

# There's Life in Dead Trees

A dead tree is a wildlife hotel and restaurant...

When a tree dies, insects such as carpenter ants and long-horned beetles move in. These insects and their larvae find shelter beneath the bark of dead trees and feed on the decaying wood. Even though the tree itself is dead or dying, before long it will be teeming with life of another kind.

Small mammals such as deer mice and chipmunks are attracted by the bonanza of insects that live in dead wood.

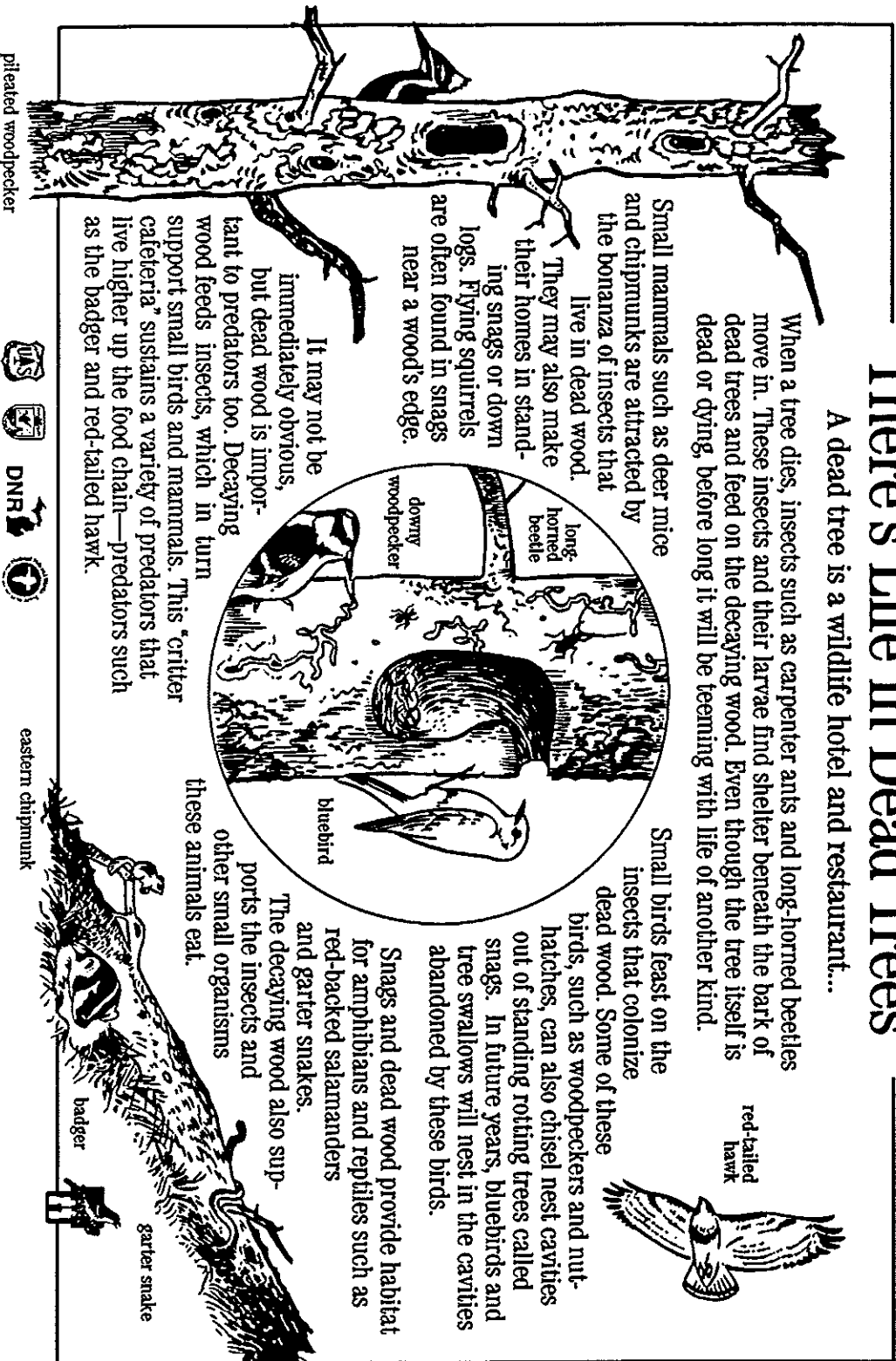
They may also make their homes in standing snags or down logs. Flying squirrels are often found in snags near a wood's edge.

It may not be immediately obvious, but dead wood is important to predators too. Decaying wood feeds insects, which in turn support small birds and mammals. This "critter cafeteria" sustains a variety of predators that live higher up the food chain—predators such as the badger and red-tailed hawk.

Small birds feast on the insects that colonize dead wood. Some of these birds, such as woodpeckers and nuthatches, can also chisel nest cavities out of standing rotting trees called snags. In future years, bluebirds and tree swallows will nest in the cavities abandoned by these birds.

Snags and dead wood provide habitat for amphibians and reptiles such as red-backed salamanders and garter snakes. The decaying wood also supports the insects and other small organisms these animals eat.

eastern chipmunk  
badger  
garter snake



pileated woodpecker

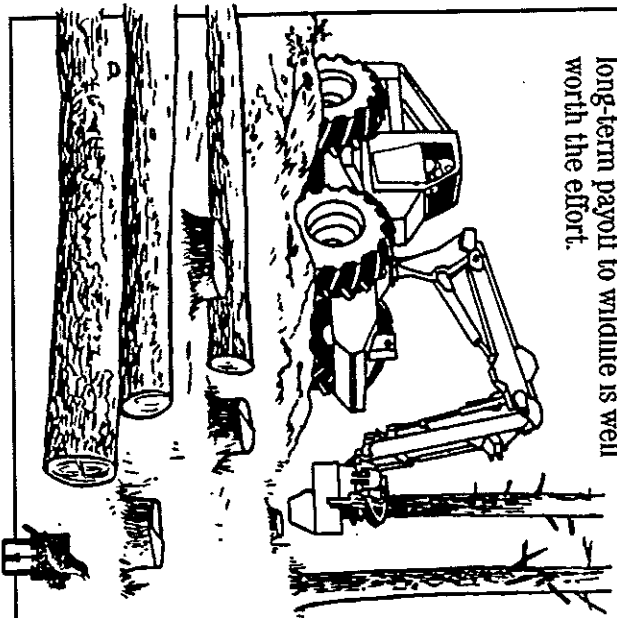


eastern chipmunk

# There's Life in Dead Trees

## How forest managers help wildlife

State and federal agencies manage forests in this area to provide wood products and to benefit the wide variety of plants and animals that live here. One way forest managers do this is by not cutting down the standing dead trees called snags. Harvesting may take a little longer when it's done this way, but the long-term payoff to wildlife is well worth the effort.



## How you can help wildlife

When cutting firewood, don't cut standing trees that have:

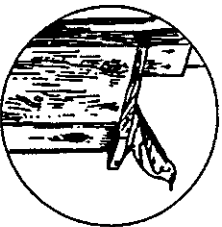
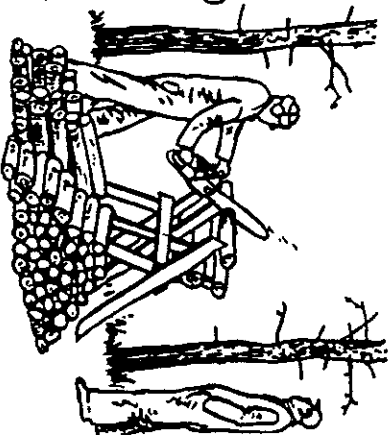
- paint marks or wildlife signs (these trees contain wildlife homes)
- broken tops or holes in the trunk (these trees might contain wildlife homes)
- visible nests

Try to leave 4 or more dead trees per acre (an acre is about the size of a football field)

### Remember:

The larger around a dead tree is, the more useful it is for wildlife  
Small groups of dead trees are more valuable to wildlife than single snags

Regulated firewood cutting is allowed in designated areas of the Huron-Manistee National Forests. Stop at a National Forest office for more information. Take extra safety precautions when working around dead, standing trees.



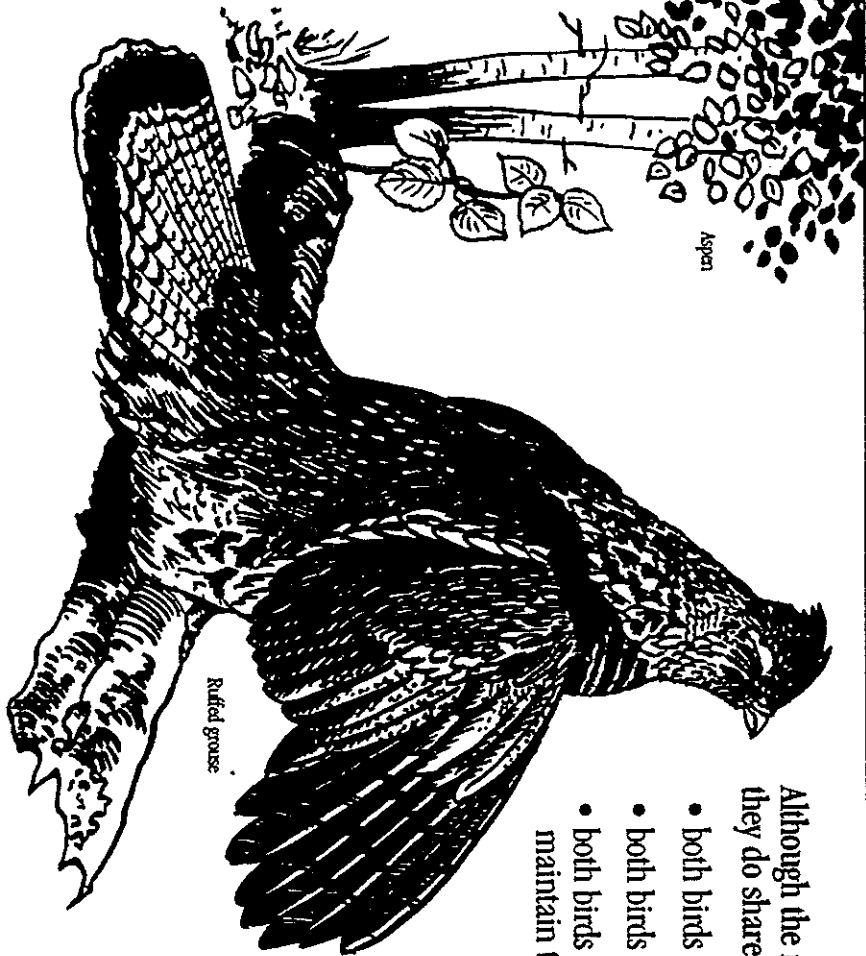
In open, grassy areas or wooded areas that lack natural tree cavities, you can help wildlife by building and erecting nest boxes. These boxes may not be as beneficial as real snag trees, but many kinds of animals will use them if snags are not available.



# Take the Ruffed Grouse Walk

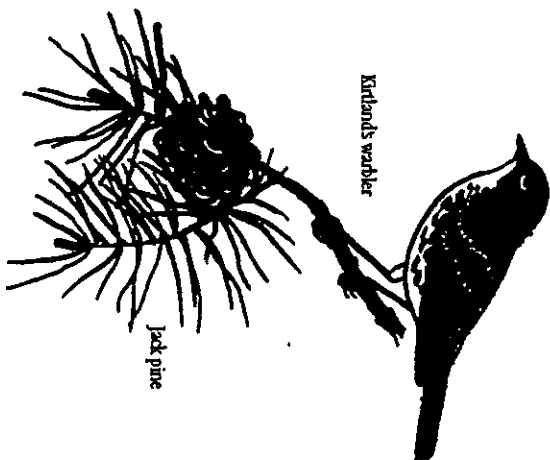
Although the ruffed grouse and Kiriland's warbler are not closely related, they do share some similarities:

- both birds live in wooded habitats and nest on the ground.
- both birds need dense stands of young trees to survive and raise their young.
- both birds are dependent on wildfires or timber harvesting by humans to maintain these specialized habitats.



Ruffed grouse

Birds shown actual size.



Kiriland's warbler

Jack pine

Despite these similarities, it is unlikely that you will see both kinds of birds together on this trail or in any other habitat. To find out why, pick up a brochure and take the "Ruffed Grouse Walk..." →



# A Special Place for Wildlife

The Au Sable River brings life to the dry, sandy hills found in this part of Michigan. The lush plant life and many unique kinds of wildlife that live here depend on the river corridor for their survival.

River corridors provide critical habitat for many plants and animals. It is important that we protect and conserve natural stream and river corridors so they remain special places for wildlife.

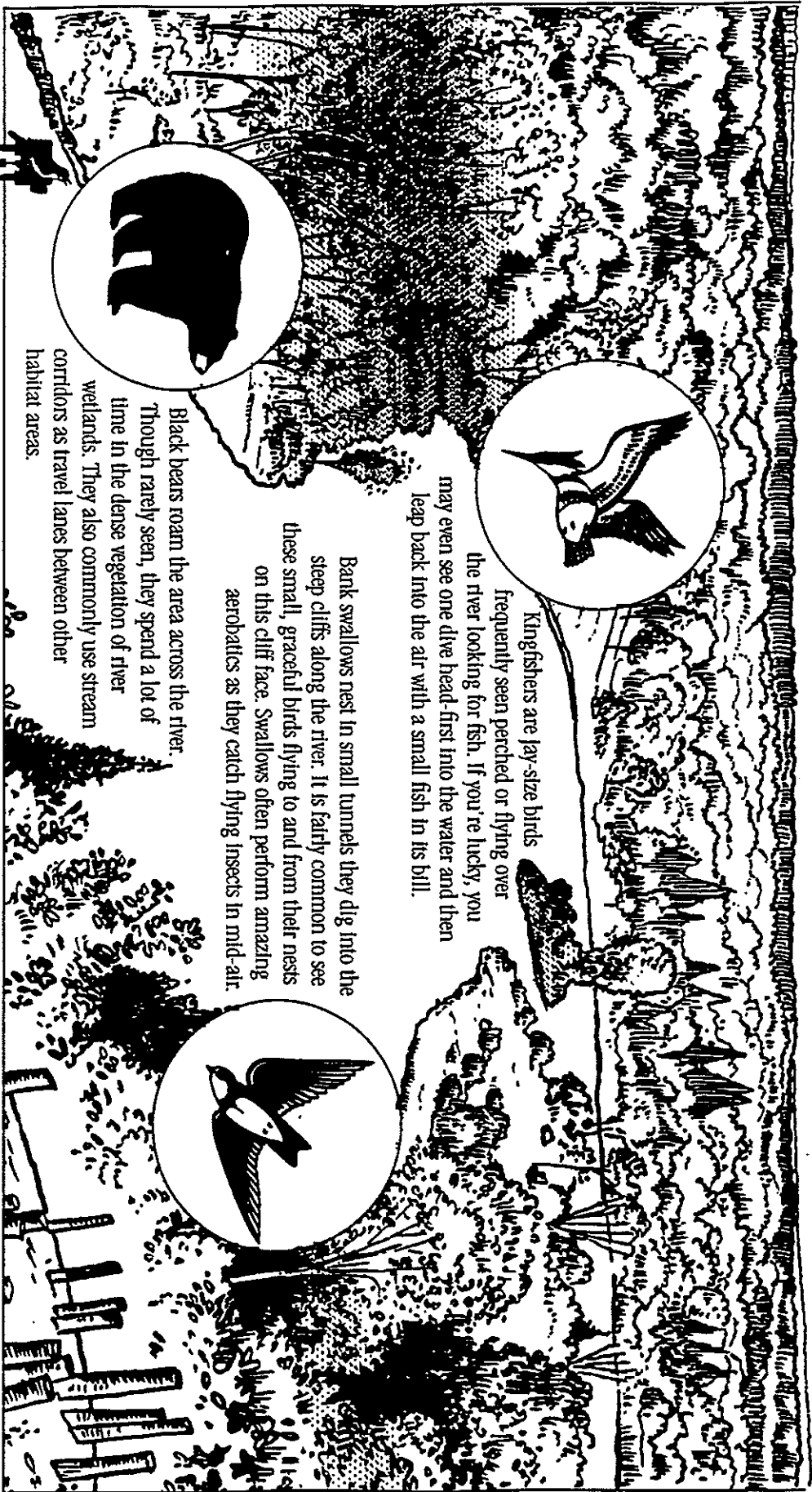


Kingfishers are jay-size birds frequently seen perched or flying over the river looking for fish. If you're lucky, you may even see one dive head-first into the water and then leap back into the air with a small fish in its bill.

Bank swallows nest in small tunnels they dig into the steep cliffs along the river. It is fairly common to see these small, graceful birds flying to and from their nests on this cliff face. Swallows often perform amazing aerobatics as they catch flying insects in mid-air.



Black bears roam the area across the river. Though rarely seen, they spend a lot of time in the dense vegetation of river wetlands. They also commonly use stream corridors as travel lanes between other habitat areas.

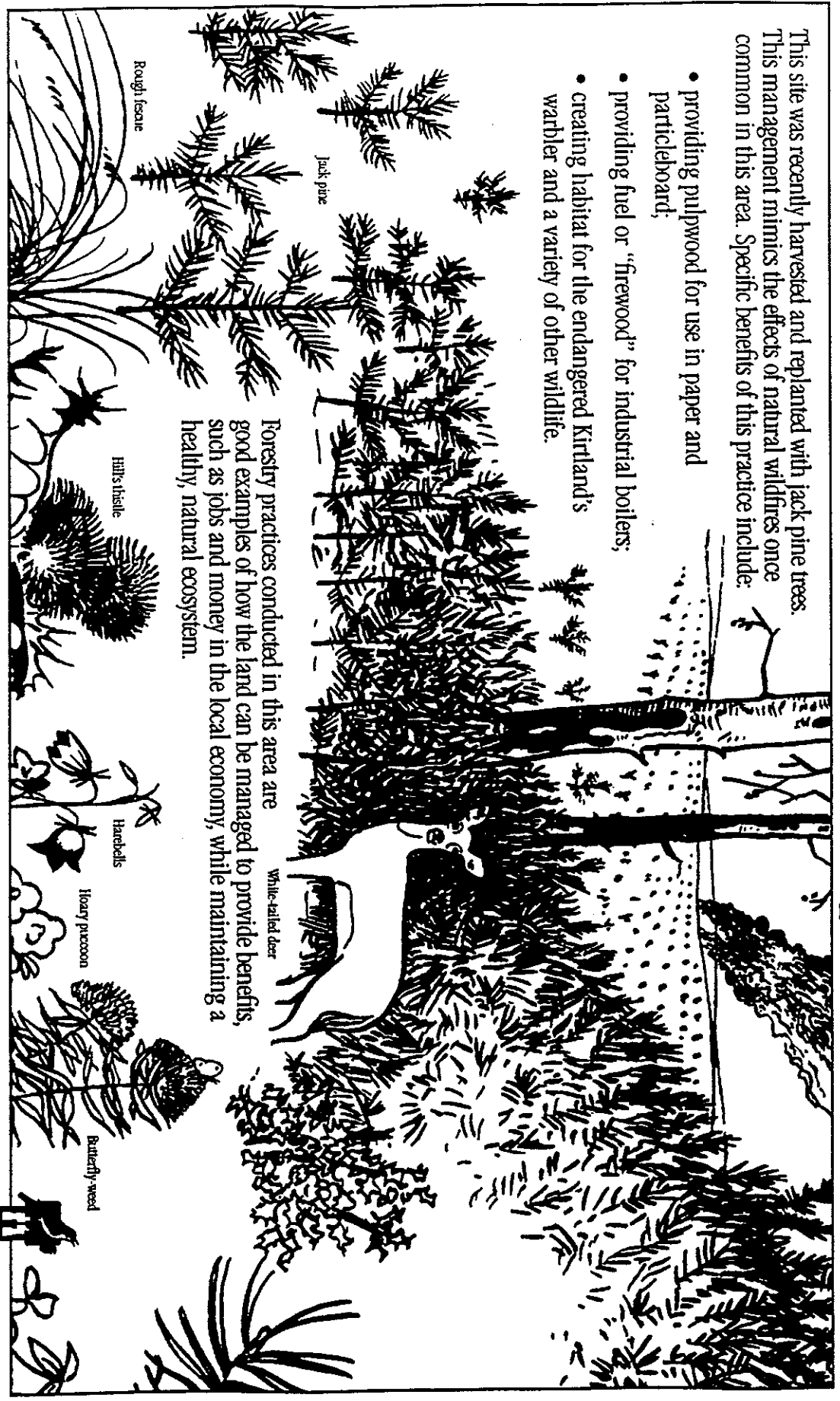


# Of Warblers and People

This site was recently harvested and replanted with jack pine trees. This management mimics the effects of natural wildfires once common in this area. Specific benefits of this practice include:

- providing pulpwood for use in paper and particleboard;
- providing fuel or "firewood" for industrial boilers;
- creating habitat for the endangered Kirtland's warbler and a variety of other wildlife.

Forestry practices conducted in this area are good examples of how the land can be managed to provide benefits, such as jobs and money in the local economy, while maintaining a healthy natural ecosystem.



Jack pine

Rough fescue

White-tailed deer

Hills thistle

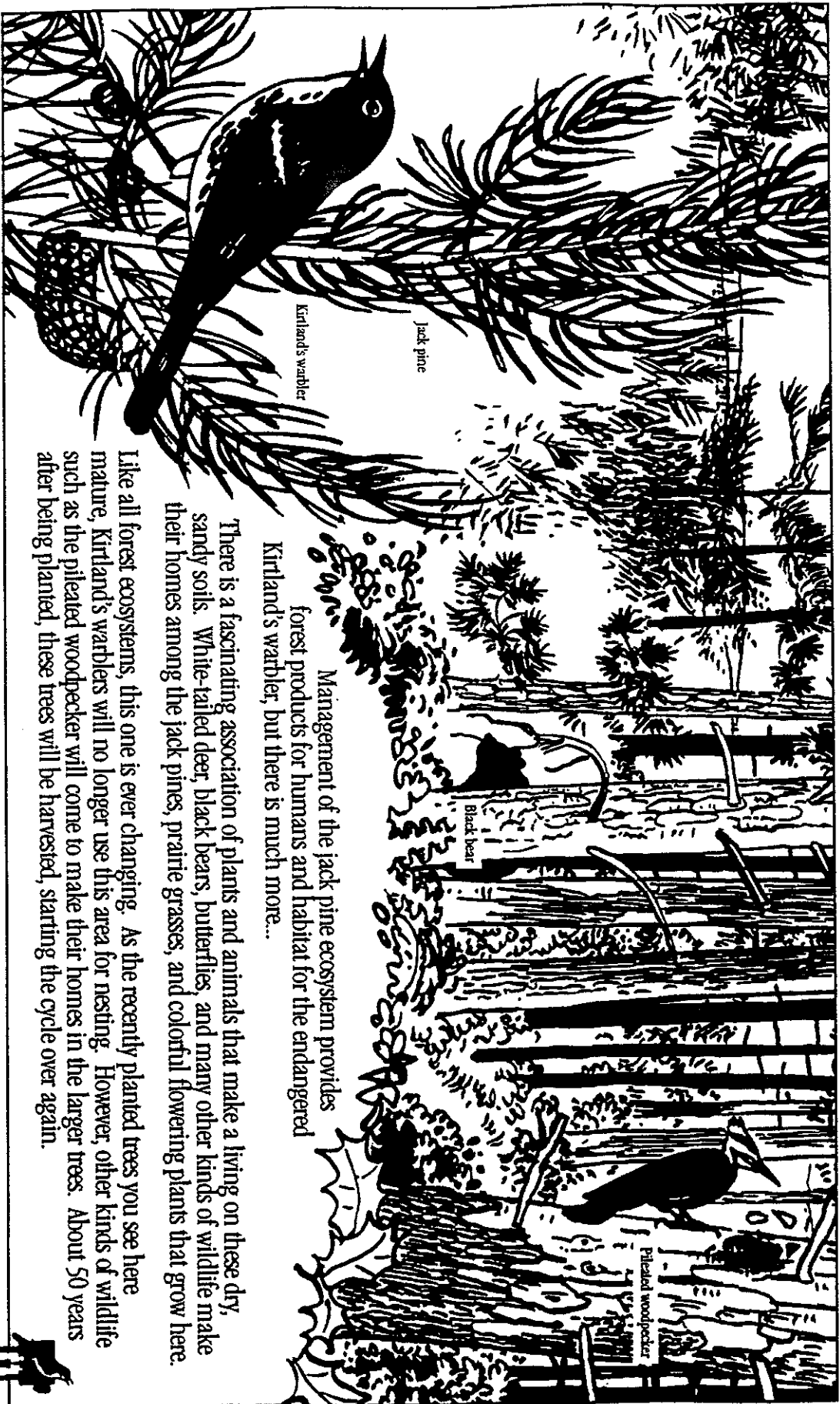
Harbells

Hairy woodcock

Butterfly-weed



# There's More Here Than You Might Think



Jack pine

Kirtland's warbler

Black bear

Pileated woodpecker

Management of the jack pine ecosystem provides forest products for humans and habitat for the endangered Kirtland's warbler, but there is much more...

There is a fascinating association of plants and animals that make a living on these dry, sandy soils. White-tailed deer, black bears, butterflies, and many other kinds of wildlife make their homes among the jack pines, prairie grasses, and colorful flowering plants that grow here.

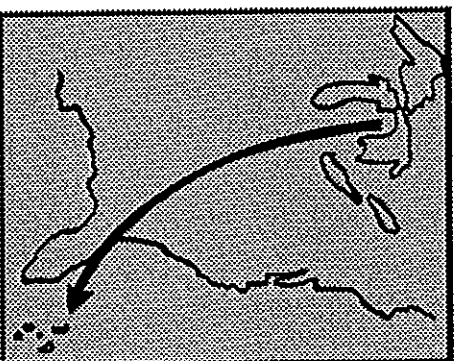
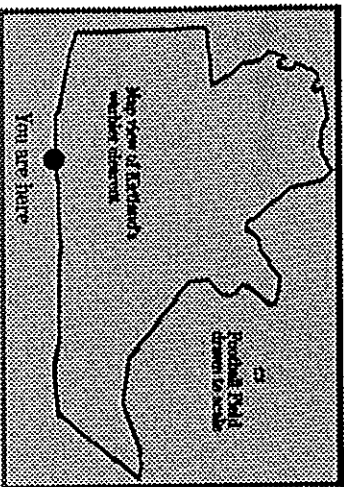
Like all forest ecosystems, this one is ever changing. As the recently planted trees you see here mature, Kirtland's warblers will no longer use this area for nesting. However, other kinds of wildlife such as the pileated woodpecker will come to make their homes in the larger trees. About 50 years after being planted, these trees will be harvested, starting the cycle over again.



# Nearly Ready for Warblers

## Why are these clearcuts so large?

Studies have shown that Kirtland's warblers prefer large areas of jack pine forest for nesting. Before European settlement, vast areas of nesting habitat were maintained naturally by periodic wildfires. Today, forest managers imitate the effects of wildfires by creating large clearcuts and then replanting these areas with young jack pine trees. The clearcut in front of you is 331 acres in size. It was cut and replanted in 1988. To create the dense forest that Kirtland's warblers require, at least 1,200 seedlings must be planted on every acre of clearcut—that's nearly 400,000 trees out there!



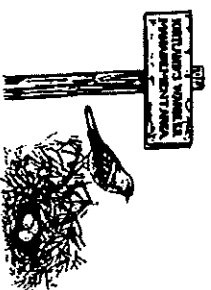
Bahamas Islands

Jack pine management for Kirtland's warblers also benefits many other wildlife species, including deer, coyotes, and bluebirds. By allowing large clearcuts, we provide the Kirtland's warbler and other species with the special habitat they must have to survive. However this is only part of the story...



## See you next spring

Kirtland's warblers nest in Michigan, but they don't hang around for the cold Michigan winters. Instead, they migrate to the sunny Bahamas—an island group in the Caribbean. The life and journeys of the Kirtland's warbler point out the need for all of us to show concern for things that happen far from this place. They also point out that what we do in our own backyards has far-reaching impacts on wildlife half the world away.



# The First Rule of Intelligent Tinkering is to Save All the Parts \*

Kirtland's warblers are an integral part of the jack pine ecosystem, so if "saving all the parts" is important, then we must strive to protect the pines, the warblers, and the other plants and animals that call this place home.

## Picky, Picky, Picky

Kirtland's warblers will only nest and raise their young in very specific places—everything must be just right.

- The forest must contain young jack pine trees 5-20 feet tall. (It takes 6-8 years for seedlings to get this tall, and they will only remain in this size class for about a dozen more years).
- The trees must be planted close together, yet there should be numerous small openings interspersed throughout the stand. (Warblers nest on the ground in the thick sedges and shrubs that grow in these openings and beneath the jack pines).
- The forest must grow on a special type of sandy soil.



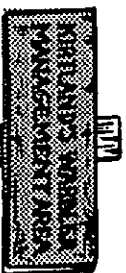
Kirtland's warbler with eggs

The habitat you see at this site has been managed with these things in mind. The original trees were clearcut, jack pine seedlings were planted close together, and numerous small openings were left to benefit warblers and other wildlife.



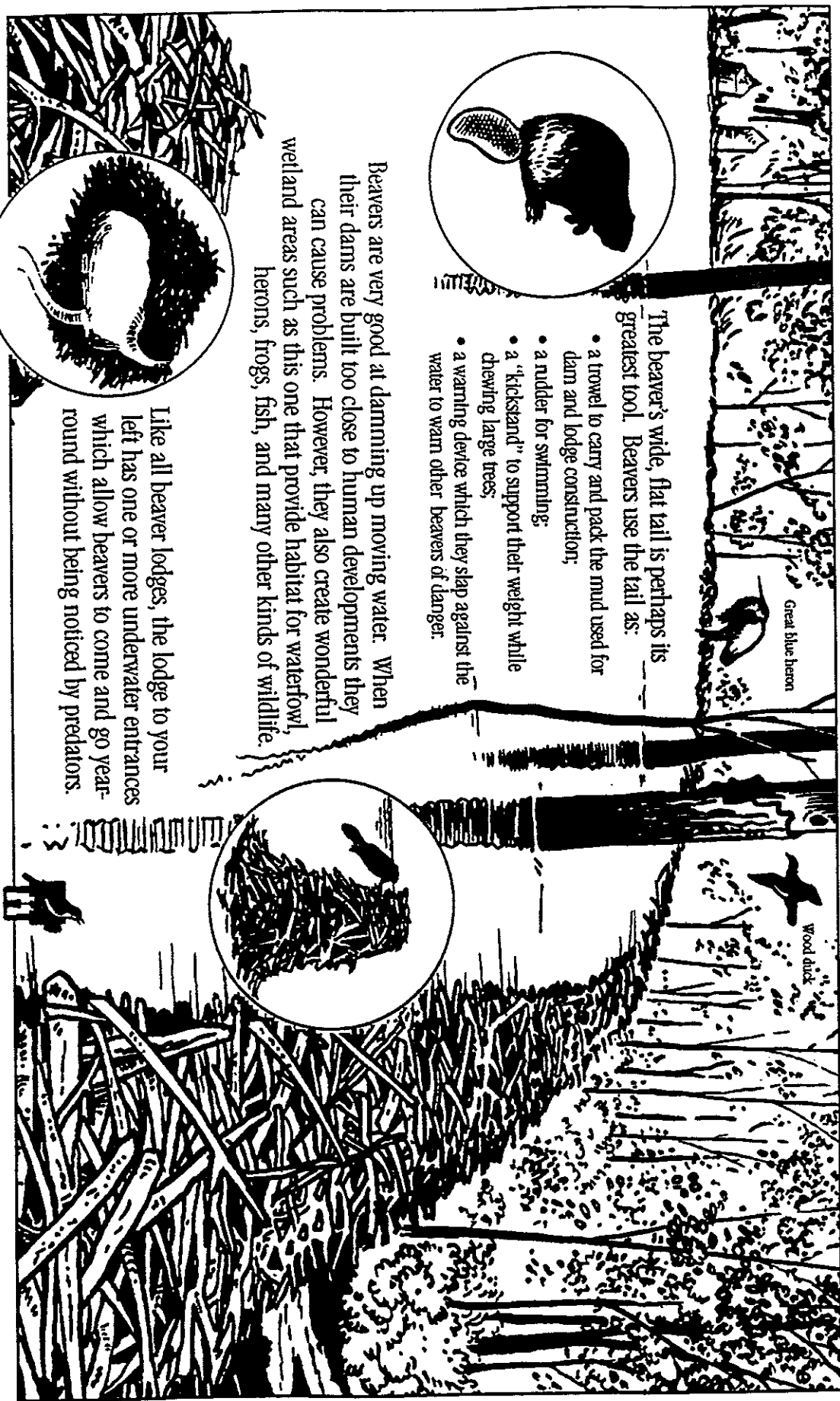
*Aldo Leopold, A Sand County Almanac*

Kirtland's warblers are sensitive to disturbance during their nesting season and while rearing their young. Because of this, nesting areas are posted against entry during the breeding and brood-rearing seasons. They are open to public use the remainder of the year. Please help the Kirtland's warbler by obeying the "Closed to Entry" signs.





# Those Amazing Beavers



The beaver's wide, flat tail is perhaps its greatest tool. Beavers use the tail as:

- a trowel to carry and pack the mud used for dam and lodge construction;
- a rudder for swimming;
- a "kickstand" to support their weight while chewing large trees;
- a warning device which they slap against the water to warn other beavers of danger.

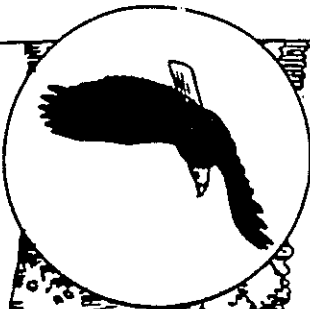
Beavers are very good at damming up moving water. When their dams are built too close to human developments they can cause problems. However, they also create wonderful wetland areas such as this one that provide habitat for waterfowl, herons, frogs, fish, and many other kinds of wildlife.

Like all beaver lodges, the lodge to your left has one or more underwater entrances which allow beavers to come and go year-round without being noticed by predators.



# A Ribbon of Life for Wildlife

The Au Sable River corridor is a lush river greenway that snakes through dry, sandy forested hillsides. Many unique kinds of wildlife depend on the river's clean water for survival.

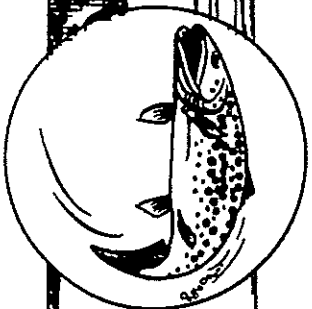


Bald eagles often nest near the river, and they eat fish and waterfowl that live here. They also feed on dead animals they find along the river. This way of life can be harmful to eagles if the animals they eat are contaminated with pesticides or toxins.

River otters spend most of their lives in or near water. They eat crayfish, freshwater clams, fish, and other food items that are sensitive to water quality. A polluted river will not support these playful, energetic mammals.



Just as Kirtland's warblers depend on young stands of jack pine trees for their survival, trout, otters, and eagles need clean water to survive. The quality of the river depends on the dry, sandy hills from which much of its water flows. If the lands around a river are managed carefully, the river runs clean and clear—a ribbon of life for plants and wildlife.



Brown trout are frontline indicators of the river's health. If the water becomes polluted or muddy, the trout will not be here for long.



# America's National Symbol

The bald eagle is the national symbol of the United States. Seeing these large birds soar across blue summer skies brings feelings of awe and wonder.

Bald eagles nest and raise their young here on Alcona Dam Pond and elsewhere along the Au Sable River. They build large nests, often in tall white pines. Eagles mate for life and usually return to the same nest every year, adding new sticks and materials each time. After several years, the nest itself may weigh more than a ton!

Most people have seen pictures of eagles pulling fish from the water, and fish do make up most of the eagle's diet. However, eagles also eat ducks and other water birds, and often scavenge the flesh of dead animals they find along the river.

Because of their eating habits, eagles are dependent on water quality. If the river becomes muddy or polluted, eagles will not survive here. By caring for the river and the forested lands that make up the river's watershed, and by protecting eagle nest sites, we can help ensure that these majestic birds remain part of our natural heritage.

