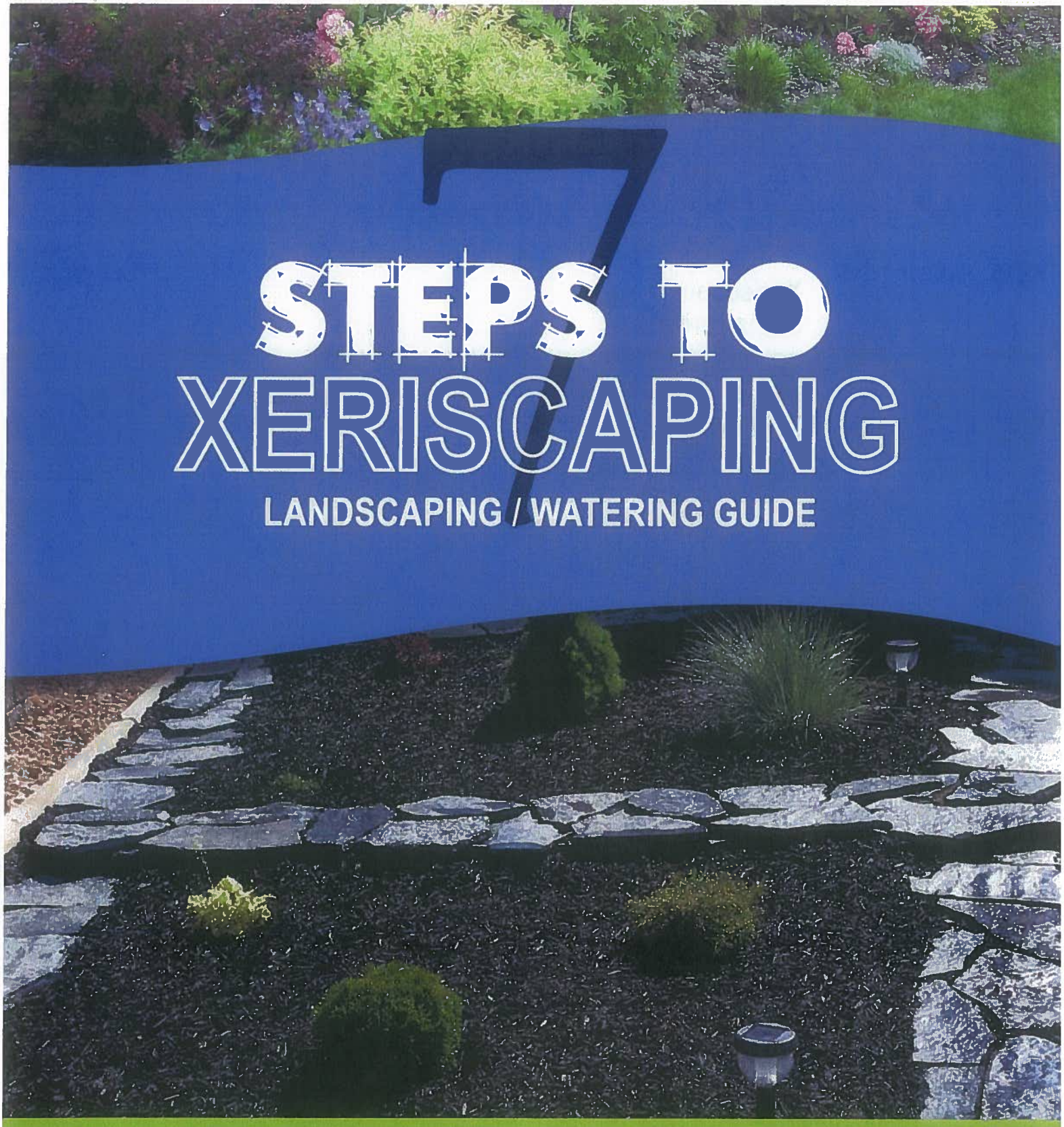

7 STEPS TO XERISCAPING

LANDSCAPING / WATERING GUIDE

HAT smart

A City of Medicine Hat Environmental Initiative

www.hatsmart.ca

Xeriscaping
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Effective water use doesn't mean changing your lifestyle. It means reducing water waste, such as improper irrigation or landscape choices. Xeriscape is a means to achieve highly attractive, comfortable landscapes without excess water use. Over fifty percent of summer residential water used is applied to landscape and lawns. Xeriscape can reduce water use significantly.

"Xeros" is a Greek word that means "dry." Xeriscape refers to a landscape that uses little supplemental water. It does not refer to a dry, barren landscape, nor is a Xeriscape "no maintenance". Xeriscape helps extend water supplies. When water use is restricted, inefficient water-thirsty landscapes suffer first.

Like traditional landscapes, a Xeriscape may be designed to minimize labor or to require frequent care. Many people appreciate beautiful landscapes, but have limited time to spend tending a garden. By using plants that are well adapted, mulches that suppress weeds and conserve water, and drip irrigation to make the most efficient use of water, these landscapes can have color and fragrance with only monthly or seasonal gardening.

People who like to spend time in the garden, can design a xeriscape to be as labor intensive as a highly maintained traditional garden, but use much less water. There is a Xeriscape for every gardener.

There are 7 steps to an efficient xeriscape...

STEP 1 PLAN & DESIGN

The first step towards realizing your Xeriscape is to develop a plan. This can be achieved by first contemplating and deciding on your needs and then listing your ideas on paper. What do you want from your landscape in terms of outdoor activities, gardening interests, and functional concerns such as pathways, shade, and service areas.

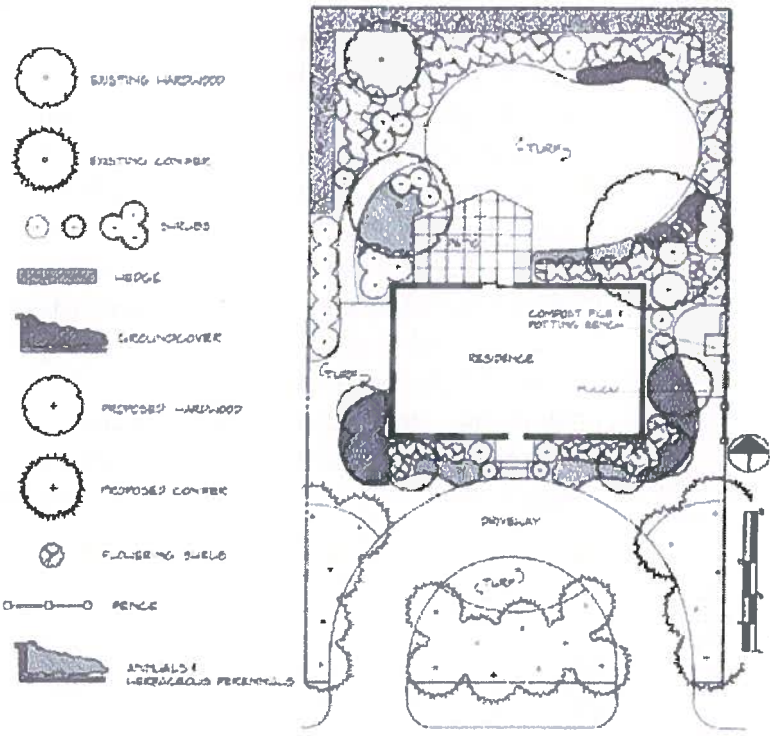
Assess and include these characteristics of the site to your list: Topography, orientation to the sun, existing vegetation, desirable views, prevailing winds and microclimates provided by buildings, shade etc. Create different water use zones and allocate the water where it will directly contribute to the beauty and comfort of your home.

Decide on the type or style that suits your house and neighborhood. Consider options to provide areas for activities, services and storage. Take advantage of views including those from the house and provide for screening and privacy.

TIP

Always group plants together according to their need for water, sun and soils. Thoughtful planning of your Xeriscape will ensure your efforts will bring the most benefits and reward.

Provide outdoor seating areas with sun and shade and map the pathways. Work out a strategy for grading and drainage. Plan to channel runoff from your house, outbuildings and paved surfaces to supplement the water elsewhere, such as an existing shade tree.



STEP 2 IMPROVE THE SOIL

An important aspect of Xeriscape gardening includes performing a soil analysis to make sure the soil is adequate to absorb water and hold nutrients. A soil analysis will help determine what measures, if any, may be required to amend your soil and support your efforts.

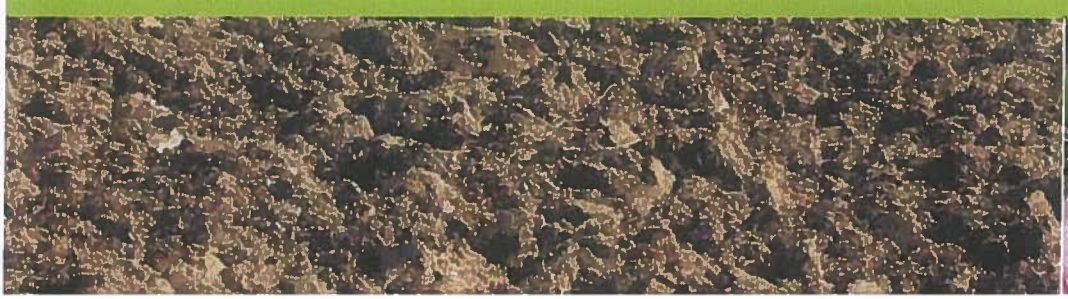
To be healthy, a soil needs to be able to breathe and water needs to move easily through the soil resulting in less plant growth. This increases erosion and strips away vegetation and topsoil. A normal, low compacted soil helps to absorb and retain water, releasing it slowly, which allows the root zone of plants to "breath". Highly compacted soils typically have less plant growth, which increases runoff.

Each soil type has a unique structure and texture, drainage pattern, PH and nutrient content, and unfortunately there is no exact recipe for soil improvement. When provided with a good soil environment, roots of trees and shrubs grow outward approximately seven times the diameter of the root ball during the first growing season. For years we have added organic matter, animal manure, or compost to the planting hole to conserve moisture and to improve plant growth. But recent research shows no benefit from amending the planting hole. Even in well-drained soils, organic matter encourages the roots of plants to stay within the hole instead of growing out to explore the native soil.

The best way to plant is to make sure the root ball is level with the soil surface, then simply backfill with the same soil from the hole after removing any debris is removed. Tamp the soil lightly to eliminate air pockets. Water thoroughly and add organic mulch, such as pine straw or bark chips, to the soil surface to conserve moisture.

TIP

Ideal soil has aeration and drainage, yet holds adequate moisture and nutrients for optimum root growth. Your goal is to create an ideal environment for expanding root systems.



STEP 3 VEGETATION

Initially, sketch in and mark plant spaces in your draft designs by a specific classification (tree, shrub, annual flower bed, etc.) and/or by their function (screen planting, foundation planting, patio garden, etc.).

The order in which specific plants and plant groupings are established on your draft design is also important. Plants with important functions are usually located first. This will vary with the specifics of each individual project, but trees are generally located first during the development of draft designs.

As the draft design evolves, more specifics will be added. Hard-features, such as trees, may now have precise dimensions but may still be lacking considerations of texture, color or a specific material selection. Plant beds and borders may now only be generalized as mass plantings, accent plants, perennials or shrubs.

Once such overall foundations are laid, you can then begin to fill in all of the details by selecting specific plants that are appropriate to your design wishes, and will accommodate your zone planning.

As you prepare to make your plant selections you'll want to take into account the differences between the cool, shady north and east sides of the house and the hot, sunny south and west exposures. Select xeriscape plants for hot, dry south and west facing areas. Along north and east facing slopes and walls use plants that like more moisture.

By grouping plants with similar water needs together within the appropriate water-use zones (high, moderate, and dry zones) you can use water more efficiently. (Note: all plants require regular watering until they are established.)

Optimize your Xeriscape for its seasonal evolution. By researching and refining the various plant selections, you will learn their specific planting and blooming periods, height and growth potential, plant temperaments, soil requirements and watering needs. You can determine the seasonal look of your landscape and plan accordingly.

TIP

The location of the plant spaces drafted on your master plan (step 1), will play a primary roll in selecting the appropriate plants or plant groupings for your Xeriscape.

STEP 4 LAWN

To be water efficient, the lawn and turf grass should be planted only where it is considered functional, such as in a play area, and only in areas where it is can be considered practical.

All types of turf grass have positive and negative characteristics. The type of grass you choose for your lawn should be compatible with your climate, anticipated use and maintenance level, and aesthetic desires; it also should have some resistance to common diseases.

Practical turf areas mean using turf grass for a specific function. A small "oasis" of turf near the entrance to the home, a playing surface of durable turf in recreational areas, or a blanket of turf on a highly erosive slope are all examples of, "practical turf areas".

Lawns and turf grass shouldn't be treated as a fill-in or groundcover material. Rather it should be planned to serve a practical purpose: providing a resilient, soft and cooling surface for active play or seating areas.

Make every effort to choose a grass that grows well under your conditions. For instance, too much shade causes stress that can lead to disease development. Similarly, some species are more heat or drought tolerant than others.

Alternatives to turf grass lawns include groundcovers, shrubs, mulched areas, decks, and paved surfaces. Where lawns are needed, provide topsoil to a depth of 15 cm (5 to 6 inches). This will allow for deep rooting. With an established lawn, water thoroughly but less frequently to maintain the deep roots needed for a healthy, drought tolerant lawn.

TIP

Your lawn should be compatible with your climate, and aesthetic desires, and be planned to serve a practical purpose.

STEP 5 IRRIGATION

Many irrigation options exist including drip lines, soaker hoses, bubblers, etc. Choose types that are most efficient for your plan. Always maintain your system on a regular basis for best performance.

There is a vast range of irrigation equipment available covering every possible need. Whatever choice you make there is one important fundamental: Your system must be operated efficiently. You can ensure this by being aware and exercising the following five points.

1. Since the xeriscape garden is designed with hydro-zones the system should deliver water at different rates depending on the requirements of each zone. Always water the high-use zones separately; if you have an automatic system be sure that the lawn has its own zone otherwise the other plants will be over-watered.

2. Deep-watering develops deep roots. Water less frequently for "hardier" plants and allow the roots to follow the moisture down deep into the soil. Timer devices should be adjusted to shut water off once the required amount has been delivered.

3. The watering needs of your Xeriscape will vary with daily weather conditions and with the season. Watering times and usage should vary throughout the season. With automatic systems, there should be a simple means of shutting it down during rainy periods. Respond to your plants needs not your habits. Focus on how much water your lawn and plants really need. When temperatures are hot, plants need more water than when conditions are cool.

4. Water at night or early morning reduce water lost through evaporation. In high winds shut off system to avoid wind drift.

5. Run-off water is wasted and should be avoided. Adjust sprinklers to eliminate over-spray on roads, and paving. In planted areas use mulching and amend the topsoil with organic matter to improve water absorption.

On slopes, adjust the irrigation schedule; a series of repeated short irrigation cycles will allow the soil to absorb more water and there will be less chance of run-off waste.

Proper irrigation has perhaps the greatest potential to affect water savings than any other component of a Xeriscape.

STEP 6 MULCH

Mulching, great for keeping your garden free of weeds, is effective and simple. This will also help to keep the plants healthy, and will keep your garden looking beautiful.

Mulch your garden at the beginning of the growing season each year. This protective layer of mulch insulates the soil from the hot summer sun, protects it from drying winds, and all but eliminates weeds.

Mulches cover the soil, keeping it cool and minimizing the evaporation of soil moisture. Mulching can reduce the water required to one third of the amount throughout the growing season. The soil stays evenly moist under the mulch. As the organic mulches decay, they improve the soil.

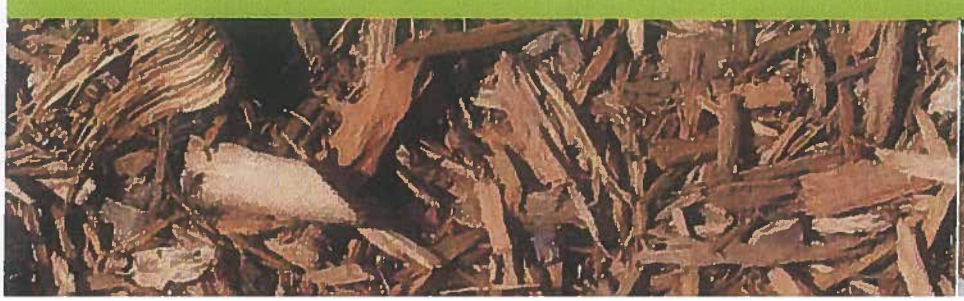
Mulches also reduce weed growth, help the soil capture precipitation, reduce runoff and erosion. Mulches help maintain a more constant soil temperature, buffering the extremes, thus favoring healthy populations of earthworms and other beneficial life in the soil.

There are a range of mulches: Inorganic, and organic. Organic mulches include wood chips, straw, peat moss, sawdust, dry manure, leaves, pine needles, grass clippings and bark chips. Inorganic mulches include rock, gravel, and lava.

After the mulch is applied, you don't have to hoe between the rows. For mulching to be effective it should be approximately 3 inches thick. The use of mulches is a key to successful Xeriscape.

TIP

Use mulch to help keep weeds out and moisture in. Mulch can be defined as any organic or inorganic material used to protect the soil from moisture loss, and/or improve the soil condition when applied to the soil surface.



STEP 7 MAINTENANCE

Regular maintenance will not only preserve the beauty of your landscape but will keep it healthy. Maintenance needs of a carefully planned Xeriscape should decrease over time as plantings mature. By following the seven principles, your landscape will require less watering, mowing, fertilizer, and other chemicals to keep it looking great.

Plantings: Pruning, pest control and weeding will help ensure that your garden vision is realized. Once plants are established apply only the minimum amount of fertilizer needed. Prune plants to the desired shape and size, and remove weak or diseased parts. This encourages healthy growth, prevents plant over-growth and keeps watering needs at a minimum. Healthy, actively growing plants are the best defense against pests and diseases. Before treating any pest, identify the insect and determine if it is actually causing damage to plants. Many are beneficial.

Lawn: Water less often and deeply to encourage deep roots. Water only when needed. When turf grass is under water-stress it takes on a blue-green color and the leaves tend to roll or fold. Foot printing may also be observed which is a good indication that water is needed. Have soil tested for nutrients. It is best to apply Phosphorus in the spring to promote root development. Apply nitrogen in the late fall (3-4 weeks before soil freezes).

A good rule for mowing is: Mow high, mow frequently and leave the clippings. Raise the lawn mower blade(s) so that only one-third of the grass blade is removed at a time for a higher cut. A higher cut encourages grass roots to grow deeper, making the grass more drought-tolerant. Grass cycling, the practice of leaving grass clippings on the turf area instead of bagging them, adds moisture and nutrients back to the turf and conserves moisture by acting as a mulch at the base of the grass blades.

Irrigation System: Over-watering, the most common mistake, increases your water bill, insect control expenses, plant replacement costs and diseases. Take note of the weather and adjust watering accordingly. Check water filters monthly. Watch for plants showing water-stress (wilting) which indicates either a clogged emitter or that more water is needed. Winterize the system in mid-October. At start up in the spring check for any breakage and ensure the system operates correctly.

TIP Appropriate maintenance is critical once the other water-saving steps are in place.

BEST DROUGHT TOLERANT PLANTS

PERENNIALS

- Baby's Breath
- Blanketflower
- Blue Fescue
- Blue Sage
- Coneflower
- Cornflower
- Daylily
- Evening Primrose
- Fleeceflower
- Foxtail Lily
- Gasplant
- Globe Thistle
- Hens & Chicks
- Ornamental Onion
- Potentilla
- Russian Sage
- Silver Sage
- Sea Holly
- Snow-in-Summer
- Soapwart
- Spurge
- St. Johns Wort
- Stonecrop
- Wild Indigo
- Wormwood
- Yarrow
- Yucca

BEDDING PLANTS

- African Daisy
- Clarkia
- Cosmos
- Gazania
- Gomphrena
- Ice Plant
- Lotus Vine
- Nierembergia
- Poppy (especially California Poppy)
- Portulaca
- Salvia farinacea
- Salvia horminum (but not Salvia splenends)
- Scaevola

BEST DROUGHT TOLERANT PLANTS

TREES AND SHRUBS

- Amur Maackia
- Buffaloberry
- Caragana
- Cherry Prinsepia
- Golden Flowering Current
- Genista
- Hackberry
- Dwarf Bush Honeysuckle
- Juniper
- Pine
- Patentilla
- Salt Bush
- Sea Buckthorn
- Sumac
- Tamarisk

VINES

- Bluebird Clematis
- Morning Glory
- Trumpet Honeysuckle
- Virginia Creeper

TIP These Plants are not only drought tolerant, they also look great in any Western Canada Garden.

By following these guidelines and tips, you too can create your own water-saving Xeriscape. Help your neighbors, friends and family start their own Xeriscapes and trade plants and ideas. Most of all, enjoy the thought that your beautiful Xeriscape is saving you time, energy, money and conserving our valuable water resources.

FURTHER READING

Medicine Hat College

Duffield, Mary Rose. Plants for Dry Climates: How to select, grow, and enjoy

Bennett, Jennifer. Dry-land Gardening: A xeriscaping guide for dry-summer, cold-winter climates

Bennett, Jennifer. Dryland Gardening: Plants that survive and thrive in tough conditions

Williams, Sara. Creating the Prairie Xeriscape: Low-maintenance, water-efficient gardening

Medicine Hat Public Library

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Bennett, Jennifer. Dry-land Gardening: A xeriscaping guide for dry-summer, cold-winter climates

Bennett, Jennifer. Dryland Gardening: Plants that survive and thrive in tough conditions

Rumary, Mark. Xeriscaping: Planning and planting low water gardens

Toop, Edgar W. & Williams, Sara. Perennials for the Prairies

WEBSITES

http://www.xeriscape.org
http://www.culverco.com/eew_water/
http://www.greenbiz.com/toolbox/essentials.cfm#b
http://www.ci.phoenix.az.us/WATER/watermen.html

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