hot enough it likely needs more moisture. Turn the pile with a pitchfork while slowly adding water.

Pests: To reduce rodent attraction, always mix fresh food scraps into the center of your compost pile and avoid adding meat or fatty foods.

Additional Resources

USU Backyard Composting
USU Compost and Sustainability

UTAH DNR WATER RESOURCES
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Determining an Irrigation System

What type of irrigation should I use?

Plant Type
Are you watering lawn or a planting bed (veggies, flowers, trees, shrubs, etc.)?

- **Lawn** → **Lawn Size**
  Is your lawn larger or smaller than 20x20 feet?
  - **Larger** → **Lawn Obstructions**
    Is your lawn obstructed by anything (trees, structures, etc.)?
    - **Yes** → **Pop-Up Sprinklers**
      Multi-stream trajectory or pop-up sprays do best in smaller spaces. However, multi-stream sprinklers are more efficient and can reduce the chance for dry spots.
    - **No** → **Impact Rotors**
      Large areas of lawn without obstructions do best with impact rotors due to their high efficiency compared to pop-up sprays.
  - **Smaller** → **Pop-Up Sprinklers**
    Multi-stream trajectory or pop-up sprays do best in smaller spaces. However, multi-stream sprinklers are more efficient and can reduce the chance for dry spots.
- **Planting Bed** → **Planting Density**
  Do you have dense, medium, or sparse plantings?
  - **Dense** → **In-line Drip**
    An in-line drip irrigation system waters the entire bed and is ideal for dense plantings.
  - **Medium** → **In-line Drip** or **Point Source Drip**
  - **Sparse** → **Point Source Drip**
    A point source drip irrigation system only waters the plants you have and not the entire bed. It is ideal to keep weeds down.

Efficient Irrigation Design

Drip System

Checklist for all Drip Systems:

- ☐ Drip systems are separate from sprinkler zones.
- ☐ A pressure-reducing valve is used. Drip systems operate best with pressure between 10-30 PSI.
- ☐ Mainline filter, filters for each valve, and flush caps are installed for secondary water.

In-Line Drip

In-line drip is intended for moderate to dense planting beds because it will saturate the entire bed. Your soil type will determine which in-line drip to purchase.

- ☐ Lay out tubing in parallel rows. Rows should be the same width apart as the emitters in the tubing.
- ☐ Lay tubing perpendicular to the slope for sloped areas.
- ☐ Place drip tubing about 1-4 inches from hardscape edges.
- ☐ Use tubing to create circles around trees. The first circle should be at least 6 inches from the trunk of the tree. Add enough circles around the tree that they reach the canopy of the tree.
- ☐ Stake tubing after installation so they don't move.

Point-Source Drip

Point-source drip is intended for sparse to moderate-density planting beds because you can direct water to plant roots without watering the entire bed.

- ☐ Use 1/2 inch blank tubing to run from the PVC through the bed.
- ☐ Use enough blank tubing to be about 6 to 10 inches away from plants.
- ☐ Add emitters into the tubing and direct spaghetti tubing to plants. Larger plants will require more than one emitter. Add multiple emitters to trees.
- ☐ Stake blank tubing after installation.

Check out our Creating an Irrigation Schedule resource to find out how long to run your drip system for.

Efficient Irrigation Design

Sprinklers

Improving Efficiency for Existing Irrigation

An irrigation's efficiency can result in dry spots or overwatering. Check out these tips to improve your system's efficiency and your landscape's health.

Improvement Checklist:

- [ ] Test system's pressure. Sprays should be about 30 PSI and rotors should be about 45 PSI.
- [ ] Adjust nozzles and rotors to ensure the water from each head is reaching the next head(s).
- [ ] Fix broken nozzles and stuck rotors.
- [ ] Adjust sunken and tilted heads by digging around the sprinkler body and packing dirt around it so it's upright and at the proper height.
- [ ] Switch flower bed sprinklers to drip.
- [ ] If possible, change irrigation so only one type of sprinkler head is on a single zone.

Ensuring Efficiency in New Irrigation

Installing an efficient irrigation system is more cost-effective and easier than retrofitting later on. Here are some tips for efficient irrigation design.

Installation Checklist:

- [ ] If irrigation systems are new to you, contact a professional to help you design one.
- [ ] Use only one type of sprinkler per zone.
- [ ] Only use sprinklers (pop-up or rotor) in lawn.
- [ ] Use drip irrigation for all planting beds, including trees.
- [ ] Use rotor sprinklers for large areas and multi-stream rotational nozzles for small areas. Use pop-up sprays minimally.
- [ ] Install a smart irrigation controller.
- [ ] Use a pressure regulator.
- [ ] Utilize filters if you have secondary water.

Switch to Drip

Save Water and Increase Plant Health

Drip irrigation minimizes water waste by delivering water to the roots, where it is absorbed. It is 20-60% more efficient than sprinklers.

Determining a Drip System

Two main types of drip irrigation systems exist, each with its advantages and disadvantages.

In-line drip systems consist of drip tubing that has drip emitters evenly spaced throughout. This type of system is most effective for planting beds with medium to dense plantings.

Point-source drip systems use blank tubing that allows you to position emitters with spaghetti tubing. This allows you to direct water precisely where it's needed. Point-source systems are ideal for planting beds with low to medium-density plantings, weed-prone areas and beds with varying water requirements.

Photo courtesy of Hunter Industries Incorporated.

Making the Switch

1. Choose which sprinkler to convert to drip.
2. Cap the rest of the sprinklers in the same zone.
3. Add a pressure regulator to optimize operation.
4. If you are using secondary water, install valve filters and a flush cap at the end of each drip zone. The flush cap will enable you to flush the system and prevent clogged emitters.

Not Recommended

Bubblers and microsprays are not recommended because they are not as efficient at delivering water directly to plant roots.

For in-depth instructions, check out the Localscapes "Switch to Drip" instructional video.

Smart Irrigation Controllers:
Benefits & Setup Tips

Overview
Smart irrigation controllers adjust watering based on local weather, soil type and plant needs — saving water, time and money. They automate scheduling, adapt to restrictions and promote healthier plants. Proper setup and regular assessments ensure you get the most out of these benefits. Here's what you need to know:

Weather Delays
When activated, the system uses local weather information to pause irrigation during rain, freezing temperatures or high winds and resumes when conditions improve.

Helpful Resources
Check out these manufacturer guides for easy controller setup:

- Orbit B-hyve
- Rachio

Rebates Available

Don't have a smart controller yet? Check out our Rebate Program.

Smart Watering Programs
Enable the Smart Watering feature to allow the controller to adjust watering based on your landscape's needs automatically. This feature considers the zone-specific inputs below to calculate and apply the precise amount of water each zone requires.

Watering Restrictions
If your area has watering restrictions, input them into the system. The controller will adjust schedules to align with allowed watering days and times.

Zone-Specific Inputs
The accuracy of your irrigation schedule depends on the information you provide during setup. Watering needs are based on local weather conditions and the **plant type** (e.g., turfgrass, shrubs, perennials) and **sunlight exposure** (e.g., full sun, partial shade) you select. The controller calculates the correct watering duration based on the amount of water the selected **soil type** can hold, the rooting depth of the selected **plant type**, **slope**, **sprinkler type** (e.g., rotors, fixed spray heads, rotary nozzles, drip), **sprinkler head count** and **participation rate**.

Pro Tip: Determine your system's precipitation rate by participating in the free Water Check Program. These tests ensure your controller's settings align with your sprinkler system's output.

Creating an Irrigation Schedule

Landscape Water Management Tool

An efficient irrigation schedule is key to maintaining a thriving landscape while conserving water. To complement the Waterwise Plant List (Water.utah.gov/water-wise-plants), the Landscape Water Management Tool was designed to help you create tailored irrigation schedules for individual plants or a hydrozone. You can also use it to develop a water budget, estimating how much water your landscape should need during an average growing season.

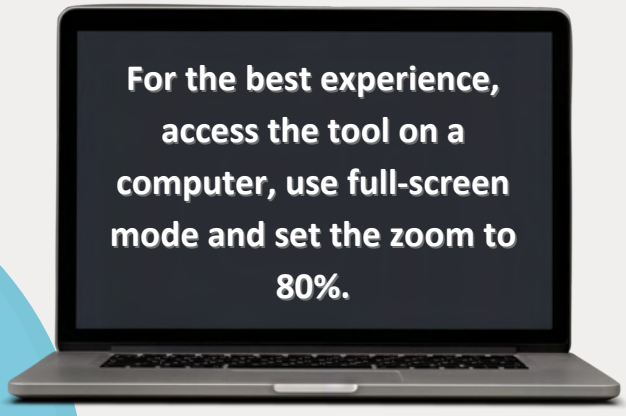
Similar to a Smart Irrigation Controller, site-specific inputs, like your location, soil type and plant type are considered to generate customized schedules.

By combining the insights from the Waterwise Plant List with this tool, you'll create a water-efficient irrigation schedule that saves time, money and resources — while keeping your plants healthy and happy.

This tool works best for established plants, meaning plants that have been in the ground for at least two growing seasons. Find watering tips for new plants in our First Year Plant Care guide.

Getting Started

1. Open the Landscape Water Management Tool.
2. Sign into Google if prompted.
3. Make a copy of the Google Sheet when prompted.
4. Enter site-specific inputs.



Did You Know?

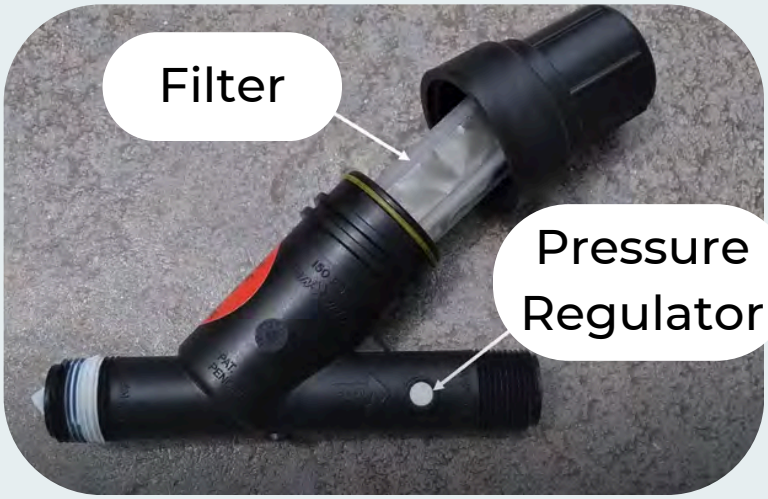
More landscape plants die from overwatering than any other cause.

Drip Irrigation Maintenance

Proper installation and maintenance of filter and pressure regulators is key to ensuring your drip irrigation system runs efficiently, providing consistent and effective watering for your landscape.

Filter

Filters play a vital role in your drip irrigation system by keeping it running smoothly. They prevent dirt, debris and other contaminants from entering the irrigation lines. Without proper filtration, particles can clog the emitters, reducing water flow and leading to uneven watering or system damage. Regularly cleaning and replacing filters helps maintain performance and prevent costly repairs.



Pressure Regulator

Pressure regulators are essential for maintaining a balanced water flow in your system. These devices control the pressure to keep it within the recommended range for your emitters. If the pressure is too high, the system may waste water or cause uneven distribution; if too low, dry spots may form. Regular maintenance of pressure regulators ensures efficient water delivery and helps your landscape thrive while conserving water.

Sprinkler Maintenance

Maintaining your sprinkler system ensures efficient operation, saves water and keeps your lawn healthy throughout the year.

Regular Maintenance

Check your sprinkler system regularly for clogs, damage, or misalignment in the heads. Ensure water pressure is consistent and inspect for leaks in pipes or valves, as even small leaks can lead to significant water waste. Regular upkeep prevents long-term issues and optimizes coverage.

Seasonal Maintenance

Before the first frost each fall, properly winterize your system to avoid pipe damage from freezing. In spring, check for freeze-related damage and replace any worn parts, such as nozzles or timers, to ensure efficient operation during summer.

Tips for Efficiency

Adjust watering schedules based on weather and soil. Align sprinkler heads to avoid wasting water on hard surfaces and consider installing a smart controller to avoid over-watering. Timers or smart controllers can save water and money.

Quick Maintenance Checklist

- [ ] Inspect heads for clogs or damage.
- [ ] Check for leaks in pipes and valves.
- [ ] Adjust heads for proper coverage.
- [ ] Test system pressure (30 PSI for overhead spray and 40-45 PSI for rotary spray).
- [ ] Clean filters and nozzles.
- [ ] Winterize in fall, test in spring.
- [ ] Replace worn components.

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Planting Tips

Planting correctly from the start sets your landscape up for success! Follow these simple steps to give your plants the best chance to thrive.

1 Dig the Right Sized Hole

Dig a hole 2-3 times wider than the plant's original container, but keep the plant at the same depth it was in the original container.

2 Remove All Packaging Material

Remove containers, stakes and twine before planting.

Pro Tip for balled & burlap trees or shrubs: After placing the plant in the hole, remove as much of the wrapping as possible, especially from the top one-third of the root ball. Everything else is a bonus! See USU Extension's Tree Planting Fact Sheet for more details.

3 Add a Boost of Compost

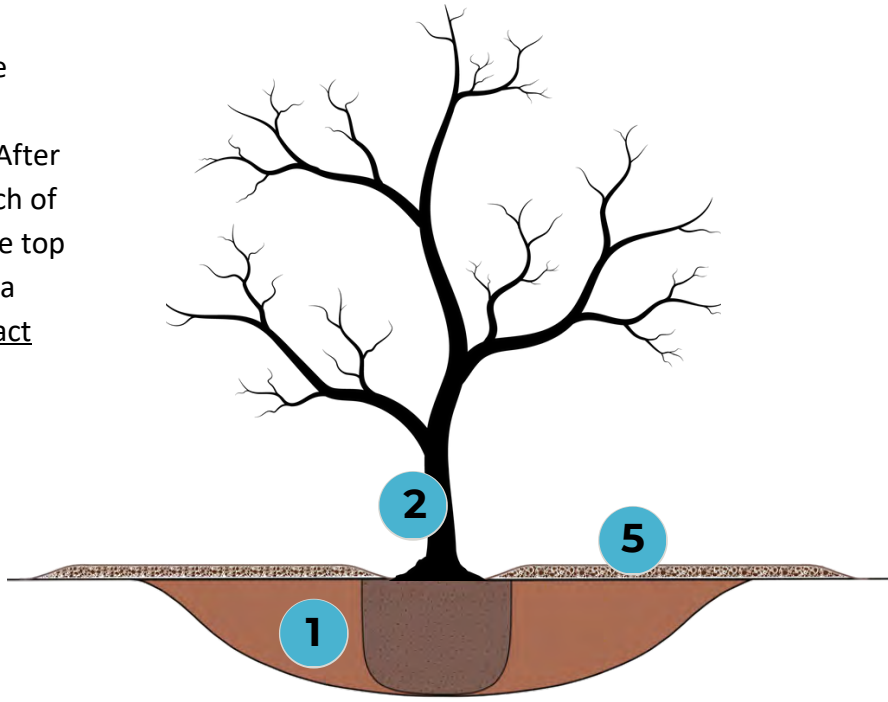
Top dress with ½ inch of compost or gently mix it into the top 1 inch of soil to improve soil health.

4 Set Up Irrigation

Install necessary irrigation — check out our Drip Irrigation Design Tips for best practices.

5 Mulch for Moisture and Protection

Apply 2-4 inches of mulch around the plant, but keep it away from the base to prevent rot.



Mulch

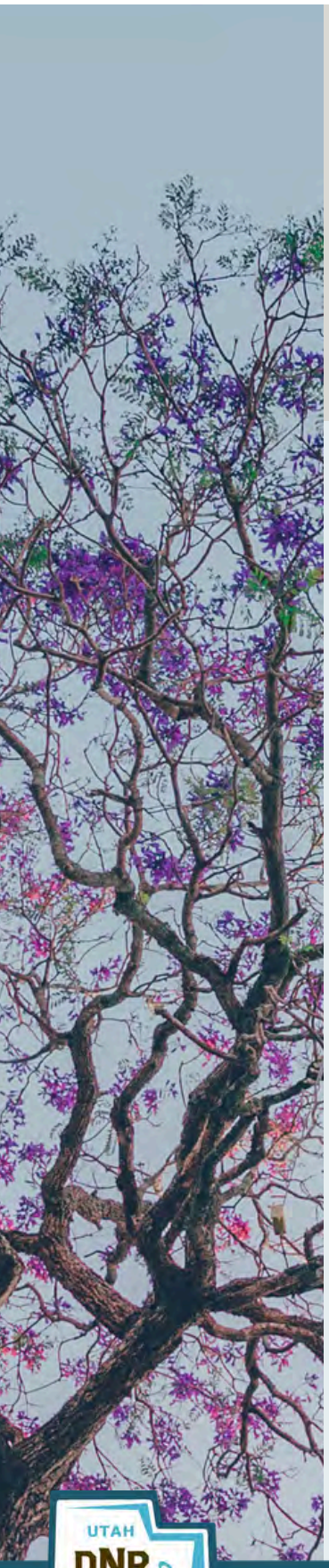
Mulch is a layer of inorganic or organic material that is spread around the base of planting beds, tree wells and pathways to reduce weed presence, increase soil moisture retention and prevent soil compaction. Choosing what kind of mulch to use largely depends on the needs of the surrounding plants and the aesthetic of the landscape.

Organic Mulch

Different kinds of organic mulch can be effective in your landscape. For instance, woodchips or bark keep tree roots cooler and prevent soil compaction. It's recommended to use organic mulch in planting beds with poor soil because the mulch will eventually break down and improve the soil health. To give poor soils an extra boost, consider adding a ½-1 inch layer of compost under the mulch layer.

Inorganic Mulch

Inorganic mulch, like gravel or stone, provides excellent drainage, prevents compaction and increases moisture retention. Inorganic mulch does not decompose and requires less frequent replenishment than organic mulches. These are perfect for areas prone to strong winds, places that collect leaf litter and high-traffic zones, such as those between raised garden beds.



First Year Plant Care

Waterwise plants rely on their extensive root systems to be water-efficient. Until these roots are established, new plants will need more frequent watering.

First 2 weeks:

- Keep soil moist.
- If temperatures are above 80°F, consider watering daily.
- You will not need to water as often if it is cooler or there is precipitation.

Tapering:

- Your new plants will require less water as the roots grow and establish themselves. Gradually reduce the frequency of watering until you reach the regular watering schedule.

Winter (Nov-Mar):

- If you planted new plants in the fall, water them once every two weeks when there is no precipitation and the ground is not covered with snow.
- For trees and shrubs that are less than one year old, water them one to two times a month under the same conditions (no precipitation and no snow cover).
- Tip: Use a 5-gallon bucket to water your plants. Each tree and shrub can use one bucket each, while perennials only need about one-fourth to one-half of a bucket each.

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Weed Prevention for Waterwise Landscapes

Overview

Converting your lawn to a waterwise landscape is a great step toward sustainability, but managing weeds is key to long-term success. Without the lawn as a living ground cover, weeds lack competition and become more visible.

Before Planting

Before planting, make sure all grass is completely dead. After removing the lawn and prepping the soil, water the soil every few days for a couple of weeks to encourage dormant weed seeds to sprout. Once they do, remove them by hand or with an appropriate herbicide before planting your new landscape.

Mulch

A layer of 2-4 inches of mulch* can also suppress weed growth, but it's not a foolproof solution. Be prepared for ongoing maintenance with occasional hand-pulling or herbicide use. If grass begins to sprout among your new plants, selective herbicides that target only grasses can help. Review our mulch resource for more information.

**Landscape incentive program mulch requirements may vary by location.*

After Planting

Once the landscape has been installed, applying a pre-emergent herbicide will prevent new weeds from germinating, adding an extra layer of protection for your landscape. Always follow the product's instructions for safe use. To prevent additional weed seeds, always pull weeds before they flower and produce seeds.

Early, consistent weed control keeps your waterwise landscape beautiful and low-maintenance.

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Weed Barriers

A physical barrier can stop weed seeds from growing by cutting off their access to sunlight, air and water. Weed barriers have pros and cons and using them appropriately can help keep weeds down and ensure your garden stays healthy and happy.

Landscape Fabric

Rock pathways are the best areas to utilize permeable landscape fabric. This deters the rocks from becoming embedded or lost as the pathway is used. Landscape fabric is a poor choice for tree wells and planting beds as it can restrict growth and harm the soil beneath it. These areas are better served with thick layers of mulch.

Alternative Weed Barriers

An organic weed barrier, such as shredded bark mulch, consists of materials that decompose in the landscape. These organic materials break down into nutrients that benefit nearby plants, but it's important to replenish them regularly. Placing cardboard or newspaper under the mulch can also help control weeds.

Landscaping rock can serve as an effective weed barrier by disrupting the growth patterns of weeds and limiting their access to nutrients. For more information, refer to the resources on mulch and weed management.

Lawn Watering

Watering your lawn correctly can promote green, healthy and waterwise grass, making it resilient during droughts and hot summers.

Growing Deep Roots

Deep roots are vital for a resilient lawn. Deep, infrequent watering encourages roots to grow deeper, improving moisture retention during drought and heat.

Common Mistakes

- Overwatering lawn: if you have mushrooms, reduce how often you're watering.
- Watering during wind or rain.
- High sprinkler pressure: smaller droplet sizes from high pressure are more likely to evaporate or blow away.

Watering Deep

To effectively water your lawn, apply 1/2 inch of water (or 3/4 inch in Washington County) per watering to promote deeper root growth. Since irrigation systems vary in precipitation rates, watering time will differ by zone.

Use catch cups, a rain gauge, or tuna cans to determine the run time for each zone. In Utah, you can sign up for a free water check through Utah State University or use their **fact sheet** for guidance. **Local USU Extension offices** also lend out catch cups.

Using a Smart Irrigation Controller can give you the power to adjust your schedule from your phone and set up alerts, such as rain events and leaks.

Watering Infrequently

Watering your lawn infrequently encourages roots to grow deeper in search of water. Typically, you'll adjust how often you water rather than how long. You will water less in the spring and fall compared to the summer.

For specific recommendations based on your location in Utah, check out our **Lawn Watering Guide** for weekly suggestions based on the current weather.

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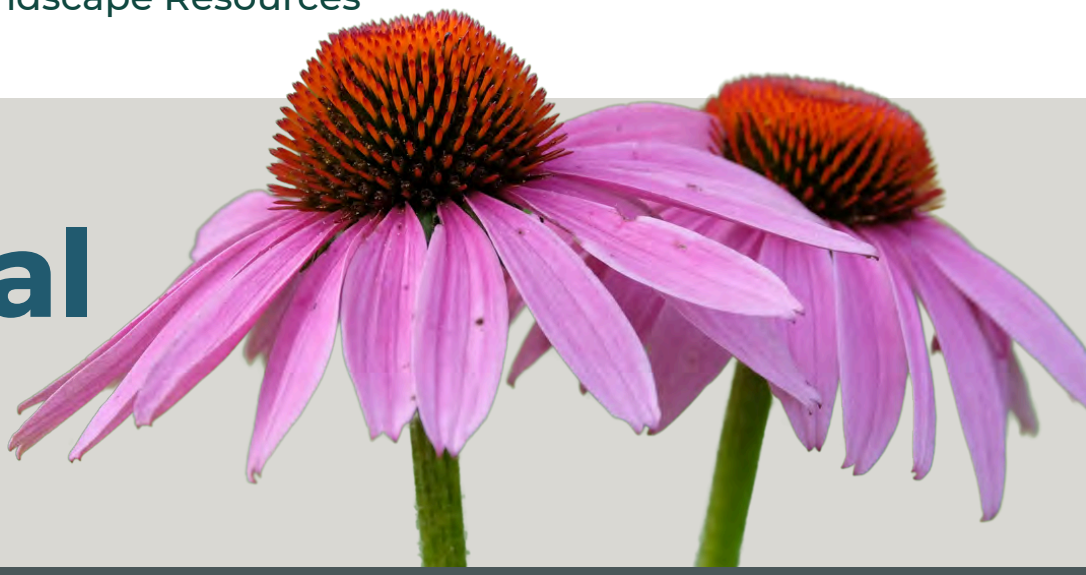
Perennial Care



For herbaceous perennials

Herbaceous perennials are plants that persist for more than two growing seasons. They die back during the winter and lack woody stems.

Watering

Plants have varying water needs. To create an effective watering schedule:

- List the plants in a bed or irrigation zone.
- Check their water requirements on the statewide Waterwise Plant List.
- Use this information to design a schedule using the Landscape Water Management Tool.

Deadheading

Many perennials will produce another, less dramatic round of blooms when they are deadheaded. Deadheading is the practice of removing a spent flower, usually down to the second set of leaves. For more prolific plants, such as Jupiter's Beard, cut the entire plant down to about 6 inches.

Seasonal Care

Spring: Cut back all herbaceous perennials 3-8 inches above the ground.

Divide perennials, if necessary.

Fall: Fertilize beds with a slow-release general fertilizer.

Mulch leaves and leave in perennial beds.

Additional Resources

Finding reliable resources online can be difficult. Adding "USU Extension" to any internet search can help refine the results to research-based and local results.

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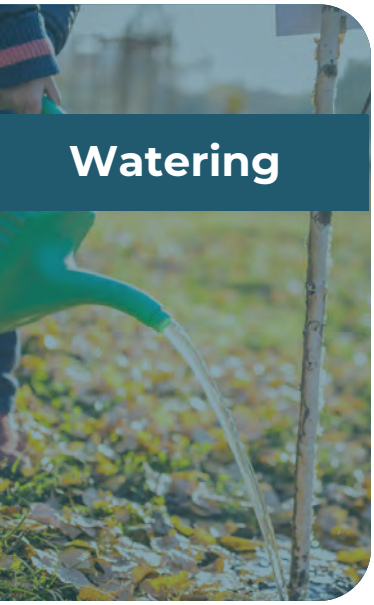
Tree Care



Watering

Tree roots require deep waterings of 18-20 inches to anchor themselves effectively. Watering deeply and infrequently is key for trees and large shrubs, especially to reduce stress during drought and intense heat. Trees watered in lawns generally receive enough water from sprinklers; however, their roots are typically shallow and need supplemental water in the hottest months. When temperatures consistently exceed 90 degrees, supplement them with deep watering every other week. Use a hose on a very low flow and place it under the tree's canopy — avoid placing it directly at the base. Leave the water running for two to three hours. Don't forget to set a timer!

Water requirements for trees irrigated by drip systems can vary greatly. Refer to the WaterWise Plant List to determine your tree's water classification and use the Landscape Water Management Tool to create a customized irrigation schedule.

For more detailed information, visit Utah State Extension's website.

Pruning

Small Trees

The best time to prune trees is in late winter during their dormant phase. Use clean, sharp tools for clean cuts. Start by removing dead branches and suckers, then eliminate any crossing branches. Prune the remaining branches for an open, balanced shape without removing more than one-third of the branches.

Large Trees

Pruning larger trees can be challenging and requires specialized knowledge. Always hire a certified arborist for medium to large trees, as they have the necessary training to promote healthy growth and safely remove dead or hazardous branches and fallen trees. You can find certified arborists on the International Society for Arboriculture's Utah website or look for this logo when hiring an arborist.

ISA International Society of Arboriculture

Caring for Plants During

Drought & High Heat

As summers get hotter and drier, we must change how we care for our plants to keep them healthy and happy.

Weeding

Weeds compete with plants for water and other resources. Regular weeding helps reduce competition for resources your plants need.

Use Mulch

Applying a 2-4 inch layer of mulch to planting beds helps retain soil moisture and decreases the need for watering. Additionally, it helps suppress weeds that compete with plants for water and other resources.

Avoid Fertilizing

Fertilizer promotes plant growth, which requires additional water. It's best to fertilize in the spring when we have natural precipitation.

Avoid Pruning

Pruning promotes new growth, which expends energy and water, rather than conserving it during high heat and drought. Only prune during cool, wet periods.

Prioritize Watering

During periods of intense drought, you may face watering restrictions. It's essential to prioritize watering the plants that are most difficult to replace and have the highest value. Typically, trees have the highest priority, followed by shrubs and perennials. Lawns are usually the lowest priority, as they can go dormant during heat stress, require watering only two to three times a month during dormancy and are easier to replace.

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The Ecological Landscape

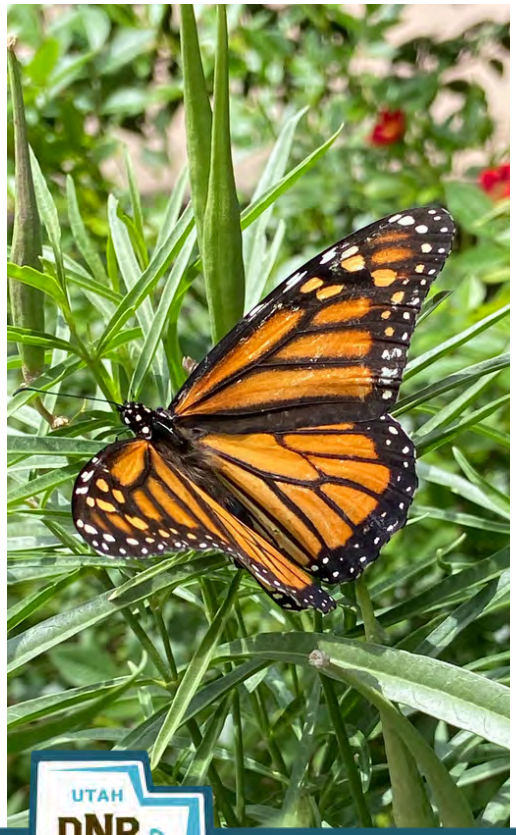
Promoting Biodiversity in the Landscape

Incorporating natural systems at the landscape scale increases our ability to benefit from ecosystem services.

Ecosystem Services

- **Provisioning:** food, fresh water, wood, fiber and fuel.
- **Regulating:** Climate, flood and disease control.
- **Cultural:** Aesthetics, spirituality, knowledge and recreation.
- **Supporting:** Nutrient cycling, soil formation, water cycling, oxygen and biomass production.

Check out the Utah Pollinator Habitat Program for more!



Beautiful Plants

Antelope Horn Milkweed *Asclepias asperula:* Monarch butterflies lay eggs on milkweed species and larvae feed off them. This plant also supports hummingbirds and bees.

Fire Chalice *Zaschneria garrettii*: This late bloomer supports pollinators throughout the season, attracts various butterflies and is a favorite for hummingbirds.

Friendly Invertebrates

Diversity of flower colors, shapes and sizes increases visitation.

Jumping spiders: Spiders are an essential form of biocontrol and you should welcome them into your garden.

Lady beetles: With more than 400 species in North America, these bugs are apex aphid predators.

Bees: Utah has a diverse population of these crucial pollinators. Their numbers are in steep decline and need your help.

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