



Creating a Wildlife Habitat Garden

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In creating any habitat garden, there are four basic components: Water, Food, Shelter, and Places to Raise Young. It is essential to possess some knowledge of these components and their importance to attracting, feeding, offering shelter and nesting opportunities for a diverse assortment of living creatures.

The following offerings are methods to attract and keep wildlife along with some personal experiences in creating an enjoyable habitat for wildlife and humans.

WATER – Basic Number 1

BIRDS

Water is a strong attractant for birds. Many birds not attracted by seed feeders or plantings will visit water. And some birds do not drink water; instead they get their water requirements from the foods and insects they eat.

A shallow 1-2 inch dish will be enough to attract birds. Place a water source on level ground near shrubs or trees to accommodate ground dwellers, for preening and evading predators. Birdbaths do not have to be fancy, but remember that whatever vessel you choose to use be sure that the birds have a sure footing underneath. Placing a couple of clean rocks in the bottom of the vessels works well and placing some large clean rocks in large or deep fountains for easy access to the water is a great aide since the fountain can be far too deep for birds to wade in.

Nothing catches a bird's attention like the sound of moving water, so consider installing at least one

water feature such as a fountain or a birdbath equipped with a mister or dripper. To conserve water, run these features only when you are home and can enjoy the birds they attract to the garden. Two of the best times to watch birds is from sunrise to 10 am and from 4 pm to sunset.

If you decide to use birdbaths, dishes or fountains, frequent cleaning is essential to prevent the risk of disease transmission. Many diseases can be spread in a birdbath or feeding area. *Trichomonas*, a bacteria that causes 'choking disease' is common in the southwest and is easily spread. To prevent diseases, water sources (with the exception of ponds which contain plants that promote an ecological process that is safe to drink from) should be scrubbed out once a week with vinegar or a soy-based cleaner. When nighttime temperatures fall below 55 Fahrenheit, the weekly cleaning is not necessary, but changing the water daily is still essential.

Birds keep their feathers clean to stay alive. Many birds make daily visits to safe, clean, and consistent water sources for the all-important task of preening. Some birds such as quail and towhees prefer to bathe in dust instead of water so a space where they can clean their feathers in dirt or sand is a welcome addition to the garden.

HUMMINGBIRDS

A misconception is that feeders provide hummingbirds with all the water they need, but hummers also enjoy water features for bathing and drinking. Unfortunately traditional birdbaths are not well suited for this purpose. Hummingbirds prefer running, shallow water and small fountains that mist or splash gently. Have you ever noticed that hummingbirds seem to enjoy flying through our summer rains- it's the ideal birdbath for them!

BUTTERFLIES

Wet soil or areas around ponds are frequent sites male butterflies visit - a behavior called 'puddling,' in which they extract sodium and other nutrients needed for mating. Butterflies seem especially attracted to a soaker hose laid on top of the vegetable garden. The wet soil combined with the humus-enriched soil provides them an ideal place to 'pull up a spot at the bar.' A dish filled with damp sand/native soil and manure may attract butterflies.



Steven Love

FOOD – Basic Number 2

BIRDS

Supplemental Feeding:

Bird feeders are an easy and effective way to feed birds. Feeders should be cleaned thoroughly once a week to prevent disease transmission. The gardener will find many types of bird foods on the market to include suet, nectar solutions, feed blocks, and various assortments of seed. Purchase the highest quality of product that you can afford. Many products contain fillers and the birds won't eat these fillers, not to mention it being a waste of money. If you purchase seed mixes that contain sunflower seeds in their shell you will need to rake up the feeding area regularly and dispose of the seed hulls. They can accumulate over time and spread diseases as well as become an unsightly mess in the garden. Because seed is usually sold by the pound, a good choice is to purchase no-mess blends - the hulls have been removed from the seeds and the result is pure food without the mess - which means more seed for the money. The no-mess blends also seem to attract the largest variety of birds to gardens. Another benefit of no-mess blends is that populations that cannot crack seeds very well like woodpeckers, Curve-billed Thrashers, Cactus Wrens, and Pyrrhuloxia increase greatly in your habitats.

Suet is fun and attracts many birds. In the heat, some suet's can melt so purchase suet dough that can withstand high temperatures. A couple of suggested favorites are Fruit Cake and Calcium Care. Many birds love fruit. You can make your own fruit feeder simply with an eight to ten inch piece of 2x4 wood and a couple of nails pounded in the sides (grind off the nail head to make a sharp point so it is easier to put the fruit on it.) Drill a hole on the top and screw in a closed eyebolt and hang this on a hanger from a tree or garden structure object. You can make fruit feeders that hang vertical and horizontal.

Bird Feeding Plants:

Plants are a fun way to provide seeds, berries, fruits and nectar for birds and other wildlife and unlike supplemental feeding, they are much safer, easier, and enhance the landscape. Try selecting a variety of plants that will provide food throughout the year. Choosing native plants provide beauty and require less care, fuss, and water. Need more reasons to plant regional native plants?

Regional native plants:

- Work in harmony with the natural landscape and Mother Nature
- Provides food and shelter that local wildlife are familiar with
- Conservation and diversity of native flora

- Long term cost savings and increased enjoyment due to less intensive management:
 - _ Self-perpetuating - helps keeps costs low by replanting volunteer plants
 - _ Water—little or none required
 - _ Fertilizer—little or none required
 - _ Pesticides—not needed
 - _ Mowing—not needed except for wildflower and grass meadows

HUMMINGBIRDS

Supplemental Feeding:

- Sugar Solution Recipe: four (4) parts water to one (1) part table sugar - boil on stove for 2 minutes and let cool. Extra solution may be stored in the refrigerator. If solution 'gums' up in feeders during hot weather try increasing the ratio to five parts water to one part table sugar. Hummingbird feeders usually have red parts on them to attract hummers – do NOT use honey or red food coloring in the solution.
- Choose feeders that have red parts on them and that are easy to take apart and clean. Clean feeders every 2-3 days with hot water and a brush—for stubborn mold use white vinegar.
- Place feeders near hummingbird garden flowers in your habitat.
- Use different kinds of feeders around the garden at altering heights to accommodate different hummingbird species preferences.
- A misconception is that hummingbirds live on sugar water and nectar alone. Small insects such as gnats, aphids, and fruit flies are a vital part of their diet.

BUTTERFLIES

Butterfly Feeding Plants:

- Caterpillar Food Plants – also known as Larval or Host food plants
 - The best way to attract butterflies is to grow butterflies by planting food for caterpillars.

- Nectar Flowers for Adult Butterflies—Groups of plants will be more enticing than one plant here and there in the garden. Diversify the palette so there is always something in bloom from spring to late fall. Many butterfly species feed on small, inconspicuous plants that most gardeners would consider 'weeds.' If possible allow an area of the yard to become 'scruffy'—you'll be amazed at the insects these areas will attract—thus bringing birds, lizards, toads and others to the garden!

SHELTER – Basic Number 3

Animals need shelter to escape from heat, wind, rain, and predators. As you create and provide shelter, you will also create places to nest and raise their young. Recommendations will vary as to being appropriate for varying sizes of wildlife environments.

BIRDS & HUMMINGBIRDS

- Clustering plants into thickets will shelter birds and animals against wind, weather, and predators.
- Native shrubs and trees that do not provide food do provide valuable places for nesting, roosting sites, song perches, and hunting perches.
- If possible, construct brush piles, rock piles, and create meadow patches for cover and shelter. (Brush piles may not be suitable for small yards).
- Dead logs and trees are called 'snags' and provide areas for birds to Rock piles and brush piles are great places for shelter. eat wood boring insects as well as provide nesting cavities for birds.
- If space allows try to have one or two evergreens that will provide year round cover. During the hot weather birds and other ground dwelling animals will gravitate to the shade provided by mesquites, pines, and desert broom.
- You may want to erect a couple of nesting boxes. When not in use for raising young, birds will roost in nest boxes at night for shelter.

BUTTERFLIES

- Sunshine—Butterflies are solar-powered so locate the garden in a sunny area. Butterflies are active on warm, windless, sunny days when temperatures are between 65° to 95°F. Warm rocks provide areas for "basking."
- Shade—Butterflies will seek shady areas of the garden when daytime temperatures rise above 95°F.
- Windbreaks—Sheltering the butterfly garden helps butterflies so they are not cooled by winds and will not have to extend extra energy searching for food, mates, and laying eggs.
- A horseshoe-shaped garden is an easy and fun way to provide sunshine, shade, and windbreaks!

PLACES TO RAISE YOUNG – Basic Number 4

Our garden has been host to many young – including Cactus Wrens, Gambel's Quail, Curved-bill Thrashers, Canyon Towhee's, Ladder-backed Woodpeckers, Roadrunners, Black-chinned Hummingbirds, Western Kingbird, Desert Cottontails, Round-tail Ground Squirrels, Gopher and Garter Snakes, Horned Toads, and over 15 species of butterflies. More importantly is the host of insects in the garden – it is fun to watch every evening as parent birds scour the garden and bring insects to their young. This young rearing activity results in having no problems with so-called pests and never having to spray the garden.

BIRDS & HUMMINGBIRDS

Birds build nests in many places—on the ground, in trees and shrubs, and even in man-made structures. As previously mentioned, consider building or purchasing nesting boxes—birds that use nest boxes include bluebirds, cactus wrens, woodpeckers, owls, and kestrels. Feathers, dried grasses and flower heads, small twigs and other objects are used to construct bird nests. Female hummingbirds build, incubate, and raise the young on their own. Nests are made out local materials such as downy fibers, animal hair, plant materials and are woven together with spider webs - spider webs are very important to hummingbirds!



Mejissa Rath

BUTTERFLIES

Butterflies are cool to watch in the garden. Their life cycle is called complete metamorphosis. Successful butterfly gardening requires planting a garden that supports all phases of the butterfly life cycle:

- egg (mating)
- caterpillar (larva)
- chrysalis (pupa)
- adult (butterfly)

The females have a very short life and their main purpose is to find mates and lay eggs onto host plants. If all the garden has to offer is nectar plants, butterflies will come to fuel up for energy, but will soon depart looking for plants to deposit eggs. Butterflies use their two antennae to find food (usually flower nectar), as well as finding mates and avoiding predators. Butterflies use their feet for tasting, letting the butterfly know if something is good to eat or not. Some females also taste plants in order to accurately locate specific host plants for egg laying. Consider the following average life span of the butterfly lifecycle:

- egg: 4-10 days
- caterpillar: 3-4 weeks
- chrysalis: 7-14 weeks
- adult: 2-3 weeks

As you can see most butterflies spend the majority of their life cycle during the egg, caterpillar and chrysalis stage than the adult stage! Don't deprive yourself of the pleasure of locating and watching these three stages in your habitat garden.

When the habitat garden matures, you will see other wonderful and perhaps unsettling things happening.

The evolution will result in the appearance of predators—everyone has to eat—including humans. Don't be dismayed when you see that Roadrunner eat that young bird or lizard or the Owl prey on mice and rats.

When this happens be proud that your garden has come full circle and is a complete habitat garden!

PLANNING YOUR WILDLIFE HABITAT GARDEN

The best approach to a habitat garden is DIVERSITY. Select a variety of plants that will provide fruits, berries, seeds and nuts, nectar and pollen, attract insects, and offer shelter and nesting opportunities throughout the year. Diverse habitat types

include a meadow here, woodland area over there, an area where tall grasses, weeds, and wildflowers are allowed to go to seed, a row of shrubs near the fence line, a brushpile out back, etc. (Be sure to check with your local zoning regulations on what is allowed in your area.) These different types of ecotones create 'edges' and will attract a wide assortment of birds, butterflies and other creatures.

Here is your homework:

Assess the garden: What worked well in the garden last year and more importantly, what didn't work. If plants are not thriving - why? Is it due to a lack of water - then perhaps it needs to be relocated to a spot where it would receive an adequate amount. Perhaps the garden has matured and plants that were once in sunny spots are now shaded by large shrubs and trees resulting in leggy plants and sparse blooms. Evaluate and make a list of chores that need to be addressed. If starting a new garden, don't even think about getting any plants until a temporary or permanent irrigation system is installed.

Draw a map: Draw a map of the garden to include all hardscape, the house (mark the window locations for wildlife viewing from inside the house), and any future plans such as a greenhouse, RV pad, vegetable garden etc. that may be installed at a later date. Don't forget to mark heavy traffic areas. The map doesn't need to be to scale but you can certainly use graph paper to make a detailed map to scale. This will help you see your landscape from a 'birds-eye-view.'

Take inventory:

Make a list the wildlife you would like to attract to the garden.

Make a list of all the plants currently in the garden.

Now divide the plants into the following categories:

1. Plants that produce berries, fruits or nuts
2. Plants that provide nectar for butterflies and hummingbirds
3. Plants that produce seeds for birds and other animals
4. Plants that attract insects and bugs
5. Plants that provide shelter/shade for animals
6. List any features and plants that you DON'T like in your garden

Number six may seem strange but I have talked to too many gardeners who live with things they don't like! My belief is that one should LOVE everything about their garden. Focus on gradually replacing plants and features with things you would love to see in your garden. If the spirit moves you start now by removing plants or garden features you don't like.

Basic Design Ideas

The more types of foods and habitat niches you can provide, the more wildlife you can attract. Homework:

- Find out which wildlife species are in your area and which plants they use for food sources. There are regional plant differences, which can determine how well they will thrive in your garden.
- Take a hike! Observe natural habitat and recreate that in your garden. Check with local nature centers to locate local Audubon or butterfly organizations—most clubs have informational meetings, workshops, and field trips that will increase your knowledge.
- Evaluate your garden style or preference (informal vs. formal) and decide how much time you want to spend maintaining the garden. An informal garden will be easier to care for than a formal one. Garden chores may include:
 - Watering
 - Mulching & Weeding



Macie J Bogacz

- Deadheading annuals for continuous bloom
- Tip pruning host food plants to produce new leaves for caterpillar food
- Early spring mowing of habitat wildflower and grass meadows (optional)
- Using your map decide where you want to create, add, or retro-fit habitat niches:
- Begin researching what plants you want to add to the garden. Select and group plants into plant communities (thickets) according to water requirements. Use wildflowers, shrubs, and trees that will provide berries, fruits, seeds, nuts, nectar, and will attract insects from spring until fall.
- What! Attract insects to the garden? YES! Birds consume insects for their protein needs. Insects are especially important for nesting birds to feed their young.
- Remember that it's not necessary to install a habitat garden all at once. Take it slow and plant one area at a time.
- Deep rock mulches can be a problem for wildlife. It's hot, difficult to walk on, and seeds and insects can 'escape' into the gravel. If possible provide a space using 'living mulches.' Locate plants so

at maturity they will create their own 'shade mulch.' This requires planting a natural garden so plants will grow into each other ever so slightly but not so much that unnecessary pruning is required. The ratio of the mature garden would be enough plants to cover 1/2 to 3/4 of the ground space as opposed to the wide expanses of gravelscapes with a plant here and there so often seen today. Use native grasses and wildflowers to fill in the spaces between plants. This also allows plants to fertilize themselves with fallen leaves and dead plant debris.

- Don't despair if you have limited space! Plant gardens in whiskey barrels, large containers and windowsill planters. Incorporate wildflower plants into existing ornamental gardens and vegetable gardens.
- Visit public and private bird & butterfly gardens, botanical gardens, and local nurseries for plant selection ideas. These are also excellent places to observe and get great garden design ideas

REMEMBER! The balance of nature will take care of itself—reduce the use of pesticides—they kill insects that attract wildlife to the garden in the first place. A beautiful habitat garden can and should be had without the use of pesticides. Too much neatness and tidiness may actually make your garden less attractive to wildlife. So have a ball and let the garden get a little wild!

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