

EXTENSION NOTES



DO YOU HAVE A HEALTHY WOODLOT?

The loss and fragmentation of the natural landscape in southern Ontario means that private woodlots, big and small, are more important than ever to human and environmental health and to the wildlife species that need forest habitat to survive. This Extension Note provides information on assessing and improving the health of your woodlot.

WHAT IS A WOODLOT?

A healthy woodlot provides habitat for a wide range of forest species. In addition to this important function, healthy woodlots can provide wood products and a host of other benefits. Woodlots that provide the best habitat for wildlife contain a mix of species, including conifers and hardwoods, and trees of all ages and sizes. They also have a good understorey of food-producing shrubs for wildlife and a dense layer of plants on the ground.

A woodlot is a community of trees and other plant species.

WHY ARE HEALTHY WOODLOTS SO IMPORTANT?

A few hundred years ago, southern Ontario was covered with immense forests interspersed with wetlands, savanna, prairies and other open areas. Through agricultural and urban development, the natural landscape has been reduced and fragmented. The small pockets of forest that remain provide fewer homes for plant and animal species that need large expanses of forest to survive. As a result, the wood thrush, the saw-whet owl, the blue-spotted salamander, the hoary bat and many other forest species are disappearing. Because the remaining patches of



forest are so small, forest birds are also more vulnerable to predation and to nest parasites, such as the brown-headed cowbird which lays eggs in the nests of other birds

In many areas of southern Ontario, private woodlots are the only forested areas that remain to support forest species. They are also the only relief we have from the effects of urbanization. Like all forests, woodlots clean

the air and water of pollution, prevent flooding and erosion, maintain a sense of nature in contrast to developed surroundings and provide green places for rest, relaxation and recreation. Healthy woodlots that contain a great number of different plant species play an important role in maintaining genetic diversity within plant species.

HOW CAN I IMPROVE THE HEALTH OF MY WOODLOT?

What you decide to do with your woodlot depends on your priorities and long-term goals. First take stock of what you already have in your woodlot. The size, relationship to other forests and sources of water, tree species and other aspects of your property will determine what you can accomplish in the future. Once you clearly know what you are working with, assess your priorities. Your priorities, for example, might be wildlife habitat, wood production and recreation, in that order. With your priorities in mind, set your goals. Achieving them may be as simple as leaving your woodlot and surrounding area alone for a period of time or encouraging natural regeneration.

Whatever your goals, a forest management plan can assist you in attaining them. If you need help with a management plan, contact a forestry consultant, your conservation authority or the Ministry of Natural Resources.

It takes time and energy to develop a healthy woodlot. Although you may not be able to do them all, here are some steps you can take to improve the health of your forested property.

1. ENLARGE AN EXISTING WOODLOT OR CONNECT TWO WOODLOTS BY NURTURING NATURAL REGENERATION OR BY PLANTING TREES

Size is an important factor when it comes to supporting forest species. Bigger is better for most species and especially for neotropical long-distance migrant birds, such as the scarlet tanager and the cerulean warbler. These birds are threatened by the loss of forests that are large enough to provide secluded breeding areas.

Consider how your woodlot fits into the landscape. Is it part of a larger forest? Are there other woodlots or natural areas nearby? If your woodlot is part of a larger forest, it might already play an important role in maintaining wildlife populations in your area. If you can expand it by nurturing natural regeneration or by planting, all the better. Connecting nearby woodlots by planting trees in open areas can transform a habitat-poor area into one that can support many more species.

Encouraging the growth of natural regeneration in and around your woodlot is less expensive and requires less work than planting. It involves protecting seedlings and saplings of desired tree species from competition with other vegetation for water, sunlight and nutrients and protecting them from deer and rodents, which eat the bark of young trees. If you choose to plant trees, select native species that have been grown from local seed sources. To get the most from your planting investment, it is wise to seek professional advice regarding the specific site requirements of each species you choose to plant.

2. MAINTAIN AND CREATE WILDLIFE TRAVEL CORRIDORS

Check to see if your woodlot is connected to other natural areas by lushly-vegetated fence rows, corridors of trees or other protected travel routes. Wildlife need safe travel corridors to find food, shelter, nesting sites and mates.



Wildlife, such as wild turkey, need protected travel routes.

You can improve existing corridors and create new ones by planting trees and shrubs between forested areas and between forested habitat and sources of water.

3. PROMOTE NATIVE PLANTS

A healthy woodlot contains native plant species, rather than non-native species. Non-native plants, such as Norway spruce and Norway maple, spread and displace native plants because they are usually prolific seed producers and have few insect or disease pests. Choose only native plants when planting forests or landscaping. Remove these non-native invaders listed below.

NON-NATIVE SPECIES

Norway maple	colonizes forests
European birch	invades bogs and other natural areas
glossy buckthorn	shades and crowds out native shrubs
dame's rocket	takes over moist forests and meadows
purple loosestrife	chokes out plants that provide food for wildlife
garlic mustard	invades shaded areas

4. PROVIDE PROTECTIVE COVER FOR WILDLIFE

Plant white spruce, white pine, cedar and other conifers which provide cover for deer, grouse and many other wildlife species. Conifers also add greenery during the winter months. To help small mammals, such as rabbits and weasels, construct brush piles from branches left over when the woodlot is thinned and trees are harvested.

5. PLANT MAST SPECIES FOR FOOD

When planting or choosing trees you want to grow in your woodlot for the future, be sure to provide plenty of black cherry, oaks, hickories and other mast species that provide nuts and fruits for birds and mammals.

Maintain at least seven mast trees in each hectare of forest.

6. PROTECT AND NATURALIZE THE WATER'S EDGE

Does your woodlot touch or include lake shoreline, streams, ponds, wetlands or other sources of water, food and aquatic habitat? If so, is the land-water interface shaded and protected by natural vegetation? The interface is one of the most important areas for deer, foxes and other large mammals that need protected access to water. These areas are also important sources of food for birds and mammals that feed on insects and amphibians.

Protect the water's edge from disturbances and, if necessary, plant native species to provide protective cover and food for wildlife. Red-osier dogwood, American highbush cranberry and other native shrubs are excellent sources of food and cover. They also prevent erosion by stabilizing the soil.



Poplars planted at the water's edge will stabilize the shoreline, and provide food and shelter for wildlife. In contrast, on the opposite bank, there is evidence of the shoreline being trampled, compacted and eroded by cattle.



Snags are standing trees that are dead and decaying. They provide habitat for many species.

7. PROTECT SNAGS AND CAVITY TREES FROM LOGGING

Standing dead trees (snags) and older living trees with holes (cavity trees) are important elements of a healthy woodlot. Wildlife use them for feeding, nesting, denning and escaping from predators.

Keep at least five snags and six cavity trees in each hectare of forest. Cut any trees that present safety hazards.

8. LEAVE DECAYING LOGS, BRANCHES AND ORGANIC DEBRIS ON THE GROUND

Fallen logs and branches provide homes for small mammals, salamanders, snakes, insects and fungi. They also act as seed beds for some tree species and return nutrients to the soil as they decay.

9. PROTECT LARGE CANOPY TREES AND SUPERCANOPY TREES

Large trees are sources of seed, shade, wildlife cavities and other important elements of forest habitat. They are also one of the features that people enjoy most. Leave a minimum of three large trees in each hectare of forest.

Supercanopy trees are white pines and other conifers that poke above the forest canopy. They provide landmarks for migrating birds, roosting sites for raptors and safe havens for bear cubs to hide in. Leave at least one cluster of supercanopy trees in each four hectares of forest.

10. CREATE NATURAL BUFFERS AROUND FORESTS

Plant native shrubs and ground covers around woodlots to act as a buffer between lawn and forest habitat. Lawns are biological deserts and should not be allowed to encroach upon natural areas.

11. HARVEST CAREFULLY

If you intend to harvest trees, use methods that do as little damage as possible to the forest. Restrict forest operations to the time of year when the ground will best support heavy equipment. Winter, late summer and early fall are good times. Reseed or replant the disturbed areas of your forest. Keep access roads to a minimum. Also, protect tall conifers near wetlands and in areas that need conifer seed for regeneration.



Planting trees in open areas can transform a habitat-poor area into one that can support many more species.



Decaying logs provide habitat for wildlife and are a source of soil nutrients.

12. CONSIDER THE NEEDS OF WILDLIFE BEFORE DISTURBING NATURAL ENVIRONMENTS

Before you cut a forest or make a natural area, consider how the changes will affect wildlife. Will your changes disturb plant communities that provide food and shelter for wildlife? Will the changes isolate wildlife populations, making it difficult to find food, migrate or mate?

Wildlife species respond to environmental change in different ways. Habitat generalists, such as the white-tailed deer or the northern cardinal, which can live in a broad range of conditions and are relatively mobile, can move and adapt to environmental change. In general, the loss and fragmentation of forest habitat in southern Ontario has benefitted habitat generalists.

Habitat specialists, on the other hand, have more specific habitat requirements and have more difficulty adapting to environmental change. Some, like the woodland salamander, may persist in small patches of habitat while land-use changes occur around them. Others are more vulnerable and have difficulty surviving logging or other major habitat disturbances. Relatively immobile species, such as the wood frog, are particularly at risk.

As a general rule, it is important that woodlot owners avoid changes that could further reduce populations of habitat specialist species.



Bloodroot (*Sanguinaria canadensis* L.) is a perennial member of the poppy family. It is found in rich woods, blooming from March to June.

13. KEEP CATTLE OUT

As they graze, cattle trample the roots of older trees and compact the soil. In time, this suffocates the roots and kills the trees. Cattle also trample and eat undergrowth, making it difficult for forests to regenerate and exposing soil to erosion.



Careful use of trails protect woodlots from human damage.

14. LEAVE NATIVE PLANTS IN THE FOREST

Woodlots and natural areas are not the places to get plants for your garden. Natural areas are often the only place left for native wildflowers to grow. Most wildflowers, such as orchids, have specific habitat needs to complete their life cycles. Moving them may jeopardize the population and they probably won't survive in your garden anyway.

15. STICK TO THE TRAILS

To reduce the impact of human use, limit your travels to main trails. When developing trail systems, design entrances and paths carefully to minimize damage human traffic might cause.

16. RESTRICT PETS

Keep cats out of woodlots and other natural areas where they can prey on birds and small mammals. And keep your dog on a leash. Dogs can stress or kill both plants and animals.

17. AVOID FEEDING PEST SPECIES

If you live beside or near a natural area, ensure that your bird feeder is accessible only to animals that you want to attract. Avoid feeding the pest species in the chart that prey on or out-compete vulnerable native birds.

Use a tube-shaped silo feeder with small perches to discourage blue jays, grackles and starlings. To reduce the numbers of starlings, house sparrows and cowbirds at your feeder use sunflower and niger seed instead of corn and small grains like millet. Keep the area around the feeder clean so that the pest species have nothing to feed on. To keep squirrels away from the feeder, place it two to three metres high on a pole in an open area. A cone-shaped baffle halfway up the pole will also help to keep the squirrels away.

PEST SPECIES

house sparrow.....	a European species that competes with native birds
brown-headed cowbird.....	a nest parasite that lays eggs in the nests of other birds
blue jay	an expert nest raider
grackle	an aggressive bird that out-competes other species
starling.....	a European species that competes with native birds
squirrels.....	preys heavily on bird eggs and nestlings

WHERE DO I GO FOR HELP?

Here are some of the agencies that can provide advice and information on maintaining a healthy woodlot:

- Ontario Ministry of Natural Resources
- Ontario Ministry of Agriculture, Food and Rural Affairs
- conservation authorities
- municipal parks and recreation departments

You may also want to join a group that shares your concern for the environment. The following is a short list of organizations you might consider:

- Federation of Ontario Naturalists
- Canadian Wildflower Society
- Ontario Woodlot Association
- Ontario Forestry Association

The following extension notes and books are a good source of information on developing healthy woodlots:

- *The Old-Growth Forests of Southern Ontario*
- *Restoring Old-Growth Features to Managed Forests in Southern Ontario*
- *Managing Regeneration in Conifer Plantations to Restore a Mixed, Hardwood Forest*
- Lompart C., J. Riley, J. Fieldhouse, *Woodlands for Nature: Managing Your Woodland for Wildlife and Nature Appreciation*. Federation of Ontario Naturalists. 1997.
- Hilts, S. and P. Mitchell, *Caring For Your Land*. University of Guelph. 1995.

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