



HOMES FOR WILDLIFE

Wildlife depends on four habitat components for survival: food, water, cover, and space. Depending on the species, the amount and type of each of these components varies. This chapter will focus on one of these components, that of cover. Cover types could vary from woodlands to grasslands to wetlands. After assessing what cover types are available on your property, you can determine what species you will be able to attract. If cover is not present, but other habitat components for a species are, then adding cover may make your yard more attractive to certain species of wildlife. By planting trees, shrubs, grasses, and flowers, you can provide cover and attract even more wildlife. In doing so, you will provide a more diverse habitat, and increase the likelihood of attracting wildlife by meeting all four of the habitat components.

Providing homes for wildlife will help fulfill their cover requirements. Wildlife homes can be either vegetative (grasses, shrubs, trees) or structural (stones, underground dens, brush piles, nest boxes, cylinders). These homes offer protection from not only predators, but also weather elements such as cold winter winds or hot summer days. Birds use these homes for shelter, nesting, and brood rearing. This chapter explains what homes can be provided for wildlife to enhance the cover on your property. The supplemental chapter **Homes for Wildlife II** provides the plans for

the homes described here. Refer to the chapter on **Bird and Other Wildlife Feeders** for information on how to provide the habitat component of food to your backyard.

Vegetative Homes

There are many types of natural homes that you can provide for wildlife on your property. In addition to planting trees, shrubs, and grasses that provide a variety of wildlife with places to nest, seek shelter, and raise their young, there may also be other natural homes that could be created on your land that also provide cover for wildlife.

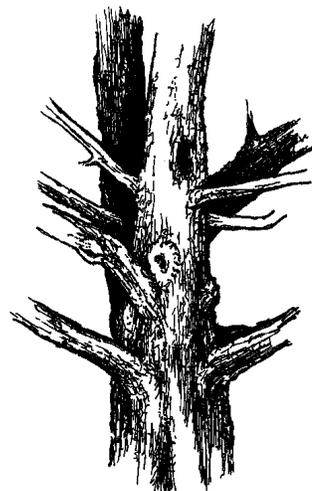
Snags

Snags are standing, dead, or dying trees, which provide excellent natural homes for a variety of wildlife. Wildlife that inhabit these snags, such as woodpeckers, nuthatches, bluebirds, squirrels, and raccoons, are called cavity nesters. The type of wildlife that inhabit these snags will also depend on the kind, size, and location of the snag.

There are two basic kinds of snags: hard or soft. Hard snags have rotten centers with a solid exterior and a few limbs. These usually make the best den trees as the center can be easily excavated to form a home. Trees that usually form good cavities are

large hardwoods that decay slowly such as sugar maple, elm, black and white oak, hickory, and butternut. Soft snags have softer exterior wood, and usually have no limbs. These snags usually make good foraging sites for insect-eating birds, as well as nesting sites for woodpeckers, chickadees, and nuthatches. Trees that often form soft snags have short life spans, and rot quickly. These too are important to wildlife as they produce cavities more quickly than harder wood, as well as habitat for many insects that provide food for birds, mammals, amphibians, and reptiles. Coniferous snags do not usually last as long as hardwoods, and are usually not used for den trees. One exception to this is northern white cedar, as it makes an excellent cavity tree. Other conifers, such as white pine and tamarack, make excellent nest and perch sites for eagles and osprey when located next to water.

In general, regardless of the kind of snag, the larger it is the more wildlife it can support. The best den trees, live or dead, are over 15 inches diameter at breast height (DBH) with a den opening of four inches or more. Keep an eye out for trees that appear to be potential snags. These trees have large, sprawling



branches, and often are fruit and nut producers. Missing or bare branches, fungal growth, wounds, and discolored bark are all signs of a dying tree. Also, look for woodpecker holes, which usually indicate a rotting core.

If you do not have any snags on your property, consider creating some. Remember that it will take a while before newly created snags will be suitable for wildlife. Therefore, to speed up the process, try to pick trees that appear to be dying, and that are over a foot in diameter. With an axe, cut away a two inch band of bark around the entire circumference of the trunk, removing the bark and cutting into the sapwood. This is known as girdling, and will kill the tree as it disrupts the flow of nutrients. To simply create a den, cut off a four to six inch limb about six inches from the trunk. This will wound the tree and allow the decaying process to start, eventually forming a cavity where the limb was cut.

The kinds of wildlife your snag will attract will also depend on where it is located. Snags are most commonly associated with forests. Many forest mammals, such as bats, bobcats, bears, pine martens, porcupines, red squirrels, and gray foxes, use snags for dens and lookouts. Forest birds also frequently use these snags; woodpeckers are usually the primary excavators. Other birds, such as the saw-whet owl, black-capped chickadee, nuthatch, and great-crested flycatcher, move in once the home is vacated. A snag located on a waterway or wetland will attract a different variety of wildlife. Wood ducks, hooded mergansers, common goldeneyes, and buffleheads use cavities for nesting, while herons, egrets, eagles, and osprey use tall snags for nesting and look-



outs. Snags in open fields will provide lookouts for some types of hawks and owls, and homes for flickers, kestrels, and eastern bluebirds. A snag in a backyard setting will provide homes for house wrens, black-capped chickadees, red-bellied woodpeckers, and flying squirrels.

Fallen Logs

Fallen logs are snags that have toppled over or healthy trees that were felled, usually by windthrow. Once these trees fall to the ground, they do not lose their value to wildlife. On the contrary, they are highly beneficial. Fallen logs in or near water provide cover for various species of fish. Male ruffed grouse use fallen logs in their attempts to attract females with their springtime courtship drumming. Chipmunks use fallen logs as runways through the forest. Hollow logs will be used by a number of species for dens, especially in the winter. If the log is big enough, foxes and even bears will use it for this purpose. As the log becomes more decayed it becomes home to salamanders, moles, shrews, earthworms, and many kinds of insects. Eventually, these fallen logs will regenerate the forest as they return to the soil, providing rich nutrients for new plants to grow from.

Structural Homes

Vegetative homes may take

several years to become suitable for wildlife. Therefore, you may want to create structural homes for wildlife that may be more quickly occupied. Structural homes are those that are not grown, but are instead arranged in some manner to create cover for wildlife. This could mean that the structure was arranged naturally, such as a natural brush or rock pile. Providing structural homes will help to diversify your yard, as it will supply a ready-to-use home for wildlife.

Brush Piles

Brush piles, which consist of dead limbs and brush, will provide many species, such as rabbits, chipmunks, ground-nesting birds, amphibians, and reptiles, with escape cover. Brush piles are most beneficial when placed along habitat edges and near food sources. However, do not place a brush pile at the base of a snag, as this will promote predation. The base of the brush pile should consist of larger materials such as logs or rocks, so as to provide tunnels and openings at ground level. The pile should be six to eight feet tall and at least 15 feet wide. "Living" brush piles can be constructed by cutting into small, trees and shrubs so that the tops fall to the ground, while enough of the tree is uncut so it remains alive, forming a base for a larger brush pile. A brush pile that is buried underground forms a hibernation mound for snakes. Refer to the chapters on **Rabbits**, and **Frogs, Turtles and Snakes** for further information.

Rock Piles

Rock piles provide another form of cover for several species. Rock piles near wet areas or in gardens are especially appealing to those species that require moist, shaded areas such as frogs, snakes, sala-



manders, and insects. In areas near habitat edges, species such as rabbits and chipmunks will use the piles as escape cover.

Nest boxes

Artificial houses provide nesting sites for many species of birds and mammals. These nest boxes are usually wooden rectangular boxes of various sizes. Different species also require different sized entrance holes. Making the house for a specific species will lessen competition for nesting sites. A hinged side or roof should be provided, as it will allow for easy access for cleaning. Also, avoid houses made of metal as they overheat in warm weather, killing bird eggs. Do not use birdhouses with perches as this promotes invasion by exotic bird species such as house sparrows and starlings. These birds are not federally protected, and should be removed whenever possible as they will kill native birds and take over nest boxes.

A nest box that is 5 1/4 x 11 1/4 inches in size will attract house wrens, black-capped chickadees, white-breasted nuthatches, mice, and flying squirrels. **House wrens** nest in wooded, shrubby habitats and are one of the most common backyard birds. Their nest boxes are best placed five to 20 feet above the ground, and in a tree or under the eaves of a building. The entrance should be one inch in diameter. Wren houses can be free hanging and should not have a perch. Mice will also use these

sized houses for winter dens. Beware that this may prevent birds from using the house when they return in the spring. **Black-capped chickadees** will nest in these boxes in areas that have mature trees. Their nest boxes should be mounted 5 to 10 feet high in areas that have both sun and shade, have an entrance hole of 1 1/8 inch diameter, and should not have a perch. **White-breasted nuthatches** will nest in areas similar to that of the black-capped chickadee. These boxes should be placed in wooded areas about 12 to 20 feet above ground. They require an entrance hole of 1 1/4 inch diameter. This box will also be used by flying squirrels.

A box that is about 5 1/4 x 10 inches in size, and with an entrance hole that is oblong in shape (1 3/8 inches x 2 1/4 inches), will be used by **tree swallows** and **bluebirds**. These boxes should be placed in pairs approximately 25 feet apart to reduce competition between these two species. The entrance to the box should be placed so that it is facing east. These species will nest in areas comprised of a mix of hardwood forests and grasslands, and tree swallows are more abundant near water. These boxes are often placed on fencerows, and can actually be made in a fence post. Refer to the chapter on **Bluebirds** in the Species Management section for information on how to build this type of nest box.

Purple martins will nest in community houses, as they are not territorial species. This house is large, with many housing compartments in it. The entrance holes are located on all sides of the house, and an empty central space is important. These houses should be eight to 10 ft high and placed at least 30 feet from trees.

Northern flickers nest in farm groves, orchards, woodlots, and in urban areas. They will use nest boxes made of 1 1/2 inch thick boards that are filled to the top with saw dust. The sawdust simulates the soft interior of a dead tree and will be excavated by the flicker. The entrance hole should be 2 1/2 inches in diameter. The sawdust will need to be placed in the box every year before April 1 to be ready for the flicker's arrival.

Bats, those beneficial mosquito catchers, will live together in communities in bat houses near wet areas. Bat houses can be various sizes, but the common feature is a bottom entry made by several slats placed one inch apart. The inner surfaces of the house should be roughened to facilitate climbing, and rough outer surfaces are also helpful. Bat houses should be kept at a temperature of about 80 to 90 degrees. This can be done by covering the top with tarpaper, or by painting the house black. The houses should be placed on a tree trunk, metal pole, or the side of a building, preferably facing east, about 10-12 feet above the ground. If placed on a tree, it should be a fairly isolated one with a sheet of tin around the tree and under the house to deter raccoons. Otherwise, the bats will be heavily preyed upon. Refer to the chapter on **Bats** in the Species



Management section for information on how to build a bat house.

Boxes that are larger, about 9 x 15 inches, will house squirrels and kestrels. **Squirrels** are abundant in back yards, woodlots, and farm groves. The entrance to a squirrel box should be three inches in diameter and is located on the side of the box instead of in the front. A piece of wood can be nailed inside the box just below the entrance hole to provide an observation perch. Squirrel boxes should be placed facing either east or south at least 15 feet above ground in trees at least 10 inches in diameter. **Kestrels** are abundant in agricultural areas with scattered trees. Kestrel houses are the same as squirrel houses except for the entrance hole placement. These houses should be placed on a 10 to 30 feet high post or tree that is near grassy areas. They should have a sheet of tin secured around the tree under the house to prevent squirrels from using it.

Raccoon houses are large (12 inches x 24 inches), with an entrance hole of 4 $1\frac{1}{2}$ inches in diameter. This box should be placed on live or dead trees of at least 12 inches in diameter, at a height of 10 to 20 feet.

Wood duck houses have greatly benefited this species. These houses are 9 $1\frac{1}{4}$ x 18 inches with an oval entrance hole that is three inches high and four inches wide. This hole will exclude most raccoons. These houses should be

placed on an isolated tree or post 16 feet high, and with a tin sheet secured under the house to prevent squirrel use and raccoon predation. Watch for starling occupation in these boxes, and remove any suspect nests.

Shelves and baskets

Robins, Barn swallows, and Eastern Phoebes will utilize nesting shelves. These shelves are open to the front, but covered on the sides and top. **Robins** are often seen in backyards, and their shelves can be placed about six to 10 feet above ground on a wall by a window or on a tree trunk. **Barn swallows** are common on farmsteads, and usually use a mud nest stuck to the sides of a building. Therefore, nesting shelves should be placed on a house or barn at least 10 to 20 feet away from doorways. **Eastern phoebes** are the most common shelf nest builders. Their shelves should be placed under the eaves of houses near lakes, rivers, or most wooded areas.

Mourning doves and mallards will nest in baskets. These baskets can be made of wire mesh formed into a cone. Both baskets are similar, but vary in size. **Mourning doves** will nest in a basket that is 12 inches in diameter and placed in the crotch of a tree limb six to 16 feet above ground as far from the trunk as possible. **Mallards** will nest in larger baskets. Their baskets have a 26 inch diameter, and are placed over water on a seven to eight foot support pipe. Placing nesting materials in these baskets

will facilitate use by these species.

Other structures

An underground den for rabbits can be made by placing a wooden box with two side entrances into the ground and covering it with brush. Each entrance should have three to four field tiles that lead above ground. This den should not be placed in areas that are not well drained.

A squirrel den can be made from discarded automobile tires. The tire den should be placed 15 to 30 feet above ground in a tree with the entrance hole facing the trunk. This is not as aesthetically pleasing as wooden boxes, but it is highly functional and a good way to recycle your tires.

In summary, there are many ways to add the habitat component of cover to your property. Providing homes, either vegetative or structural, is a good way to help fulfill this requirement in your backyard. Observing the wildlife that use the homes you have provided is not only fun, but educational.

FOR ADDITIONAL CHAPTERS CONTACT:

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Private Land Partnerships: This partnership was formed between both private and public organizations in order to address private lands wildlife issues. Individuals share resources, information, and expertise. This landowner's guide has been a combined effort between these groups working towards one goal: Natural Resources Education. We hope this manual provides you with the knowledge and the motivation to make positive changes for our environment.

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