

6. MANAGEMENT FOR FOREST SONGBIRDS

Managing local forests to improve habitat for forest birds can greatly improve breeding, nesting, and feeding habitat for many migrant and resident birds.

Vermont supports roughly 200 species of breeding birds—one of the highest diversities in the United States. Approximately three-quarters of these birds rely on forests for all or part of the breeding season. Among them are the American woodcock, ruffed grouse, barred owl, red-shouldered hawk, pileated woodpecker, scarlet tanager, red-eyed vireo, northern parula, black-throated blue warbler, ovenbird, wood thrush, and — Vermont’s State Bird — the hermit thrush. Vermont’s forests are especially important for many species of birds, which rely on the state and New England for a large portion of their breeding habitat (for example, Bicknell’s thrush and American redstart).

Since widespread forest clearing in the 1800s and early 1900s, Vermont’s forests have regrown to cover about 80 percent of the state, and more interior forest habitat is probably present in Vermont now than at any point in the last 150 years. During recent decades some species of forest birds have increased in population (such as golden-crowned kinglet and hermit thrush), while others have undergone worrisome declines (including wood thrush and American woodcock).

Managing local forests to improve habitat for forest birds can greatly improve breeding, nesting and feeding habitat for many migrant and resident species. Whether you want to manage your forest to help conserve birds — or just to enjoy their color and liveliness — there are many ways you can improve forest habitats for birds.

KEEP FORESTS AS FORESTS

Keeping forests intact is possibly the most important way Vermonters can support forest birds. Habitat loss and fragmentation are among the most urgent threats to Vermont’s forest birds. This is because large patches of forest which are not “fragmented” by roads, buildings, or large openings tend to support more forest birds, and the birds living there produce more offspring than birds in smaller, fragmented forests.

An opening in a forest such as a road, field, or house lot alters the environment of the forest for more than 200 meters from the edge. Sunlight, wind, humidity, plants, insects, and predators can all change. For example, small (< 30 acres) and fragmented forest patches may support more predators such as raccoons, skunks, and domestic cats and the nest parasite brown-headed cowbird — all of which threaten forest birds.

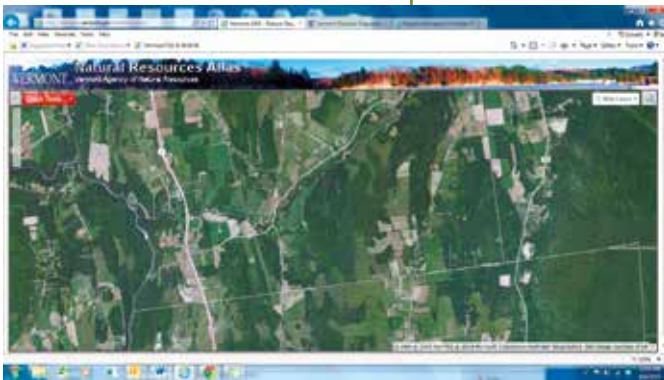


Figure 6.1 Fragmented forest
Small and fragmented forests have less value for forest birds.

Maintain Interior Forest

To avoid fragmenting existing forest, limit the creation of new openings (e.g., roads, fields, house lots) and place any openings near existing roads and development, preserving intact forest in the largest blocks possible. Maintaining the quality of forest habitat for songbirds is important. Quality forest habitat for many songbirds provides sufficient space, cover, food and water to allow the myriad of birds to successfully breed, rear young, find food, and avoid predators. For more information on this topic see “Foresters for the Birds Toolkit” – <http://vt.audubon.org/foresters-birds>.

Plan in Your Town

Find out if birds and wildlife have been considered in your town plan and zoning ordinances. Many resources exist to assist towns in incorporating wildlife into their plans, consider starting with the Vermont Fish and Wildlife Department's Community Wildlife Program or the Vermont Natural Resources Council's Sustainable Communities Program (see **Resources** for links).

CREATE DIVERSE FOREST HABITATS

A complex forested landscape with many habitats generally supports more species than a less complex forest with few habitats. Knowing this, habitat diversity within forests can be created by increasing their complexity in two ways: increasing the *horizontal structure* and *vertical structure* of the forest.

Horizontal structure: Habitats across the landscape

The mix of different types and ages of forests across a landscape is called horizontal structure. Walking in a northern hardwood forest in early summer, you will likely notice red-eyed vireos and ovenbirds, while walking in a spruce-fir forest you might see yellow-bellied flycatchers and Swainson's thrush, and in a forested wetland you might spot white-throated sparrows and wood ducks. These different types of habitats across the landscape support a variety of forest birds. Some steps to follow include:

Maintain different types of habitat. Plan your forest management to maintain or enhance the diversity of habitats (e.g., hardwood, softwood, wetland, and floodplain) on your property. Given the average property in Vermont is 40 acres, it's becoming increasingly more difficult for a single landowner to provide a diversity of habitat conditions. Again, this speaks to the importance of working in collaboration with your neighbors to maximize the benefits of forest and habitat management on a larger scale.

Use buffers for streams and wetlands. To protect sensitive and valuable streams and wetlands, designate limited- or no-harvesting areas along the borders of streams, rivers, lakes, ponds and wetlands. These areas where terrestrial and aquatic habitats come together tend to support many types of birds, mammals, reptiles, amphibians, insects and plants. They are used as travel corridors by many wildlife species such as otter and black bear, and offer important feeding areas for moose, waterfowl, wood turtles, and many songbirds. Protecting the health of the forest conditions along these aquatic features is an important management strategy.

Ensuring a variety of *ages* of different cover types on the landscape provides additional diversity for birds. Most of the forested landscape in Vermont consists of forests that are 40 to 100 years old. Older, more mature forests are rare in Vermont. Old forests, more than 100 years in age, tend to have high levels of woody material on the ground, cavity trees, and other features that create complexity within the forest that then provide important habitat for many species of wildlife such as pileated woodpecker or American marten.

In addition, there are regions of Vermont (e.g., Bennington County) where young forest (less than 15 years old) is limited. Young forest provides important breeding habitat for many species as well as foraging

Young forest provides important breeding habitat for many species as well as foraging areas for many forest birds, especially before and during migration.



Figure 6.2 Unfragmented forest
Large, intact forests with wetlands and small openings are ideal for forest birds.

areas for many forest birds, especially before and during migration. Providing these underrepresented age classes can benefit forest birds:

Manage for old forest. Designate set-aside areas that will, over time, become old forests, and other areas that will be actively managed to develop the characteristics of old forest.

Manage for young forest. If your landscape is mostly forested, but less than 5 percent of the area is young, regenerating forest, consider creating 1- to 5-acre patches of young forest habitat where appropriate. Young forest should nonetheless remain a small component of heavily forested landscapes. However, in a landscape of small forest patches or fragmented forests, creating young forest areas will not benefit forest birds. Creating quality young forest habitat requires a detailed knowledge of the soils, trees and land use history of your land. Not every patch of forest can be treated by cutting trees and expecting quality young forest habitat conditions. Results from such management actions depend on many factors, including what trees are currently present. If the objective is to create young forest to attract ruffed grouse, American woodcock and chestnut-sided warblers, you are unlikely to be successful by creating patch cuts in a northern white cedar stand, for instance. On the other hand, if your forest has mature aspen, birch, hophornbeam, alder, you have a good opportunity to establish quality young forest conditions to achieve your objectives. (See **Chapter 7, “Shrubland and Young Forest Management”** for more information.)

Vertical structure: Layers within a forest

The diversity of vegetation layers within a forest, from ground to tree canopy, is called vertical structure, and it is an important element of forest habitat for many birds. Different species of birds forage and nest within the different layers of a forest — for example, in one patch of forest, you might find nesting pairs of oven birds in the leaf litter on the ground, black-throated blue warblers in a thick understory of hobble bush (1 to 5 feet up), blue-headed vireos in the mid-story (6 to 30 feet up), and scarlet tanagers in the canopy of mature northern hardwood forest (above 30 feet).

After extensive clearing and logging, however, most of Vermont’s forests have not had time to develop the complex layering that supports bird diversity. You can, however, enhance each vertical layer of your forest to increase its value for birds by:

Promoting a healthy leaf litter layer. Reduce erosion and compaction by harvesting in winter on snow cover. Maintain canopy cover to prevent litter from drying out. Do not introduce earthworms, which are nonnative and can quickly deplete a forest of its leaf litter.

Promoting a vigorous understory and mid-story. If needed, work with a forester or wildlife biologist to release seedlings and saplings from surrounding competition and create gaps to allow light to the understory.

Promoting a vigorous canopy. If needed, work with a forester or wildlife biologist to use thinning or crop-tree release to focus growth on healthy canopy trees. Retain and grow some large-diameter trees (over 2 feet in diameter), which can be particularly important for a variety of wildlife.

Monitoring and controlling invasive plants. In addition to outcompeting desirable, native plants, nonnative species may have less nutritional and nesting value to forest birds. For more information www.vtinvasives.org.

Apart from the living layers present in a forest, dead and dying wood creates critical habitat for many species of forest birds. Snags (standing dead trees) and partially decayed live trees are valuable perches and provide nest sites for cavity-nesting birds such as woodpeckers, chickadees, and owls. Dead wood on the ground is also valuable to birds for display sites (for

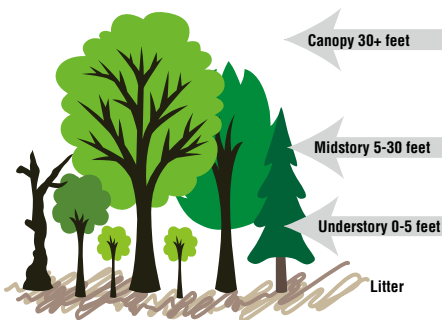


Figure 6.3
Complex vertical layers provide excellent forest bird habitat. (Don't overlook the snag!)

example, for ruffed grouse drumming sites), cover (to forage safely on the ground), and food (many insects live in dead wood). To ensure quality habitat for birds on your land:

Maintain or create snags and downed wood. Maintain at least six snags or cavity trees per acre, with one larger than 18 inches, two larger than 16 inches, and four downed trees per acre. Leave slash (branches, limbs, etc.) on the forest floor. Residual material from timber harvests provide valuable habitat for ground nesting songbirds, as well as other wildlife.

BEYOND BIRDS

Management for forest birds can brighten the woods with their colors and songs. It also benefits many other wildlife species. Forests that support a variety of birds, with complex horizontal and vertical structure, dead and downed wood, and trees of all ages and sizes, also provide habitat for a wide variety of forest interior wildlife species. These might include frogs and salamanders, forest pollinators such as bumblebees, numerous small mammal species including many bat species, and even rare species like the American marten.

NEXT STEPS

Before you proceed further with your plan, consider getting a second opinion and double-checking available resources. To do so:

- Use a forester or wildlife biologist to help inform your forest management plan. Have a forester or wildlife biologist create and implement your forest management plan, including goals and actions to benefit forest birds.
- Consult with professionals. Contact your county forester or biologists with Vermont Fish and Wildlife Department, Audubon Vermont, or the Natural Resources Conservation Service for more guidance and information on programs that provide technical and financial assistance.
- Read “Managing Your Woods with Birds in Mind.” This free guide is an invaluable resource for landowners and managers created by Audubon Vermont and the Vermont Department of Forests, Parks, and Recreation. (see **Resources**).



RESOURCES

Audubon Vermont and the Vermont Department of Forests, Parks and Recreation. *Managing Your Woods with Birds in Mind*. http://vt.audubon.org/sites/default/files/documents/landowner_packet_5-2012_small.pdf

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Bryan, R.R. 2007. *Focus Species Forestry: A Guide to Integrating Timber and Biodiversity Management in Maine*. Falmouth, ME: Maine Audubon.

DeGraaf, R.M., M. Yamasaki, W.B. Leak, A.M. Lester. 2005. *Landowner's Guide to Wildlife Habitat – Forest Management for the New England Region*. Lebanon, NH: University Press of New England.

U.S. Department of Agriculture. Natural Resources Conservation Service. Forest Birds Info Sheet. http://www.nrcs.usda.gov/wps/PA_NRCSCconsumption/download?cid=stelprdb1243274&ext=pdf

—. Sustainable Communities Program. <http://www.ric.nat.usda.gov/sustainable-communities>.

Vermont Fish and Wildlife Department. Community Wildlife Program. <http://vtfishandwildlife.com/cwp-home>.

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