The Gardener's Eye: Wildlife in your garden

Train your eye and manage your garden to enjoy the wildlife

The gardener's eye: Developed as we garden, an unsung asset

Gardener and non-gardener look at a scene and see different things
A matter of patterns
Training your eye to see more
The value, related to attracting and managing wildlife

The primary formula for attracting and keeping wildlife

Food, water and shelter. Works for birds, butterflies, toads, dragonflies, fox...

Variables

Depending on your idea of "desirable wildlife", the details change
Sometimes one wild thing is an element in another's formula!
Once you open the door, tough to keep it open just a crack

Food:

1. The easiest element

Just some seed on the ground will attract birds; variety takes more effort

2. Natural foods from plants in your yard

Diversity is essential

• Inventory your own and immediate neighbors' yards for food plants

Timing of food supplies is critical

• Are your natural foods there when the animals need them? Setting up house in spring is determined by food availability. Staying the winter also depends on it.

3. Supplemental foods: what you put out to fill out a natural menu

Water

1. Clean, shallow

All the animals use it, though you may not see it
10 days of standing water... mosquitoes!

2. Natural or supplemental

Lake, tree cavity, puddle, gutter, faucet drips, dew on leaves
Bird baths, manmade ponds

3. A real draw: Running or dripping water

Shelter

To move around safely during the day
To raise young
For protection from the weather
Takes on so many forms, including plants, raw building materials, loose soil, changes in grade...

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Gardening for Wildlife

i. Introductions

A. Instructors Janet Macunovich, Steven Nikkila

1. Gardeners, designer, photographer, writers
2. Like you: educated "on the job" and at school. Still and always learning.
3. Garden and landscape design business *Perennial Favorites*
4. Master Gardeners through Michigan State University Extension
5. A softie in a soft family: 19 types/groups of animals encouraged or tolerated in our own yard; acquainted with more via clients' garden projects
6. Garden registered as butterfly garden (Y.E.S.) and backyard wildlife sanctuary (National Wildlife Federation)

B. Beginning assumptions

1. We are all gardeners who love wild animals
   a) One of 20 million who buy seed, feeders, binocs
   b) We spend +$170 million for seed, $15 million for feeders & houses

2. We already understand the benefits of wildlife in our gardens:
   a) Like that good feeling of our own "Eden"
   b) Getting a helping hand from insect eaters
   c) Know the value of weed-seed eaters (Iowa Dept. of Ag. figures: 1 sparrow eats 1/4 oz. weed seed per day. Sparrows eat at least 20 box cars of weed seed each year in Iowa.)
   d) We also understand the drawbacks of animals in the yard
      • Chewed shrubbery
      • Droppings
      • Good with the bad: insect eaters who tunnel, etc.
   e) We may have one particular species of animal we love, or many
      • Which do you want?
      • Which do you want to stay away?
      • Assess your yard
   f) We will continue to garden while courting these animals' favor.
   g) We have many different situations and different experience levels
      • Acres versus 10' x 10' courtyards
      • Already managing a zoo, feeding birds for years, or just starting
      • Focused on particular species or open to many

C. A preview. Today, some basics and some in-depth information

1. The basic things that draw animals to a garden
2. Attracting specific animals
3. Maintenance practices that make a garden attractive to animals
4. Discouraging specific animals
5. Continuing to learn: a list of references and sources of information
6. Specific plants that attract animals

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Assessing the Wildlife Potential in Your Garden

Wildlife species you would like to attract:

1:_____ 2:_____

3:_____ 4:_____

5:_____ 6:_____

7:_____ 8:_____

9:_____ 10:_____

11:_____ 12:_____

13:_____ 14:_____

15:_____ 16_____

For each species, test and refine your knowledge, now and later:

Where does it prefer to live? What type of terrain? Home built of what kind of materials? Seasonal or year-round resident?

When are young of this species born?

What foods does this animal prefer to eat?

What are this species' chief predators and parasites? Which are present in your yard or neighborhood?

Where in your neighborhood can it make a home? Get building materials?

How far is this animal from protective shelter while it's in your yard? Is such shelter available all year?

Is the species protected while raising young?

What natural and supplemental foods are available for this species in your neighborhood? In your yard?

When are foods available?

Where can it safely get a drink of clean water in your *neighborhood*?

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I. Attracting wildlife - a basic formula

A. Food

1. The easiest attraction
   - Just some seed on the ground will get birds; variety takes more effort

2. Natural foods from plants in your yard
   a) Diversity is essential
      - Inventory yours and immediate neighbors' yards for food plants
   b) Timing of food supplies is critical
      - Are your natural foods there when the animals need them? Setting up house in spring is determined by food availability. Staying the winter also depends on it.

3. Supplemental foods: what you put out to fill out a natural menu

B. Water

1. Clean, shallow
   a) All the animals use it, though you may not see it
   b) 10 days of standing water... mosquitoes!

2. Natural or supplemental
   a) "Natural": lake, tree cavity, puddle, gutter, faucet drips, dew on leaves
   b) Supplemental: bird baths, manmade ponds

3. A real draw - running or dripping water

C. Shelter

1. For many activities
   a) To move around safely during the day
   b) To raise young
   c) For protection from the weather

2. Natural shelters are
   a) Plants - deciduous and evergreen (may double as food plants)
   b) Loose soil
   c) Natural building materials - feathers, grasses, twigs, leaves, moss
   d) Changes in grade

3. Shelters you can provide
   a) Supply of building materials
   b) Birdhouses, nesting platforms
   c) Temporary structures, for service until your plantings mature

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II. Attracting specific animals

A. Study the animals you want to have around

1) Read
   a) What do they like to eat? (Hummingbirds like red, pink, orange, then others, and blooms that lack landing platforms; butterflies like purple, pink, yellow, white, and blooms with space to perch)
   b) When do they migrate through?
   c) What kind of shelter do they need?

2) Watch the real animal
   a) Learn to identify it by markings, sound, movements, habitat
   b) What kind of plantings do you see them near? When?

3) Be realistic
   a) Some may be lost causes (Southern hemisphere habitat disappearing for more than just Monarch butterflies.)
   b) Some are hard to see - nocturnal, timid, very special habitat...

B. Consider the benefits of ALL the possible wildlife

1. Insects
   a) Bees increase fruit
   b) All insects good food for birds, many mammals
   c) So many kinds
      • 1,402 species in one yard
      • Many tied to single plant species or family of plants
      • 1/2 of all insects prey on each other, only 1% tagged “harmful”

2. Bats
   a) Eat 1/2 their own weight in night-flying insects
   b) Unlikely to give us rabies - teeth can't pierce our skin

3. Reptiles, amphibians
   a) You will get a community of animals
   b) Some prodigious insect eaters in this group
   c) Great education for kids

4. Birds are easiest
   • Don't mind fences, require little space ('though within each species they'll stake territories)

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C. Plant food and cover plants

1. Much information is available on which plants are good
    a) Recommendations from 70's study by Univ. of Mass., Urban Forestry Unit, U.S. Forest Service; of wildlife's habitat needs in urban areas.
    b) Other recommendations for "Native Trees, Shrubs and Vines for Urban and Rural America" - G. Hightshoe
    c) Ideally, food plants also provide cover
    d) If space limited, plant species that provide winter and early spring food. (No one knows why some fruits left until spring, but they are.)

D. Provide water

1. Keep it clean
2. Gear it toward animals you have or want: depth, movement, sun or shade

E. Give supplemental foods and nest sites

1. The right foods at the right times. (Hummingbirds need masses of plants - 1,000 fuchsia flowers, 1/2 own weight in nectar plus insects, eight times own weight in water.)
2. Increase in nesting sites can mean dramatic increase in wildlife

F. Keep that wildlife perspective when you do maintenance

1. More, later!

<u>III. Attracting birds:</u> Food, varied feeders, placement, water, shelter

A. Provide food.

1. Natural foods
    a) See plant list to help the seed and fruit eaters
    b) See "Attracting insects" and "Maintenance" notes to feed insect eaters
    c) Steel yourself - predator birds and other predators will come

2. Supplemental foods for seed eaters, fruit eaters and insect eaters
    a) Vegetarians
        • seed eating birds (main diet ingredient is seed): bobwhite, pheasant, mourning dove, waxwing, cardinal, song sparrow, chipping sparrow, house finch, goldfinch, cowbird
        • fruit eating birds: oriole, waxwing, robin, cardinal, cowbird, grackle, thrasher (seed before fruit is ripe)
        • seeds
            - sunflower is the single best seed
            - niger ("thistle" from India, Africa)
            - wheat, red millet nearly worthless
        • fruit
            - orange marmalade for orioles
            - half citrus rinds filled with fruit bits

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b) Insectivores, omnivores
- Do martins really eat mosquitoes? Insects, surely.
- All young birds (wren brood gets 500+ insects a day, thrasher 600)
- Other insect-eating birds: killdeer (eat snails, too!), woodpecker, swallow, blue jay, titmouse, chickadee, wren, bluebird, robin, tree sparrow, oriole, common grackle, redwing, nighthawk
- Suet and oils for insect eaters (and all birds in winter)
  - suet in a wire basket or mesh bag
  - suet cakes with dog food, eggs
  - bacon fat or peanut butter, rolled oats and seed (not a choker)

c) Grit, for all birds
- Sand, charcoal, gravel, egg shells
- Same source can be a bird dust bath
- Egg shells appreciated in early spring, for females

B. Put up feeders

1. For birds, not recommended for other animals
   - Birds can be fed with little danger to people

2. Different birds prefer different dining situations

   a) Ground feeders
   - Stamp down an area
   - Get a little help from their upper level friends
   - Provide groundcover and mulched areas

   b) Tabletop feeders
   - A wicker basket to hold seed, let water through

   c) Stationery feeders - some birds like a solid perch
   - On a post
   - Suction cup on a window

   d) Hanging feeders - some birds like to move in the wind

   e) Tree trunk feeders, for clinging birds
   - Don't nail to tree, strap or lodge in crotch of tree

   f) Nectar feeders - for nectar eaters and sapsuckers

3. Material the feeder should be made from

   a) Strong, cleanable, non-chewable

   b) Birds' feet and eyes don't stick to metal feeders, but rarely

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4. Placement of bird feeders
    a) Bird and other animals feeders should be where you can see them
    b) Birds like to have a staging area
    c) Birds do hit glass. Tilt it down 5-6°; paste silhouettes; sheer drapes

5. When to feed - winter is perhaps most important
    a) It's what gardeners do in the winter
    b) True and false - they'll starve if you stop and start feeding
    c) Daily feeding time depends on your schedule, your birds
    d) Don't overfeed in summer - let them forage among your plants

C. Provide water for birds

1. Doesn't have to be elaborate
2. Shallow, with safe “beach”
3. Clean
4. Approachable - sheltered spot “on the approach”

D. Provide shelter

1. Natural shelter from plants on the plant list
    a) The SE side of buildings and evergreens - good spots to plant
    b) You can manage your plants to increase shelter (see “maintenance”)

2. Structures you can build
    a) Brush pile
        • Especially for bob whites, quail at woods edge
    b) Christmas tree

    c) Bird houses
        • If food, shelter and cover also there, nesting structures can dramatically increase numbers
            - Cavity dwellers: be aware of primary and secondary users
            - Woodpeckers need 2 to 4 cavities per season
            - Secondary user houses for bluebird, nuthatch, chickadee, owl, titmouse, wren, flicker, swallow
            - Eventual users: squirrels, raccoons if hole enlarged
        • Advantages of wood: cardboard and plastic heat up, babies die
        • Protection from nest raiders: barriers, slippery stuff
    d) Nesting platforms
        • In trees and shrubs
        • In the water: artificial islands

3. You can provide nesting materials

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IV. Attracting butterflies... and other insects!

A. Natural foods

1. For butterflies: see plant list, remember tree sap
2. For bees: flowers (bumblebees are natives)
3. Insects in general: plant a diversity, import insects if necessary

B. Supplemental foods

1. Hummingbird feeders are a hit with bees, ants and butterflies
   - To exclude, place fine mesh over spout, mineral or vegetable oil on landing spot on tube

2. Butterflies eat some disgusting things, besides nectar...

C. Water

- No special requirements for most: dew
- Sandy puddles for butterflies

D. Shelter

1. Don't kill colonies unless harmful
2. Leave overwintering sites (Brush pile - caterpillars live under! Perennial beds - leave them less tidy!)
3. Don't scour your pond and change water each spring: Dragonflies must overwinter!

V. Attracting small mammals: raccoon, groundhog, squirrel

A. Natural food

1. Many of the plants on the plant list

2. Other animals, birds, insects

B. Supplemental food: not recommended

1. Small mammals bite and fight - people and each other

2. Large mammals are too much for any of us - we can cause overpopulation and starving (deer)

C. Water

1. They'll use your bird bath, water garden, or natural pond

D. Shelter for small mammals

1. Natural - even if you plant it
   a) Hedgerows
   b) Greenbelts
   c) Let them dig - just protect foundations
   d) End users of woodpecker homes

2. Shelters you can build
   a) Nesting platforms and boxes
   b) Bat house (pattern in International Wildlife magazine, Jan-Feb. 1986)

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VI. Attracting reptiles and amphibians

A. Whether you want them or not - their natural food will be there

B. Water

1. Ground level (toads "drink" through skin - eat many insects)
2. Sloping, shallow sides (toads drowned in pools)
3. Muck at bottom of ponds - don't clean out in early spring!
4. Not just spring - toads OK with just vernal pools, bullfrogs need 2 years as tadpole
5. Safety from fish - fish eat tadpoles (Large bullfrogs retaliate - eat birds!)

C. Shelter

1. Use mulch
2. Provide south- or east-facing rock banks

VII. Planting layouts that attract animals in general

A. The edge effect

1. Where two or more plant communities meet: lawn meets hedge, shrubs meet small trees, small trees meet larger
   a) Birds like different levels
   b) Small mammals like cover to retreat to
2. Loss of small farms for large has eliminated many hedgerows

3. By year 2,000 19.7 million acres more suburbia (NH+VT+MA+RI)

4. Suburbia can have edges. One tall perching tree, many shrubs, beds

B. Diversity

1. There must be diversity - suburbia's monotony a big problem
   • One plant can have 10 - 30 dependent species, from insect to deer

2. Select shrubs for variety of bloom and fruit times

3. Select shrubs for various densities and shapes

4. Animals need evergreens and deciduous plants

C. Greenbelts

1. Hedgerows
2. Groundcovers

D. Grade changes popular with birds, small mammals, reptiles

• Hunting and observation points
   a) Lone tall tree
   b) Dead tree standing just off shore
   c) Large rocks just off shore (also creates eddies for fishing birds)

E. Meadows

• Game birds: pheasants, killdeer

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F. Warm micro-climates
- Crescent shaped clearings facing south

G. Access to water
1. One edge of pond grown up with grasses, shrubs
2. Sloping edge to water
3. Shallows, mud flats
4. Increase your shoreline total

VIII. Maintenance practices that attract and increase animals

A. Seeds and fruits comes from flowers gone ugly!

B. Pruning
1. Leaves some dead wood for tree snags. Reduces overall insect problems in the forest

2. Create some cavities: drill up and into deadwood, under a limb

3. Don't shear: loss of flowers/fruit; too dense for animals to live in

4. Prune for crotches with 3+ limbs (sparrows, finch, warbler - look in winter for nests)

5. Keep the forest edge open
   a) Remove very low tree branches
   b) Prune shrubs by cane removal

C. Animal emergency care: in general, don't!
1. Window hits an exception. Can cover, warm, 15-20 minutes

2. Abandoned birds and animals usually aren't
   - Are you expert enough to care for them?

3. The more animals you attract, the more death you'll see
   - Much advice in “The Backyard Bird Watcher”

D. Hold fall clean up until spring
1. Cut perennials down in spring, make “shocks” of debris
2. Clean birdhouses in March (blowflies are there - and their parasites)

E. Patrol and clean birdhouses regularly
1. How to know it's a “good” nest
2. Problems with ants, wasps, bees beating birds into house
3. Clean hummingbird feeders every 3-4 days

F. Very careful pest control
1. Don't spray
2. Target spray

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3. Spray at night
4. Use biocontrols

IX. Discouraging specific animals

A. You think you have problems

Kent & Donna Dannen of Estes Park, Colorado have 1000 pound elk that chase their birds and destroy feeders. Their curse, at those of us who snicker: May you wake tomorrow to see a 1000 pound squirrel staring in your window, with bits and pieces of your feeders hanging from its whiskers!

B. Basic steps

1. I.D. the pest
2. Check your concept of damage
3. Alter habitat (food, water, shelter)
4. Use a method appropriate to the season, location, environment
5. Killing is a sad thought but it's necessary, and better than relocation
6. Monitor for reinfestation

C. Rats voles, and mice

1. Early spring!
2. Peanut butter
3. Wish the shrews could stay without them...

D. Skunks

1. Mothballs
2. Underground barriers

E. Opossums - do they really bother you?

F. Woodchucks (groundhog)

1. Usually range less than 50 yards

G. Squirrels

1. Squirrel-proof feeders
2. Distasteful bird seed - expensive?
3. Trapping (10 mile range!)

H. Chipmunks

1. Seen eating starling young, snails... butterflies!
2. Usually not in large numbers - so many predators
3. Rat traps (Sorry, guys.)

I. Rabbits

1. Repellents
2. 2' fence smaller than chicken wire, with 6" buried

J. Pigeons, sparrows, starlings, blackbirds

1. Hanging feeders help the most, and regular ground clean-up

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2. Trapping and shooting legal for these only - non-natives
3. Relocating a pigeon is a waste - it'll beat you home
4. Use sunflower, avoid corn and baked goods
5. Use prescribed birdhouse entry-hole sizes, and no perches outside hole
6. Noises and fright devices - can become a full time hobby, not very effective

K. Bluejays

1. Eat young of other species: nature's way
2. Use niger seed only - but will lose cardinals and chickadees, too)
3. Effective alarm callers

L. Cowbirds

1. Lay eggs in others' nests (but others not so dumb as all that!)
2. Danger mostly to deep woods birds (hawks, others that need 200-yard deep woods to nest in)

M. Deer

1. Barriers the only effective homeowner strategy
2. Support park managers' efforts to control herd size

N. Moles

1. Different than voles
2. Early spring, deep tunnel traps

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X. Continuing to learn

A. Wildlife areas

Detroit Zoo and Botanic Garden, Woodward at Ten Mile
Huron-Clinton Metroparks (1-800-47-PARKS)
Nature Centers and outdoor education centers:
Seven Ponds, Dryden
Dinosaur Hill, Rochester
Troy Outdoor Education Center, Coolidge north of Square Lk. Rd.

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B. Societies, organizations:

Audubon Society:

National Wildlife Federation: Backyard Wildlife Habitat Program, 1400 Sixteenth Street, N.W., Washington D.C. 20036-2266

Young Entomologists' Society: Y.E.S. - Young Entomologists Society, 1915 Peggy Place, Lansing, MI 48910

C. Books

"American Wildlife & Plants: A Guide to Wildlife FoodHabits", Alexander C. Martin, Herbert S. Zim, Arnold L. Nelson, Dover Books 1961 (out of print; see www.abebooks.com for cooperative of used book sellers)
“The Audubon Society Guide to Attracting Birds”, Stephen W. Kress, Charles Scribner's Sons, N.Y., 1985
“The Backyard Bird Watcher”, George Harrison, Simon & Schuster, 1979
“Controlling Vertebrates”, Michigan Cooperative Extension Service bulletins
“How to Attract, House and Feed Birds”, Walter E. Schutz, Bruce Publishing Co., 1970
“The Wildlife Gardener”, John V. Dennis, Alfred A. Knopf, 1985
“Landscaping for Wildlife”, Carol Henderson, Minnesota DNR, 1987
“Native Trees, Shrubs and vines for Urban and Rural America”, Gary Hightshoe, Van Nostrand Reinhold, 1988

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C. Specific plants to attract wildlife
Plants for songbirds, hummingbirds, butterflies & small mammals:

Perennials & Vines

Plant name	value:	animals that use it:	culture, notes:
Ajuga reptans (ajuga)	nectar	hummingbirds	HS - SH - S, A - W
Aquilegia canadensis (columbine)	nectar	hummingbirds	HS - S, A - W
Arabis species (rock cress)	nectar	butterfly	S, A
Asclepias incarnata (swamp milkweed)	foliage nectar	butterfly caterpillars butterflies	S, W
Asclepias syriacus (milkweed)	foliage nectar	butterfly caterpillars butterflies	S, A - D
Asclepias tuberosa	nectar	butterflies	S, A - D
Aster species (aster)	seed nectar	songbirds butterflies	S, A-D
Aubrieta deltoidea (false rock cress)	nectar	butterflies	S, HS, A
Buddleia davidii (butterfly bush)	nectar	butterflies, hummingbirds	S, A; deer shun
Campanula species (bellflowers)	seed	songbirds	S - HS, A - W
Campsis radicans (trumpet vine)	nectar	hummingbirds	S, A
Celastrus scandens (bittersweet)	fruit	songbirds (waxwing)	S - HS, A
Ceratostigma plumbaganoides (plumbago)	nectar	butterflies	HS-S, A
Chelone species (turtlehead)	foliage	butterflies (Baltimore)	S - HS - SH, W - A
Chrysanthemum spp. (mum, daisy)	seed	songbirds	S, A
Cirsium vulgare (bull thistle)	nectar	butterflies, hummingbirds	S, A
Coreopsis spp. (tickseed)	seed	songbirds	S - HS, A - D
Delphinium species (delphinium)	nectar	hummingbirds	S, A
Dianthus barbatus (sweet William)	nectar	butterflies, hummingbirds	S, A
Dicentra spectabilis (bleeding heart)	nectar	hummingbirds	HS - S, A
Digitalis species (foxglove)	nectar	hummingbirds	HS - S, A
Plant name	value:	animals that use it:	culture, notes:
Echinacea spp. (purple coneflower, etc.)	seed nectar	songbirds (finch) butterflies	S - HS, A - D
Eupatorium species E. maculatum (Joe Pye weed), E. perfoliatum (boneset)	nectar	butterflies	S, W - A
Gaillardia grandiflora (blanket flower)	nectar	butterflies	S, A - D
Hedera helix (English ivy)	homes	songbirds	SH - HS, A
Hemerocallis species (daylily)	nectar	hummingbirds	S - HS, D - A - W

Culture abbreviations: S - sun, HS - half sun, SH - shade, A - average soil moisture, D - dry conditions, W - wetlands

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Perennials & Vines (cont'd.)

Heuchera species (coral bells)	nectar	hummingbirds	HS - S, A
Hibiscus moscheutos (hardy hibiscus)	nectar	hummingbirds	S, W - A
Iberis sempervirens (candytuft)	nectar	butterflies	S, A - D
Iris species	nectar	hummingbirds	
I. germanica (bearded I.)			S, A
I. Kaempferi, I. laevigata, I. pseudacorus, I. sibirica			S, W - A
Lavandula angustifolia (lavender)	nectar	butterflies	S, A - D
Lobelia species	nectar	hummingbirds	HS - S, A - W
(L. cardinalis: cardinal flower; L. siphilitica, Great blue lobelia)			
Lonicera sempervirens (pink vine honeysuckle)	nectar	hummingbirds	S, HS, A
Mertensia virginica (Virginia bluebells)	nectar	hummingbirds	S - HS, A
Monarda species (bee balm)	nectar	hummingbirds	HS - S, A - W
Nepeta Mussinii (catmint)	nectar	hummingbirds	S, A - D
Oenethera species (primrose)	nectar	hummingbirds	HS - S, A - W
Panicum spp. (switchgrass)	seed	songbirds	S - HS, A - D
Parthenocissus quinquefolia (Virginia creeper)	fruit homes	songbirds songbirds	S - HS, SH, A
Phlox paniculata (garden phlox)	nectar	butterflies, hummingbirds	HS - S, A
Polygonum species	nectar	hummingbird	S - HS, A - W
knotweeds: P. affine , P. Bistorta 'Superbum' , P. cuspidatum 'Compactum'			
Primula species	nectar	butterflies	HS - S, A - W
Candelabra primroses P. beesiana, P. japonica			
Rudbeckia spp. (blackeye Susan, etc.)	seed	songbirds	S, A - D
Ruta graveolens (rue)	foliage	butterfly caterpillars	S, A
Salvia officinalis (perennial sage)	nectar	hummingbirds	S, A - D
Sambucus ebulus (dwarf elder)	nectar	butterflies, hummingbirds	S, A - W
Scabiosa caucasica (pincushion)	nectar	butterflies	S, A
Sedum spectabile (cabbage rose)	nectar	butterflies	S, A - D
Wisteria chinensis (wisteria)	nectar	hummingbirds	S - HS, A

Culture abbreviations: S - sun, HS - half sun, SH - shade, A - average soil moisture, D - dry conditions, W - wetlands

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Annual plants

Plant name	value:	animals that use it:	culture, notes:
Amaranthus caudatus (love lies bleeding)	seed	songbirds	S, A
Antirrhinum majus (snapdragon)	nectar	hummingbirds	S, A
Begonia semperflorens(wax begonia)	nectar	hummingbird	HS - SH - S, A - W
Calendula officinalis (pot marigold)	seed	songbirds	S, A; self-sows
Callistephus chinensis (China aster)	seed	songbirds	S, A
Canna x generalis (canna)	nectar	hummingbirds	S, A - W
Celosia spp. (cockscomb/celosia)	seed nectar	songbirds butterflies	S, A
Centaurea cyanus (bachelor button)	seed	songbirds	S, A - D
Cicchorium intybus (chicory)	seed	songbirds (finch)	S, A - D
Cleome hasslerana (spiderflower)	nectar	hummingbirds	S, A
Consolida ambigua (annual larkspur)	nectar	hummingbirds	S, A; self-sows
Cosmos bipinnatus (cosmos)	seed	songbirds	S, A; self-sows
Dahlia hybrids (dahlia)	nectar	hummingbirds	S, A
Eschscholzia californica (CA poppy)	seed	songbirds (doves)	S, A
Fuchsia hybrids (fuchsia)	nectar	hummingbirds	HS - SH, A
Gladiola hybrids (gladiola)	nectar	hummingbirds	S, A
Impatiens species I. balsamina (garden balsam), I. wallerana (impatiens), I capensis (spotted touch-me-not)	nectar	hummingbirds	S - HS - SH; A - W
Ipomoea convulvus (morning glory)	nectar	hummingbirds	S - HS, A; self sows
Lantana hybrids (ham n' eggs)	nectar	hummingbirds	S, A - W
Mirabilis jalapa (four o'clock)	nectar	hummingbirds	S, A
Plant name	value:	animals that use it:	culture, notes:
Nicotiana alata (flowering tobacco)	nectar	hummingbirds	S - HS, A
Parsley family (dill, fennel, parsley, Queen Anne's lace)	foliage	butterfly caterpillars	S, A
Pelargonium x hortorum (geranium)	nectar	hummingbirds	S, A
Petunia hybrids (petunia)	nectar	hummingbirds	S - HS, A
Phlox drummondii (annual phlox)	seed	songbirds	S, A - D
Portulaca grandiflora (moss rose)	seed	songbirds	S, A - D; self-sows
Salvia species (red salvia; herb sages)	nectar	hummingbirds	S, A - D
Silene spp. (catchfly)	seed	songbirds	S, A
Tagetes spp. (marigold)	seed	songbirds	S, A - D
Tropaeolum majus (nasturtium)	nectar	hummingbirds	S, A - D
Verbena hybrids (garden verbena)	nectar	butterflies	S, A
Zinnia elegans (zinnia)	nectar	hummingbird	S, A

Culture abbreviations: S - sun, HS - half sun, SH - shade, A - average soil moisture, D - dry conditions, W - wetlands

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Shrubs for wildlife

Plant name	value:	animals that use it:	care, culture, notes:
Azalea species (azalea)	nectar	hummingbirds	S - HS, A
Caragana arborescens (peashrub)	nectar	hummingbirds	S - HS, A - D
Chaenomeles species (quince)	nectar	hummingbirds	S - HS, A - D
Cornus spp. (dogwood) C. amomum (silky dogwood), C. stolonifera (redtwig), C. racemosa (graystem), C. mas (cornelian cherry)	fruit	songbirds, small mammals	#1 plant; S, HS, A - W
Cotoneaster spp. (cotoneaster)	fruit homes	songbirds (waxwings), mammals songbirds, small mammals	S - HS, A - D; winter food
Hibiscus syriacus (Rose of Sharon)	nectar	hummingbirds	S - HS, A - W
Ilex verticillata (winterberry)	fruit	songbirds, mammals	S-HS, A-W; winter food
Kolkwitzia amabilis (beauty bush)	nectar homes	hummingbirds songbirds	S - HS, A
Ligustrum spp. (privet)	fruit homes	songbirds songbirds, small mammals	S - HS, A - D winter food
Lindera benzoin (spicebush)	fruit	songbirds	#1 plant; S - HS - SH, A - W winter food
Mahonia aquifolium (grapeholly)	fruit	songbirds, mammals	S, HS; A
Myrica pensylvanica (bayberry)	fruit	songbirds	S, A; winter food
Pyracantha hybrids (firethorn)	fruit homes	songbirds (waxwings) songbirds, small mammals	S - HS, D - A; winter food
Rhus spp. (sumac)	fruit	songbirds, mammals	S, A; winter food
Ribes odoratum (clove currant)	nectar fruit homes	hummingbirds songbirds, small mammals songbirds	S - HS, A
Rosa, hedge types (rose)	fruit homes	songbirds, small mammals small mammals, songbirds	S, A; winter food
Sambucus canadensis (elderberry)	nectar	butterflies	#1 plant; S, A - W; deer shun
Symphoricarpos alba (snowberry)	fruit	songbirds, mammals	S - HS, A; winter food
Syringa vulgaris (lilac)	nectar	hummingbirds	S, A
Vaccinum spp. (blueberry)	fruit homes	songbirds, mammals songbirds	S - HS, A
Viburnum dentatum (arrowwood)	fruit	songbirds, mammals	S, A; winter food
Viburnum trilobum (American cranberry bush)	fruit homes	songbirds (waxwing), mammals songbirds	S - HS, A -W; winter food
Weigela florida (weigela)	nectar	hummingbirds	S - HS, A

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Small Trees

Plant name	value:	animals that use it:	culture, notes:
Acer palmatum, A. ginnala (Japanese and Amur maple)	seeds	small mammals	S - HS, A
Amelanchier spp. (serviceberry)	fruit	songbirds, mammals	S - HS, A - W
Cornus spp. (dogwood) Kousa dogwood, flowering dogwood, pagoda dogwood, giant dogwood	fruit	songbirds	HS - S, A
Craetegus species (hawthorn)	nectar fruit	hummingbirds songbirds (waxwings, robins)	S, A - D
Juniperus virginiana (red cedar)	fruit homes	songbirds, mammals songbirds, small mammals	#1 plant; S, A - D; winter food
Malus varieties (crabapple)	nectar fruit	hummingbirds songbirds, small mammals	S, A
Prunus spp. (cherry)	fruit homes	songbirds, mammals songbirds, small mammals	S, A - D
Sorbus aucuparia (mt. ash)	fruit	songbirds (waxwings)	S, A - D

Large Trees

Plant name	value:	animals that use it:	culture, notes:
Acer spp. (maple)	seed/sap homes	songbirds, mammals /butterflies all	#1 plant; S - HS, A
Aesculus species (horsechestnut)	nectar	hummingbirds	S, A
Betula spp. (birch)	seed homes (songbirds (chickadees)	songbirds (finches)	S, A
Celtis occidentalis (hackberries)	seed homes	songbirds, small mammals songbirds, small mammals	#1 plant; S - HS, A
Fagus spp. (beech)	seed homes	songbirds, mammals all - many cavities	S - HS - SH, A
Picea spp. (spruce)	homes seed	songbirds, small mammals small mammals	S, A - W
Pinus spp. (spruce)	homes seed	songbirds, small mammals small mammals	#1 plant; S, A - D
Quercus spp. (oak)	homes seed	songbirds, small mammals small mammals	#1 plant; S, A - W
Salix species (willow)	nectar homes	butterflies songbirds, small mammals	#1 plant; S, W - A
Tsuga canadensis (hemlock)	homes fruit	songbirds, small mammals small mammals	S - HS - SH, A winter food
Ulmus spp. (elm)	seed homes	songbirds, small mammals songbirds, small mammals	#1 plant; S, A - W

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Especially for Butterfly Lovers: Plants to Feed Butterfly Caterpillars
(Because there are no butterflies that appear fully grown!)

Butterfly	Host Plants
American Painted Lady	everlastings: Antennaria dioica#, Anaphalis species (spp.) Gnaphalium spp.
Painted Lady	Cirsium species (thistles), other Compositeae* (daisy)
Monarch	Asclepiaceae* (milkweeds)
Baltimore	Chelone species (turtlehead), sometimes white ash@
Black Swallowtail	Umbellifereae*: Queen Anne's lace, dill, fennel, parsley; Ruta graveolens
Giant Swallowtail	Ruta graveolens (rue)
Tiger Swallowtail	Salix spp. (willow)@, Populus spp. (cottonwood)@, Betula spp. (birch)@, Fraxinus spp. (ash)@, Prunus spp. (cherry)@, Liriodendron tulipifera (tulip-tree)@
Pipevine Swallowtail	Aristolochia macrophylla (Dutchman's pipe vine)
Checkered White	Cleome hasslerana (Spiderflower)
Veined White	Arabis spp. (rock cress), Dentaria (toothwort)
Olympia Marblewing	Dentaria (toothwort)
Mourning Cloak	willow@, Ulmus spp. (elm)@, Celtis spp. (hackberry)@, cottonwood@
Tawny Emperor	Celtis spp. (hackberry)@
Hackberry Butterfly	Celtis spp. (hackberry)@
Cabbage White	broccoli, etc.; nasturtium
Common Sulfur	clover, legumes (perennial sweet pea)
Orange Sulfur	clover, legumes (perennial sweet pea)
Little Yellow	clover, legumes (perennial sweet pea)
Red Admiral	hops, Urticaceae* (incl. stinging nettle)
Question Mark	hackberry@, hops, Urticaceae* (including stinging nettle)
Viceroy	mainly willow@; sometimes poplar@, Malus spp. (apple)@, plum@
Silvery Crescentspot	sunflower, Rudbeckia laciniata, Asteraceae* (asters)
Gorgone Crescentspot	sunflower, other Compositaea*
Brown Elfin	azalea, blueberry, bearberry
Frosted Elfin	Lupinus spp, Baptisia australis
Hoary Edge	Baptisia australis (false indigo)
Henry's Elfin	redbud@, blueberry
Olive Hairstreak	Juniperus virginiana (red cedar)
Hickory Hairstreak	Carya spp. (hickory)@
Eastern Tailed Blue	legumes (incl. sweet pea)
Spring Azure	Cornus spp. (dogwood)@, Ceonothus spp.@, Viburnum spp. (arrowwood, Koreanspice, American cranberrybush), Cimicifuga
racemosa,	Spiraea spp.
Atlantis Frittilary	Viola canadensis (violet)
Common Checkered Skipper	Malvaceae* (rose mallow)
Tawny Edge Skipper	grasses including Panicum virgatum (switch grass)
Falcate Orangetop	Arabis spp., Sisymbrium spp. (hedge mustard)
Zebra Swallowtail	paw paw tree@

* Capitalized names ending in “aea” or “ea” refer to a family of plants. Some common plants within the family are listed for you. Consult the reference book such as Hortus for a listing of the plant groups within each family.
# Use the botanical name of the plant when ordering; common names sometimes refer to a number of plants but butterfly caterpillars are dependent on a specific plant.
@ Trees that are hosts are indicated with this symbol

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