

Gardening and Landscaping for Nature

“For the foreseeable future ... there is no escaping the need to manage nature. The best we can do is to observe the following rule: So manage nature as to minimize the need to manage nature.”

The Ecology of Eden, Evan Eisenberg, Knopf, 1998

If you’ve made the decision to have a more natural garden or landscape but aren’t quite sure how to begin, it makes sense to get advice from someone like Carol Hadlock who has lots of experience in the trials and errors of creating natural habitat. Here’s what she says about designing and maintaining such spaces.

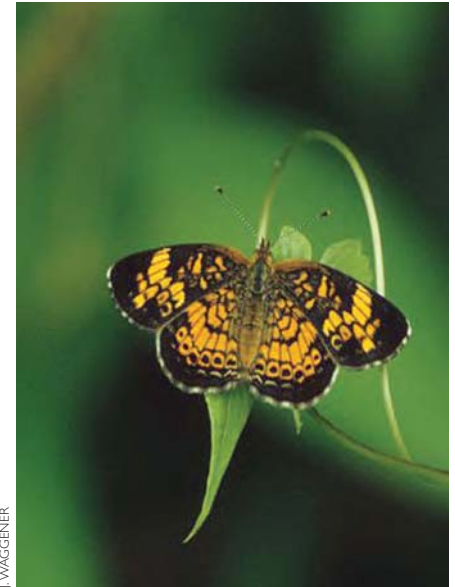
Making a Plan

Whether you are ready for a complete makeover of your property or prefer to take gradual steps toward a more natural landscape, you will need a well thought out plan. Before doing anything, look around your property and ask these important questions:

1. How much lawn do you have, and how much do you need? The less conventional lawn, the more area that can be natural.
2. What do you know about your property?
 - b. Where is it sunny or shady?
 - c. Where is it wet or dry?
 - c. What kind of soil do you have?
3. What do you already have that is inviting to wildlife? Do an inventory of existing plants and other features attractive to wildlife.
4. What creatures would you like to attract to your property? Butterflies and goldfinches need open, sunny spaces; bluebirds, open spaces and berry bushes; frogs and dragonflies, ponds.

The next step is to sketch your property as it would appear from above. This will be your base map. It should include impervious surfaces (buildings, driveway, sidewalks), existing trees and shrubs, planted areas (flower and/or vegetable gardens), water sources (streams or ponds), areas of invasive vegetation, brush piles, rock piles, and existing bird boxes and feeders. Note the direction of the sun. If the ground isn’t level, show where it slopes. Make a number of copies of this map and use them to experiment with different garden layouts. You can save a lot of time, money and labor by making your mistakes on paper.

Another important consideration — check the views from inside your home or office. One of the great joys of landscaping for nature is being able to observe closely the lives of the creatures who will share your space. In deciding where to put your new trees, shrubs and flower beds, make sure that you will have a good view



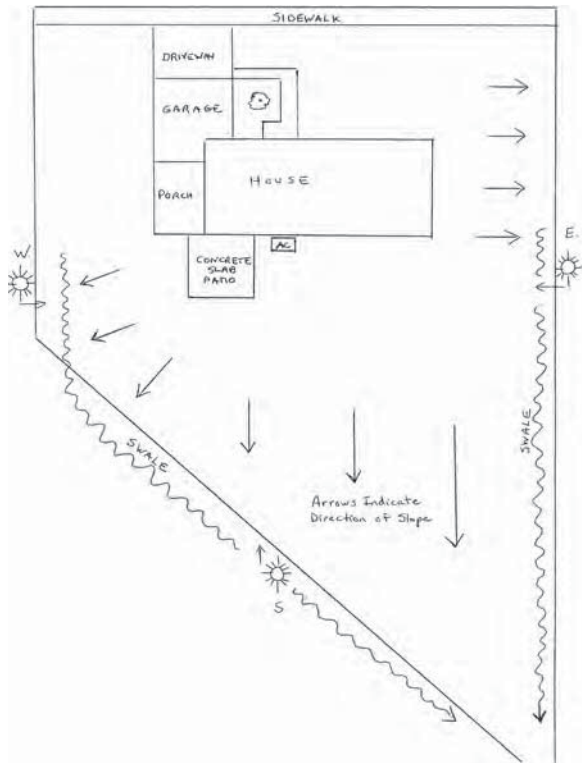
J. WAGGENER



K. MUNROE

Top: Pearl Crescent

Bottom: Green Frog

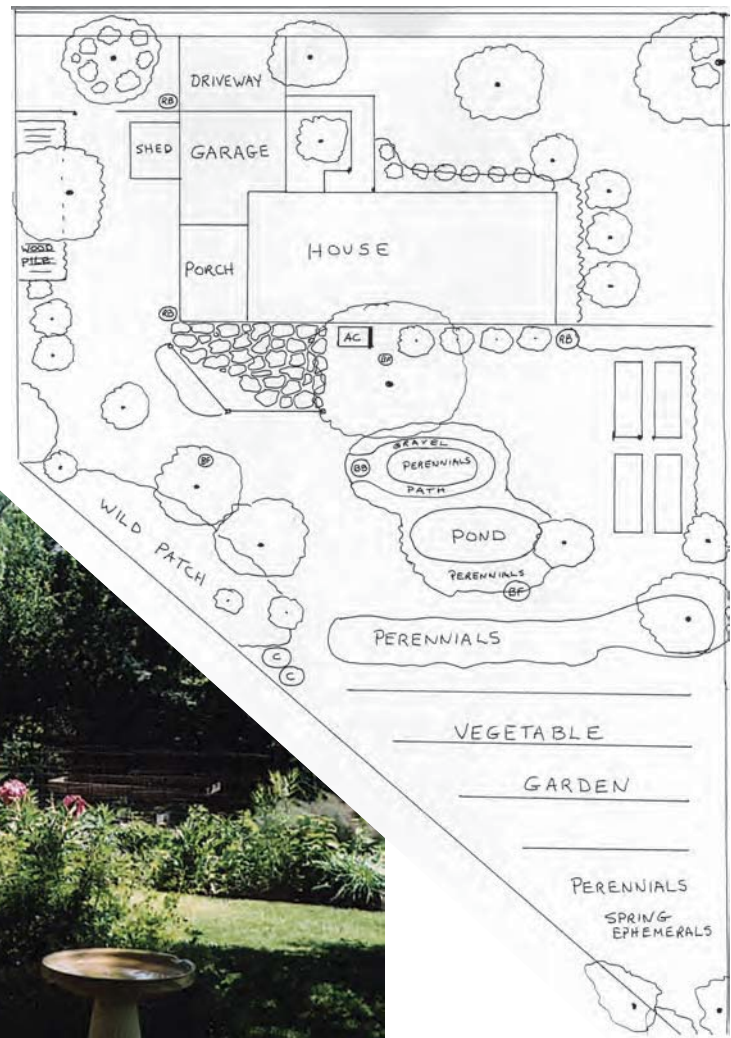


J. HADLOCK

Above: Hadlocks' preliminary garden plan and backyard before landscaping

Right: Hadlocks' final garden plan

Below: Hadlocks' backyard after landscaping



J. HADLOCK

of the activity that is sure to result from your efforts.

Next, create a planting plan, keeping in mind your answers to the important questions.

1. Select your trees first and decide where you want them. Next, choose your shrubs; then your smaller plants and groundcovers.
2. Select plants that are well-suited to the conditions of your property.
3. Plant with repetition — several individual plants of selected species rather than the “one of everything” approach.
4. Think layers — canopy, mid-story, shrubs, smaller plants, ground covers, leaf litter. Every plant layer increases the diversity of wildlife.
5. Think all seasons — flowers that bloom from early to late; fruits that ripen in succession.
6. Plant so that each layer connects somewhere to another layer. This allows wildlife to move vertically and horizontally through your garden.
7. Start small, one project at a time.

This may sound like a contradiction, but there is also an “undergardening” aspect to landscaping for nature. Choose an out-of-the-way area of your property and let it go natural, or wild, so you can see what happens when nature takes its own course. You can start by clearing turf grass and planting some native grasses and perennial flowers and then let the birds help you with the rest. They will plant all sorts of things as they move about your “test” patch.

Folks who live in apartments can also garden for nature, because even there, balconies or window boxes can be made attractive to wildlife. Vines in pots can be trained to grow up and around balcony railings and, with nectar-producing, tubular-shaped blossoms, can attract hummingbirds. Pots of flat topped flowers can attract butterflies, and host plants will nourish their caterpillars.

Keeping these basic things in mind — your site conditions and who you hope to attract — your design for nature can be whatever is attractive to you, as formal or informal as you like. Landscapes are always works in progress. If you try something that doesn't work, or you don't like the way it looks, you can change it. The really important thing is whether it satisfies you as well as wildlife. It should be a healthful place where people enjoy spending time and find connections with the natural world.



J. HADLOCK



J. WAGGENER



J. WAGGENER

Clockwise from top:

Planting a variety of species, heights and colors

Pileated Woodpecker on “dead” tree

The Hadlock's garden as a classroom

Natives In, Invasives Out



J. WAGGENER



J. WAGGENER

Next, what should go in and out of your property? A major objective of Audubon At Home is to encourage people to use native plants. Why are they so important to wildlife? Because they and the other native wildlife have evolved together. Each gets something it needs from the other. Wildlife gets food and shelter; plants get reproductive services (pollination and seed dispersal). And, they keep each other in check. The value to you is that natives are adapted to our soil, moisture and climate, and they have their own ways of dealing with insects and diseases. That means less watering and no need for pesticides and chemical fertilizers.

The opposite of “native” is “exotic,” and while some of these plants can be useful to wildlife and will be well-behaved in a garden, many of them, if they escape, can become extremely invasive. Because they don’t belong here and lack natural controls, they are now running rampant through our woods and meadows, and along our highways and streams.

They overwhelm and displace native flora and thus deprive birds and other wildlife of essential food needed to face the year’s many challenges, from raising young to surviving the winter.

What can you do about invasives?

1. Learn to recognize them.
2. Never plant them. If you have them, remove them.
3. Encourage nurseries not to sell them.
4. Participate in community removal events.

The enormity of the invasive problem can be seen at places such as Roosevelt Island, where English ivy has completely overwhelmed the ground and trees, or Huntley Meadows, where the forest floor is solid with Japanese stiltgrass, or along the W&OD Trail, where mile-a-minute vine seems to be engulfing everything. Happily, there are cases like the Thompson Wildlife Management Area outside of Linden, Virginia, where volunteers cleared the native plant trail of invasive garlic mustard that was encroaching on the trilliums, rue anemones, toothworts, lady slippers, and many other special wildflowers. It is important that



J. WAGGENER



C. THOMPSON-DEAHL



J. WAGGENER

Clockwise from top:
 Kudzu’s exotic beauty (left) and
 invasive character (right)
 English Ivy out of control
 Combating Japanese Honeysuckle
 Removing invasive Mile-a-minute Vine

we do all we can to stop these invaders from crowding out our native plants and decreasing the biodiversity of this region's natural areas.

Breaking the Pesticide Habit

For many people, the word “insect” could just as well be spelled “pest.” We seem to have an aversion to creepy, crawly, buzzing things and a knee-jerk reaction to kill any that cross our paths. But, in the natural world and in our gardens, insects eat plants. It's a fact. For gardeners who like things perfect and beautiful, the sight of a chewed leaf sends them straight for a can of pesticide spray. And yet, 98 percent of insects are beneficial. Few pesticides, unfortunately, discriminate between “harmful” and “beneficial” creatures, and they often kill far beyond their target, reaching into the soil and killing organisms that are essential to healthy soil and healthy plants. They can harm or kill wildlife directly if exposure occurs during or soon after application. In addition, birds and bats that depend on a healthy population of insects will suffer as pesticides poison or kill off this food supply.

If you want birds, you must have bugs! Even seed-eaters feed insects to their young.

Giving up pesticides is not just for the birds. In a recent study, quoted in Seattle Audubon's *Gardening for Life*, ninety-nine percent of the four-year-old children studied have at least one compound in their systems traceable to organophosphorus pesticides. That's the group that includes diazinon and chlorpyrifos, two of the most common lawn and garden pesticides. Three quarter of the kids had two of the compounds in them. Another study by the University of Washington showed high levels of highly toxic compounds known as dialkylphosphates, even where families had not used pesticides for months. These pesticide residues can be tracked easily into the house, settle into the carpet and hang around for a long time.

So, how do you go about freeing yourself from pesticide dependence?

1. **TOLERANCE!** Learn to overlook a few chewed leaves and try to look at bugs from a different perspective.
2. Maintain healthy soil by using compost and avoiding chemical fertilizers. This helps plants to resist pest and disease problems.
3. Encourage beneficial insects.
4. Use non-toxic alternatives to address pest problems — hand pick tomato hornworm and snails; use soapy water to wash off aphids; drown slugs in beer; use compost “tea” for mildew.
5. Avoid products labeled “highly toxic” or “may be fatal if swallowed.”

Let me leave as a final thought something poet, essayist, naturalist and avid gardener Diane Ackerman wrote in her book, *Cultivating Delight*: “If you're willing to poison yourself and the ecosystem to have a well-tamed garden, then what is the point of the garden?” §

Few pesticides, unfortunately, discriminate between “harmful” and “beneficial” creatures, and they often kill far beyond their target, reaching into the soil and killing organisms that are essential to healthy soil and healthy plants.

Crab Spider on coneflower



L. STEPHENS

NATIVE PLANTS FOR YOUR LANDSCAPE

The hard and fast rule for creating a beautiful, easy care landscape is to always choose the right plant for the right place. Assess the conditions in each area where plantings are desired and then choose the right plant for those conditions. Consider whether the area is in sun or shade and the moisture content of the soil when determining which plants to grow. Plants that are happy

with their conditions will thrive and require less care. Plants that are native to eastern North America, in general, and specifically to Virginia, are adapted to our climate and soil conditions. They are the best choices to complement a naturalized landscape scheme in our area.

EVERGREEN SCREENING TREES

American Holly (*Ilex opaca*)

Eastern Red Cedar (*Juniperus virginiana*)

Virginia Pine (*Pinus virginiana*)

LARGE DECIDUOUS SHADE TREES

American Sycamore (*Plantanus occidentalis*)

Beech (*Fagus grandifolia*)

Blackgum, Tupelo (*Nyssa sylvatica*)

Common Hackberry (*Celtis occidentalis*)

Green Ash (*Fraxinus pennsylvanica*)

Northern Red Oak (*Quercus rubra*)

Persimmon (*Diospyros virginiana*)

Pin Oak (*Quercus palustris*)

Red Maple (*Acer rubrum*)

Red Mulberry (*Morus rubra*)

River Birch (*Betula nigra*)

Sourwood (*Oxydendrum arboreum*)

Southern Red Oak (*Quercus falcata*)

Sweet Birch (*Betula lenta*)

Sweetgum (*Liquidambar styraciflua*)

White Oak (*Quercus alba*)

SMALL DECIDUOUS AND UNDERSTORY ACCENT TREES

Eastern Redbud (*Cercis Canadensis*)

Flowering Dogwood (*Cornus florida*)

Fringetree (*Chionanthus virginicus*)

Ironwood (*Carpinus caroliniana*)

Nannyberry Viburnum (*Viburnum lentago*)

Sassafras (*Sassafras albidum*)

Serviceberry (*Amelanchier arborea*)

EVERGREEN SHRUBS

Inkberry (*Ilex glabra*)

Mountain Laurel (*Kalmia latifolia*)

Rosebay Rhododendron (*Rhododendron maximum*)

DECIDUOUS SHRUBS

American Cranberry (*Viburnum trilobum*)

American Beautyberry (*Callicarpa americana*)

American Elderberry (*Sambucus canadensis*)

American Filbert (*Corylus americana*)

Arrowwood Viburnum (*Viburnum dentatum*)

Black Chokeberry (*Aronia melanocarpa*)

Blackhaw Viburnum (*Viburnum prunifolium*)

Bottlebrush Buckeye (*Aesculus parviflora*)

Buttonbush (*Cephalantha occidentalis*)

Common Ninebark (*Physocarpus opahfolius*)

Dwarf Chinkapin Oak (*Quercus prinoides*)

Dwarf Fothergilla (*Fothergilla gardeni*)

Highbush Blueberry (*Vaccinium corymbosum*)

Mapleleaf Viburnum (*Viburnum acerfolium*)

Northern Bayberry (*Myrica pennsylvanica*)

Oakleaf Hydrangea (*Hydrangea quercifolia*)

Pinxterbloom Azalea (*Rhododendron nudiflorum*)

Possumhaw (*Rex decidua*)

Red Chokeberry (*Aronia arbutifolia*)

Scarlet Elderberry (*Sambucus pubens*)

Shrubby St. Johnswort (*Hypericum prolificum*)

Silky Dogwood (*Cornus amomum*)

Spicebush (*Lindera benzoin*)

Sumac (*Rhus spp.*)

Sweet Azalea (*Rhododendron aborescens*)

Swamp Azalea (*Rhododendron viscosum*)

Virginia Sweetspire (*Itea virginica*)

Witch Hazel (*Hamamelis virginiana*)

Winterberry (*Ilex verticillata*)

VINES

Grape (*Vitis spp.*)

Virginia Creeper (*Parthenocissus quinquefolia*)

Virgin's Bower (*Clematis virginiana*)

GROUNDCOVERS

Allegheny Pachysandra (*Pachysandra procumbens*)
Sweet Woodruff (*Galium odoratum*)

GRASSES

Big Bluestem (*Andropogon gerardi*)
Broom Sedge (*Andropogon virginicus*)
Hairgrass (*Muhlenbergia capillaris*)
Indian Grass (*Sorghastrum nutans*)
Little Bluestem (*Andropogon scoparius*)
Northern Sea Oats (*Chasmanthium latifolium*)
Panicgrass/Switchgrass (*Panicum virgatum*)
Side Oats Grama (*Bouteloua curtipendula*)
Tufted Hairgrass (*Deschampsia caespitosa*)

FERNS

Christmas Fern (*Polystichum acrostichoides*)
Cinnamon Fern (*Osmunda cinnamomea*)
Lady Fern (*Athyrium filix-femina*)
Maidenhair Fern (*Adiantum pedatum*)
Marginal Wood Fern (*Dryopteris marginalis*)
New York Fern (*Thelypteris noveboracensis*)
Ostrich Fern (*Matteuccia pennsylvanica*)
Royal Fern (*Osmunda regalis*)
Sensitive Fern (*Onoclea sensibilis*)

WOODLAND WILDFLOWERS

Aster (*Aster spp.*)
Black Cohosh (*Cimicifuga racemosa*)
Bleeding Heart (*Dicentra eximia*)
Bloodroot (*Sanguinaria canadensis*)
Blue Phlox (*Phlox divaricata*)
Columbine (*Aquilegia canadensis*)
Dutchman's Breeches (*Dicentra cucullaria*)

Goldenrod (*Solidago spp.*)
Green and Gold (*Chrysogonum virginianum*)
Turk's Cap Lily (*Lilium superbum*)
Virginia Bluebell (*Mertensia virginica*)
White Wood Aster (*Aster divaricatus*)
Wild Geranium (*Eupatorium coelestinum*)
White Woodland Milkweed (*Asclepias incarnata*)

SUNNY MEADOW WILDFLOWERS

Beardtongue (*Penstemon leavigatus*)
Bee Balm (*Monarda didyma*)
Black-Eyed Susan (*Rudbeckia fulgida*)
Blazing Star (*Liatris ligulistylis*)
Boneset (*Eupatorium perfoliatum*)
Cardinal Flower (*Lobelia cardinalis*)
Evening Primrose (*Oenothera biennis*)
Golden Alexander (*Zizia aurea*)
Ironweed (*Vernonia noveboracensis*)
Joe-Pye Weed (*Eupatorium maculatum*)
Lance-leaved Coreopsis (*Coreopsis lanceolata*)
Milkweed (*Asclepias spp.*)
Mountain Mint (*Pycnanthemum tenuifolium*)
New England Aster (*Aster novae-angliae*)
Purple Coneflower (*Echinacea purpurea*)
Smooth Aster (*Aster laevis*)
Sneezeweed (*Helenium autumnale*)
Sundrop (*Oenothera perennis*)
Tickseed Coreopsis (*Coreopsis tinctoria*)
Turtlehead (*Chelone glabra*)

Used with permission of Reston Association.



K. MUNROE



C. HEIZER



K. MUNROE

Left to right: Ox-eye Sunflower; Junco in hawthorn; Bumblebee and Butterfly Weed

BUTTERFLY GARDENING TIPS

1. Do not use pesticides and herbicides.
 - a. Most kill butterflies, caterpillars and beneficial insects.
 - b. Harmful insects quickly become immune.
 - c. Predatory insects and birds will control pests, given time. They may sometimes snack on your butterflies and caterpillars. You can protect caterpillars by hand-raising them in a cage or enclosed area.
2. Choose a sunny, protected area.
 - a. An area receiving at least 5 to 6 hours of sun daily is preferable.
 - b. Butterflies rarely feed in shade.
 - c. Most plants favored by butterflies prefer sun to partial shade.
 - d. Butterflies need shelter from strong winds.
 - e. For more sun, trim lower limbs of trees and large shrubs, or try container gardening.
3. Plant nectar flowers for adult butterflies.
 - a. Choose perennials and annuals so that some butterfly favorite will be blooming from early spring through late fall.
 - b. Plant large areas of one plant species or one color.
 - c. Native plants are usually preferred as butterflies will recognize these.
 - d. Choose single or semi-double blooms over highly double flowers; extremely fancy blooms generally have less nectar, and it is more difficult for butterflies to obtain.
 - e. Flat-topped blossoms or clusters of short, tubular flowers are favorites.
 - f. Deadhead (cut off dead blooms) to keep plants flowering abundantly.
4. Plant host plants for butterfly caterpillars.
 - a. You'll be able to observe life cycles.
 - b. Female butterflies will be drawn to your garden and encouraged to stay and lay eggs.
 - c. Without plants for caterpillars, there would be no butterflies.
 - d. Larvae do eat leaves and flowers of host plants but don't usually kill the plants. Chewed foliage may be unsightly, so screen host plants from main viewing area. Be sure you've planted enough to support the growing caterpillars.
5. Provide water.
 - a. Butterflies will drink from shallow puddles and dew on leaves.
 - b. They will also drink and "puddle" on damp or muddy areas.
6. If space is limited, try planting butterfly-attracting flowers in containers, window boxes or hanging baskets.
7. Provide rocks or bare soil to allow butterflies to bask in the sun.
8. Research before planting.
 - a. Host plants need to be for larvae of butterflies found in the area.
 - b. Determine if flowers/plants prefer dry or moist conditions, full or partial sun, acid or alkaline soil, etc.
 - c. Plants grow; don't place potentially large shrubs/trees where they will block sunlight from smaller flowers.
 - d. Start with a few of the butterflies' favorite flowers.
 - e. Observe plants in the wild, in gardens of others, in parks and at plant nurseries to find what grows well and attracts butterflies.
9. Butterfly gardens attract other wildlife, primarily birds and bees.
 - a. Bees rarely sting when feeding.
 - b. Use common sense when working in the garden around bees.



Monarch caterpillar on host milkweed

M. READY

- c. Butterfly gardens do not attract rats; rodents go where they can find food.
- 10. Protect your butterfly garden from human predators. Adults and children should be encouraged to watch and learn about butterflies and caterpillars without handling them.
- 11. Butterfly gardens don't need to consist exclusively of nectar and host plants. Including some of your favorite flowers and plants is fine.
- 12. Be patient! It may take butterflies more than one growing season to find your new garden.



L. STEPHENS

Skipper on coreopsis

© WABC- B. Farron, 2/00

BUTTERFLY HOST AND NECTAR PLANTS

(A selection of native vegetation attractive either as hosts for caterpillars or as nectar sources for adults)

While butterflies are generally quite specific in their choice of plants for laying eggs and to sustain larvae (caterpillars), they may be attracted to several nectar sources. The following list indicates how a relatively few, but diverse, nectar sources like asters, clover, ironweed and one or more of the native milkweeds may attract a wide variety of butterflies.

Butterfly Species	Host Plants	Nectar Plants						
		Asters	Clover	Dogbane	Ironweed	Joe-pye Weed	Milkweeds	Thistles
Zebra Swallowtail	Paw-Paw			X			X	
Tiger Swallowtail	Tulip Poplar			X	X	X	X	X
Sulphur (species) *	Clover	X	X		X			X
E. Tailed-Blue	Clover	X	X	X				
Azure (species) **	Dogwood/Sumac			X			X	
Great Spangled Fritillary	Violets			X	X	X	X	X
Pearl Crescent	Asters	X		X			X	
Anglewings ***	Nettles	X	X				X	
Red Admiral	Nettles			X			X	
Common Buckeye	Gerardia	X	X		X		X	
Viceroy	Willows	X				X	X	
Monarch	Milkweeds	X	X	X			X	X
Silver-spotted Skipper	Black Locust		X	X	X	X		
Least Skipper	Grasses		X	X				

* Clouded and/or Orange Sulphur ** Spring and Summer Azure *** Anglewings: Question Mark and/or Eastern Comma

Referenced Nectar Sources: Asters/Composites (*Aster* species), Clovers (*Trifolium* sp.), Dogbane (*Apocynum* sp.), New York Ironweed (*Vermonia noveboracensis*), Joe-pye Weed (*Eupatorium* sp.), Milkweeds (*Asclepius* sp.), Thistles (*Cirsium* sp.).

Additional Nectar Sources: Narrow-leaved Sunflower (*Helianthus agustifolius*), Black-eyed Susan (*Rudbeckia hirta*), Goldenrods (*Solidago* sp.), Pickeralweed (*Pontederia cordata*), Tickseed Sunflower (*Bidens polylepis*) and Cardinal Flower (*Lobelia cardinalis*).

Sources: B. Farron, R. Smythe, N. Staunton and J. Waggener

Note: If your favorite nursery does not stock these native plants, you can suggest they be made available.

The Audubon Society of Northern Virginia

Celebrating a quarter century protecting birds, other wildlife and their habitats throughout Northern Virginia.



J. WAGGENER



J. WAGGENER

Audubon At Home
in Northern Virginia:
Working to preserve
the natural heritage of
a dynamic region



J. WAGGENER