Water Smart™

XERISCAPE

Xeriscape is a proven seven step low maintenance landscaping method designed to provide attractive outdoor living spaces using water smart plants, trees and shrubs.

Research plants and the site in relation to sun exposure, water and maintenance demands, geography, wildlife, views and privacy.

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The 7 Principles

1. Design A Plan

Sketch area including existing and proposed walkways, outdoor spaces, structures and planted areas. Group plants trees and shrubs with similar light and water needs on same irrigation zone. Consider how outdoor spaces will be used and their function to indoor spaces.

2 Amend the Soil

Most plants and turf areas require some organic compost; native plants are the exception. Improve soil during site preparation.

3 Select Low Water Use Plants

A variety of native plants, available through local nurseries, are suitable for Xeriscape. They are divided into three categories: very low, low, and moderate water use. Consider the long term water demand, fire resistance, mature size and maintenance needs.

4 Create a Practical Lawn Area

Lawns have a place in water smart landscapes. Options include seasonal native grasses, turf, ground covers and native wildflowers. Consider long term water demand, maintenance needs and cost.

5 Install an Irrigation System

Design an efficient watering system during the planning phase. Permit and install the required backflow prevention device. Hydrozone trees, shrubs and turf areas. Adjust watering systems to account for plant maturity, topography and seasonal precipitation.

6 Mulch Top Dress

Install 2-3" of mulch or rock over a woven fabric weed barrier. Shredded wood chips and garden compost help conserve soil moisture. Decomposed granite and select rock types work best in unplanted areas. Consider pre- and post-emergent to reduce weed growth.

7 Maintain the Landscape

Xeriscape requires seasonal maintenance. A well maintained landscape and efficient irrigation system will ensure outdoor living areas remain healthy and water smart.

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CARD 1 of 12

Water Smart™

Low Water Use Plants

A shopping list of water smart plants. Save water and reduce maintenance by growing native.

TREES

- Western Hackberry
- Desert Willow
- Arizona White Oak
- Emory Oak
- Gambel Oak
- Flame Leaf Sumac
- Chinese Elm
- Alligator Juniper
- One-seed Juniper
- Utah Juniper
- Rocky Mountain Juniper

SHRUBS

- Manzanita
- Sand, Fringed, Pairie
- Big Sagebrush
- Four-wing Saltbush
- Ye l.Bird of Paradise
- Siberian Peashrub
- Deer Brush
- Mountain Mahogany
- Gray Rabbit Brush
- Silverberry
- Mormon Tea
- Turpentine Brush
- Apache Plume
- Wright's Silk Tassel
- Creeping Oregon Grape
- Fremont Barberry
- Cliffrose
- Scrub Live Oak
- California or Hollyleaf Buckthorn
- Buckthorn
- Gro-low, smooth, 3-leaf Sumac
- New Mexico Locust

PERENNIALS

- Golden Columbine
- Flattop Buckwheat
- Gaura
- Blackfoot Daisy
- Sand, Firecracker,
- Palmers, Coral
- Paper Flower
- Mexican Hat
- Desert mallow
- Scarlet Hedgenette
- Angelita Daisy
- Golden Dogbane
- Praire Zinna
- Desert Spoon, Sotol

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ACCENT & SPECIMEN

- Red Yucca
- Mountain Agave
- Artichoke Agave
- Queen Victoria Agave
- Whale's Tongue Hardy Century Plant
- Beargrass
- Banana Yucca
- Soaptree Yucca

GRASSES

Supplemental irrigation required

Cool and Warm Seasons

- Cane Beardgrass
- Western Wheatgrass
- Hairy Grama
- Plains Lovegrass
- Blue Oat Grass
- Wolftail
- Bull Grass
- Deergrass
- Little Bluestem
- Alkali Dropseed
- Sand, Dropseed
- Blue Fescue
- Side-Oats Grama
- Junegrass
- Black Grama
- Mexican Feather
- Blue Grama
- Purple Three Awns
- Autumn Glow Muhly
- Regal Mist Deergrass
- Buffalo Grass
- Hairy Grama Grass

NURSERY FAVORITES

- Butterfly weed
- Blue Flax
- Arizona Walnut
- Chitalpa
- Spirea
- Arizona Ash
- Coneflower
- Cottoneaster
- Chaste Tree
- Gallardia
- Native Locust
- Holly hocks
- Liartis
- Antelope Bush
- Honeysuckle
- Nandina
- Arizona Cypress
- Iris sp. and hybrids
- Redhot Poker
- Golden Currant
- Lilac
- Russian Olive
- Potentilla sp.
- Locust - robe
- Serviceberry
- Upright Manzanita
- Pampas Grass
- Silverberry Bush
- Yarrow
- Potentilla
- Smoketree
- Blue Mist
- Rosemary
- Vinca Minor
- Butterfly Bush
- Russian sage
- Virginia Creeper
- Echinacea
- Autumn Sage
- Woodbine
- Groundsel
- Scabiosa
- Yarrow– red
- Verbena
- Sedum- variety
- Daffodil - narcissus species
- Spanish Broom
- Angelita Daisy
- Daisy var.
- Daylilly - sir Modred red

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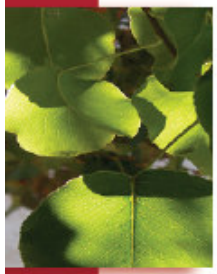
Water Smart™

Trees & Shrubs

Low water use-drought tolerant trees and shrubs are an integral part of water smart landscaping. This shopping list, tailored for the Prescott area, includes xeric and very xeric plants that require little to periodic deep watering after three years. Research plant characteristics and mature size when planning the garden. Select from USDA hardiness zone 7 or less.



TREES

Common Name	Botanical Name
Bigtooth Maple	*Acer grandidentatum*
Western Hackberry	*Celtis reticulata*
Arizona Cypress	*Cupressus arizonica*
Desert Willow	*Chilopsis linearis*
New Mexico Privet	*Forestiera neomexicana*
Velvet Ash	*Fraxinus velutina*
Blue Spruce	*Picea pungens glauca*
Brittlecone Pine	*Pinus aristata*
Arizona Sycamore	*Platanus wrightii*
Aspen	*Populus tremuloides*
chokecherry	*Prunus virginiana*
Arizona White Oak	*Quercus arizonica*
Emory Oak	*Quercus emoryi*
Gambel Oak	*Quercus gambelii*
New Mexico Locust	*Robinia meomexicana*
Flameleaf Sumac	*Rhus lanceolata*
Chinese Elm	*Ulmus parvifolia*
Alligator Juniper	*Juniperus deppeana*
One-seed Juniper	*Juniperus monosperma*
Utah Juniper	*Juniperus osteosperma*
Rocky Mountain Juniper	*Juniperus scopulorum*

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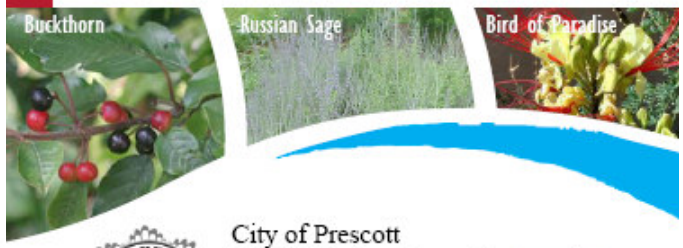
SHRUBS

Common Name	Botanical Name
Manzanita	*Arctostaphylos sp.*
Sand, Fringed, Pairie, Powis Sage	*Artemesia sp.*
Big Sagebrush	*Artemisia tridentata*
Four-wing Saltbush	*Atriplex canescens*
Bird of Paradise	*Caesalpinia gilliesii*
Siberian Peashrub	*Caragana arborescens*
Blue Mist Spirea	*Caryopteris x clandonesi "Dark Knight'*
Deer Brush	*Ceanothus integerrimus*
Mountain Mahogany	*Cercocarpus betuloides or ledifolius*
Gray Rabbit Brush	*Chrysothamnus nauseosus*
Burgundy Desert Willow	*Chilipsis linearis 'Burgundy'*
Spanish Gold Hardy Broom	*Cytisus purgans*
Silverberry	*Elaegnus pungens*
Mormon Tea	*Ephedra nevadensis or viridis*
Turpentine Brush	*Ericameria laricifolia*
Apache Plume	*Fallugia paradoxa*
Wright's Silk Tassel	*Garrya wrightii*
Creeping Oregon Grape	*Mahonia repens*
Fremont Barberry	*Mahonia fremontii*
Cliffrose	*Purshia mexicana (Cowania mexicana)*
Western Sand Cherry	*Prunus besseyi*
Scrub Live Oak	*Quercus turbinella*
California or Hollyleaf Buckthorn	*Rhamnus californica or crocea*
Buckthorn	*Rhamnus crocea*
Gro-low, smooth, 3-leaf Sumac	*Rhus var. - aromatica, glabra, trilobata*
New Mexico Locust	*Robinia neomexicana*
Russian Sage	*Pervoskia sp.*
Orange Globe Mallow	*Sphaeralcea munroana*



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Water Smart™

Accents & Grasses

A water smart landscape is not limited to cacti, succulents, or narrow leafed evergreens. Select plants adapted to the low moisture, arid regions. Accents and grasses are well adapted to low levels of soil moisture.

Numerous plants listed below can be found growing in the Prescott area. Research plant characteristics and mature size when planning the garden.

GRASSES

Cool and Warm Seasons

- Cane Beardgrass Western
- Wheatgrass
- Hairy Grama
- Plains Lovegrass
- Blue Oat Grass
- Mexican Feather
- Wolftail
- Bull Grass
- Deergrass
- Little Bluestem
- Alkali Dropseed
- Sand, Dropseed
- Blue Fescue
- Junegrass
- Black Grama
- Blue Grama
- Purple Three Awns
- Autumn Glow Muhly
- Regal Mist Deergrass
- Buffalo Grass
- Hairy Grama
- Side-Oats Grama Grass

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ACCENT PLANTS

Common Name	Botanical Name
Broom	*Cytisus spp.*
Yarrow	*Achillea spp.*
Nasturtium	*Tropaeolum majus*
California poppy	*Eschscholzia californica*
Blanket flower	*Gailardia spp.*
Desert Spoon, Sotol	*Dasylirion wheeleri*
Gold dust	*Alyssum saxatile*
Moss rose	*Portulaca grandiflora*
Juniper	*Juniperus spp.*
Lavender	*Lavendula spp.*
Sage	*Salvia spp.*
Evening primrose	*Oenothera biennis*
Chamomile	*Chamaemelum nobile*
Soaptree Yucca	*Yucca elata*
Beargrass	*Nolina microcarpa*
Queen Victoria Agave	*Agave reginae*
Century Plant	*Agave ovatifolia*
Artichoke Agave	*Agave parryi v. truncate*
Threeleaf Sumac	*Rhus trilobata*
Golden Currant	*Ribes aureum*
Wax Currant	*Ribes cereum*
European Gooseberry	*Ribes uva-crispa*
Harison Yellow Rose	*Rosa harisonii*
Sea Tomato	*Rosa rugosa*
Wild or Woods Rose	*Rosa woodsii*
Blue Elderberry	*Sambucus cerulea*
Russet Buffaloberry	*Shepherdia canadensis*
Spiraea	*Spiraea spp*
Soaptree Yucca	*Yucca elata*
Snowberry	*Symphoricarpos albus*
Littleleaf Mock Orange	*Philadelphus microphyllus*
Mugho Pine	*Pinus mugo*
Grey Santolina	*Santolina chamaecyparissus*
Red Hot Poker	**Kniphofia uvaria*
Lance-leaf Coreopsis	*Coreopsis lanceolata*
Indian Rice Grass	*Oryzopsis hymenoides*
Stonecrop	**Sedum spp.*
Bearded Iris	*Iris spp.*
California Poppy	*Eschscholzia californica*
Sacred Datura	*Datura meteloides*
Red Yucca	*Hesperaloe parviflora*
Yucca spp.	
Artemisia spp.	
Rosemary spp.	
Thyme spp.	
Crocus spp.	

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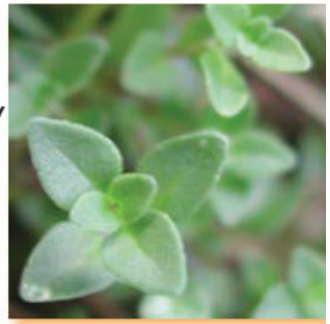
Water Smart™

Perennials and Nursery Favorites



Low water use plants, trees and shrubs are an integral part of any xeriscape. Talk to a nursery professional when purchasing plants to make certain they are appropriate for the specific site. Grow native when possible. Remember to group plants with similar water and sunlight needs on the same watering zones. Water smart plants included in this list are suitable for the Prescott area.

PERENNIALS

- Angelita Daisy
- Blackfoot Daisy
- Canyon Penstemon
- Chocolate Flower
- Coral Penstemon
- Desert Mallow
- Firecracker Penstemon
- Flattop Buckwheat
- Gaura
- Golden Columbine
- Golden Dogbane
- Palmer's Scented Penstemon
- Paper Flower
- Praire Zinna
- Sand Penstemon
- Scarlet Hedge Nettel

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GRASSES

Cool Season	Warm Season
Blue Fescue	Alkali Dropseed
Junegrass	Alkali Sacaton
Mexican Feather Grass	Black Grama
Purple Three-awns and varieties	Blue Grama
Western Wheatgrass	Blue Oat Grass
	Bull Grass
	Cane Beardgrass
	Deer Grass
	Deergrass
	Hairy Grama
	Little Bluestem
	Pampas Grass
	Plains Lovegrass
	Sand Dropseed
	Side-Oats Grama
	Spike Dropseed
	Wolftail

ACCENTS & SPECIMEN

- Artichoke Agave
- Banana Yucca
- Beargrass Blue Yucca
- Desert Spoon, Sotol
- Green Desert Spoon, Sotol Harrimans'
- Yucca Mountain Agave
- Nelson Bear Grass
- Pale leaf Yucca Prickly Pear, Chollas Queen
- Victoria Agave Red
- Yucca Soaptree Yucca
- Thompson's Yucca
- Twisted Leaf Yucca
- Weber Agave Whale's Tongue Century Plant

NURSERY FAVORITES

- Marigold, Desert
- Mexican Hat
- Mexican Sunflower
- Nandina Paperflower
- Penstemon Potentilla
- Prairie Coneflower
- Prairie Zinnia
- Primrose, Mexican
- Purple Prairieclover
- Scabiosa Scarlet
- Bugler Sedum- variety
- Snow in Summer
- Spanish Broom
- Spirea
- Spotter Gayflower
- Thyme
- Toadflax
- Vinca Minor
- Virginia Creeper
- Wild Buckwheat
- Woodbine parthenocissus
- Yarrow - red

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Water Smart™

Planting Tips

Select plants that are suitable for water smart landscapes. They require less maintenance than their high water use counterparts, and add interest and color to the Xeriscape.

Seek advice from an experienced landscape professional or at the nursery where plants are purchased.

1. Select and install an efficient irrigation system.
2. Plant in the fall or early spring.

3. Collect a soil sample for testing at the County Extension Agency, and add amendments, as necessary.
4. Make certain plants with similar light and water needs are placed on the same irrigation zone.

5. Clear all planting areas of weeds. Pre-emergent herbicide can be applied to reduce or eliminate weed growth. Consider installing a layer of woven fabric to reduce weed growth.
6. Trees should be planted first followed by shrubs and ground covers with accents last.
7. Research how big plants will become. Leave enough area between each to allow for mature size.

8. Make certain plants will not grow too close to buildings or interfere with power lines.
9. A planting hole should be as deep as the rootball and three times as wide. Rootballs should be even with the surface when placed in the hole.

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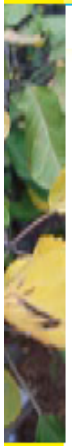
10. Check drainage by watering the hole before the plant is set.
11. If a plant is root bound, loosen the roots and clip those that are growing around the rootball.
12. Water immediately after planting and closely watch for signs of distress for several days.

13. Immediately remove weeds that grow around new plants.
14. Fertilize sparingly. Healthy plants don't need fertilizer. If using fertilizer, apply every two to four years in the early spring. Water immediately.

15. Prune with care to preserve a plant's natural shape. Don't prune for one to two years after planting, but do cut dead and broken limbs.
16. Established plants should be watered less frequently, but deeply. Plants newly set in the early spring or fall should be watered two to three times a week decreasing to once a week by summer.
17. Walk across the lawn. If footprints remain, it's time to water.



18. A plant's leaves will provide clues to its health.
    - A dull or bluish leaf means the plant is stressed for water.
    - Wilting is a result of under or over watering, over fertilization, or incorrectly applied herbicide. Dig to find the cause, and aerate around the root if necessary.
    - Dead leaves can be the product of hot, windy conditions when a plant needed water; dead spots are a sign of sun burning.
    - Brown edges can be caused by poor drainage, excessive salts in the soil, or compacted soil.
    - Older leaves naturally fall from trees, but it can also point to a lack of sunlight or stress after transplant.
    - Yellow leaves signify a lack of nitrogen.

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Water Smart™

Efficient Irrigation

The key to efficient irrigation is to apply only the amount of water a lawn needs. A properly installed and correctly programmed irrigation system will ensure plants, trees, and groundcovers receive adequate water on a regular schedule. Remember to water deeply and less often.

WATER SMART IRRIGATION SYSTEMS INCLUDE

- Plants, trees and shrubs grouped in zones based on their water and sunlight needs.
- An automatic controller allowing each zone to be watered on a schedule that can be adjusted for plant needs and season.
- A backflow prevention device installed per city code.
- Regular checks for clogged emitters, cracked pipes, broken sprinkler heads, and overspray onto walks and drives.

WATERING GUIDE

INCHES OF WATER PER WEEK FOR A HEALTHY LAWN:

1.5"	2"	2.5"	2"	1.5"	1"
MAY	JUNE	JULY	AUG	SEPT	OCT

Determine sprinkler output.
Evaluate the watering schedule monthly.

Measure the sprinkler system output

1. Place four, one pint plastic containers at different places within the spray pattern.
2. Water the lawn for 15 minutes.
3. Pour the four containers of water into one container and measure the depth. This is the sprinkler output for one hour.
4. Adjust the time to allow for correct output.

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GROWING DEEP ROOTED TURFGRASS

- Select a grass that is well suited to the area. Buffalo grass or native groundcovers require little or no additional water.
- Prepare 6" of compost or mulch for lawn area.
- Irrigate at the first sign of moisture stress when grass is a dull, bluish green. Walk across the lawn, if footprints appear, it's time to water.
- Apply water to soak the soil 6 to 8" deep. Water deeply and less often.
- Raise the mower height.
- Install an irrigation system that allows for the even distribution of water.
- Limit fertilizer application.

RAINWATER HARVESTING

Rainwater harvesting is a tool to capture and use water that does not come from the municipal water supply. A harvesting system includes the rainwater, a landscape in need of water, and the method to catch and distribute the water. A simple method involves rainwater falling from the roof into a barrel where it is stored for later use, or into a diversion channel where gravity carries it to the planted area(s).

Resources

Harvesting Rainwater for Landscape Use, Second Edition October 2004 by Patricia H.Waterfall, Extension Agency. University of Arizona Cooperative Extension, is an excellent resource. Call 777-City to request a copy.

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CARD 7 of 12

Water Smart™

Household Conservation

Implement proven conservation practices at home to save water, money and time.

OUTDOOR WATER SAVINGS

1. Water only between 8 p.m. and 8 a.m., April 15th through November 1st.
2. Water only as rapidly as the soil can absorb.
3. Install a water smart drip irrigation system.
4. Check sprinkler heads weekly for clogs or damage; repair or replace immediately.
5. Adjust sprinkler heads that spray onto walkways, driveways, roads or buildings.
6. If watering with a hose, set a kitchen timer or alarm clock.
7. Set irrigation timers monthly.
8. Group plants with similar water needs on the same irrigation zone.
9. Apply for water conservation financial incentives.
10. Avoid planting turf on steep inclines or isolated strips.
11. When adding or replacing a plant, select a water smart variety.
12. Plant seasonal flowers in pots rather than beds.
13. Start a compost pile. Add a layer of organic mulch in planting beds.
14. Water lawn only when needed. Walk across the grass, if footprints appear, it's time to water.
15. Create healthier landscapes by watering plants deeply, but less frequently. If it rains ½," skip a watering cycle.

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OUTDOOR WATER SAVINGS . . .

16. Use a soil probe to determine water depth. If it goes in easily to a depth of 6", don't water.
17. Harvest rainwater.
18. Prevent runoff by using porous materials for walkways and patios.
19. Don't over water plants.
20. Aerate lawn by punching holes 6" apart to allow water to reach roots.
21. Use commercial car washes that recycle water.
22. Change directions each time the lawn is mowed. Adjust the mover to a higher setting; longer grass holds moisture.
23. Sweep, don't wash, walks and driveways.

INDOOR WATER SAVINGS

Detecting a Leak

1. Locate the water meter.
2. Turn off all indoor and outdoor water using devices.
3. Record the water meter reading.
4. Wait 30 minutes; read the meter again
5. If the reading is different, there is a leak.

Repairing a Leak

- Check the toilets first. Put 10-15 drops of food dye in the tank and wait 5 – 10 minutes. If the dye color is in the bowl; there is a leak. The flapper or tank ball is most likely the cause.
- Replace worn out washers in faucets and showerheads
- Make sure all faucets are turned off. A faucet drip can waste up to 5,148 gallons of water per year.
- Check all household appliances, including the hot water heater and evaporative cooler, for leaks at connection points
- Make certain the level in the water pan of evaporative coolers is below the top of the overflow pipe.

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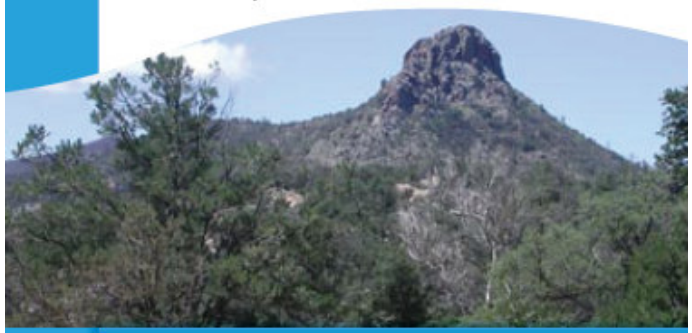
Water Smart™

Citywide Conservation Initiative

The goal of the citywide conservation initiative is to promote water conservation principles and best management practices among all municipal users in the water service area. Emphasis is placed on programs that support reduction of summertime peak usage. Water smart community wide efforts include:



Outdoor Watering Ordinance

Annually, April 15th through November 1st outdoor watering systems to sustain lawn areas using manual or automatic spray methods or other airborne sprinklers shall be permitted only between the hours of 8:00p.m. and 8:00a.m.

Public Education

Distribution of a water conservation message using local news outlets, printed materials, public service announcements, school outreach, community presentations and the city's website. Back of this card.

Structured Water Rates

July 2006 change in water rates to insure an affordable and adequate water supply. Rates increase on a graduated scale based on the quantity of water used; higher consumption means higher rates. Water development impact fees are assessed per development.

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Water Conservation Code 3-10

Water conservation code 3-10 governs the use of water and plumbing fixtures. It includes regulatory standards to conserve and protect the City of Prescott municipal water supply.

Water Conservation Incentives 2006-2007:

Water conservation incentives and are available to municipal users who replace high water use fixtures and landscapes. Applications are available at City Hall, on the web or call 928-777-1130. All applications are subject to city approval and subject to change.

Irrigation - conversion to drip [1]	$150.00
Turf lawn removal	$0.50 /sq.ft.
Water-efficient washers	$100.00
Low-flow toilets (1.6 gpf) [3]	$100.00
Dual flush toilets	$130.00
Low flush urinals (1 gpf) [3]	$100.00
Waterless urinals (0 gpf) [3]	$125.00
Leak repair - indoor /outdoor	$50.00 max
Hot Water - demand systems	$50.00
Showerheads (2.4 gpm) [3]	$10.00

[1] Pays for up to three upgrades: automatic time, backflow preventer and/or drip irrigation system.

[2] Must remove a minimum of 100 sq. ft. of turf and install any type of water smart Xeriscape. Before and after photos are required.

[3] Available to property owners who replace high water use toilets, urinals and shower heads in buildings constructed before 1991. Proof of purchase and disposal required.

Special thanks goes to the Water Conservation Committee. Members contribute time, effort and technical support to water conservation education and policy recommendations.

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Water Smart

Contacts & Resources

LOCAL

Highlands Center for Natural History
928-776-0550 | www.highlandscenter.org

Prescott Active Management Agency
928-778-7202
www.azwater.gov/WaterManagement_2005/Content/AMAS/PrescottAMA

Prescott Public Library
928-777-1500 | www.prescottlib.lib.az.us

Yavapai County Contractor's Association
928-778-0400 | www.ycaa.org

STATE

Arizona Department of Water Resources
1-800-352-8488 | www.azwater.gov

AZ Native Plant Society Prescott Chapter
Email: prescott@azpns.org | www.aznps.org

AZ Municipal Water Users Association
www.amwua.org

The Arboretum at Flagstaff
www.thearb.org

The Irrigation Association
www.irrigation.org

Northern Arizona Irrigation Management
http://ag.arizona.edu/azmet

Arizona Dept of Environmental Quality
www.adeq.gov

U of A
Yavapai County Cooperative Extension
http://ag.arizona.edu/yavapai/anr/hort
http://ag.arizona.edu/gardening/plant-water.html

Water Resources Research Center
http://ag.arizona.edu/AZWATER/main.html

www.cityofprescott.net

NATIONAL

American Public Gardens Association
www.aabga.org

Colorado WaterWise Council
www.xeriscape.org

Denver Water
www.denverwater.org

Laundrywise-Common Area Multi-Family
www.laundrywise.com/calculator.html

Online Rainwater Harvesting Community
www.harvesth20.com

US Department of Agriculture
Natural Resource Conservation Service
www.nrcs.usda.gov/feature/backyard
plants.usda.gov/gallery.html

US Environmental Protection Agency
www.epa.gov

US Geological Survey
www.usgs.gov

Water Casa
www.watercasa.com

PUBLICATIONS

Aesthetic, Functional and Environmentally Sound Design Principles to Create a Sustainable Landscape
http://elkhorn.unl.edu/epublic/live/g1405/build

A Landscaper's Guide to Mulch by the Alameda County Waste Management Authority and the Alameda County Source Reduction and Recyccling Board
www.stopwaste.org/docs/mulchguid2.pdf

Rainwater Harvesting For Landscape Use by Patricia H.Waterfall Extension Agen, University of Arizona Cooperative Extension/Low 4 Program, Second Edition 2004 Available from the Tucson Active Management Agency, 520-770-3800

Xeriscape: Landscaping with Style in the Arizona Desert by the Arizona Department of Water Resources. Call 777-CITY to request a copy

City of Prescott
Public Works - Water Conservation
433 N. Virginia, P.O. Box 2059
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928-777-1130
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Water Smart™

Appliances & Fixtures

Installing water smart appliances and fixtures will save water and reduce monthly utility bills. The City of Prescott Conservation Incentive program provides utility bill credits for purchase and installation of approved low water use appliances and fixtures. Detailed information is available on the website at www.cityofprescott.net. Click on water conservation .

The Consortium for Energy Efficiency, www.cee1.org, includes a wealth of information on energy efficiency.

APPLIANCES

WASHING MACHINES

Washing machines that spin on a horizontal axis reduce water used per load of laundry by 20 to 50% resulting in an annual household savings of about 7,000 gallons. These water smart machines also require less detergent and consume 50 to 60% less energy.

DISHWASHERS

A standard dishwasher consumes 9 to 12 gallons of water per cycle, and hand washing 20 gallons per sink load. Water smart dishwashers use between 6 and 10 gallons per cycle and require little or no pre-rinsing.

TANKLESS OR ON-DEMAND WATER HEATERS

Point of demand hot water circulators eliminate the need to let water run while waiting for hot water to reach the tap. They can reduce energy costs by 10 to 20% over traditional tank models.

www.cityofprescott.net

FIXTURES

TOILETS

Toilets are the biggest indoor water users accounting for more than 30% of household consumption. Replacing an inefficient toilet with a low-flow model will save thousands of gallons of water per year.

Replace a...	Save
1970s toilet →	5.4 gallons per flush
1980s toilet →	3.4 gallons per flush
1990s toilet →	1.9 gallons per flush

SHOWERHEADS

Showerheads are inexpensive to replace and easy to install. Switching to a high-performance showerhead with an output of no more than 2.5 gallons per minute can reduce water use by up to 75%.

Check existing showerhead output by turning on the shower to full force and measure the amount of water collected in a container for 10 seconds. Multiply that number by 6 to get the gallons per minute.

FAUCETS

Adding aerators (small circular screens) to the tips of faucets will save 1 to 2 gallons of water per minute. After installation of an aerator, water flow should be less than 2.5 gallons per minute for the kitchen and 0.75 to 1.5 gallons per minute for the bathroom. To determine the gallons per minute used by a faucet, turn it on and measure the amount of water collected in a container after 10 seconds. Multiply that number times 6 to get the gallons per minute.

LEAKS!

Faucet leaks are a large source of water loss, and most are caused by worn out washers. Repairing a leaky faucet can save hundreds to thousands of gallons of water a year.

Drips/min.	Gallons lost/month	Gallons lost /year
10	43	526
30	130	1,577
60	259	3,153
120	518	6,307
300	1,296	15,768

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Water Smart™

Winterizing Irrigation Systems

Irrigation systems should be winterized each year before the first freeze to avoid damage. Once winterized, the system will be turned off and restarted in spring. Homeowners unsure of how to drain their system should call a licensed plumber or irrigation contractor.

THE BASICS

Winterizing an irrigation system is simple and water smart.

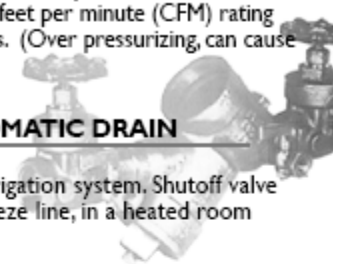
1. Turn off water to the irrigation system at the main valve.
2. Insulate and freeze proof the backflow prevention device and valves.
3. Set the automatic irrigation controller to the "rain" setting.
4. Turn on each valve to release pressure in the pipes.
5. Drain all water from irrigation components that might freeze.
6. For more information, go to water conservation on the city website at www.cityofprescott.net. Also check the irrigation system user manual or go to www.irrigationtutorials.com/winter.htm#spring.

www.cityofprescott.net

WATER REMOVAL METHODS

AIR "BLOW OUT"

This method should be conducted by a licensed contractor. It requires an air compressor with a PSI of 50 – 80 and a125-185 cubic feet per minute (CFM) rating for mainlines of 2" or less. (Over pressurizing, can cause permanent damage.)



MANUAL & AUTOMATIC DRAIN

1. Turn off water to the irrigation system. Shutoff valve should be below the freeze line, in a heated room or insulated.
2. Switch the timer on automatic systems to rain mode.
3. It may not be necessary to drain underground pipes if they are below the freeze line. Insulate all above ground piping. Use self-sticking foam insulation tape or foam-insulating tubes.
4. Drain above ground, gear-driven rotor sprinklers.
5. Insulate backflow prevention device and valves or remove and store during winter. If insulating, wrap the device and valves with R-11 fiberglass insulation; cover with a plastic garbage bag and loosely close with duct tape to allow air passage. Insulation blankets can also be purchased at sprinkler supply stores.

SPRING RESTART

Restart is as important as winterization. Flush water lines by opening ends of drip tubes. Remove sprinkler nozzles from the last head of each pipe and turn on the water. The biggest mistake made when flushing a system is not allowing water to run long enough.

1. Don't allow standing water to drain back into pipes.
2. After flushing, check the system by running each zone. Look for leaking valves, clogged emitters and nozzles.
3. If the system uses a backup battery not on an automatic recharge, replace it with an alkaline type.
4. Program each zone for correct run times. Reset timer monthly to avoid over watering.
5. Fertilize plants and lawn areas, if needed. Apply sparingly.

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