Water-Wise Gardening for the Donala Region

The conditions that make it so attractive to live here, consistent sun, clear skies and spectacular views, also create enormous gardening challenges. But intense sun, little rain and altitude can be countered using xeriscape techniques for water-wise landscapes that thrive in our high-desert climate.

Water... make every drop count

DONALA WATER AND SANITATION

Why Conserve Water?

Lately, the cost of water in Donala has gone up drastically. Procurement of much-needed renewable sources of water from the Upper Arkansas Basin, along with associated legal expenses to clear it for municipal use, cost $5.5 million alone. In addition, movement and treatment of the water through Colorado Springs' water system has increased operating costs for 2012 by 70%. Our only solution for reducing our cost of water is to reduce our demand. This brochure is intended as a guide for doing just that – reduction of our most water intensive demand: landscape irrigation.

This water-wise brochure provides a useful tool for customers in managing their landscapes in our high desert location. Donala Gardens, our landscape demonstration area on Gleneagle Drive, shows off many of the plants and techniques discussed here. The idea is to get us all off the "Bluegrass Mentality" of a lush, green expanse of lawn that it extremely water intensive. This subject has caused some consternation in the past. Many of our customers believe it is their right to maintain a large bluegrass lawn as long as they are willing to pay the price for water. The problem is that we all suffer in the long run when the District has to go out and spend millions more dollars to accommodate that demand. Everyone shares in infrastructure, legal and water rights costs.

Xeriscaping does not mean "zero water," but it also does not have to mean a pile of rocks where there used to be grass. This brochure will suggest many beautiful designs and opportunities not only to reduce your water bill, but to produce a colorful and diverse yard. True, xeriscaping is not cheap. Each of us will have to do the math to determine how much we can spend on landscaping and how much it will save in water, lawn mowing, fertilizing, etc. One thing to remember though – water is going to be a high-value issue all over the Front Range. Costs are going up, and when you sell your home, a xeriscaped yard will add to the value.

We hope you enjoy this brochure and can put it to good use. The last article, "Retrofitting for Xeriscape: a Case Study", is especially appropriate for most of our customers. As always, if you have any questions, please don't hesitate to call us at 488-3603

Dana Duthie, General Manager, Donala Water and Sanitation

XERISCAPE: Sustainable Landscapes with Reduced Water Needs

Xeriscape is a method of water-wise gardening in harmony with our climate. It's based on seven sound horticultural practices:

- **Functional design determined by use, site characteristics and water requirements.** Planning your landscape according to these criteria ensures that your family's needs are met and your water bill stays low.
- **Enriched soil for water retention.** Colorado soils are low in organic material. 3-4 cubic yards of compost tilled into every 1000 square feet of soil improves soil texture, allowing better water penetration and moisture-holding capacity.
- **Practical turf areas limited to appropriate sizes and locations.** Turfgrasses consume three times as much water as plants well-adapted to our climate. Limiting turfgrass areas conserves water while providing the physical and aesthetic benefits of a lawn.
- **Appropriate plants grouped by water use.** Organizing plants well-adapted to our climate by garden requirements is not only a good horticultural practice, but a good environmental practice minimizing water waste.
- **Efficient irrigation systems water deeply and infrequently for drought tolerant root systems.** All plants must be watered for establishment, while some need supplemental water for maintenance. Water lawns on separate spray zones from trees, shrubs and perennials, which are best irrigated by drip or bubblers.
- **Mulched planting beds reduce evaporation, buffer soil temperatures and keep weeds down.** Organic mulches, such as wood chips, break down and feed the soil, They should be applied 3-4 inches deep, while inorganic mulches, such as rock or gravel should be applied 2-3 inches deep and used sparingly as it increases heat in planting zones.
- **Maintenance preserves beauty and value.** A xeriscape is not a bed of unwatered weeds, but a planned and maintained landscape showing evidence of care.

Tough Plants Uniquely Adapted to the Donala Region

Choosing plants that are well adapted to our high, dry climate makes sense as well as saves water. The plants described here represent four seasons of interest as well as the varied colors and textures essential to a beautiful landscape. All are exhibited at Donala Gardens, our community's xeriscape demonstration garden located just south of the shopping center on Gleneagle Drive, across from the Sun Mesa Townhomes. Please note that this is not a complete listing of plants that thrive in the Donala Region.

COMMON NAME/BOTANICAL NAME	WATER USE	EXPOSURE	HXW (FT)	FORM, FLOWERS, COMMENTS
TREES				
Crabapple, Adams Malus 'Adams'	moderate to low after establishment	full sun	H 20-25' W 20-25''	Densely rounded crabapple. Single dark pink flowers, persistent red fruit. Orange-red fall color. Highly disease resistant.
Fir, White Abies concolor	moderate	full sun	H 50-60' S 20-30'	Large conical evergreen with soft blue needles. Similar to Colorado Blue Spruce but more tolerant of drought.
Hawthorn, Russian Crateagus ambigua	low to none after establishment	full sun	H 15-20' W 20-25'	Single/multi-stem broad irregular tree with great winter structure, showy white flowers, shiny red berries, yellow fall color. Thorns.
Juniper, Moonglow Juniperus scopulorum 'Moonglow'	low to none after establishment	full sun	H 15-20' W 8-12'	Broadly pyramidal with bright silvery blue color.
Juniper, Spartan Juniperus chinensis 'Spartan'	low to none after establishment	full sun	H 12-15' W 3-5'	Fast, dense columnar tree with green color.
Maple, Bigtooth Acer grandedentatum	low	full sun	H 20-30' W 15-20'	Broad oval shape. Single or multi-stem tree. Rich orange and red fall color.
Maple, Hotwings Tatarian Acer tataricum 'GarAnn'	low	full sun	H 20-25' W 18-20'	Broad shape. Bright red summer samaras give tree the appearance of being in bloom. Strong branch unions.
Pine, Austrian, Oregon Green Pinus nigra 'Oregon Green'	moderate to low	full sun	H 40-50' W 20-30'	Fast-growing, dense pyramidal pine becoming more open with age. Branches grow in regular whorls.
Pine, Bristlecone Pinus aristata	low to none after establishment	full sun to part shade	H 23-30' W 15-20'	Slow growing, irregularly shaped pine with dark green needles dotted with white resin. Needs good drainage.
Pine, Pinyon Pinus edulis	low to none after establishment	full sun	H 12-20' W 12-15'	Irregular, pyramidal shape. Small, slow growing bushy pine native to south facing slopes. Good for hot, dry areas. Needs good drainage.
Pine, Southwestern White Pinus strobiformis	moderate to low	full sun to part shade	H 40-50' W 30-40'	Broad, conical shape. Long blue green needles. Excellent evergreen that is underutilized.
Pine, Vanderwolf Pinus flexilis 'Vanderwolf's Pyramid'	moderate to low	full sun to part shade	H 20-25' W 10-15'	Fast growing, pyramidal selection of native Limber Pine. Long, blue green twisted needles with silvery line on underside.
Serviceberry, Autumn Brilliance Amelanchier x grandiflora 'Autumn Brilliance'	moderate to low	full sun to part shade	H 15-20' W 10-15	Rounded habit. Can be grown as multi or single stem tree. White spring flowers, blueberry-like fruit. May sucker.
Spruce, Baby Blue Eyes Dwarf Picea pungens 'Baby Blue Eyes'	moderate	sun to part shade	H 15-20' W 8 -12'	Strongly pyramidal semi dwarf evergreen. Bright silvery blue, small mature size. Prefers rich, well-drained soil.

Definitions: full sun = no shade; sun = 6 hours of full sun per day
PS=PHOTOS COURTESY OF PLANT SELECT®


Baby Blue Eyes Spruce


Hotwings Tatarian Maple PS


Adams Crabapple

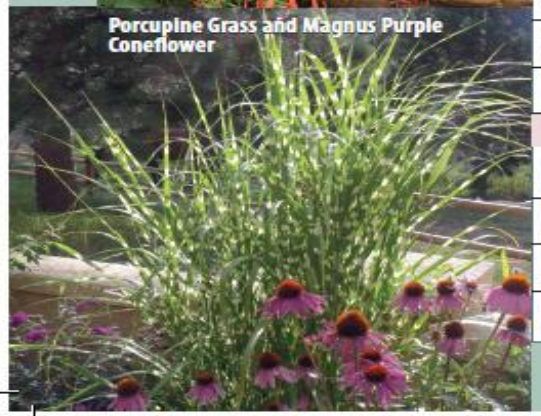

Autumn Brilliance Serviceberry


Goblin Blanketflower

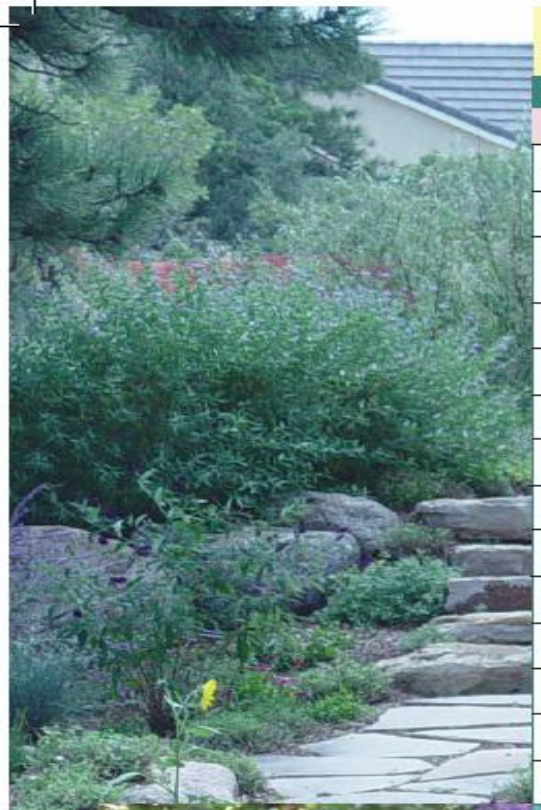

Table Mountain Ice Plant


Black Eyed Susan


Orange Carpet Hummingbird Trumpet


Porcupine Grass and Magnus Purple Coneflower

COMMON NAME/BOTANICAL NAME	WATER USE	EXPOSURE	HXW (FT)	FORM, FLOWERS, COMMENTS
PERENNIALS				
Basket of Gold, aka Mountain Gold Alyssum montanum	low	sun	H 6-12" W 12-18"	Thick mat of low trailing stems with grayish-green leaves. Small clusters of bright yellow flowers in spring.
Black-eyed Susan Rudbeckia fulgida 'Goldsturm'	moderate to low	full sun	H 1-2' W 1-2'	Clump of lanceolate green leaves with erect gold flowers having a raised brown central cone. Blooms midsummer until frost.
Blanketflower, Arizona Sun Gallairdia x grandiflora 'Arizona Sun'	low	sun	H 1' W 1'	Prolific yellow and red blooms from early summer until frost. Species native to tall grass prairie.
Blanketflower, Goblin Gaillairdia x grandiflora 'Goblin'	low	sun	H 8-12" W 9"	Prolific yellow and red blooms from late summer until frost. Self sows freely. Species native to tall grass prairie.
Germander, Creeping Teucrium aronium	low	sun	H 2-3" W 9-12"	Creeping dark-green plant with fragrant magenta flowers in late summer. Good ground cover.
Hyssop, Sonoran Sunset Agastache cana x 'Sinning'	low	sun	H 15-18" W 12-15"	Hot magenta flowers appear in August and September on aromatic foliage. Hummingbirds love it. If you plant it, they will come.
Ice Plant, Table Mountain Delosperma x John Profitt	low to none after establishment	sun	H 2-3" W 8-12"	Succulent texture persists into winter, bright magneta flowers. Good ground cover.
Ice Plant, Yellow Delospermum nubigenum	low to none after establishment	sun	H 2-3" W 8-12"	Red Foliage in winter, clear yellow flowers in early summer. Good ground cover. Don't plant where snow collects as moisture will rot plant.
Orange Carpet Hummingbird Trumpet Zauschneria garettii	low to none after establishment	sun to part sun	H 9-12" W 12-18"	Bright orange flowers make this Rocky Mountain native a hummingbird magnet.
Penstemon, Grand Mesa Penstemon mensarum 'Grand Mesa'	low to none after establishment	sun	H 24-30" W 10-15"	Upright growth habit. Dense evergreen rosette turns orange-red in winter. Early spring cobalt blue flower spikes last for nearly 2 months.
Penstemon, Pine Leaf Penstemon pinifoliuis	low	sun	H 6-8" W 12-15"	Dark green needle-like foliage can be evergreen. A blanket of tubular red flowers covers the plant in mid summer. Beloved by hummingbirds.
Penstemon, Pina Colada Penstemon 'Pina Colada'	low	sun	H 12-18" W 6-12"	Red-orange or violet tubular flowers are b;orne above a rosette of dark green leaves in mid-summer.
Purple Coneflower, Magnus Echinacea purpurea	low	sun	H 2-3' W18-24"	Large rosy, daisy like flowerrs with raised center. Petals are held out at right angles to the stem. Blooms mid-July through September.
Sage, May Night Salvia x nemorosa 'May Night'	low to none after establishment	sun	H 12-18" W 12-15"	Dense upright clump of stalks present crowded spikes of violet blue flowers from early to late summer if deadheaded regularly.
Sage, Platinum Salvia daghestanica	low to none after establishment	sun	H 8-10" W 12-15"	Silver foliage makes a great groundcover. Cobalt blue flower spikes rise above foliage in early summer.
Snow in Summer Cerastrium tomentosum	very low to none after establishment	sun	H 6-12" W 12-18"	A spreading mound of downy, silver gray foliage topped with white flowers in early summer.
Tickseed, aka Coreopsis Coreopsis lanceolata	very low to none after establishment	sun	H 18-24" W 18-24"	A broad clump of slender green leaves gives rise to daisy-like bright yellow flowers. Good cut flower. Native to the tall grass prairie.
GRASSES				
Feather Reed Grass, Korean Calamagrostis brachytricha	moderate	full sun to part shade	H 3' W 0.5-1"	Upright habit. Flower spikes persist into winter. Tolerates shade."
Oat Grass, Blue; aka Blue Avena Grass Helichtotrichon sempervirens	low	sun to part sun	H2-3' W 2-3'	Tufted clumps of narrow blue-green leaves. Drooping seed heads appear above foliage in early summer.
Porcupine Grass Miscanthus sinensis 'Strictus'	moderate	sun to part sun	H 4-6' W4-6'	Upright habit. Yellow horizontal bands on wide green leaves. Persistent fan-shaped seed heads.
Switch Grass Panicum virgatum	low	sun	H 3-4' W 3-4'	Dense upright clump with airy blooms above foliage. Native to tall grass prairie.



COMMON NAME/BOTANICAL NAME	WATER USE	EXPOSURE	HXW (FT)	FORM, FLOWERS, COMMENTS
SHRUBS				
Apache Plume Fallugia paradoxa	very low to none after establishment	full sun to sun	H 3-5' W 3-5'	Irregular, spreading shape. White flowers, pink plumes on seed heads, great spring/winter interest, no winter structure.
Barberry, Crimson Pygmy Berberis thunbergii 'Crimson Pygmy'	moderate to low	full sun to part shade	H 1.5-2.5' W 1.5-2.5'	Dense, rounded habit and burgundy red foliage in summer. Low-growing form of Japanese Barberry.
Blue Mist Spirea, Dark Knight Caryopteris x clandonensis 'Dark Knight'	low	sun	H 2-4' W 2-4	Mounding habit. Gray-green foliage, deep purple-blue flowers in late summer, interesting winter form. May die to snowline; cut back in spring.
Broom, Spanish Gold Cytisus purgans	low	sun to part shade	H 2-3' W 4-6'	Mound shaped. Bright gold flowers, evergreen. Benefits from winter water. Thrives in heavy soil.
Broom, Warminster Cytisus praecox 'Warminster'	low	sun to part shade	H 4 -5' W 4-6'	Vase shaped. Light yellow flowers, evergreen. Benefits from Winter water. Thrives in heavy soil.
Burning Bush Euonymus alata	moderate	full sun to part shade	H 6-8' W 6-8'	Flat-topped rounded shrub.; branches have winged stems. Dark green foliage turns bright red in fall.
Burning Bush, Dwarf Euonymus alata 'Compactus'	moderate	full sun to part shade	H 4-6' W4-6'	Characteristics same as above, but plant is more compact
Butterfly Bush Buddleia davidii	moderate to low	sun	H 4-6' W 4-6'	Airy, vase shape. Large flowers from July through Sept. in colors ranging from magenta to purple to pink. Attracts butterflies.
Joint Fir, Bluestem Ephedra equisitina	low to none after establishment	full sun	H 3-4' W 5-6'	Leafless, erect evergreen stems create an unusual accent in the garden.
Juniper, Buffalo Juniperus sabina 'Buffalo'	low to none after establishment	full sun to part shade	H 12-18" W4-6'	Feathery bright green foliage, mounding habit.
Juniper, Blue Chip Juniperus horizontalis 'Blue Chip'	low to none after establishment	sun	H 8-12" W 4-6'	Prostrate, spreading habit. Blue foliage.
Leadplant Amorpha canescens	low to none after establishment	full sun	H 3' W 3'	Open habit with arching stems. Showy indigo flowers with orange anthers, fine-textured foliage.
Lilac, Palibin Dwarf Korean Syringa meyeri	moderate to low	sun	H 4-6' W 4-6'	Small, rounded lilac with wavy green leaves. Fragrant lavender flowers in spring.
Mock Orange, Cheyenne Philadelphus lewisii	moderate to low	full sun	H 4-6' W 4-5'	Upright rounded shrub with reddish-brown twigs. Large white fragrant flowers in early summer.


Butterfly Bush


Viburnum


Apache Plume


Bluestem Joint Fir

COMMON NAME/BOTANICAL NAME	WATER USE	EXPOSURE	HXW (FT)	FORM, FLOWERS, COMMENTS
SHRUBS				
Mountain Mahogany, Curl-leaf Cercocaprus ledifolius	low to none after establishment	full sun to part shade	H 4-12' W 4-8'	Erect, loosely vase-shaped with small evergreen leaves, white branches, fine texture. Feathery seed heads. Slow growing.
Mugo Pine, Mops Pinus mugo 'Mops'	moderate to low	full sun	H 2.5-3' W 2.5-3'	Dwarf mugo pine, small and densely compact. Does not require candle pruning to keep globe shape.
Ninebark, Dart's Gold Physocarpus opulifolius 'Dart's Gold'	moderate to low	full sun to sun	H 4-6' W 4-6'	Small dense upright shrub. Gold spring leaves, lime green summer leaves, white flowers in late spring.
Ninebark, Diabolo Physocarpus opulifolius 'Monlo'	moderate to low	full sun to sun	H 8-10' W 8-10'	Upright, arching habit. Creamy white flowers in early summer; dark red summer leaves. Needs full sun for best leaf color.
Ninebark, Summer Wine Physocarpus opulifolius 'Summer Wine'	moderate to low	full sun to sun	H 4-6' W 4-6"	Smaller edition of Diabolo Ninebark.
Rabbitbrush Chrysothamnus nauseosus	very low to none after establishment	full sun	H 4-6' W 4-6'	Semi-evergreen native shrub with thin leaves; showy golden-yellow fall flower clusters. Becomes leggy if overwatered. Can be blue or green.
Rabbitbrush, Baby Blue Chrysothamnus nauseosus nauseousus	very low to none after establishment	full sun	H 1-2' W 1-2'	Smaller , more compact form of rabbitbrush with blue-gray leaf color. Golden yellow blooms in fall. Good winter structure.
Sand Cherry, Pawnee Buttes Prunus besseyii 'Pawnee Buttes'	moderate to low	full sun to part shade	H 15-18" W4-6"'	Compact, prostrate form of normally upright sand cherry. Fragrant white spring flowers, midsummer cherries. Red fall color. Glossy green leaves.
Sage, Fringed Artemesia frigida	very low to none after establishment	full sun	H 6-18" W 2'	Silver green foliage is evergreen. Young plants are compact and may form a dense, soft mat. Cut back if plants become rangy.
Sage, Russian Perovskia atriplicifolia	low to none after establishment	full sun	H 2-4' W 2-4'	Bright blue-violet flowers in August-September. Silver foliage. Very showy when used in masses. Prune back to live wood in early spring.
Sumac, Three-leaf Rhus trilobata	low	sun	H 6-8' W 6-8'	Mounding habit, shiny green leaves are orange in fall.
Viburnum, Mohican Viburnum lantana 'Mohican'	moderate to low	full sun to part shade	H 5-6' W 5-6'	More compact form of Wayfaring Tree.
Viburnum, Nannyberry Viburnum lentago	moderate to low	full sun to part shade	H 12-16' W 8-12'	Upright growth. Creamy white flowers in spring followed by black fruit. Glossy green foliage becomes brilliant orange-red in fall.

Baby Blue Rabbitbrush

Blue Chip Juniper

Cheyenne Mock Orange

Crimson Pygmy Barberry

Efficient Irrigation

Whether you water by hand or with an in-ground irrigation system, efficient watering is a key component to xeriscape. Here are some tips to help you minimize waste and save money on outdoor water use.

Summer Cultural Practices to Conserve Water

- Never water between 9 am and 6 pm in the summer to reduce water lost to evaporation.
- Water only on your designated irrigation day. See the Donala irrigation restriction policy on the next page, in annual newsletters, and on the Donala website (www.donalawater.org).
- Water bluegrass a maximum of 40 minutes per zone two to three times per week during the hottest months, and less during cooler months. Established trees and shrubs should be watered by a drip system for 1 hour every 7-14 days. If you do use a spray zone on trees and shrubs, 15-20 minutes per irrigation day should be enough.
- It is normal for bluegrass lawns to go dormant and turn slightly brown during the heat of summer. In fact, the watering time shown above may not be the optimum for a lush, green lawn. However, the grass will survive and green up again when the weather cools, or during/after a rainy period. *NOTE: This is a good reason to do away with extensive bluegrass, and convert to more "water-friendly" landscaping.*
- Mow your bluegrass at 2.5 - 3 inches. This will help shade the roots and prevent evaporation from the sod.
- Aerate lawns spring or fall (or both) to reduce soil compaction and improve water penetration.
- Fertilize lawns properly. If you leave grass clippings on the lawn, only one fall fertilization per year is necessary. If you do not leave clippings on the lawn, 1 pound of nitrogen is needed in early June, mid-August to mid-September, and October to early November. Balanced fertilizers are helpful. Beware of excessive nitrogen, which increases water consumption.
- Mulch tree, shrub and perennial beds to reduce evaporation.

Irrigation System Hints

- Each spring perform an audit of your system and repair leaks and broken or plugged nozzles, missing or improperly aimed and adjusted heads, and heads that are not level side to side or even with the top of the grass. Adjust spray for optimum coverage.
- Invest in an inexpensive rain gauge and skip an irrigation cycle if it rains more than ¼ inch. Better yet, invest in a rain controller for your irrigation system that will shut down your system if you are away and it rains.
- Irrigate lawns on spray zones separate from trees, shrubs and perennials, which are best irrigated by drip, soaker hose or bubblers.
- Recently, irrigation technology has advanced greatly, so consider converting older heads to the newer most efficient types which deliver large drops of water evenly at a low angle to the ground (multi- stream/ multi- trajectory (MSMT) heads, or MP rotator heads, or precision series spray nozzles). Although they take more time to deliver the same amount of water as the older heads, you will find they do not waste as much, and you will cut down your overall water consumption by as much as 30%.

Water between midnight to 9 am and 6 pm to midnight on your designated irrigation day.

Donala's Irrigation Restriction Program Memorial Day through Labor Day

Donala Water and Sanitation has a mandatory irrigation restriction program to reduce water waste.

- Run your irrigation system only on your designated irrigation day between midnight to 9 am and 6 pm to midnight
- You may water with a hand-held hose or a drip system zone as needed
- Odd numbered single family residences water M, W, F
- Even numbered single family residences water T, TH, Sat
- Townhomes and commercial accounts watering days will be posted in Donala's newsletter or on the Donala website (www.donalawater.org)

Winter Water for a Healthier Landscape in Spring

Winters here are dry and windy, and if there is no significant snow cover, landscape plants benefit from an application of water once a month between November and April. Plants installed recently (within the last two years) need to be watered twice a month. Winter watering should take place between 10 am and 3 pm on a day when temperatures are above 40 degrees and water can soak into the ground. Water by hand with a hose fitted with a soft spray wand, a soaker hose or a sprinkler. Trees should receive 10 gallons per inch of trunk diameter, applied inside the drip line; shrubs less than 3 feet in diameter need 5 gallons, and established shrubs larger than 6 feet in diameter need 18 gallons. Perennials need about a quart each.

Modest amounts of moisture applied to landscapes during fall and winter prevent drought stressed landscapes in the spring. Supplemental water in spring will not benefit plants damaged during the winter. If you don't have time to water all your plants, water evergreens and recently planted vegetation first, then other trees and shrubs next, and lawns last.

Retrofitting for Xeriscape: a Case Study

Green Xeriscape

CONIFEROUS TREES AND SHRUBS

BS Colorado Blue Spruce
Picea pungens glauca

J Juniper
Juniperus spp.

MP Mops Mugo Pine
Pinus mugo 'Mops'

PO Ponderosa Pine
Pinus ponderosus

PP Pinyon Pine
Pinus edulis

SP Scotch Pine
Pinus sylvestris

GRASSES AND PERENNIALS

HP Hardy Pampas Grass
Erianthus ravennae

PG Porcupine Grass
Miscanthus strictus

KF Karl Foerster Feather Reed Grass
Calamagrostis acutiflora 'Karl Forester'

DECIDUOUS TREES AND SHRUBS

A Aspen
Populus tremuloides

BM Dark Knight Blue Mist Spirea
Caryopteris clandonensis 'Dark Knight'

CC Chokecherry
Prunus spp.

D9 Diabolo Ninebark
Physocarpus opulifolius 'Monlo'

PL Palibin Lilac
Syringa meyeri

RS Russian Sage
Perovskia atriplicifolia

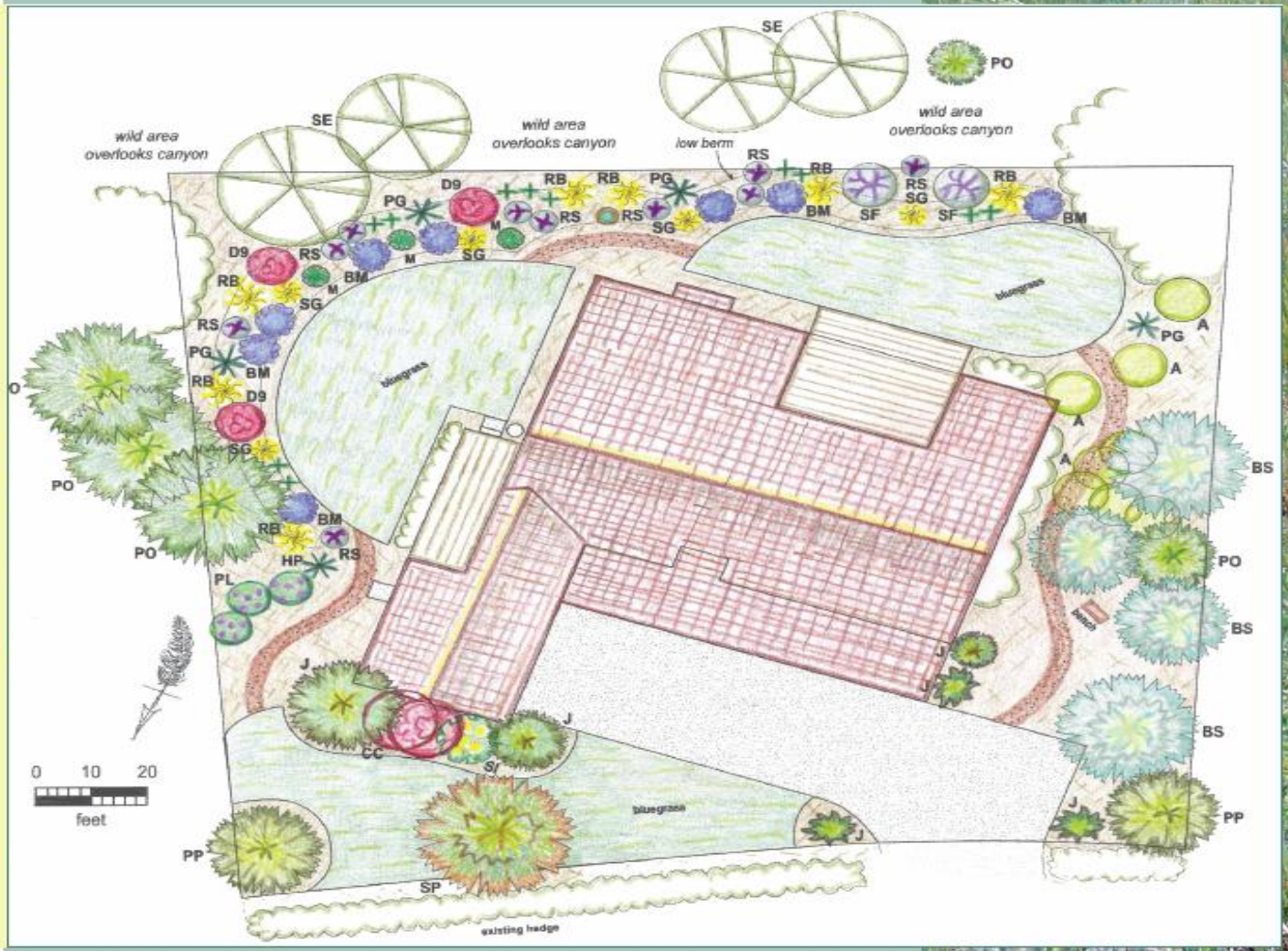
RB Rabbitbrush
Chrysothamnus nauseosus

SE Siberian Elm
Ulmus spp.

SF Silver Fountain Butterfly Bush
Buddleia alternifolia argentea

SI Siberian Peashrub
Caragana arborescens

SG Spanish Gold Broom
Cytissus purgans



Many landscapes in the Donala region were designed before cost of water was an issue. They are wall-to wall bluegrass with shrubs, trees and lawns irrigated by sprinkler heads that water everything at the same rate. Landscapes such as these are ideal candidates for xeriscape retrofits, which can reduce maintenance and save hundreds of dollars' worth of water. But where do you start when planning a retrofit? Here's how one Donala family, the Greens, approached the problem.

• **Survey your property.** Look for areas that are difficult to water and maintain, or areas that are never used or seen. These are prime spaces for removing grass and replacing it with low water trees, shrubs or perennials, or patios or walkways that require no water. For instance, on the west side of the Greens's property was a lawn area planted with large trees and shrubs that served as little more than a pathway to the back yard. The quality of the grass was poor because of competition with trees and shrubs for water and nutrients. Spruce and pine needles were always being raked up in an effort to keep the area tidy. So, when the xeriscape retrofit was being devised, the Greens planned on removing the grass and covering formerly grassed areas with an organic mulch that would hide downed conifer needles. They also planned on installing a wide packed gravel path through the area, and converting the sprinkler system in this area to a drip system to water the trees and shrubs.

Another area, behind the garage, was never used or seen. The retrofit plan was to remove grass, connect two nearby lawn areas with a gravel path and install a few low water, low maintenance shrubs to soften the landscape. This scheme met the Green's use and maintenance needs better than grass.

The shrub border on the north side of the garage and the hedge were maintenance problems where the Greens were always battling overgrown shrubs planted in beds too small for the shrub's mature size. The beds were enlarged to accommodate the mature size of the shrubs. No more extreme pruning, and less cleanup to deal with under the shrubs.

• **Limit grass to areas that will actually be used, and choose appropriate grass species.** The Greens decided that it was important to have grass in 3 places: in the front yard for curb appeal, and off the two decks on the south and east sides for play areas. The healthy bluegrass in these areas had been established long ago on well-amended soil, so there was no need to replace it, but the size of the lawn areas was reduced to useable, easily irrigable shapes. Bluegrass, although a high water user, is very resistant to foot traffic and is appropriate for play areas. The sod outside of the areas the Greens wanted to keep was to be removed and used to create a berm (low mound), to serve as both a planting area and visual divider between the sod and the wild borders of the property.

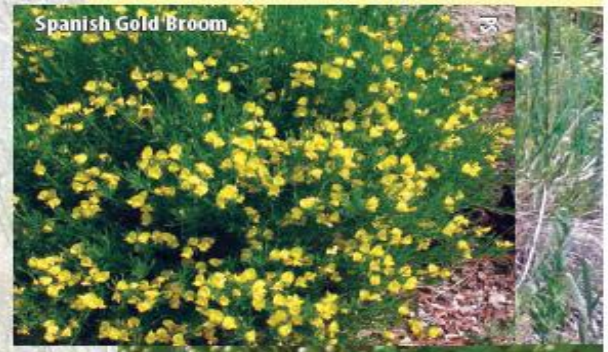
• **Group plants by water use and mulch them.** The southeast and south borders of the Green property overlook a wild and beautiful canyon, and the family wanted a landscape that would blend into the view beyond. The berms created with the removed dead sod are ideal for planting with colorful native and adapted shrubs and perennials that will provide seasonal color as well as a textural transition into the wilderness beyond the lawn. All of the plants on the berm are low water, and will be watered by a drip irrigation zone that was formerly a spray zone for a portion of lawn that was removed. The wild property beyond the berm will be unirrigated, watered only by seasonal precipitation. All planting areas will be mulched, which conserves soil moisture.

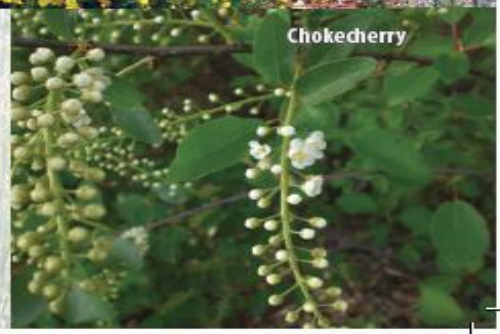
• **Irrigate lawns separately from other plants.** Multi-stream, multi-trajectory (MSMT) spray heads that deliver large drops of water to the grass at a low angle will irrigate the lawn on zones separate from the drip zones that irrigate the trees, shrubs and perennials. The grass will be watered three times a week per the Donala irrigation restriction program, while the trees, shrubs and perennials on a drip system will be watered only every 7-14 days after establishment.

Reduced mowing, fertilizing and shrub trimming, as well as improved views from the back decks and windows with seasonal colors in the berm, are all positive aspects of this xeriscape retrofit. However, the biggest benefit of all is the reduced water use in this landscape: the new landscape uses only one third to one half as much water as the old!


Blue Oat Grass


Ponderosa Pine


Spanish Gold Broom


Chokecherry

Xeriscape Resources

BOOKS

- Xeriscape Plant Guide, Fulcrum Publishing
- The Xeriscape Handbook, Gayle Weinstein, Fulcrum Publishing
- Xeriscape Colorado, the Complete Guide, Connie Lockhart Ellefson & David Winger, Fulcrum Publishing
- The Undaunted Garden, 2nd edition, Lauren Springer Ogden, Fulcrum Publishing
- Durable Plants for the Garden, Fulcrum Publishing
- Native Plants for High-Elevation Western Gardens, 2nd edition, Jan Busco & Nancy Morin, Fulcrum Publishing
- Waterwise Landscaping with Trees, Shrubs and Vines, Jim Knopf, Chamisa Books
- The Xeriscape Flower Gardener, Jim Knopf, Johnson Publishing Company
- Plant Driven Design, Scott Ogden & Lauren Springer Ogden, Timber Press
- Passionate Gardening, Lauren Springer & Rob Proctor

WEBSITES

- Donala Water & Sanitation District, www.donalawater.org
- Colorado State University Cooperative Extension Services fact sheets, www.ext.colostate.edu/pubs/pubs.html
- Colorado Springs Utilities, www.csu.org/residential/water/pages/xeriscape.aspx
- Plant Select, www.plantselect.org

GARDENS TO VISIT

- Donala Gardens, south of the shopping center on Gleneagle Drive
- Colorado Springs Utilities Xeriscape Demonstration Garden at the Conservation and Environmental Center, 2855 Mesa Road, CS, CO
- Cottonwood Creek Park Xeriscape Demonstration Garden, 3920 Dublin Blvd., Colorado Springs, CO
- Denver Botanic Gardens, Denver, CO
- Hudson Gardens, Littleton, CO
- Horticulture Art Society Garden, Monument Valley Park, Colorado Springs, CO

OTHER RESOURCES FOR PROTECTING COLORADO'S WATER SUPPLY

- El Paso County Environmental Information, including waste disposal/recycling, http://adm.elpasoco.com/Environmental%20Division/Pages/default.aspx

Donala W & S District
15850 Holbein Drive
Colorado Springs, CO 80921