

HOW TO



XERISCAPE ON OAHU



A succulent landscape

The island of Oahu sustains a population approaching one million people. Its primary potable water source is groundwater: fresh water that has infiltrated through mountain watersheds and is held within the porous volcanic rock of the island.

Among a number of approaches the Board of Water Supply is taking to meet the growing needs of Oahu's future population is conservation—utilizing resources more efficiently. Effective water management is a major element in planning for expanding water needs in the future.

The newest tool developed in recent years is the concept of Xeriscaping—water conservation in the landscape. The term “xeriscaping” was coined in the American Southwest, and describes an innovative and creative means of conserving water. Outdoor water use in a xeriscape can save anywhere from 30 to 80 percent in water consumption. This means comparable savings in water and sewer charges, as well.

Because an estimated 50 percent of water consumption in the average home is used outdoors, xeriscaping offers an ideal way to minimize water waste while maintaining the beautiful landscapes of our island.

While xeriscaping is particularly appropriate for Hawaii's lower rainfall areas, where the large majority of our population lives, it is also applicable to all but the very high rainfall areas. Xeriscaping can reduce consumption anywhere additional water is needed in the landscape to supplement natural rainfall.



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XERISCAPE

When planning your xeriscape, the first things to consider are:

- What do you need from your landscape?
- How much time do you want to spend on your landscape, for pleasure and for maintenance?

Answers to these questions and those that follow will help you get the most from your landscape planning efforts, and turn your dreams into reality.

- What kind of backyard activities do you enjoy: family or social gatherings, sunning, games?
- Do you have children or pets; what are their needs?
- Do you need storage for tools, recreational vehicles, or other items?
- What image or style do you want—formal, traditional, or natural?
- Would you like to have specific plants in your landscape?
- Are you interested in growing a vegetable garden?
- Does your property have views to preserve or screen?
- What kinds of qualities already exist in your landscape: slopes, existing plants, structures, rocks?
- Is the drainage in your yard adequate?
- Are there other questions that you need answered?



Zoning the Landscape

Xeriscapes take advantage of natural climate conditions to make efficient use of irrigation.

Zoning the landscape means clustering your turf, ground cover, shrubs, plants and trees according to their water need—and according to how natural weather conditions affect each area of the landscape. These “microclimates” are affected by moisture, sun, shade, air movement, and heat.

For example, reflected light from structures facing the area of most sun creates high temperatures and increases the loss of water from nearby plantings. Shade trees and ground covers strategically planted in these exposures reduce temperatures in the warm, dry season, yet allow sunlight to enter during the months of high rainfall.

Similarly, water-loving plants can be grown in the microclimate zone of the landscape where irrigation and other water run-off is captured in drainage swales—again reducing the need for heavy watering.



Creating Microclimate Zones

The following are guidelines for the creation of three Xeriscape microclimates. Each zone is

based upon the amount of water applied. All of the examples incorporate the seven Xeriscape Fundamentals.



Very Low Water Zone

This is the lowest water zone in a Xeriscape, providing the greatest savings relative to traditional landscapes. Irrigation is needed during the establishment of new plantings. Once established, the plants in this zone require little, if any, additional water. Plants in the low water zone need to be selected carefully for minimal water use.



Low Water Zone

Plants growing in this zone require more water than is available from natural rainfall. Take advantage of run-off from downspouts, driveways, and patios to provide this water. During very dry periods, small amounts of supplemental irrigation may be necessary.



Moderate Water Zone

Even though this zone uses the most water, it still demands less than traditional landscapes. This zone is kept small in size to limit water need. The moderate water use zone may be considered a mini-oasis, and is best located near entry ways or areas of high use.

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Whether new or not, your landscape can be more water-efficient simply by utilizing the water-wise concepts of Xeriscape. With a little effort, you can be on your way to a beautiful Xeriscape. Not only will your yard look great, but Xeriscape improvements will increase the value and selling potential of your home.

The following principles of Xeriscape serve a basic introduction. Follow these seven steps:

1. Planning & Design

Many people create their own designs with excellent results. Landscape professionals can also serve as helpful resources. They can provide advice, critique, or can develop your plans for you. Planning is the first and most important step to a successful Xeriscape, because it allows you to install your landscape in phases, which minimizes initial expenses. Creating your Xeriscape in phases gives the gardener an all-important tool: budgeting for funding and time commensurate with family resources, for good design and water conservation.

2. Limited Turf Areas

Locate turf only in areas where it provides functional benefits. Turf is best separated from planting of trees, shrubs, ground covers, and flowering plants, so that it may be irrigated separately.

Often, turf can be replaced with other, less water-demanding materials, such as ground covers, low water-demand plants, or mulches.

A carefully thought-out garden design will indicate those areas where grass is actually

needed for family activities. Grassed areas frequently require the greatest amount of watering; eliminating unneeded grassed areas is a big step toward saving water.

3. Efficient Irrigation

In many cases, well-planned sprinkler systems can save water. For efficient water use, plan to irrigate turf areas separately from other plantings. Landscape plantings should also be grouped according to similar water needs.

Turf areas are best watered with sprinklers. Trees, shrubs, garden flowers, and ground covers can be watered efficiently with low volume drip, spray, or bubbler emitters. Regular adjustment of your irrigation system will save you water and money.

The addition of moisture sensors—devices which shut down the irrigation system when the ground is wet or on a rainy day—can also help reduce water waste.

4. Soil Improvements

Soil improvement allows for better absorption of water and improved water-holding capacity of the soil.

Soils that have organic matter also provide beneficial nutrients to plants. Improve the soil prior to the installation of any irrigation system. The addition of soil amendments—usually organics for most Oahu gardens—will also add beneficial nutrients.

Grading and soil improvements should be done prior to the installation of irrigation systems.

5. Mulching

Mulched planting beds are an ideal replacement for turf areas. Mulches cover and cool soil, minimize evaporation, reduce weed growth, and slow erosion. Mulches also provide landscape interest. Organic mulches are typically bark chips, wood grindings, or bagasse. Inorganic mulches include rock and various gravel products. Place mulch directly on the soil or on breathable fabric. Avoid using sheet plastic in planted areas.

6. Less-Thirsty Plants

There are many attractive less-thirsty garden species available for use in the tropical Xeriscape, including numerous popular flowering trees, shrubs and vines. There are turf grasses which require less watering than others, and should be selected through the planning process. Remember that the Xeriscape may include areas of varying water need.

Ideally, native plants which thrive on natural rainfall do best in a Xeriscape. There are many native Hawaiian plants which are less-thirsty.

7. Good Maintenance

Regular maintenance preserves the intended beauty of your landscape and saves water. Because of their design, Xeriscapes can help reduce maintenance costs. Pruning, weeding, proper fertilization, pest control, and irrigation system adjustments further water savings. Always water according to plant needs.



Hibiscus Brackenridgei,
Hawaii's state flower



Plumeria, tree



Rondeletia, shrub



Halawa Xeriscape Garden



Bromeliads



'Akia (native),
shrub or ground cover



Lantana Montecidensis (Hybrid),
bush or ground cover

Long-term Beauty and Savings with Xeriscape!
By following the guidelines and tips in this brochure,
you too can proudly create your own water-saving Xeriscape.
Help your neighbors, friends and family
start their own Xeriscapes.
Trade plants and ideas. Most of all, sit back and
savor the thought that all of the beauty around you
is saving precious water.

For information
on water conservation methods

www.boardofwatersupply.com