

Toward The Desert Raingarden

By Scott Calhoun

www.zonagardens.com

Gardens designed to survive without regular irrigation are known across much of the country as raingardens. By design, the raingarden is the most water thrifty type of landscape you can install. In the Southwest, a raingarden is usually comprised of a higher percentage of cactus and succulents, but may also require plants that can withstand periodic flooding. Because these plants won't have an IV of supplemental watering, a desert raingarden will have more pronounced periods of vibrancy and dormancy (growth and drought), depending on the season and available moisture.

The table below illustrates the yearly rainfall in gallons that you can expect to receive on a 7000 sq. ft. lot in various desert cities. This number is good to keep in the back of your mind as a baseline goal for the annual water budget of your landscape.

City	Annual Normal Precipitation (inches)	Yearly Gallons of Rainwater From a 7000 sq. ft. Lot
Albuquerque	8.88	38,746
El Paso	9.43	41,146
Las Vegas	4.13	18,021
Palm Springs	5.47	23,867
Phoenix	7.66	33,423
Tucson	12.00	52,360
Yuma	3.17	13,832

Raingarden Design Tips

- Create a conceptual plan of your yard showing existing structures, plants, and circulation patterns around the property. Depict high and low points, noting where water collects and runs off. Capture rainwater that runs off of hard surfaces (roofs, patios, pathways) in basins and with berms. Consider installing a tank with an overflow directed into a basin or series of basins.
- Consider Aesthetics. Although digging many small deep basins may be effective, you may not want to create an Indian burial mound look. Instead consider bordering and retaining basins with an elegant raised pathways and gentle organic depressions. Basins should contribute to the overall beauty of the garden *as well as save water*. Think about what shapes and depths look natural.
- Direct runoff from all non-irrigated garden spaces (gravel areas, patios, pathways, ramadas) toward shallow basins with plants in and around them.

what's so funny w/ 2-year interval?
Zinnia grandiflora - likes being a bank amongst rocks
North America Rock Gardening Society

responde
desert spm
Su

- Locate basins as least 10 feet from foundations, 20 feet if you have a basement.
- Plant trees on the perimeter of basins, or in domes within basins rather than in basin bottoms.
- Make sure to plan for overflow during extreme storm events
- Make a plant list restricting yourself to the very most xeric native plants that grow in your region for the high spots in the landscape.
- If you are using tanks, locate them so the water can easily be directed to planted areas.

Raingarden Plant Selection and Considerations

It is impossible to build a desert appropriate, low water use raingarden with high-water use plants. Below are some suggestions for raingardens:

- Start with small plants that will take less water to establish.
- Plant in the fall or winter months for easier establishment.
- Don't assume that all of the plants for sale in local nurseries are suitable for our climate and especially for raingardens.
- Although the majority of the plants you will use will be xeric, if you are using planting basins, the trees and shrubs located at the bottoms of these basins must be able to withstand periodic flooding and drought. (See "Bottom of the Basin" list) For other tree species, plant beside basins or using domes.
- Remember that native trees will grow slower and mature at smaller sizes in raingardens.
- Be prepared for some plants to go through seasonal drought dormancy.
- Consider temporary or permanent supplemental drip systems.

Components of Basins

Berms: Sloped areas around the edge of a basin designed to hold back water until it percolates down into the soil.

Bottoms: The lowest part of the basin where the water is held for the longest period (should not stand for more than 24 hours) and the soil is the most waterlogged after storm events.

Domes: A mounded area within the bottom that reduces the amount of water logging that plants get. It is wetter than a berm, but is a better area to plant trees than at the bottom as domes keep the crown of the tree above the water level.

Raingarden Plant Lists

The abbreviated lists below were compiled by Russ Buhrow, Curator of Plants at Tohono Chul Park, and amended from my experience in raingardens that I designed. The lists are limited to plants that have preformed excellently in raingardens:

Bottom of the Basin Plants

Common Name	Botanical Name	Plant Type	Russ Buhrow and Scott Calhoun's Comments
Apache Plume	<i>Fallugia paradoxa</i>	Shrub	white flowers and pink plumed seeds
Arizona Wild Cotton	<i>Gossypium thurberi</i>	Shrub	Attracts cardinals, and has red late –summer, early-fall color
Boot Hill"	<i>Eupatorium greggii</i>	Perennial	attracts clouds of butterflies, summer only
Clover Fern	<i>Marsilea macropoda</i>	Ground Cover	Clover like foliage, will go drought dormant, takes shade
Deer Grass	<i>Muhlenbergia rigens</i>	Grass	Stalwart ornamental grass with graceful seed spikes
Desert Pipevine	<i>Aristolochia watsonii</i>	Vine	food for pipevine swallowtail butterfly
Desert Willow	<i>Chilopsis linearis</i>	Tree	flowers visited by hummingbirds and native bees
Devil's River	<i>Zexmenia hispida</i>	Perennial	easy, tough plant
Flattop Buckwheat	<i>Eriogonum fasciculatum</i>	Perennial	dense blue-green bush w/ pink fl, deer food
Giant Morning Glory	<i>Ipomoea longifolia</i>	Perennial	summer root perennial with 4" trumpet flowers
Goodding's Verbena	<i>Verbena gooddingii</i>	Perennial	great winter-spring bloomer w/ lilac flowers
Hummingbird Trumpet	<i>Zauschneria californica</i>	Perennial	magnificent hummingbird plant
Kidneywood	<i>Eysenhardtia orthocarpa</i>	Small Tree	great butterfly patio tree
Limber bush	<i>Jatropha cardiophylla</i>	Shrub	tropical looking during the monsoon
Sacred Datura	<i>Datura metaloides</i>	Perennial	huge white flowers that inspired Georgia O'Keefe
Shrubby Senna	<i>Senna wislizenii</i>	Shrub	larval food for sulfur butterflies
Trumpet Bush	<i>Tecoma stans</i>	Shrub	freezes to ground in cold winters, resprouts
Velvet Mesquite	<i>Prosopis velutina</i>	Tree	tough native tree, beautiful wood, BBQ, food
Wright's Bee Bush	<i>Aloysia wrightii</i>	Shrub	attracts small butterflies and goldfinches
Yerba Mansa	<i>Anemopsis californica</i>	Perennial	Native to alkaline seeps, zinc oxide white flowers, takes shade

Beside the Basin: Plants for Berms

Common Name	Botanical Name	Plant Type	Russ Buhrow and Scott Calhoun's Comments
Baja Fairy Duster	<i>Calliandra californica</i>	Shrub	hummingbird and butterfly plant
Bee Bush	<i>Aloysia gratissima</i>	Shrub	attracts small butterflies and goldfinches
Chiltepine	<i>Capsicum annuum</i>	Shrub	native hot pepper, good for birds
Desert Agave	<i>Agave deserti</i>	Succulent	Good residential scale, 1-3' at maturity
Desert Hackberry	<i>Celtis pallida</i>	Tree	great quail bush
Desert Honeysuckle	<i>Anisacanthus thurberi</i>	Shrub	hummingbird plant
Desert Ironwood	<i>Olneya tesota</i>	Tree	The premier native shade tree for the Sonoran Desert
Desert Lavender	<i>Hyptis emoryi</i>	Shrub	hummingbird shrub, frost damage in cold years
Desert Milkweed	<i>Asclepias subulata</i>	Perennial	great butterfly plant, but aphids like this plant
Desert Rose Mallow	<i>Hibiscus coulteri</i>	Summer Annual	yellow/red flowers in warm season, rabbit food
Golden Dogweed	<i>Thymophylla pentachaeta</i>	Groundcover	blooms a lot, weedy, easily controlled
Globemallow	<i>Sphaeralcea ambigua</i>	Perennial Wildflower	available in many colors
Indian Mallow	<i>Abutilon palmeri</i>	Perennial	survives extreme drought once established
Native Fairy Duster	<i>Calliandra eriophylla</i>	Shrub	hummingbird and butterfly plant
Ocotillo	<i>Fouquieria splendens</i>	Stem-succulent	hummingbird plant
Prairie Zinnia	<i>Zinnia grandiflora</i>	Groundcover	wonderful ever blooming groundcover
Soaptree Yucca	<i>Yucca elata</i>	Succulent	native yucca
Southwest Coral Bean	<i>Erythrina flabelliformis</i>	Shrub	hummingbird plant
Sundrops	<i>Calylophus hartwegii</i>	Perennial	lots of color throughout the warm season
Trixis	<i>Trixis californica</i>	Perennial	covered with yellow flower heads in spring