



Endangered Species Facts

Kirtland's Warbler

Some plants and animals listed by the U.S. Fish and Wildlife Service as endangered or threatened can be harmed by the use of certain pesticides. To help ensure the continued existence of these species, the U.S. Environmental Protection Agency (EPA) may limit the use of certain pesticide products within the habitat of these species. This action will reduce the exposure of endangered or threatened species to potentially harmful pesticides. The Kirtland's warbler is an endangered bird for which EPA may set pesticide limitations.

What Is the Kirtland's Warbler?

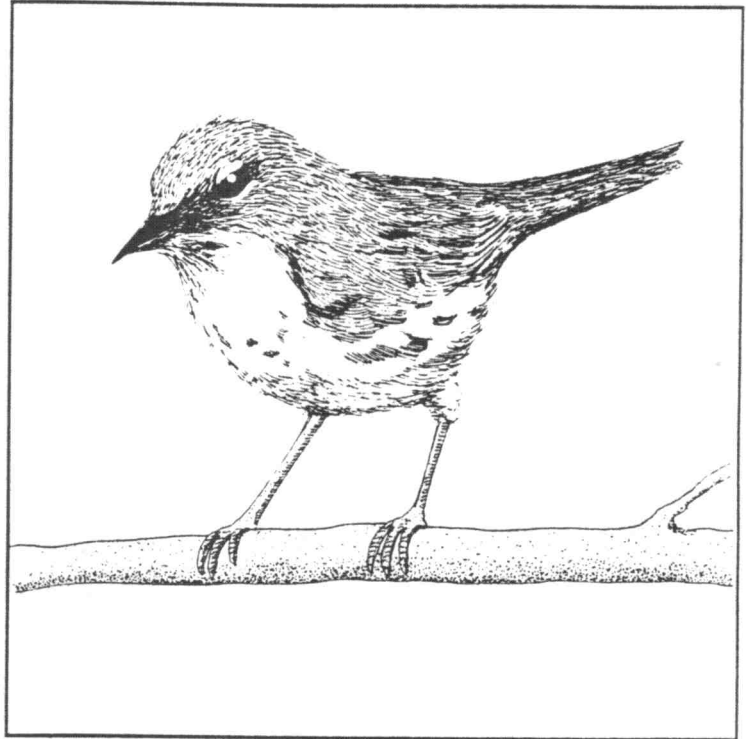
The Kirtland's warbler (scientific name: *Dendroica kirtlandii* Baird) is a tiny songbird that breeds in the northern part of the lower peninsula of Michigan and winters in the Bahamas and other Caribbean islands. The bird is bluish-gray with a yellow breast and black streaks on its back. The male's plumage is brighter than the female's, and the male also has a black mask. In autumn, the warbler's gray plumage becomes mixed with brown. The bird has a habit of constantly bobbing its tail up and down.

The Kirtland's warbler eats all types of food, from insects such as ants and caterpillars to plant matter such as pine pitch, grass, and berries. Because biologists have not observed the warbler drinking water in the wild, they believe the bird receives all the moisture it needs from its food.

The warbler has several reproductive characteristics that make it unique. During the mating and nesting seasons, the bird sings almost constantly, under all kinds of weather conditions, from dawn until dark. Its song is loud and clear, and can be heard as far away as 1/4 of a mile.

Another reproductive trait that makes this bird unique is that it only nests in jack-pine stands that are between 5 to 20 feet in height, and at least 80 acres in area. The warbler nests directly on the ground under low branches of jack pines. These stands naturally occur about 9 to 13 years after a fire destroys the original trees. After 6 to 12 years of use, when the trees become too tall for low branches to serve as a protective cover, the warbler abandons the habitat.

In May and June, the warbler lays four to five eggs in its nest. The young develop rapidly and are out of the nest by the ninth day. Each parent then takes responsibility for caring for part of the brood. By September, the chicks are strong enough to begin the annual migration to the Caribbean. Plants associated with the bird's winter home are pine forests and broad-leaved scrub.



How Is the Kirtland's Warbler Threatened?

The warbler's finicky nesting habits and other natural factors limit the population number to about 400 birds. Because the warbler only nests in large groups of young jack pines, any changes to the jack-pine habitat that make it unappealing to the bird could prevent the warbler from reproducing.

Forest fire control measures have contributed to one such change in the bird's habitat. While fire protection is necessary in forest land management, the advent of fire control has also prevented jack pines from reproducing, since the trees require heat to open their cones and release their seeds. Fire protection measures have therefore resulted in a dramatic decline of available warbler habitat, which has contributed to the bird's decline.

If suitable nesting areas are not available for several years, warblers will die without reproducing, and the species could become extinct. Even if the habitat is suitable, the Kirtland's warbler may still be unable to successfully reproduce because of the presence of brown-headed cowbirds. Instead of building their own nests, cowbirds lay their eggs in the nests of other species of birds. The warbler "parents" will feed the cowbird chicks first because they are



larger than the warbler hatchlings. Cowbirds first started moving into the warbler habitat in the late 1800s. Since then, the number of Kirtland's warbler eggs that hatch has been greatly reduced.

Events occurring during migration or at the bird's winter habitat also may be harmful; however, biologists know little about the warbler's Caribbean home. Surveys show that although 800 to 900 birds go south each fall, only about 400 can be found in Michigan the following June. It may be that droughts and logging on the islands have contributed to the decline of the warbler. Also, because the warbler migrates north and south during the prime hurricane season, storms may kill some of the birds. In addition, the warbler's diet of insects and vegetation may expose the birds to pesticides.

What Is Being Done to Prevent the Extinction of the Kirtland's Warbler?

Under the Endangered Species Act, the Kirtland's warbler was listed as endangered in 1973. However, measures to save the songbird began long before the Act was passed. Federal and state foresters planted jack pines so that there were always jack-pine stands of the age and size required by the Kirtland's warbler. Portions of forest land also were cut and burned so that new jack pines could grow. In addition, federal and state agencies initiated a program to trap and remove cowbirds in the nesting areas of the warbler.

Passage of the Endangered Species Act helps further protect the warbler in many ways. The Act provides for acquisition of land to be used as warbler habitat and for funding for additional management programs. In addition, the Act requires federal agencies to ensure that their activities do not harm the species or its habitat, and requires that a recovery plan be developed that outlines management steps to be taken to protect and increase the numbers of the endangered species. In addition, the U.S. Forest Service does not allow people in the warbler's breeding areas during breeding—except on an escorted tour. Also, EPA, through its Endangered Species Protection Program, may set use limitations for certain pesticides to protect the bird and its habitat from these chemicals.

Developed in 1976, the Kirtland's Warbler recovery plan sets a goal of establishing a self-sustaining population of 1,000 pair of warblers throughout the bird's known habitats. According to the plan, biologists will inventory Michigan lands to find those areas suitable for warbler nesting, and promote management techniques that encourage warbler

population growth. For example, development of highways or campsites or the use of certain pesticides near warbler habitat will be discouraged, and controlled burning may be used to produce more young jack pines. Also, tracts of land may be acquired so that the minimum habitat size requirement can be met.

Under the recovery plan, the cowbird population will continue to be controlled. Also, biologists will determine if predators or parasites other than the cowbird contribute to the decline of the species. Biologists will try to learn more about the bird's Caribbean habitat and its migration routes, with the hope of determining why so many birds fail to return to Michigan in the spring. Cooperative programs with other countries may be necessary to protect the warbler's winter habitat.

With so few Kirtland's warblers in existence, the species could easily be destroyed by a single major catastrophe. Because of this, the recovery plan calls for the development of emergency measures that would be initiated if the population size falls below 100 pair of birds. Such measures may include attempting to breed Kirtland's warblers in captivity, or holding warblers in captivity with the hope of avoiding a heavy over-winter mortality. If the other activities described by the recovery plan are successful, such emergency measures will not be necessary and the Kirtland's warbler will be saved from extinction.

How Can I Obtain Additional Information?

To obtain copies of the recovery plan for the Kirtland's warbler, contact:

Fish and Wildlife Reference Service
5430 Grosvenor Lane, Suite 110
Bethesda, Maryland 20814

For additional information on EPA's Endangered Species Protection Program, contact:



The Endangered Species Protection Program
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