



# Habitats

A Fact Sheet Series on Managing Lands for Wildlife

## Principles for Creating a Backyard Wildlife Habitat

Bulletin #7132

**I**t's easy to create a landscape for your own enjoyment and, at the same time, provide for the needs of wildlife. This fact sheet will introduce you to nine principles that will help you do just that: the four basic wildlife needs; function and form; diversity; seasonality; arrangement; protection; native plants and seed origins; climate and plant hardiness zones; and soils and topography.

### The Four Basic Wildlife Needs: Food, Water, Cover and Space

**Food:** Food supplies energy and nutrients. Each wildlife species has its own nutritional needs, which change from one season to another and as an individual animal goes through its life cycle. Your plantings can provide a variety of foods, such as fruits and berries, grains and seeds, nuts and acorns, browse plants which include twigs and buds of shrubs and trees, forage plants which include grasses and legumes, and aquatic plants. Insects and other invertebrates, attracted to flowers, shrubs and trees, are also food for wildlife. Grit is used by many birds as part of their digestion. Flowering plants first provide nectar, then seeds or fruits. In some instances, the same plants hold their seed or fruit into fall or winter.

**Water:** This is essential to all forms of life. If you have a watery habitat on your property, preserve it. If not, consider how you might provide water. You might create a pond or use birdbaths as a source of water in your yard. Heated birdbaths



## Profile: Alternate-leaf Dogwood

Alternate-leaf dogwood (*Cornus alternifolia*) flowers provide nectar for insects. Fruit and buds are used by many bird species and some mammals. This plant is also used for shelter and nesting by birds.



provide water when most other sources are frozen. Food provides some of the water necessary to wildlife, but a good drink of clean water is always welcome. Birdbaths should be no more than three inches deep, and have a rough, sloping bottom to provide good footing.

**Cover:** Trees, shrubs, grasses and flowering plants provide shelter or cover for wildlife, as do rock piles, brush piles, cavities in trees and birdhouses. Wildlife use cover to protect themselves from the elements, to hide from predators and to rest or sleep. They also use cover for nesting and rearing their young.

**Space:** Many species of wildlife are territorial, defending an area that contains the food, water and cover they need. Species that are not territorial occupy a home range within which they perform daily functions and find food, water and cover. The amount of space needed for a territory or home range varies with the species, the quality of the habitat and the time of year. Have you noticed that many birds are solitary or paired in

summer and flock together in winter? Keep in mind that territories and home ranges may include, but often extend beyond, your yard.

## Function and Form

When choosing plants for your yard, consider their function or role, as well as their form or appearance. Ask yourself, “Will it provide food or shelter, will it add to the diversity of the habitat?” You may have limits as to what you can plant because of the size of your yard or the cost, so choose plants that serve more than one function.

## Diversity

Diversity or variety in your habitat will promote a healthy landscape and attract diverse wildlife species. Aim for plant species and structural diversity, as well as a variety of non-living materials.

**Plant species diversity:** The presence of many plant species makes it less likely that insects or disease will cause severe problems. Having many species of trees, shrubs, perennial and annual flowers and grasses in your yard will also attract more varied wildlife. Diverse plants provide a wide range of foods that are available throughout the year.

**Plant structural diversity:** The shape and size of different plants combine to create structure in your landscape horizontally and vertically. Horizontal structure, side-to-side, can be thought of in terms of edges, those places where one habitat type meets another, such as a lawn meeting a line of trees. You can increase the diversity of the edge by widening the ecotone, the zone of transition between habitat types. For example, you could plant small shrubs such as butterfly bush, tall shrubs such as serviceberry,

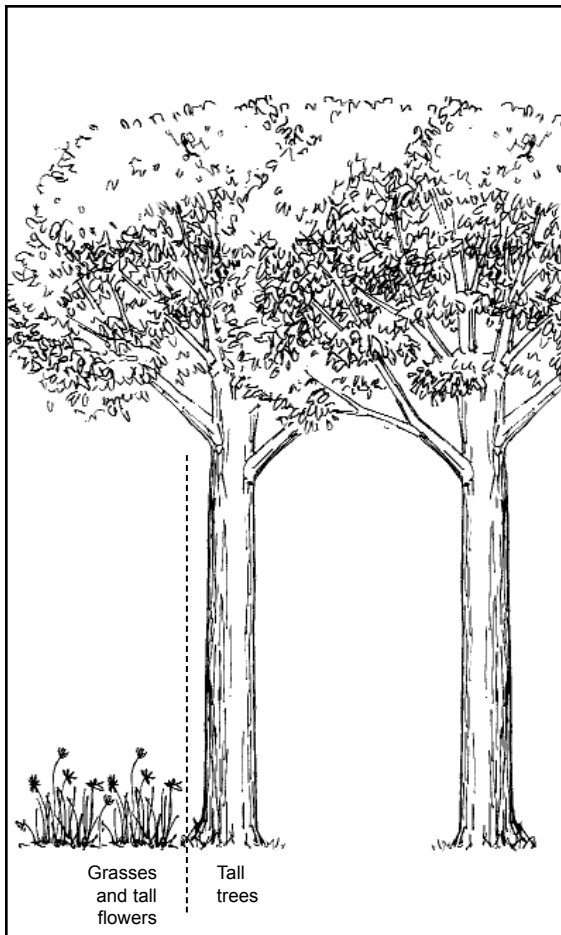


and small trees such as crabapple to the edge between a lawn and a line of trees, as shown in the illustration. You can widen the ecotone in a flower garden by planting species of increasing heights. This may be low-growing plants, such as sedum and marigolds, in front of medium height plants, such as columbine and liatris, with tall plants, such as phlox and yarrow, located behind.

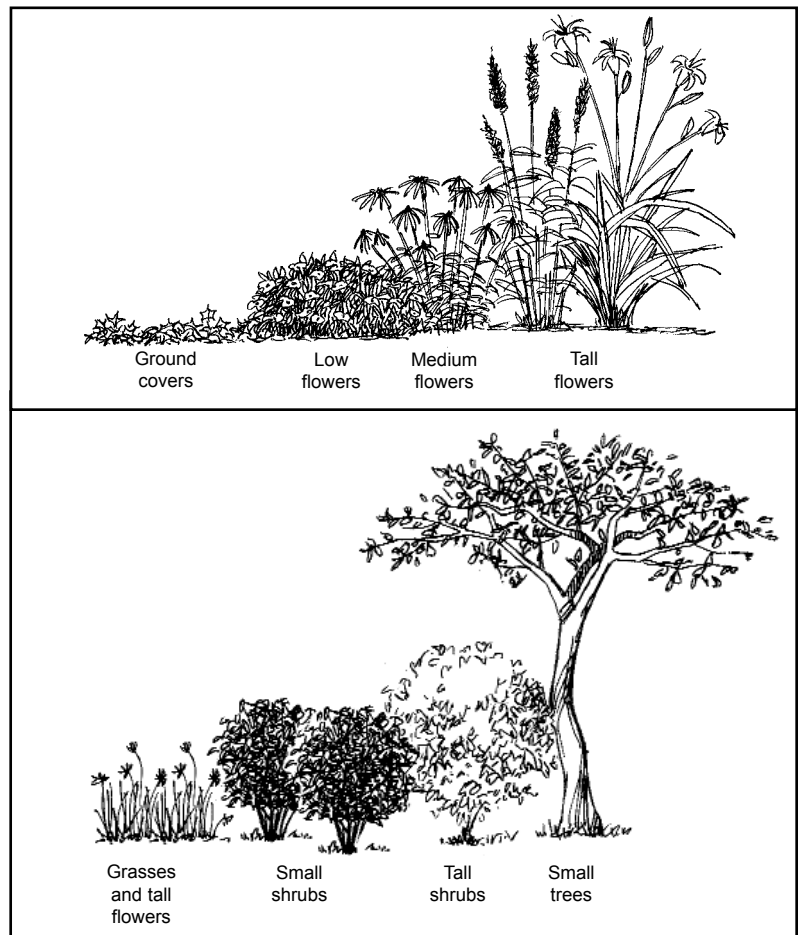
You can add to the vertical diversity of your landscaping by adding more layers of vegetation between the ground and the tree tops. Wildlife species that feed, nest or find shelter at different

levels will be able to meet their needs. Vertical diversity may be added by enhancing the ecotone, as already described, or by planting species of varying heights and growth habits in arrangements that are appealing to you. Of course, you will use plants appropriate to the scale of your yard.

**Diversity of non-living materials:** There is more to wildlife habitat diversity than living plants. Standing or fallen dead trees provide cavities, food and perches. Brush piles and rock piles or stone walls provide hiding, nesting and feeding sites. Grit and dust baths are used by birds to aid



**Edge:** Where one habitat type merges into another.



**Ecotone:** The zone of transition from one habitat to another. The wider the ecotone and the greater the diversity of plant species and vertical structure, the more types of wildlife species are attracted.



digestion and keep clean. Buildings provide nest sites and perches, and places for butterflies and moths to hibernate. Nest and winter roosting boxes can be erected to supplement natural cavities, and feeders add to the food supply. Water, in any form, is essential.

## Seasonality

Providing food and cover year-round requires a variety of trees, shrubs and other plants. It is important to think about wildlife needs during each season. The longer the period when flowers, seeds and fruits are available, the better. Fall, winter and early spring foods are critical to the survival of resident wildlife, as well as migrating species. Summer foods are important because during reproduction, energy needs of wildlife are very high. Cover is always necessary whether for nesting sites, shelter from weather, escape from predators, or for roosting. Conifers, cavity trees, and brush and rock piles provide winter shelter.

## Arrangement

Thinking “crooked,” allowing ready access to food, water and cover, is an advantage in creating

the backyard habitat. Curves and clusters are visually appealing to us, and more attractive to wildlife. Food, cover and water need to be arranged near each other. Feeders with no nearby cover will either not be used, or may increase mortality through exposure to adverse weather or by predation. Plant conifers to break the prevailing winds, and on the protected side of the windbreak, have feeders and plants, and shrubs with berries. Perhaps your house serves as the windbreak to important feeding and nesting areas. When placing nest boxes, locate them to meet the needs of the species for which the nest box is intended.

## Protection

**Predation:** Protecting wildlife from unnecessary mortality is an important consideration as you develop your backyard habitat. Natural predation is natural. Although free-ranging dogs and cats are natural hunters, they are not part of natural predation. In Wisconsin, for example, a recent study estimated 35 million birds are killed each year by free-ranging domestic cats. To offer protection for birds, feeders should be 10 feet from cover, and birdbaths should be 15 feet from cover, because cats use the cover to ambush birds



using them. Declawing or putting bells on cats is only partially effective. Of course, your own cats can be kept indoors. Talk with your veterinarian about the benefits of indoor cats. Dogs can be a danger and a disturbance to wildlife, especially in nesting season, and need to be kept under control. See Bulletin #7148, Facts on Cats and Wildlife: A Conservation Dilemma.

**Windows:** Windows reflect the sky and vegetation, so songbirds sometimes fly into them, breaking their necks. To prevent crashes, try placing any of the following on the outside of the window: a falcon cut-out silhouette, parallel strings stretched across the window, or a mobile of pine cones or dead branches. Locating feeders 30 feet from your house, or right next to your windows, can help reduce the number of birds that fly into the windows. Feeders right on or next to your house, however, may attract skunks, mice or other animals too near your home.

**Nest boxes:** House sparrows and starlings are exotic birds and tend to drive native songbirds away from boxes, or kill them in the nest box. Incorrectly designed nest boxes can become death traps. It is essential, when you buy or make nest boxes, to have ones designed specifically for the bird species you have in mind. Take perches off all nest boxes. Find out how and where to place nest boxes to reduce predation by cats and raccoons. Get good information on nest boxes before buying or making one.

**Sanitation:** It is extremely important to keep bird feeders, nest boxes and birdbaths clean.

There are five diseases associated with bird feeders, all of which can lead to death. The causes of the diseases are food and water contaminated by mold, fungus and infected feces, and surfaces contaminated by viruses from other sick birds.

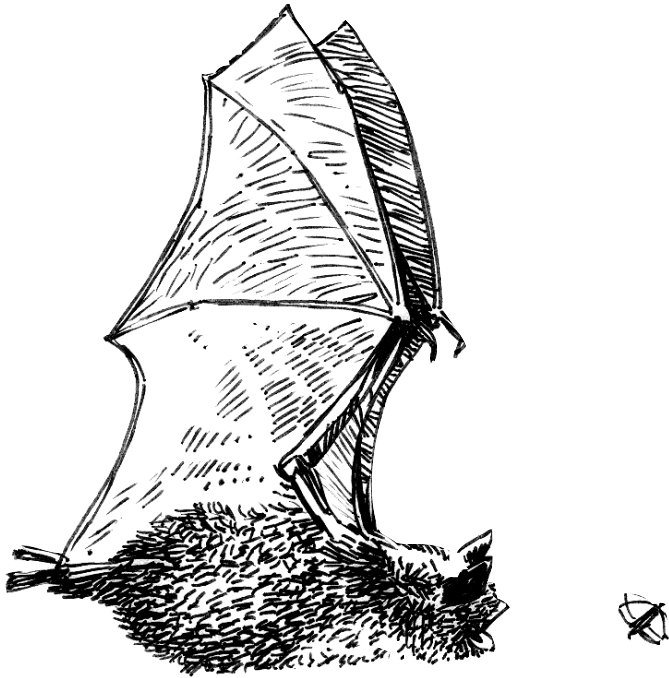


We can recognize sick birds because their feathers look unkempt, and they are less alert, less active, feed less, and are often reluctant to fly away.

You can prevent or reduce disease problems at your feeders by taking the following steps:

- Every few days clean up waste food and droppings from the ground.
- Avoid crowding by providing ample feeder space.
- Use feeders that don't have sharp points or edges. Bacteria and viruses on contaminated surfaces infect healthy birds through even small scratches.
- Clean and disinfect feeders once or twice a month, and more often if you observe sick birds. Immerse an empty cleaned feeder for two or three minutes in a solution of one part liquid chlorine household bleach and nine parts warm water. Allow the feeder to air dry.
- Use only good food. Discard food that smells musty, is wet, looks moldy or has fungus





growing on it. Discard any food that has had rodents in it. Disinfect the storage container and food scoop that have come in contact with the spoiled food.

- Every day, rinse birdbaths and replace the water. Twice a week scrub them with a plastic bristle brush and mild dish detergent, and rinse thoroughly before refilling. Once every two weeks, after scrubbing the bath, fill it with a ten percent bleach and water solution. Let it stand for three minutes, pour out the water and let air dry. Rinse well with water and let air dry again before refilling with water.
- Prevent diseases by taking these steps, and don't wait until you notice sick birds.
- Tell your neighbors who feed birds about these precautions. Birds move among feeders and spread diseases as they go.

Feeder nectar ferments in two to three days. Drinking fermented nectar causes enlarged livers in hummingbirds, and may have the same effect on orioles. Buy nectar feeders that come apart so that all surfaces can be scrubbed. Nectar feeders

should be cleaned and disinfected every two days, as already described. Be sure to rinse the nectar feeder after it has been immersed in the bleach-water solution.

Many people feed suet all year, but sun-warmed suet can cause infected follicles and loss of facial feathers. It can mat feathers, reducing insulation and waterproofing. Use suet only from October through April or May, depending on the temperatures. See UMCE Bulletin #7145, *Keeping Your Yard Safe for Birds*.

**Chemical fertilizers and pesticides:** Many common house and yard chemicals are a danger to wildlife and humans. Birds eat granules or eat prey that have been exposed to chemicals. If you use any chemicals, use only as directed. Even then, many are lethal to wildlife. Rethink your use of these substances. Choose plant species that are resistant to diseases and pests. Let the many wildlife species that eat insects be your insect control. Autumn, the end of the growing season, is naturally a time when plants show the effects of insects feeding. Be tolerant of insect damage. Mulches of compost or leaves add nutrients to the soil and strengthen plants' ability to ward off diseases. See UMCE Bulletin #7150, *Beneficial Insects in Your Backyard*.

### **Native Plants and Seed Origins**

Native plants have several advantages. They are adapted to our climate and survive the winters. Once they are established in your yard, they need a minimum of maintenance. A plant species may be native in Maine, but if the seeds you purchase are grown too far from our area, they may not be successful here. Study what conditions you have in your yard and which native species will flourish there. Find reputable sources for native plant seeds or material. See UMCE Bulletin #2500, *Gardening to Conserve Maine's Native Landscape*.



## Some Common Backyard Wildlife Species in Maine

### Amphibians

- Eastern newt (*Notophthalmus viridescens*)
- Gray tree frog (*Hyla versicolor*)
- American toad (*Bufo americanus*)
- Green frog (*Rana clamitans*)
- Spring peeper (*Hyla crucifer*)
- Wood frog (*Rana sylvatica*)
- Red-backed salamander (*Plethodon cinereus*)

### Birds

- Great blue heron (*Ardea herodias*)
- Canada goose (*Branta canadensis*)
- Red-tailed hawk (*Buteo jamaicensis*)
- Broad-winged hawk (*Buteo platypterus*)
- American woodcock (*Scolopax minor*)
- Barred owl (*Strix varia*)
- Ruby-throated hummingbird (*Archilochus colubris*)
- Blue jay (*Cyanocitta cristata*)
- Pileated woodpecker (*Dryocopus pileatus*)
- Black-capped chickadee (*Parus atricapillus*)
- Red-breasted nuthatch (*Sitta canadensis*)
- American goldfinch (*Carduelis tristis*)
- Evening grosbeak (*Coccothraustes vespertinus*)
- Northern cardinal (*Cardinalis cardinalis*)
- Tufted titmouse (*Parus bicolor*)
- Dark-eyed junco (*Junco hyemalis*)
- Eastern Phoebe (*Sayornis phoebe*)
- Sharp-shinned hawk (*Accipiter striatus*)

### Mammals

- Deer mouse (*Peromyscus maniculatus*)
- Meadow vole (*Microtus pennsylvanicus*)
- Gray squirrel (*Sciurus carolinensis*)
- Eastern chipmunk (*Tamias striatus*)
- Red squirrel (*Tamiasciurus hudsonicus*)
- Northern flying squirrel (*Glaucomys sabrinus*)
- Snowshoe hare (*Lepus americanus*)
- Little brown myotis (*Myotis lucifugus*)

- Big brown bat (*Eptesicus fuscus*)
- Masked shrew (*Sorex cinereus*)
- Star-nosed mole (*Condylura cristata*)
- Porcupine (*Erethizon dorsatum*)
- Coyote (*Canis latrans*)
- Red fox (*Vulpes vulpes*)
- Raccoon (*Procyon lotor*)
- Long-tailed weasel (*Mustela frenata*)
- Mink (*Mustela vison*)
- Fisher (*Martes pennanti*)
- Striped skunk (*Mephitis mephitis*)
- White-tailed deer (*Odocoileus virginianus*)
- Moose (*Alces alces*)

### Reptiles

- Snapping turtle (*Chelydra serpentina*)
- Wood turtle (*Clemmys insculpta*)
- Painted turtle (*Chrysemys picta*)
- Red-bellied snake (*Storeria occipitomaculata*)
- Ring-necked snake (*Diadophis punctatus*)
- Smooth green snake (*Ophedrys vernalis*)
- Common garter snake (*Thamnophis sirtalis*)

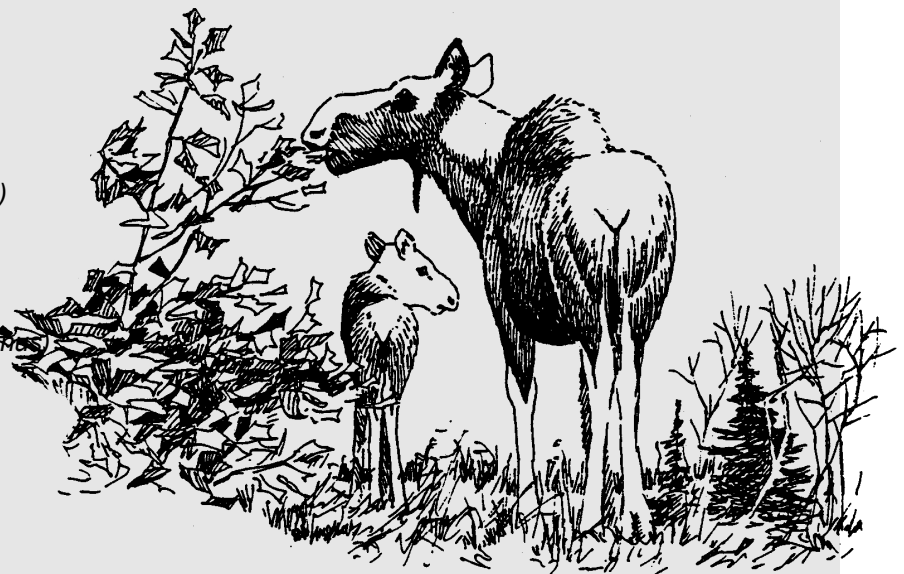
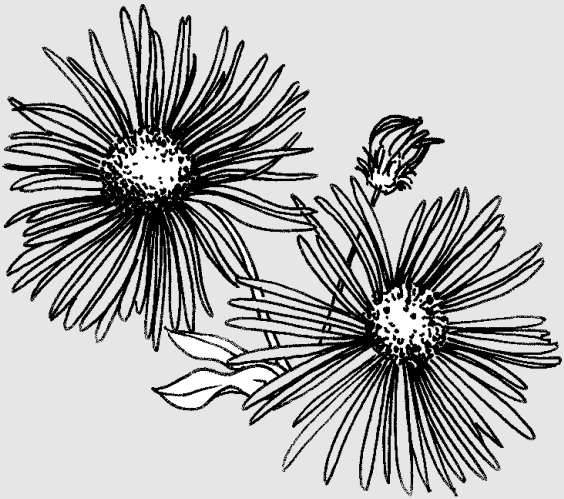


Illustration by Mark McCollough



## Profile: New England Aster

New England aster (*A. novi-angliae*) provides nectar for butterflies, moths and bees. After the flower heads dry, the seeds are used by small bird species. Many perennials provide nectar and seed if the flower heads are not removed. Many bird species rely heavily on insects as a large part of their diet, and plants like the New England aster attract insects that are eaten by birds.



## Climate and Plant Hardiness Zones

For the best success and the most benefit for your investment of money and time, choose plants that are adapted to your plant hardiness zone. Know your hardiness zone and always find out the hardiness of all plants before you buy them. Ask for a copy of Cooperative Extension bulletin #2242, "Plant Hardiness Zone Map of Maine," available through your county Extension office.

## Soils and Topography

Learn about the topography and soils in your yard. Topography is the natural slope and contours of your land. It effects water drainage and exposure to sun. Know your south-facing slopes, the wet areas and shady areas. Soils may be acidic or

alkaline; they may be sandy, clay or loam. Different species of plants need different combinations of moisture, light and soil. Find out what a plant needs before selecting it. Soil testing is available through the University of Maine Cooperative Extension. Soil maps are available from your local USDA Natural Resources Conservation Service.

*For more information or to obtain other fact sheets in the Habitats series, contact your county office of the University of Maine Cooperative Extension.*

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### Sources:

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