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Maricopa County Master Gardeners: Cultivating Plants, People & Communities since 1980 Master Gardener volunteers are trained by University of Arizona faculty and staff during a 17-week course. They provide educational leadership to the community with research-based horticulture knowledge. Volunteers promote efficient use of water, fertilizers, and pesticides, and preservation of our desert environment.

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Northwest Valley Satellite location: Property Owners & Residents Association (PORA) Office 13815 Camino del Sol Blvd., Sun City West, AZ 85375. Phone 623-546-1672. Hours: 9 a.m.-1 pm Monday-Friday.
East Valley Satellite location: East Mesa Multigenerational Center 7550 E. Adobe Rd., Mesa, AZ 85207. Phone 480-985-0338. Hours: 9 a.m.-noon, Mondays and Thursdays.
Northeast Valley Satellite location: Via Linda Senior Center 10440 E. Via Linda, Scottsdale, AZ 85258. Phone 480-312-5810. Hours: 9 a.m.-4 pm, Tuesdays and Thursdays.

Urban Horticulture Staff:
Lucy K. Bradley, Extension Agent, 602-470-8086 Ext.323, lbradley@cals.arizona.edu; Jo Cook, Program Coordinator, 602-470-8086 Ext. 311, jocook@cals.arizona.edu

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Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, at all events sponsored by the University of Arizona. Call 602/470-8086. Requests should be made as early as possible to allow time to arrange the accommodation.

Cover Photos: (clockwise from top left) Aloe, Carol Stuttard; Agave, Carol Stuttard; Echinopsis candicans, Bob Reichard; Backyard landscape design, Kathleen Moore.
March 2005

3/5 Rainwater Harvesting
6:00 pm - 8:30 pm
Learn the basic principles of how to utilize rainwater in the landscape. City of Scottsdale landscape workshop, free to Scottsdale water customers. www.scottsdaleaz.gov/water Call (480) 941-1225 Advance registration required.

3/7 Understanding Soil and Its Importance to Plant Health
9:00 am – 12:00 pm Desert Botanical Gardens
Baffled by the wide selection when you go to the store to choose a fertilizer? Wonder what’s the best way to water your plants? In this workshop with Lucy Bradley, University of Arizona Cooperative Extension Urban Horticulture Agent, learn to identify the type of soil in your yard and what soil amendments improve the health of your plants. Learn more about fertilizers to help you make choices between organic and synthetic, slow release, and deep feeding. Included in the price of the course is a copy of the book, “Desert Gardening for Beginners”. (480) 941-1225 www.dbg.org Member: $36 / Non-Member: $45 Limit 30.

3/10 Pruning Trees and Shrubs
6:00 pm - 8:30 pm
Learn when to prune trees and shrubs with confidence. City of Scottsdale landscape workshop free to Scottsdale water customers. www.scottsdaleaz.gov/water Call (480) 312-5690. Advance registration required.

Daily beginning 3/1 (Except Easter Sunday 3/27) Garden Walk 8:00 am – 8:00 pm. Desert Botanical Walk through the Garden at your own pace and visit docents on the trails and designated “Sensation Stations” (480) 941-1225 www.dbg.org.

3/5, 3/12, 3/19, 3/26 Desert Botanical Garden 1:00 pm & 3:00 pm. Join docent “Cactus Jack” and walk “back through time” when desert dwellers had to live off the land utilizing native plants for food, tools, and building materials. The tour concludes with sampling some of the desert’s delectable foods. (480) 941-1225 www.dbg.org.

3/1 Pruning Workshop 1:00 pm-4:00 pm. Desert Garden Institute. Learn how to properly prune your trees and shrubs to keep them healthy and happy. Instructor: Danny Schnell. Registration required. Cost $20. 4341 E. Broadway Rd., Phoenix, AZ. Contact: Ainsley LaCour – dmauldin@cals.arizona.edu or (602) 470-8086.

3/5 Introduction to Xeriscape
9:00 am – 12:00 pm. Instructor: Kent Newland City of Phoenix Landscape Workshop in partnership with the Desert Botanical Gardens (480) 941-1225 www.dbg.org Refreshments and door prizes. Workshop -#SP05-12, $10.
Calendar of Events  
Continued from previous page.

3/10  **Drip Irrigation and Yard Watering**  6:30 pm – 9:00 pm  
Learn the basics of designing, installing and maintaining a drip or sprinkler system that will be water efficient. Will cover how much, how often and how long to water.  
Southeast Regional Library, Gilbert, AZ  
Contact: lisahem@ci.gilbert.az.us or (480) 503-6098  
www.ci.gilbert.az.us/water

3/12  **Real Gardens for Real People Garden Tour**  
9:00 am – 4:00 pm  
The Master Gardener  
“Real Gardens for Real People”  
4th annual tour will be in the  
Glendale/Peoria area. Five exciting and interesting gardens, including a  
desert campus built with a  
Heritage Fund Grant, a  
hummingbird and butterfly garden,  
an organic pond with two  
waterfalls, and a desert tortoise  
habitat. $15 per person registration required. Contact Master  
Gardeners at  
pratty@mindspring.com or  
(602) 470-1556  
www.MasterGardenerEvents.com

3/12, 3/13  **Tucson Botanical Gardens Spring Plant Sale**  
9:00 am - 4:00 pm  
Native and low water use plants for desert landscapes, featuring  
annuals, perennials, cacti,  
succulents and herbs. Docents will be available to answer landscaping questions. Admission to the plant sale is free.  
www.tucsonbotanical.org

3/12-3/27  **Spring Plant Sale Boyce Thompson Arboretum**  
8:00 am – 4:00 pm daily,  
The spring sale provides  
Arboretum visitors with the  
opportunity to see mature species of plants throughout the grounds,  
to meet representatives of the Pinal and Gila Master Gardener programs and learn desert landscaping tips appropriate to this region. Horticulturists on hand to answer questions on weekends.

3/15  **Rejuvenate Your Landscape**  
6:00 pm - 8:30 pm  
Use refreshing design ideas and tips from landscape architect Judy  
Mielke to update the mature landscape. City of Scottsdale  
landscape workshop, free to  
Scottsdale water customers.  
Water Operation Building,  
9312 N. 94th Street.  
www.scottsdaleaz.gov/water  
Call (480) 312-Advance registration required.

3/19  7:00 am – 5:00 pm  
3/20  9:00 am – 5:00 pm  
**Desert Botanical Gardens Spring Plant Sale**  
Open to the Public  
No admission to enter. Garden volunteers, horticulturists, and  
professional landscape designers are all on hand to answer questions,  
assist in plant selections, and offer advice. There is also a used book  
sale. Specialty retailers offer pottery and other delightful garden  
accessories.  
www.dbg.org (480) 941-1225.

3/26  **Container Gardening for Spring**  
Desert Garden Institute  
9:00 am - 12:00 pm. You can get big results in small spaces. Learn the  
tricks of soil preparation, plant selection and maintenance to enjoy  
beautiful year round color.  
Instructor: Master Gardener Cherie Czaplicki. 4341 E. Broadway Road, 
Phoenix, AZ  Cost $20 Registration required. Contact: Ainsley LaCour  
at dmauldin@cals.arizona.edu or  
(602) 470-8086.

3/26  **10th Annual Valley of the Sun Gardeners’ Garden Tour**  
8:00 am – 4:00 pm  
Several private homeowner gardens will be open to the public  
Cost $10 Tickets can be purchased at Baker Nursery, Tera’s Garden,  
Southwest Gardener and all gardens on the tour. Listing at:  
www.phoenixgardeners.org  
l salvati@finova.com or  
(623) 636-6515.
April 2005

4/2, 4/9, 4/16, 4/23, 4/30 Desert Botanical Garden 1:00 pm & 3:00 pm. Join docent “Cactus Jack” and walk “back through time” when desert dwellers had to live off the land utilizing native plants for food, tools, and building materials. The tour concludes with sampling some of the desert’s delectable foods. (480) 941-1225 www.dbg.org

4/9 Herb Festival 11:00 am - 3:00 pm Boyce Thompson Arboretum The fragrant and charming Wing Memorial Herb Garden is the setting for this festival. With live music and live culinary demonstrations of herbal cuisine, this event also includes children’s games and crafts, and exhibits by local herbalists - fun for the whole family! There will also be a variety of herbs for sale. (520) 689-2723.

4/14 A Little Rose Show 7:30 pm Mesa-East Valley Rose Society Mesa Community College A panel of expert rosarians will help experienced and new growers alike. They will discuss and demonstrate the preparation and handling of their roses for display and competition. Hands-on help will be given to those who wish to bring some of their own blooms or extras that will be provided, followed by “judging” by ARS Accredited Judges, with awards and ribbons! Please RSVP to Donna Dibble at (480) 380-4592.

4/16 Living a ‘Green’ Lifestyle 9:00 am - 12:00 Desert Botanical Gardens Ron Dinchak leads this workshop in celebration of Earth Day. Learn many ways to incorporate green into your everyday life. This informative presentation will get you started on a conservation and environmental pathway, and includes a tour of the conservation features found in the Garden’s energy- and water-efficient building, Desert House. (480) 941-1225 www.dbg.org

4/16 A Bug’s Life – Integrated Pest Management 9:00 am - 12:00 pm. Desert Garden Institute Instructor: Master Gardener Kelly Young. Learn the methods of IPM to diagnose pest problems, recognize insect damage, and find out which natural enemies are busy at work to keep your yard looking great. 4341 E. Broadway Rd., Phoenix, AZ Cost: $20 Registration required. Contact: Ainsley LaCour at dmauldin@cals.arizona.edu or (602) 470-8086.

4/17 Arizona 101 10:30 am - 2:30 pm Boyce Thompson Arboretum Learn how to choose ideal plants for a beautiful desert landscape, to install your own water-saving irrigation yourself...even how to calmly deal with the occasional scorpion or western diamondback rattler you might encounter while turning over rocks in your yard. Cost is $10 and registration is limited to 50 people. Pre-register by sending an email to fernando@ag.arizona.edu or call Vicki at the Arboretum business office at (520) 689-2723.
4/22 - 4/24 Central Arizona Cactus and Succulent Society Annual Show and Sale 9:00 am – 4:00 pm
Cacti, agaves and succulents. Question and answer and growing tips. Plant and container vendors. More unusual varieties of plants than any other annual sales event in the Valley of the Sun.
Free with garden admission. Desert Botanical Garden, 1201 N. Galvin Parkway, Phoenix, AZ Contact: iswenson@cox.net or www.centralarizonacactus.org

4/23 Propagating and Cultivating Herbs 8:00 am -12:00 pm Desert Botanical Gardens Garden
horticulturist Kirti Mathura teaches the basic techniques to start your own herb plants and care for them over time. A diverse array of herbs grows well in the desert and can be planted in your herb garden, landscape, or containers.
(480) 941-1225 www.dbg.org
Workshop- #SP05-533 Member: $36 / Non-Member: $45 Limit 20

4/23 Pruning Desert Trees and Shrubs 9:00 am – 12:00 pm City of Phoenix Landscape Workshop in partnership with the Desert Botanical Gardens (480) 941-1225
www.dbg.org Refreshments and door prizes.
Instructor: Kent Newland Workshop- #SP05-18 , $10.

4/24 Introduction to Landscape Design 6:00 - 9:00 pm. Desert Botanical Garden From creating a conceptual plan to developing a planting plan, you will learn the steps in designing your own landscape in this workshop by Carrie Nimmer, landscape designer. Looking at photos and slides of real projects, learn how to develop a successful landscape plan while taking into consideration growing conditions and features of your area. (480) 941-1225 www.dbg.org
Workshop- #SP05-534 Member: $36 / Non-Member: $45. Limit 30.

Cactus & Succulent Sale
The Central Arizona Cactus & Succulent Society will present our 31st Annual Cactus and Succulent Show and Sale on Friday April 22nd, Saturday April 23rd, and Sunday April 24th 2005 at the Desert Botanical Garden, Phoenix, Arizona.

You may be familiar with the common landscape cacti, agaves, and succulents, but did you know there are thousands of species, varieties, and hybrids? Come and see the wonderful specimens grown by collectors and backyard hobbyists. Experts in the field judge the show and awards are presented according to novice, advanced, or master status. This year there will also be a non-judged section for society members to bring in their favorite plants without the worry of competition.

Society members will be on hand throughout the day to answer questions and give growing tips. There will also be many plant and container pot vendors selling their fabulous merchandise to help you start or add to your own collection. This April sale has more unusual varieties of plants from all over the world than any other annual sales event in the Valley of the Sun.

Free with Garden Admission.
General Garden Admission:
$9.00 for adults,
$8.00 for seniors,
$5.00 for students,
$4.00 per child,
children under 3, no charge

For additional information visit www.centralarizonacactus.org
**HERB TIPS FOR SPRING IN THE VALLEY OF THE SUN**

*By Mike Hills, Master Gardener*

1) Has frosty winter nipped your herb garden? It’s usually safe to prune winter damage from your herb plants anytime after mid-March. If you haven’t yet taken care of this garden chore, now is the perfect time! Carefully inspect your Basil, Lemongrass, Peppers, Mexican Tarragon and other frost-sensitive plants, looking for new growth emerging on the lower half of the plant. Use clean, sharp shears to cut the plant back by 1/3 to 1/2 or more, down to healthy new side shoots. Topdress the plants with new compost and water well for a fresh start.

2) Small white balls of frothy foam may show up on the new growth of some of your herbs in spring, especially on Rosemary, Sage and other woody perennial herb plants. These 1/4 - 1/2 inch "balls" are the protective hiding place for the nymph of a relatively harmless insect called a "spittlebug" (*Philaenus* sp.) which feeds on the plant’s sap and uses the foam to hide itself from predators. Spittlebugs are easily rinsed off your plants with your garden hose.

3) Often in spring, we find a Dill or Fennel plant in our garden loaded with aphids and their sticky mess. Aphids usually occur in numbers that are not very harmful to healthy plants. Merely rinse them off with your garden hose and wash your picked herbs well before cooking with them. Insecticides are not generally recommended for use on herbs, since they are used for cooking. A weaker plant may become heavily infested. Either pull and discard the plant, or leave it in your garden as a source of food (aphids) to attract ladybird beetles and other beneficial insects.

See the University of Arizona, Maricopa County Extension website cals.arizona.edu/maricopa/garden/ for information on common garden insects. Extension publication MC16 titled, “How to Encourage Natural Enemies of Insect Pests” is available by mail. Send your request and $1 to Home Horticulture Publications, University of Arizona Cooperative Extension, 4341 E. Broadway Road, Phoenix, AZ 85040.

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Spittlebug (*Philaenus* sp.)

Photo by. Charles Webber © California Academy of Sciences
QUESTION: What is an elephant tree and where did its name come from?

Elephant tree is a common name given to three members of the genus *Bursera*, small, shrubby trees native to washes and slopes in northwestern Mexico, Baja and Southern Arizona. They are related to Asian varieties whose sap is harvested for legendary frankincense and myrrh. *B. microphylla*, and *B. fagaroides* are noted for their twisted gnarly form, and their white peeling bark. *B. hindsiana* has smooth red bark that doesn't peel. The name, Elephant Tree, is a reference to their caudiciform (swollen) succulent trunks. Popular with bonsai enthusiasts, they also make unique patio specimens in pots or in the ground eventually reaching about twelve feet. Frost sensitive in the mid-20s, they need a protected location here in Phoenix.

The species are protected in the wild but they grow rather easily from seeds and can be propagated from cuttings. Small plants are available from specialty nurseries and sometimes from botanical garden sales.

My own experience with *Bursera* began about four years ago when I bought a three-inch *B. fagaroides* at a sale from an institution which shall remain nameless. I was told that its growth habit was slow but this one quickly outgrew its pot. I put it into the ground in my patio area and now it is approaching seven feet. However, during a recent trip to the zoo, our guide pointed out a *B. fagaroides*. Its shaggy white bark and leaf pattern looked nothing like mine. I did some research to find out what I really had and discovered that it was the lesser-known *B. hindsiana*. What a happy accident it has turned out to be. The maroon-colored trunk is so handsome and the crushed leaves give off a delicate, aromatic fragrance. There is an added bonus—it is not the least bit messy. I would certainly recommend it along with its better-known cousins to anyone looking for a unique addition to their landscape.

Photo by Judy Curtis
Using Perennials in the Landscape

by Sandra Turico, Master Gardener

Ask different gardeners for a definition of the term “perennial” and you may receive various answers. Botanically speaking, a perennial is a plant that has a lifespan of more than two years. By this definition, trees, shrubs, groundcovers, vines and even succulents are perennials. To the everyday gardener, however, the more popular description of a perennial is a small to medium-sized herbaceous or semi-woody plant which lives year after year and displays a colorful bloom.

Traditionally, perennials were planted in beds and borders. Charming English-style “cottage gardens” flourished with an abundance of these plants. While perennials are still used in this manner, gardeners today take advantage of these versatile plants in many other ways. Perennials intermingled with trees, shrubs or annuals, as well as those showcased in rock gardens, dry stream beds, containers and raised beds can contribute to an amazing landscape.

Here in our desert environment, where we are dealing with an ongoing drought and water conservation is essential, perennials can play an important role. Many of these adaptable plants use a minimum of water, especially native perennials.

When incorporating perennials into the landscape, think about what you want to accomplish. Do you need to fill in gaps between larger plant specimens? Is there a water feature or entertainment area in your landscape that is in need of some color and personality? Would you like to attract some fascinating wildlife into the garden? Why not treat yourself to a tranquil spot for relaxing or meditating? Whatever your goal, there are certain factors to take into account as you design your perennial garden.

- Check out the amount of sunlight the planting area receives. Monitor the light patterns as the day progresses and remember that these patterns will also change as the seasons change. As with any other type of plant, some perennials will do best in full sunlight (although most will benefit from some afternoon shade), some will accept part sun or filtered sunlight, but few will thrive in full shade.

- Study the microclimates in your yard. Other plantings, as well as hardscape features can significantly affect temperatures in various parts of your landscape.

- Make sure the planting area drains well. If uncertain, test for good drainage. Dig a hole about a foot deep, fill it with water and let it drain. Fill it with water again and observe how long it takes to drain. If it hasn’t emptied within about twelve hours, be sure to correct the problem before proceeding.

- Take the time to test your soil. Unlike annuals, perennials will grow in the landscape for a number of years. Using a soil test will ensure that your plants will have sufficient nutrients to flourish.

Choose your perennials with care. The mature size of the plants, as well as flower and foliage colors, form, texture, fragrance and bloom time will make considerable difference in the final design and character of your landscape.

Select plants that, when mature, will fit into the space available. A large specimen in a small space will require endless pruning. On the other hand, place a small plant in too large an area and it will lose its impact. Set too closely, your perennials will compete with each other for water and nutrients resulting in a muddle of unhealthy plants. Place them too far apart and your design will look spotty and not show well. Repeat varieties of perennials in your design.
Color can calm and color can stimulate. Use appropriate colors to set the mood. Cool blues and purples will radiate calm. Tranquil pastels and white blossoms will sparkle in dim light, whereas lively warm hues such as reds and yellows will energize the space. Too many colors will look chaotic. Select a pleasing color scheme and lay out your perennials to create a sweep of color, one tone flowing effortlessly into the next.

Utilize foliage color to add another dimension to your landscape. This aspect is especially important when designing with perennials. Perennials bloom for a relatively short time, thus their foliage must hold the observer’s interest for a significant portion of the year. Various shades of green or variegated foliage can help to unify your landscape plan when used thoughtfully.

Vary the form and texture of the plants to add interest. Use perennials with different shapes and alternate plantings with a delicate or bold feel to provide contrast and help draw the eye throughout the garden.

Fragrant flowers offer still another dimension to the landscape. Position fragrant perennials near entryways and along garden paths. Plant them around entertainment and meditation areas where you and your guests will enjoy their perfume.

Bloom time is one of the most challenging aspects of a perennial garden design. As mentioned before, these plants are in bloom for only a short period of time. Planting perennials with different blooming times will greatly enhance the entire landscape as the flowers of some plants begin to bloom while others are fading. With precise planning, it is possible to make certain that every area of the perennial landscape is attractive year round.

Take into account the water requirements of the plants you are considering. If you decide to integrate some high water use perennials into your yard, place them in areas where you can closely monitor their irrigation needs. Since many plants of this nature have a tropical look, consider planting them in high traffic areas where they can be easily seen and appreciated.

Get your new plants into the ground or into permanent containers as soon as possible, but remember the necessary prep work. The width of the planting hole should be at least three times the width of the nursery pot. Plants should be set at the same depth as they were in their containers. Compost or mulch incorporated into the backfill at planting will get your new non-native perennials off to a good start. Fertilizer may need to be added for non-native species. Your plants will have a much better chance of surviving and flourishing if you give them the best possible environment.

Maintenance of your perennials is crucial to their long life and well-kept appearance. As with any plant in our desert environment, watering your perennials correctly is essential, but there is no exact formula to follow. Different perennials have different needs. Although fluctuating temperatures, soil conditions and particular microclimates around your garden will dictate how often perennials need to be watered, they should always be irrigated to a depth of 12-24 inches. Remember that new plants need to be irrigated more
Better Landscape Design
*Continued from previous page.*

often than established ones. Keep plants that have similar watering requirements in the same area. Maintain a close eye on the condition of your plants and adjust your watering schedule as temperatures and conditions change. Be sure to turn off your automatic irrigation system when Mother Nature is taking care of the watering for you. Just remember to turn it back on!

Fertilizing your plants is another task that may take some experimentation. Some will need regular fertilization, others will require none. Check on recommendations for your particular perennials. Organic, inorganic, compost, mulch, timed-release...the options are numerous and only you can determine what will work best for your landscape. Be sure to read and follow label directions.

Mulching will help to control weeds and conserve water while keeping your garden attractive. Organic mulches can supply needed nutrients and are less likely to burn foliage. Whether or not you decide to use mulch, clean up litter from beds and borders regularly and remove weeds when they appear. Stake tall plants as needed to maintain their appearance and prevent breakage in inclement weather. Deadheading is not as much a chore as it is with annuals since perennials don’t bloom for an extended amount of time, but removing faded flowers will keep perennials looking their best.

Pruning is advantageous for some perennials. Herbaceous plants can be cut almost completely back to the ground after flowering to rejuvenate the plant. A semi-woody perennial may be thinned out annually to reduce excess woody growth in the center of the plant and to direct new growth, but take care to preserve its natural form.

Your perennial plants will probably need to be divided every few years as they continue to grow larger. Divide plants that blossom in the spring after they finish flowering or in the fall. Those perennials that flower in the fall should be divided during the early spring. Replant healthy divisions in your own garden or share them with friends and neighbors.

Perennials are versatile plants that are a delight to have in your landscape. Take the time seek out different resources and learn about the specific care for your perennials and they will reward you with years of enjoyment. Following is a list of perennials to get you started.

**Perennials**

*Achillea spp.* (Yarrow)
*Agastache spp.* (Wild Hyssop)
*Alcea rosea* (Hollyhock)
*Aptenia cordifolia* (Ice Plant)
*Artemisia ludoviciana* (Western Mugwort)
*Asclepias subulata* (Pineleaf Milkweed)
*Asclepias subulata* (Desert Milkweed)
*Asclepias tuberosa* (Butterfly Weed)
*Aster novae angliae* (New England Aster)
*Baileya multiradiata* (Desert Marigold)
*Berlandiera lyrata* (Chocolate flower)
*Callirhoe involucrate* (Wine Cups)
*Calliopsis hartwegii* (Sierra Sundrop)
*Centanera cineraria* (Dusty Miller)
*Centranthus ruber* (Jupiter’s Beard)
*Capsicum annuun v. aviculare* (Chilean Bells)
*Cuphea llavea* (Bat-faced cuphea)
*Convolvulus cneorum* (Bush Morning Glory)
*Coreopsis grandiflora* (‘Early Sunrise’)
*Dalea greggii* (Trailing Indigo Bush)
*Dianthus caryophyllus* (Carnation)
*Dictytera resupinata* (Dictytera)
*Echinacea purpurea* (Purple Coneflower)
*Echinops* (Globe Thistle)
*Erigeron divergens* (Fleabane)
*Euphorbia biglandulosa* (Gopher Plant)

*Continued on next page.*
Perennials
Continued from previous page.

Gaillardia grandiflora (Blanket Flower)
Gaura lindheimeri (Gaura)
Gazania x hybrida (Gazania)
Glandularia goodingii (Goodding’s Verbena)
Helianthus maximilianii (Perennial Sunflower)
Hesperaloe parviflora (Red Yucca)
Hymenoxys acaulis (Angelita Daisy)
Iris germanica (Bearded Iris)
Lantana montevidensis (Trailing Lantana)
Lavandula spp. (Lavender)
Linum perenne (Perennial Blue Flax)
Melampodium leucanthum (Blackfoot Daisy)
Mirabilis multiflora (Desert Four O’clock)
Monarda didyma (Bee Balm)
Oenothera berlandieri (Evening Primrose)
Oenothera caespitosa (Tufted Evening Primrose)
Penstemon spp. (Penstemon)
Perovskia atriplicifolia (Russian Sage)
Psilostrophe cooperi (Paperflower)
Ranunculus x hybridus (Ranunculus)
Ratibida columnaris (Mexican Hat)
Rudbeckia hirta (Gloriosa Daisy)
Ruellia brittoniana (Purple Ruellia)

Salvia spp. (Sage)
Santolina chamaecyparissus (Lavender Cotton)
Senecio cineraria (Dusty Miller)
Sphaeralcea ambigua (Globe Mallow)
Stachys byzantina (Lamb’s Ear)
Tagetes lemmonii (Mt. Lemmon Marigold)
Tetraneuris acaulis (Angelita Daisy)
Teucrium chamaedrys (Germander)
Verbena pulchella (Moss Verbena)
Zauschneria californica (California Fuschia)
Zephyranthes candida (Rain Lily)
Zexmenia hispida (Orange Zexemia)
Zinnia acerosa (Desert Zinnia)
Zinnia grandiflora (Prairie Zinnia)

Photos:
Zauschneria, Salvia, Penstemon and Verbena by Jo Cook,
Sphaeralcea ambigua by Mountain States Wholesale Nursery
I know you’ve all heard the advice... “because of different watering needs, it is best to place trees and shrubs on separate valves of your irrigation system.” If you really want to get precise, you should install a separate valve for vines and ground covers, one for flowers, and maybe even one for the cacti and succulents. Once, I confess, I even considered a separate valve to water the lichens on my landscape boulders (I eventually reconsidered feeling that our salty City water would be too harmful to the lichens). The point is, you can water a lot more specifically and efficiently if the plants with different water needs are on separate valves. This allows you to customize the length and frequency of watering for each group of plants.

Now the other shoe drops.... probably 90% of the irrigation systems installed for residential landscapes places trees and shrubs (and every other plant in the landscape) on the same valve. What are your options here?

1) Dig a whole bunch of trenches, lay new pipe, and install additional valves to your existing system. –or-
2) Try making some modifications to your one-valve system to make it as efficient as you can.

Unless you love using a pick ax, you will probably prefer the 2nd option. So, here’s how you might be able to make the best of your ‘one-valve’ situation:

- Find your weakest link. This will be the plant(s) that will show water stress before all other plants. Consider the modifications mentioned below, or replace the plant(s) with one(s) that will fit in with the water requirements of the rest of the landscape.
- For example if you have roses on the same valve as your desert willow tree, you will need to water every 3-5 days to keep the roses healthy, much too frequent for the desert willow. By replacing the roses with a fairy duster, you can re-adjust your frequency to once every 10-14 days, more in line with the watering needed on the tree. I’m not suggesting that you eliminate your roses, just try to group them in beds where you can water as needed, not mixed on the same system with other landscape plants.

- Hand water smaller plants unable to survive long frequencies between watering.
- Place organic mulches around smaller plants to slow evaporation and keep soil moist longer.
- Plug all emitters around your trees and use soaker hoses periodically instead.

By Donna DiFrancesco, Master Gardener and Water Conservation Specialist, City of Mesa

Photo by Kathleen Moore.
• Adjust emitter sizes and/or numbers so that the appropriate amount of water is applied to plants to wet the root zone.

Let me explain the last point. As an example, let’s say you have an 8-foot sweet acacia (size refers to canopy diameter), a 3-foot Texas sage, and a 2-foot hesperaloe. See the table below to see how emitter sizes and numbers can help to apply the proper amount.

<table>
<thead>
<tr>
<th>Plant type &amp; size</th>
<th>No. of emitters per plant</th>
<th>Emitter output gal/hr</th>
<th>H2O applied gal/plant/hr</th>
<th>Irrigation run time (hr)</th>
<th>Total water applied</th>
</tr>
</thead>
<tbody>
<tr>
<td>8’ Sweet Acacia</td>
<td>5</td>
<td>2gal/hr</td>
<td>10gal/plant/hr</td>
<td>4</td>
<td>40gal</td>
</tr>
<tr>
<td>3’ Texas Sage</td>
<td>2</td>
<td>1gal/hr</td>
<td>2gal/plant/hr</td>
<td>4</td>
<td>8gal</td>
</tr>
<tr>
<td>2’ Hesperaloe</td>
<td>1</td>
<td>.5gal/hr</td>
<td>.5gal/plant/hr</td>
<td>4</td>
<td>2gal</td>
</tr>
</tbody>
</table>

Table 1: Irrigation Plan

You can see that by adjusting the emitters you are at least being efficient with the amounts of water you are applying to individual plants. Call your city water conservation office for the booklet called Landscape Watering by the Numbers: A Guide for the Arizona Desert. The booklet includes a chart that estimates gallons of water needed depending on the size and type of plant. After adjusting the emitter output, you’ll have to experiment with frequency to see what works for all the plants on the valve. Observation of your plants is key to their survival and success.

Resources:
Water Conservation Offices:
City of Chandler 480-782-3580,
Town of Gilbert 480-503-6098,
City of Glendale 623-930-3596,
City of Goodyear 623-932-1637,
City of Mesa 480-644-3306,
City of Peoria 623-773-7286,
City of Phoenix 602-261-8367,
City of Scottsdale 480-312-5650,
City of Tempe 480-350-2668.

Photo by Jo Cook
Part II

Runoff A Problem? Cycle and Soak

By Donna DiFrancesco, Master Gardener and Water Conservation Specialist, City of Mesa

It can be a common problem that occurs when trying to apply water to your landscape. The water is being applied faster than it can be absorbed into the ground, and runoff causes puddling in the landscape, or worse, it runs into the street or other areas that it is not needed.

What can you do? The experts call it ‘cycle and soak’ which basically means that you split the watering schedule into multiple smaller increments. You might apply one half or maybe even one-third of the water needed, wait for about one hour then apply the remainder, and so on. This allows you to still apply the amount of water that is needed to wet the root zone of the plants each time, without losing water unnecessarily.

Here’s an example for grass areas. To get water to the 8-10” depth needed to keep the grass healthy, you’ll need to apply about ¾” of water on the surface. With pop-up sprinklers, that will often take about 20-30 minutes of run time. For this example, let’s say that we determined 24 minutes is a good run time. If we found we had runoff after about 10 minutes, you might want to do 3 run cycles at 8 minutes each. If the runoff isn’t a problem until about 15 minutes then 2 run times at 12 minutes each would work.

How do you program this on your controller? While commercial controllers have specific settings for a cycle and soak, residential controllers usually don’t offer this option. But, there is an easy way to set it up using multiple start times.

Table 1 uses the example above to demonstrate how we might set it up on the controller:

<table>
<thead>
<tr>
<th>Valve/Station</th>
<th>A Program</th>
<th>Valve/Station Description</th>
<th>Start Time</th>
<th>Watering Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8 minutes</td>
<td>Turf sprinklers</td>
<td>4 a.m.</td>
<td>Mon. &amp; Thur.</td>
</tr>
<tr>
<td>2</td>
<td>8 minutes</td>
<td>Turf sprinklers</td>
<td>5 a.m.</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 a.m.</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 1: Irrigation Timer Cycle and Soak Example Summer Watering Schedule

With these inputs that show on this program, on Monday and Thursday valve one will start running at 4 am for 8 minutes, then valve two will run for 8 minutes. At 5 am valve one will run for another 8 minutes, then valve 2 for another 8 minutes, and so on. Remember that when programming your timer, your frequency and start times run all valves in that specific program setting.

Continued on next page.
To determine the proper run time of your sprinklers to apply \( \frac{3}{4} \)" of water as suggested above, do a one-time can test – this will tell you how much water your sprinklers apply. Collect 6 to 8 shallow, flat-bottomed cans like tuna or cat food cans (a set of matching coffee mugs may also work if the sides are straight and the bottoms are flat). Spread the containers around your lawn about 4 to 6 feet apart, then turn on each valve or station of your sprinklers for 15 minutes. When the sprinklers turn off, measure the depth of water in each can. Add up your numbers and divide by the number of containers to get your average depth of water. Then use the table below to determine how long your sprinklers need to run to give the grass three-quarters of an inch of water:

<table>
<thead>
<tr>
<th>Average measurement (inches)</th>
<th>3/16</th>
<th>5/16</th>
<th>3/8</th>
<th>1/2</th>
<th>5/8</th>
<th>11/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minutes to run sprinklers</td>
<td>56</td>
<td>37</td>
<td>28</td>
<td>22</td>
<td>18</td>
<td>16</td>
</tr>
</tbody>
</table>

Photo by Kathleen Moore.
Here are some revealing statistics about typical landscape water use:

- A 20 x 20 foot area of lawn needs over 2000 gallons each month in the summer and about 1000 gallons each month in the winter (if you have winter rye grass).
- A 20 x 20 foot area of Xeriscape needs 500-700 gallons of water in the summer and about 250 gallons of water or less in the winter depending on winter rains.
- A standard lawn sprinkler hooked up to a water hose emits 2-4 gallons every minute.
- A broken sprinkler head can lose up to 12 gallons of water per minute.
- A bubbler dispenses ½ to 2 gallons of water per minute.
- Drip emitters deliver water slowly, dispensing 1-2 gallons of water per hour depending on emitter size.
- A ½-inch diameter garden hose delivers 5-8 gallons of water per minute or over 300 gallons of water per hour.
- A faucet (or irrigation valve) with a slow dripping leak can waste 350 gallons per month. A fast leak will waste about 600 gallons a month.

- An average swimming pool (400 sq.ft.) uses about 16,000 gallons to fill, and loses about 22,000 gallons each year to evaporation and backwashing. Expect to lose about 2,500 gallons each month during summer just from evaporation.
- Keep turf areas small and functional or convert unneeded lawn areas to Xeriscape.
- Practice good plant and irrigation maintenance. Reapply organic mulch frequently to slow evaporation, remove weeds, check irrigation systems, and fix leaks.
- Water carefully and thoughtfully. Change your controller schedules seasonally, turn off controllers after a good rain, and only water the root zone of the plant (except when flushing salts from the soil).
- If runoff occurs, break the run time into several smaller increments with soak time in between.
- Use an on-off nozzle on the end of your hose to make your hand watering efficient.
- Don’t overseed your lawn with winter rye grass.
- Use efficient watering systems such as drip irrigation.
- Don’t install a pool. Use the community or your neighbor’s pool.
- If you do have a pool, check frequently for leaks and keep plumbing properly maintained.

How can you use water more wisely in the landscape?
If you plan and install your landscape carefully, and learn to manage your water usage, you can have a beautiful, colorful and functional yard that is water efficient too. Here are some landscape water-saving tips:

- Choose from the wonderful selection of low-water using plants for your landscape.
- Group plants by water needs. Do not mix plants that need little or no irrigation with ones that require regular moisture.
- Design and grade your yard so that it will capture rainfall for your plants.

Resource: Earth Friendly Desert Gardening by Cathy Cromell, Jo Miller, Lucy K. Bradley

Photo by Kathleen Moore.
Giving Back

by Russ Buhrow, Curator of Plants, Tohono Chul Park, Tucson, Arizona

Arizona shines as a gem in the American Southwest. Its blue mountains rise above its vast deserts in a never ending dance of shifting color and light. In summer, sunlit raindrops fall like diamonds from wandering thunderstorms, giving life to the thirsty land. The glow of rainbows and flaming clouds illuminate the summer sunsets.

It is no small wonder that millions of people who love beauty and nature have flocked here. Our arrival presents a paradox. With entry of each new person, the wild land that brought many of us here in the first place gets smaller. Every new home requires the destruction of a small piece of nature. Everyone who lives here contributes to the loss. After new homes are built, new plants replace those that were there before. Most of these plants come from other parts of the world.

Loss of plants and land means death to most of the animals that use them as food and for shelter. The interconnections among the plants and animals who live here have grown and developed over millions of generations. As a result, animals recognize native plants as home. Exotic plants are just a place to sit.

When we use native plants in our landscapes, we generate the opportunity to help the plants and animals with which we share this planet.

We can rebuild our landscapes into spaces that are beautiful, as well as filled with color and life. We can create places that are as magical as the most exceptional wild places that can be found. We can invite nature’s beauty to our front door.

Landscapes such as these, inspired by nature, can vary from including a few native plants in the design palette to attract animals like butterflies and hummingbirds, to true wildscapes. These wildscapes may include terraforming the land to evoke a canyon, mountainside or wash habitat, for example. The placement of the plants, as well as their selection, produces the subtle patterns that may only be apparent when one of the plants erupts into flamboyant color, so typical of natural areas at their peak of beauty.

At Tohono Chul Park we have been studying native plants and developing them for landscaping use for many years. Our emphasis has been upon plants which are used by butterflies and hummingbirds.

Following are examples which have been tested and are ready for landscape use. Many of these plants are still only available at Tohono Chul Park and in limited quantities.

Peniocereus greggii,
Queen of the Night, Night Blooming Cereus, Reina de la Noche
Perhaps no other plant better exemplifies the magic of the Southwest Desert than the Queen of the Night. These plants naturally range from southern and western Arizona, southern New Mexico and west Texas to northern Mexico from sea level to around 4500 feet, living a Cinderella-like existence hiding under desert trees and shrubs. The night blooming cereus looks like a couple of dead sticks most of the year, but on one or two special nights the perfume of its large (5-9”L X 3-6”W), erect flowers fills the desert, attracting large moths (and large numbers of humans to Tohono Chul Park). The stamens rise above the petals in a perfect crown. The flowers range in color from pure white to greenish white to pink.
I have seen one exceptional individual with alternating pink and white petals. The plants usually grow to 2-4 feet in size (stem length), and often consist of just one or two branches growing from a tuberous root which may account for 90% of the plant’s mass.

Culture of *Peniocereus* is simple. Locate the plant in an area with partial shade, preferably afternoon shade. The areas below a mesquite, ironwood or paloverde are fine. Some of the biggest individuals occur under mesquites. Avoid areas where water collects or soil is shallow. For best growth and flowering, water once a week during hot weather if no rain has occurred within the last two weeks and once every two weeks during cool weather if no rain has occurred within the last month. Small plants will require a little more water. Do not connect the plants to your irrigation system.

As winter approaches, little ¼” peppers crown the plant in bright red and green, as the plant becomes the Christmas Chile.

Chiltepins are herbaceous shrubs that can live for many years. Plants from the northern populations appear to be fairly frost tolerant, although they may lose their leaves. (Some have survived at Tohono Chul Park for over 10 years without protection.) Wild chiles grow well in full sun to fairly deep shade. Fruiting is heaviest in bright light, while the most attractive leaves appear when the plants grow in shade. Water use is moderate.

*Maurandya antirrhiniflora*,
Snapdragon Vine
An attractive small vine, *Maurandya* grows wild on rocky slopes from Arizona and adjacent border states southward into Mexico, from 1500-6000’ elevation. The arrowhead shaped leaves wrap around the twigs of shrubs with their tendril-like petioles. The red or lilac flowers are about an inch long and very similar to those of a snapdragon, contrasting nicely with the bright green foliage. Hummingbirds frequently visit the flowers.

Snapdragon vines climb or sprawl to 4-7’ and are suitable for planting with shrubs or a trellis with a fine textured lattice, as the leaves have trouble latching onto anything thicker than about a quarter inch. A chicken wire or concrete mesh trellis cover works very well.

The plants tolerate temperatures into the low twenties, at least, but may be killed back to the ground, with rapid recovery in warm weather. *Maurandya* will bloom almost year round if the weather is warm to hot. Drought tolerance is quite good, but for most attractive appearance and bloom moderate watering is recommended.

*Capsicum annuum var. aviculare*,
Chiltepin, Chilpetin, Chile de Ave, Wild Chile Pepper
Arizona’s very own native pepper is attractive, easy to grow and hot. Chiltepins range from Arizona’s southernmost warm mountain ranges to tropical America. The fruits constitute an important ingredient in Mexican dishes.

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*Diospyros texana*,
Texas Persimmon, Black Persimmon
Q: When is an ebony not an ebony?
A: When it is from Texas. Texas ebony *Ebanopsis ebano* (*Pithecellobium flexicaule*) is a leguminous tree with dark heartwood reminiscent of African ebony (*Diospyros crassiflora* and *D. piscatoria*). Texas persimmon really is an ebony, and probably should have been called that, but I’m not in charge of erroneous common names. It’s a good thing the tree doesn’t care what we call it.

A small semi-evergreen tree (20-40’), *Diospyros texana* grows wild from south Texas to adjacent northeastern Mexico. Texas persimmon has oval, slightly fuzzy ¼ inch, deep green leaves, an upright form and purplish grey bark that flakes off like that of sycamore or eucalyptus. The round, purple-black, one inch fruits ripen in summer and are quite delicious if you can beat the birds to them. If you want fruit, plant at least 2 or 3, as the plants are dioecious.
Sonoran Originals  
Continued from previous page

Relatively small size and slow growth make this tree a good choice for small or narrow spaces. Texas persimmon is hardy to at least the low 20’s, but at such temperatures the leaves may drop. Expect the elegant form and excellent adaptation of black persimmon to result in this tree being widely used throughout much of the Southwest.

Plants will freeze back and lose their leaves in the mid 20’s, but recover rapidly and begin blooming in just a few weeks of warm weather. Plants are quite drought tolerant when established, but look best with moderate water. Bouvardia will be the featured plant at Tohono Chul Park’s spring plant sale. Expect most to be gone at the member’s only preview (March 10, 2004 from 3-6 pm). The public sale will be on March 12 from 9am to 5pm and March 11 from 10am to 4pm.

About the Illustrator:

Martha Pille is a dedicated Docent at Tohono Chul Park. She was a microbiologist who took art classes in high school and then after retirement, took a colored pencil class at Tohono Chul Park. She was helping with the first Plant Sale and designed a poster for the second Plant Sale (1998). She practices by drawing in her Nature Journal (she teaches classes in Nature Journaling here too). She’s now a member of the Colored Pencil Society — Phoenix Chapter (statewide) and 2 of her works were selected for exhibition here at Tohono Chul Park during the CPS’ last exhibit (Dec. 2003). Martha is fascinated by what makes a plant unique and strives to help identify these “strange” desert plants (she’s not a native). Martha strives to combine not only botanical illustration with the beauty, the shape and flow and grace of a plant.

Bouvardia glaberrima,  
Bouvardia
This herbaceous flowering shrub (3’H X 4’W) ranges from southern Arizona and New Mexico into northern Mexico mostly in canyons and mountainsides from 3000-9000’ elevation. Bouvardia is one of the most important of southern Arizona’s hummingbird plants, and as such is the site for much aerial warfare. Bright red, tubular flowers appear in clusters almost year round at warm locations like Tucson or Phoenix if sufficient water is available. The bright green elliptical leaves (1-3") make a nice contrast with the red of the flowers.

Happy Birthday  
Tohono Chul Park!

In honor of our 20th Anniversary we are raffling off a whimsical garden sculpture entitled, Desert Bluebell. (The bluebell is our official Wildflower Festival “logo.”) Sculptor Ned Egen’s unique, recycled pieces have often been featured in the Park’s art and cultural exhibits. He has crafted a truly “wild” wildflower of recycled and found objects. Standing approximately seven feet tall, this whimsical, kinetic steel sculpture sways gently in the breeze and is perfect for displaying outdoors in your own wildflower garden. The retail value is $1500 and raffle tickets are just $3 each or 4 for $10. Call 742-6455 x 0 to order or stop by any of the Tohono Chul Park Museum Shops next time you visit the Park. The winner will be chosen during our Wildflower Festival on Sun., Apr. 3 by Honorary Chairman Dr. James “Big Jim” Griffith. The winner need not be present to win.
Members of the cactus family have some of the largest and most beautiful blooms in the entire plant kingdom. If you are reluctant to try cactus because of their prickly reputation, the Argentine giant is worth a shot. This cactus is native to Argentina (hence the name) and has recently been reclassified as *Echinopsis candicans*. You may see it referred to as *Trichocereus candicans*. You also may have heard of it called Easter lily cactus, as the flowers resemble white lilies and usually come out around Easter time. It looks fabulous in any yard, especially in the spring when the 8-inch across blooms adorn the tips of the stems.

The Argentine giant is relatively small (contrary to the name), with a mature size of two-feet tall and three-feet wide. It is a natural fit even in small yards. The yellow spines along the bright green stems can be painful if touched, so this plant is best placed away from walkways, driveways or pools. The intoxicating fragrant blooms open at night and persist until early morning so you may wish to plant it in a location that it can be enjoyed in the evening. The bright white petals and yellow centers attract our night pollinators like moths and bats.

Before you become worried, the bats in our Sonoran desert are quite small, are wonderful insect predators, and are not at all interested in sucking your blood. They eat their own weight in insects every evening, which makes them earn their keep in my book.

This cactus is cold hardy to 10 degrees and enjoys some filtered shade. They look great under the canopy of a mesquite or ironwood tree. They are low water use, but that does not mean they require no water. They prefer deep infrequent irrigation and well-draining soil. They do not like to have wet feet, so be sure to let the soil dry in-between watering.

Photos by Bob Reichard
PROPAGATING HOUSE PLANTS
A four-page .pdf document by Georgia Extension Horticulturalist, P.A. Thomas, in conjunction with the University of Georgia, Ft. Valley State University, the U.S. Department of Agriculture, and counties of the state. Covers both sexual and asexual propagation methods, and includes detailed drawings.

AGAVES
A particularly interesting feature of this site is the animated photo of a giant agave sending up its incredible bloom stalk. Also: “Agaves A-Z” (view photos of species that may be new to you), tequila facts and recipes, links to similar sites.
http://thegiantagave.tripod.com/

CALS NEWS STORIES
Check here periodically to see what’s new at UA’s College of Agriculture and Life Sciences. A recent perusal highlighted these titles: “UA Licenses Patent for Natural Fumigation,” “Lehmann Lovegrass Won’t Succumb to Fire,” and “Growing Tiny Tubular Formations.” Includes a searchable database.
http://uanews.org/cgi-bin/WebObjects/UANews.woa/wa/clearCALSCache

GARDEN POETRY
Enjoy gardening and poetry? Then how about a site that lets you create your own poems by dragging word tiles onto a blank workspace? You can also browse through dozens of examples of poetry written by other garden lovers. Have fun!
http://www.magneticpoetry.com/nga/
Earth-Friendly Desert Gardening is more than a book published by the Master Gardener Press; it is a theme for the 4th annual Real Gardens for Real People Tour. The five gardens chosen for the 2005 tour and their earth friendly practices are showcased below and available for viewing on Saturday March 12th from 9am-4pm.

At **Arid Oasis** what once was a swimming pool and lawn is now a planting of drought tolerant native and desert adapted plants. Trees provide a canopy of filtered light to create microclimates that accommodate both shade and sun loving plants.

The old kool-deck from the pool was recycled and laid in sand to form another patio for additional seating and a transition to plantings surrounding a quiet area under a shade tree. The garden areas were contoured to keep water on the property and direct it to the plants. Containers and the “square foot” gardening method provide produce for the garden owners throughout the year. Row covers keep peppers, eggplant, tomatoes and herbs producing year round. An Earth friendly practice of avoiding pesticides and herbicides and relying on natural controls and beneficial insects makes everything safe for people, pets and visiting critters.

**Kids can too!** is a wildlife habitat covering almost an acre at Apache Elementary. A partnership has created a desert tortoise habitat, a butterfly and hummingbird garden, an organically kept refugia pond, and walking trails that connect each of the sections. This dream became a reality through a grant from the Heritage Fund, through Arizona Game and Fish, as well as donations from Apache families using their tax credits – not to mention a great many snow cone sales!

Seven years of work made **Raised in Arizona** a garden showplace. This was a huge job for the garden owners as the house was almost completely hidden by large ficus, hedges and overgrown plant material. This large backyard shows the variety of plant material that can be grown in Phoenix; it has citrus, grapes, flowering trees and bushes, roses, vines, annuals and perennials. There is color in this garden all year.

The Garden of the Literary Fairy is a backyard habitat certified by the National Wildlife Federation. The garden was designed to attract hummingbirds, butterflies and the occasional literary fairy.

The front yard has a large Palo Brea tree that provides shade. There are many kinds of wildflowers which self-seed themselves. Both front and back yards have a variety of native flowering shrub offering a year round color. The garden owner has utilized the narrow side yard for a mix of succulents, vegetables, fruit trees and a planting bench.
There are many containers and a large raised bed for vegetables, which make it easier for the owners to maintain and continue their passion for gardening. A slow running fountain and plants offering food attract many species of birds.

Water Wonderland is truly a wonderland. This garden demonstrates that you can enjoy the presence of water in your landscape, if you use environmentally friendly construction techniques, with organic maintenance practices. In fact, this little wildlife refuge is home to families of quail, bunnies, coyotes, lizards, frogs, hummingbirds, northern cardinals, desert toads, and a myriad of other native and migratory bird life. The front yard sports a stream which “disappears” under the walkway, and is a constant source of safe entertainment for the neighborhood kids, not to mention the local watering hole for the pack of young coyotes who hunt the nearby wash.

These gardens are all examples of how to manage your garden harmoniously with nature. They demonstrate that it is possible to conserve energy and water, attract native wildlife and provide a bountiful harvest.

Visit them March 12th from 9 am to 4 pm. Contact the Events Hotline (602) 470-1556 x 1017 or visit www.mastergardenerevents.com.
Sponsored by: University of Arizona Cooperative Extension Maricopa County Master Gardeners.

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