

# Kirtland's Warbler

## Working Together to Save a Special Bird

### *Managing the forest for the Kirtland's warbler*

Michigan is home to one of the world's rarest birds . . . the Kirtland's warbler. This small, energetic bird was one of the first to be listed as endangered after the Endangered Species Act of 1973 was passed by Congress. One reason this bird is endangered is the extremely limited area in which it nests -- young jack pine forests growing on a special type of sandy soil in northern lower Michigan. Most of these nesting areas are in Crawford, Oscoda, and Ogemaw counties. The U.S. Fish and Wildlife Service, U.S. Forest Service, Michigan Department of Natural Resources and Environment, and Michigan Audubon Society are working together to save this endangered bird from extinction.

#### *What does a Kirtland's warbler look like?*

The Kirtland's warbler is a small blue-gray bird with a bright yellow breast. This active, energetic bird constantly twitches its tail when perching and sings a rich, loud, and clear song.

#### *Where do the birds nest?*

The Kirtland's warbler nests only in young jack pine forests growing on a special type of sandy soil. This type of soil is found only in a few counties in Michigan. The warblers prefer to nest in forests that are about 80 acres (roughly 60 football fields) or larger with numerous small, grassy openings. Kirtland's warblers prefer to nest in groups. They build their nests only on the ground among grass or other plants like blueberry bushes.

The jack pine trees in its nesting area must be just the right height (about 5 to 16 feet tall) and the trees must be spaced to let sunlight through to the ground. The sunlight helps keep the lower branches alive and bushy, hiding the Kirtland's warbler nest beneath them. When the trees grow larger their upper branches block the sun, causing the lower branches to die. Grasses and other plants also become less dense. The warblers then must find another nesting area.

#### *Where do Kirtland's warblers spend the winter?*

Kirtland's warblers spend their winters in the Bahama Islands. They spend most of their time in low, brushy vegetation.



#### *Why is this bird endangered?*

There are two main reasons why the Kirtland's warbler is in danger of becoming extinct.

1. **Limited Habitat.** Over the years, humans have changed the forest and now there is a shortage of good nesting habitat (a place to live) for the bird. The Kirtland's warbler is very careful in choosing where it nests. It nests only in the northern Lower Peninsula of Michigan and nowhere else in the world!

2. **Cowbird Parasitism.** The brown-headed cowbird has spread from the Great Plains into Michigan and is causing problems for the Kirtland's warbler. The cowbirds lay their eggs in warbler nests. The warblers then raise cowbird young instead of their own.

***How did this bird manage to survive in the past?***

Under natural conditions, the type of jack pine forest that attracts the Kirtland's warbler is produced by fire. Fire has always occurred in the forest and jack pine trees are dependent on fire. Heat from fire is needed to open the jack pinecones to release the seeds. Fire also removes plants that compete with the pines for forest space and creates a bed of ash that helps the new seeds to grow. Fires before the 20th century were more widespread in the jack pine plains of Michigan and created large nesting areas for the Kirtland's warbler.

When lumberjacks moved across Michigan in the 1800s, they found many areas with abundant jack pine trees. After the trees were cut down, wildfires burned out of control over thousands of acres. This helped create vast areas of young jack pine trees and this meant more nesting areas for the Kirtland's warbler. The number of Kirtland's warblers is believed to have been at an all time high following the days of the lumberjack.

After the lumberjacks left lower Michigan, settlers moved in. New roads and fire breaks were built. Fire protection was necessary to protect the settlers' homes and lives. With fewer fires, there were fewer young jack pine forests -- and fewer warblers.

***How has the Kirtland's warbler escaped extinction?***

Recognizing that the Kirtland's warbler was in danger of becoming extinct, forest managers set aside special areas for this bird. In these special Kirtland's warbler management areas, forest managers try to imitate what used to happen naturally. Sometimes carefully managed fires are set on purpose in small areas. In other areas, forest managers harvest some of the old jack pine stands each year. Then, the areas are replanted with jack pine seedlings. At least 1,200 seedlings are planted in each acre to create good nesting conditions. Several million seedlings are planted each year. When the trees reach about 5 feet high (around 8 years old), the Kirtland's warblers begin nesting in the area. They will continue to use the area until the needles on the lower branches start dying. This usually happens when the trees are about 16 feet high (around 20 years old).

The jack pine trees will be cut down when they are about 50 years old, new trees will be planted, and the cycle will start over again. Repeating the cycle results in a continuous supply of nesting habitat for the warbler and forest products for the timber industry.

Good warbler management is good jack pine and wildlife management.

*Why aren't the trees cut down as soon as the warblers move out of the area?*

Although Kirtland's warblers stop using a jack pine forest when the trees are about 20 years old, forest managers wait until the jack pine trees are 50 years old before they are cut down. At 50 years old, the jack pine trees are large enough to be commercially valuable. Trees are harvested on this 50 year rotation because older trees become vulnerable to jack pine bud worm and other insects and diseases. Removing older trees also reduces the hazard of wildfires.

### ***"The Habitat Management Cycle"***

- Mature trees are harvested and used
- Jack pine seedlings are planted (or grow back naturally)
- Trees reach about 8 years old
- Warblers begin to nest in the area
- Trees reach about 20 years old
- Warblers stop using the area and use newly created nesting areas
- Trees reach 50 years old
- Mature trees are harvested and used . . . the cycle starts over again



*Does clearcutting help other animals and plants?*

Kirtland's warbler management areas are valuable to other animals and plants. Some of the animals that share their home with the Kirtland's warbler include: white-tailed deer, snowshoe hares, Eastern bluebirds, spruce grouse, upland sandpipers, prairie warblers, and wild turkeys. Badgers, owls, woodpeckers, beautiful wildflowers, blueberries, big bluestem, and other plants, such as sweet fern, are found in the unusually dry habitat. At least two kinds of threatened plants also grow in the jack pine area. Just like the Kirtland's warbler, many of these animals and plants would disappear or become scarce if the trees in the forest become too old. The oaks that live among the jack pines are also able to renew themselves after being burned or cut.

*What are the harvested trees used for?*

Most of the trees are sent to pulp mills to be made into paper. Some of the jack pine trees are made into wood chips and are used for fuel or particle board.

***Aren't the clearcut areas unsightly?***

If you live near one of the cleared or burned areas, it may look unattractive for a while, but soon the new trees and other plants will start to grow. The new growth will attract snowshoe hare, deer, and a variety of songbirds. Blueberries may be abundant and if you put up a nest box, you probably will attract a pair of tree swallows or bluebirds. In a few years, Kirtland's warblers will probably move into the area and you may see its yellow breast flashing among the pines. You can proudly tell visitors that you share your land with one of the world's rarest and most endangered birds!

***Why should we spend so much effort to save the Kirtland's warbler?***

People have different reasons for wanting to save the Kirtland's warbler:

***Ecological*** All living things depend on each other to survive. If we lose one type of plant or animal, then the whole system of living things might be thrown off balance. If we allow the Kirtland's warbler to become extinct, we may be doing much more damage than realized, just as if you were to pull on a loose thread in your sweater.

***Economic*** The jack pine trees that are cut down in the Kirtland's warbler nesting areas provide valuable wood products and jobs that are important to Michigan's people and economy. Tourists that are attracted by the Kirtland's warbler also have a positive impact on the Northern Michigan economy.

***Inheritance*** If we save the Kirtland's warbler our children and our grandchildren will have a chance to enjoy this special bird and its habitat in the future.

***Scientific*** Every type of plant and animal is different. If we lose the Kirtland's warbler, we have lost a model that can never be replaced. By destroying a type of plant or animal, we give up forever the chance to learn how valuable it might be.

***Stewardship*** By saving the Kirtland's warbler we are being good caretakers of the land and natural resources.

***Aesthetic*** The Kirtland's warbler is a natural wonder and adds beauty to our world. Many people enjoy watching the Kirtland's warbler.

***Educational*** The Kirtland's warbler is an interesting bird and its story can help teach the public about birds, nature, how humans are impacting the environment, and how to help endangered species.

***Historical*** The Kirtland's warbler nests only in Michigan and nowhere else in the world. This bird is a part of Michigan's (and our nation's) natural heritage and should be preserved. Some people even think it should become Michigan's state bird!

***Recreational*** Each year, hundreds of tourists flock from all over the world for a chance to learn about and perhaps see the Kirtland's warbler. The land where the warbler lives is home to other wildlife that may be enjoyed by wildlife watchers. Some of the wildlife, such as white-tailed deer and snowshoe hare, are valued game animals.

**Endangered Species Act** The Kirtland's warbler is officially listed as endangered and is given full protection under the Endangered Species Act. Restoring the Kirtland's warbler to the point where it is no longer in danger of extinction is required by the Act.

***Are the number of Kirtland's warblers increasing?***

Each year in early June, Kirtland's warblers are censused by counting the number of singing males. The number of Kirtland's warblers is now on the rise. Most important, there has been an increase in the number of warblers living in the special areas created for them by forest managers. However, the birds have a long way to go before they are no longer in danger of becoming extinct. The Kirtland's warbler won't be taken off the endangered species list until there are at least 1,000 nesting pairs.

***How can I help?***

You can help brighten the future for the Kirtland's warbler by learning more about this bird. Participate in a summer tour of Kirtland's warbler habitat. Visit your local library and read books and magazine articles about the bird. Contact one of the offices listed below for more information. Tell others about what you've learned.

- 
- 
- 
- 
- 

***Where can I get more information?***

U.S. Forest Service  
1755 South Mitchell Street  
Cadillac, Michigan 49601  
1-800-821-6263

Michigan Department of Natural Resources  
Wildlife Division - Natural Heritage Program  
Box 30028  
Department KW  
Lansing, Michigan 48909  
517/373-1263

U.S. Fish and Wildlife Service  
East Lansing Field Office  
2651 Coolidge Road  
East Lansing, Michigan 48823  
517/351-2555

Michigan Audubon Society  
6011 West St. Joseph, Suite 403  
P.O. Box 80527  
Lansing, Michigan 48908-0527  
517/886-9144

*Kirtland's warbler illustration reproduced courtesy of the artist, Ann Hancock, and publishers of "The Atlas of Breeding Birds of Michigan."*



*Fact Sheet Prepared June 1992*