

Designing a Naturalized Garden

Using Xeriscape Principles

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What is a Naturalized Garden?

A Naturalized Garden is a landscape designed with a holistic approach that adapts to the local climate and thrives without regular inputs such as irrigation, fertilizers, and maintenance. At its core, a Naturalized Garden is sustainable and ecologically beneficial to the surrounding area. Through intentional design, the Naturalized Garden will find its own balance that creates a miniature ecosystem within the larger ecosystem of the area.

Designing a Naturalized Garden requires that we consider all aspects of the landscape and how we relate them to the plants that are chosen, what kind of maintenance will be required, and what benefits or products the garden provides.

Any space can be naturalized or tailored to be more sustainable. It is the nature of the land to grow and flourish of its own accord, with intention we can take advantage of this to not only have a beautiful space, but to enjoy it without the stress and labor of common non-holistic approaches.

It is up to the gardener to make the choice about how intentional, sustainable, and natural they wish to grow their garden or landscape.



The Xeriscape Garden, May 2021

A Natural Perspective

The Naturalized Garden aims to change the way we look at the landscape, redefining what it means to cultivate a beautiful, healthy landscape. Seeing the beauty in the wild, natural tenacity of life, working with it and not against it, to achieve aesthetically pleasing results.

When looking at the natural world and how that relates to your landscape, ask yourself: What is the difference between a landscape in the shade of a five story building and a small woodland? How is a desert different from a parking lot without any trees? Identifying where the landscape shares similarities with the local ecosystem and where it differs. When we identify the differences, and make those comparisons, we can begin to look to nature for solutions to meet our goals. We also have the opportunity to take advantage of the differences; Most plants will be benefited by the protection from the elements that a solid structure provides, however it can also have a downside of reduced air flow, which can lead to disease.



As we move along in the design process we will consider the composition of the soil, the way that water travels, settles and drains and the way that the sunlight moves through the garden both during the day and as the seasons change. We will also tailor our designs to the local climate and ecology of the area by choosing plants that will ultimately lead to the longterm sustainability and balance that creates the Naturalized Garden.

Xeriscape

Xeriscape is a portmanteau of the greek 'xeros' meaning 'dry' and 'landscape'. Xeriscape is a landscape design philosophy originated by the Denver Water Board to encourage horticultural water conservation. The 7 Principles of Xeriscape can be applied to the design of any landscape. The goal of Xeriscape gardening is to create a sustainable landscape that naturalizes overtime.

The Seven Principles of Xeriscape

- Sustainable planning and design.
- Plant Selection.
- Understanding the soil.
- Use of mulches.
- Limiting Turf and using Turf Alternatives.
- Efficient irrigation.
- Sustainable maintenance.

1 Start Planning and Write It Down

When designing a garden or landscape, creating a solid documented plan is very helpful.

You'll want to keep track of the ideas and research as you move further and further along in the design process. Start a journal, vision board, or scrapbook - any means of collecting ideas, design choices, and visual examples of inspiration that will be useful in achieving your goals.

Building the Framework of the Design

To begin to form an idea of the intention and goals you may have, there are many questions that a you should ask yourself. The following questions can help to form the basis of your design and develop a framework to guide you along in the process. Write down your answers to the relevant questions, and feel free to elaborate on these and come up with more questions as they relate to your intentions and goals for the space.

How will the space be used?

- Consider all of the potential uses for the space. Will there be children, pets, or family gatherings that need open space?
- Will there be areas of heavier foot traffic or for vehicles?
- Do you want to attract specific wildlife? Or keep wildlife away?

What buildings, utilities, or water sources exist?

- Are there any structures that will be affected by the design? Will you be building any structures for your design? Fences, sheds, and other buildings can fundamentally change your plant selection and layout.
- How does the shade created by plants and structures affect the sunlight exposure in the space as the seasons change?
- What underground or above ground utilities exist on the property? Have you notified your local utilities in advance of starting to dig or excavate the space?
- Is there a source of water like a faucet or gutter system?
- What water naturally occurs due to rain, creeks or runoff? Is there an area that retains water for long periods of time, others that dry out more quickly?
- What is currently working in the space? What isn't working?
- If you're starting with an already established landscape, are there elements you want to keep?

- Will you keep any of the established landscaping or hardscaping?
- Are the walkways, paths or stepping stones in good condition and in the right place? Do they need to be moved or reconstructed?

What is the soil like?

- What types of soil does the space have? Depending on the size, location and history of the space - the soil may have many different compositions. Do soil tests in each separate area that you intend to plant.
- Will you need to cultivate or excavate the soil?
- What plants are doing well in the surrounding area? How do their growing conditions compare to your space?

Will you irrigate?

- Do you think you'll want to use an irrigation system?
- Are you ok with watering by hand if you need to?
- Do you want the space to be wholly dependent upon the natural water cycle?
- What plants are you going to use?
- Do you have a favorite plant in mind? Have you researched the growing requirements and identified what part of the landscape it will do well in?
- Do you want year-round interest, or focus on having as many flowers as possible in the growing season?

- Are you going to grow food, herbs or other edible and fruit producing plants?
- Do your plants need to be resistant to wildlife like deer and rabbits?
- If any plants are already doing well in the space, will you keep them or maybe even plant more?

Do you need to consider any accommodations?

- Do you live in a community with a home owners association? Do you live in a municipal district that has specific landscaping codes? Research all governing rules and regulations before starting any large landscaping projects.
- What accessibility needs will your design need to meet? Will your pathways be accessible to a person in a wheelchair or contain tripping hazards?

- Will the garden beds be elevated to allow for lower impact maintenance?
- If children will be in the garden, are any of the plants poisonous when ingested or cause a rash when touched? Are there any spiky or thorny plants within hands reach?

Will it be sustainable and what will be the long term maintenance requirements?

- Do you want to mow a lawn? Water it?
- How often and at what intensity do you want to work in the landscape once it's established?
- How fast will the trees and shrubs grow? Are you prepared to trim and prune regularly?
- How do you see the landscape in a year? 5 years? 15?

Timing is Everything and Patience Prevails

As you're working on a plan, and your design ideas are starting to come together. It's best not to rush into doing anything major without fully forming the basis of, and elaborating on the details of your design first. Not only will rushing into the installation cause potential repair or redesign costs, planting is easier done with the natural cycle. Trying to force plants into the ground at the wrong time of year can end in a bunch of dead plants or a lot of supplemental irrigation to keep them alive.

Ask yourself what the timeline of your project will look like. Is this reasonable considering the time of year, availability of resources, and other commitments that may stall the timely construction of the space? To help plan out the timeline of your finished project, keep in mind that changes to structures and inorganic elements can start at any time once you've decided on a layout; whereas planting isn't so easy. Finding success in planting requires that, during the establishment period, there will be a regular source of water, a hospitable climate, and the appropriate soil composition for the plant.

Waiting until all elements are considered and in place will make it easier to implement the design and add to its success. If you're currently in the dry season, have patience and use the down time to refine your design, work on structures, propagate new plants, and research the varieties you've chosen.

As the dry season begins to transition into the wet season, you can begin to acclimate the plants to the site. Plants at garden centers and nurseries will most likely be grown for sale in their optimum growing conditions, probably nursed with regular fertilizers, water and protection from any long term cold, heat, and intense sunlight. This may not match the conditions of your site immediately, especially in the hot summer sun. Allow potted plants that have been growing in sheltered, pampered nursery containers the time to acclimate to the area by slowly introducing them before planting. Keep their containers well watered in a transitional, more protected location during times of extended heat or drought.

Structures, Fences and Walls

Structures can provide protection from the elements, creating microclimates. Structures minimize cold winds, giving shelter to more tender plants and encourages the growth of other,

more hardy plants. In the Northern Hemisphere, garden beds planted on the north and east sides of the wall or fence are shaded from the sun, making it more hospitable to plants that won't tolerate long periods of exposure to the sun.

The opposite is true for beds on the south and west sides of the fence. The sunlight will be unobstructed, and the cold northerly winds will be kept at bay. Sunlight will bounce off the walls and fences on the south side, radiating light and heat.

Fences can also provide a structure for trellising plants such as vines, roses, or espalier. Maximize your growing space by incorporating trellises in areas that can accommodate them. Add a simple pathway tunnel trellis with cattle panel fencing. This will create a place for vining plants to grow, and create shade over the walking path. This can also create a privacy barrier.

Keep in mind the effect planting too closely to a structure can have in the long term. Larger leaves can trap moisture against the building, or a vine might grow irremovable roots to climb it.

Utilities

Other consideration must be made for the utilities above and below ground. The main utility for a landscape is water, even a dry garden will benefit from occasional watering through the establishment process. Mark where the water source originates and get an idea for the extent to which it can reach. Before any digging begins, notify your local utilities to have any underground pipes or wires identified and located. Note the location of any access points for utilities around the space. Make access to the utilities easy by creating clearance from plants with stepping stones or gravel pad. Begin to think of ways you might minimize their appearance. Perhaps an outcropping of taller decorative grass?

2 Plant Selection

Choosing the right plants for the sustainable garden requires research and thought. You'll need to know the basics of the space and each garden bed and how that relates to the information available for the plants available in the nursery. Choosing the right plant doesn't always mean it has to be drought tolerant. Prioritizing the plants nearest to the water source allows for the growing of a larger variety of plants if the water is available for use. For the purpose of sustainability and low-input gardening, we'll focus on drought tolerant and low-to-no irrigation design.

These are the basic characteristics:

- Sun Exposure: Full (6+ hours of direct sunlight), Part Sun (3-6 hours of direct sunlight), Shade (less than 3 hours of direct sunlight)
 - ◆ Time of Day matters, direct sun in the afternoon is much more intense than the sun in the morning. Shade plants may not be able to handle any amount of afternoon exposure to the sun.
- Soil type: Well drained/sandy, organically rich, heavy clay... basically will the plant roots sit in water for long periods or be in soil that drains quickly and dries out faster.
- Water needs: Evenly moist means the soil needs to be water retentive and the plant will receive regular irrigation during dry periods. Average water needs would mean that the plants will benefit from regular irrigation. Low to moderate means that the plant can more easily naturalize and survive periods of drought once established.
- Growth Habit: Groundcovers, herbaceous perennials, shrubs, trees. A well designed garden contains a balance of these basic growth habits.
- Longevity: Is it evergreen, or deciduous. Perennial or annual? Will it reach a size that fits within the space.

Groundcovers

Groundcovers are plants that will spread out over the ground. This creates a living mulch to help shade the soil and limit compaction. They will generally not outcompete the larger perennials, trees and shrubs they grow around. Most groundcover plants will put on a show of flowers in the spring and maintain an evergreen mat of foliage year-round.

Plants to choose: Hardy Succulents like Sedum, evergreens like Juniper, Thyme, Helianthemum (sun rose), Kinnikinnick, and Ceanothus.

Plants to avoid: Vinca, Ivy (Hedera sp.), and other plants that set roots and create a lot of seeds that will outcompete the other plants in the garden. Oregano and Mint are common garden bullies that have a ground cover habit.

Bulbs and Ephemerals

These early spring and fall plants hide away under the ground most of the year, but for a couple months each year, they will pop up and fill the garden with color and drama. Bulbs can survive around the other root systems of most plants and can provide interest without getting in the way. Most spring-flowering species that are available have great drought tolerance, and require little maintenance. Tulips will benefit from drier soils during dormancy for better longevity.

Herbaceous Perennials

Herbaceous perennials bring color and texture to the garden design. This is a huge category that includes both short and long lived plants like Asters, Decorative Grasses, Euphorbia, Salvias and other flowers. They grow in all shapes, sizes, and colors.

Popular Choices: Salvia, Euphorbia, Asters and Daisies, Coreopsis, Decorative grasses, Hellebores, Hylotelephium (Autumn Joy).

Avoid: Large leaves and large flowers, these will generally not perform under drought conditions even when established, in most naturalized gardens.

Shrubs and Trees

Most shrubs and trees can withstand periods of drought once established.

Choose: Shrubs and Trees native to drier climates (Native Species are always a great choice, if planted in the correct spot). Plants with smaller or narrow leaves.

Avoid: Fruiting trees and Shrubs and plants with large leaves like maples.

3 Understanding the Soil

Understanding the composition of the soil is integral to the success of the Xeriscape design. The makeup of the soil determines the distribution of moisture, air, and nutrients. Thoroughly research the needs of every plant you choose.

Soil can be altered to improve or change several factors that may result in a more desirable design. Amend the soil with compost and organic materials to improve water retention and fertility. Add grit or sand to improve drainage.

The Living Soil

The long term success of the Xeriscape or Naturalized garden is ensuring that the soil is healthy. Worms, insects and other small organisms are all signs of a healthy soil. However, most plant growth and longevity will be bolstered by the presence of beneficial symbiosis called Mycorrhizae.

Mycorrhizae is a symbiotic association between fungus and plants. Where species of fungi will attach themselves to the roots of living plants to create a mutually beneficial bond for exchanging water and nutrients. Douglas Fir trees have a specific species of fungus that creates this bond and enables the trees to withstand drought and share resources with other Douglas Firs. Mycorrhizae can more than double the root zone of most plants.

Mycorrhizae fungi is naturally present in most soils, but inoculating the roots of new plants is possible to guarantee a successful fungi population.

Apply endo-mycorrhizae to the roots of plants before covering with soil and mulch, ensuring direct contact with roots, or apply with water to established plants.

4 Mulch, Mulch, Mulch

Bare soil is dead soil. Every square inch of top soil should be covered with mulch. Without mulch, top soil can become heavily compacted and quickly dehydrated making it difficult for life to move through the soil. By covering the soil with a 1"+ thick layer of mulch, the moisture in the soil will be maintained substantially and compaction from rain and light foot traffic will be limited.

Mulch can be anything that has a different composition from the top soil. By choosing a mulch that is different from the top soil, that layer of mulch will dry out and not necessarily become a wick for the soil moisture below. Choosing garden compost for a soil already composed of similar materials will not act in the same water conserving ways as a chunky bark mulch on common garden soils.

Types of Mulch:

Organic: Bark, Wood Chips, Leaves and Leaf mold, or the old chopped up plants from the previous growing season.

Inorganic: Gravel and Rocks (The bigger the rock, the more water it will retain), Plastic (not great for water and gas exchange).

When using organic mulches, fresh mulch should be applied for aesthetic upkeep as well as to introduce new fresh material for the soil over time.

5 Turf and Turf Alternatives

Grass lawns are prone to excessive use of irrigation to maintain a perfectly green lawn in our hot dry summers.

Consider removing excess turf and replacing it with permanent hardscape or new drought tolerant garden beds

When mowing, cut lawns as tall as possible to maintain healthy roots and allow for more moisture retention.

To conserve water, allow lawns to go naturally dormant. Irrigating only the minimum amounts to keep the roots healthy. The grass should green up quickly after the first few rains.

For low traffic areas consider green, drought tolerant ground covers like thyme or yarrow (*Achillea millefolium*).

6 Efficient Irrigation

A Xeriscape design should include the source of water. Plant water dependent plants closest to the water source or in naturally moist beds. Low pressure, low angle sprinklers are best used to irrigate turf areas. Drip, micro-spray, or bubbler emitters are the most efficient for watering trees, shrubs, flowers and ground covers.

If watering by hose, avoid oscillating sprinkles that throw water high in the air and those that produce a fine mist.

The most efficient sprinklers emit large drops of water that are kept close to the ground.

Water deeply and infrequently to develop deep root systems. To reduce water loss due to evaporation, water late in the evening or early in the morning.

If using an automatic sprinkle system, adjust the controller regularly to meet seasonal needs and weather conditions.

Allow new plantings to become established with more frequent watering. Slowly decrease until the plants hold up without the increased water.

7 Maintenance

Define for yourself what a well maintained landscape looks like, is it sustainable for you?

For the most naturalized approach, allow plants to go into dormancy naturally. Keep greenery on the plants as long as possible to discourage water dependent regrowth. “Chop and lay” old plant material to create mulch.

For better sustainability choose varieties that will maintain a size suitable for the space. Planting a shrub or tree that will require regular pruning adds to the overall maintenance of the space and can become unsustainable. Hedges can be seen as unsustainable if the physical maintenance becomes too intense.