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Michigan Department of Natural Resources

A few years after burning, natural revegetation is already underway which will eventually include jack pines suitable for warbler nesting habitat.

## HABITAT MANAGEMENT KEY TO KIRTLAND'S WARBLER RECOVERY

It has been almost a year since the Mack Lake fire in the Huron National Forest in Michigan. As the 13th Kirtland's warbler census approaches, let us look at the effects of that fire on last year's census and the factors responsible for the current status of the species.

On May 5, 1980, a prescribed burn planned for 200 acres of Kirtland's warbler (*Dendroica kirtlandii*) habitat went out of control because of gusting winds, and burned approximately 25,000 acres. One firefighter was killed, and 41 homes were destroyed or damaged. Some 280 acres which had been occupied by about 14 pairs of warblers in 1979 were burned. The fire was contained the next day.

Although this fire received a great deal of notoriety, prescribed burning is a routine habitat management practice. Indeed, prescribed burns have been conducted successfully by the U.S. Forest Service in thousands of cases nationwide. Developed in the 1930's, the forest management technique of prescribed burning is essential to the survival of the Kirtland's warbler.

all nests found have been in the drainage of the Au Sable River. Typically, the warbler is found only among young jack pines occurring in dense stands of 80 acres or more, growing on Grayling sand. For thousands of years, this type of habitat was created only through wildfires. Fire serves to clear the land for new growth and also pops open the cones of the jack pine, scattering seeds to renew the habitat.

Now, modern management practices such as prescribed burns and plantings are used to create suitable warbler habitat. (It is not known whether the warblers will continue to use land that is burned once and repeatedly clear-cut and replanted without the continued use of fire.)

The Kirtland's warbler only occupies areas where the jack pines are about 8-20 years old. They set their nests in the Grayling sand which is extremely pervious to water. This prevents flooding during summer showers.

The specialized habitat of the Kirtland's warbler has been reduced by forest fire control and by forest management practices that encourage the conversion of jack pine to red pine or hardwoods.

reproductive efforts in the past 70 years. According to an examination of warbler nests from 1966-1971, 69 percent had been parasitized.

Beginning in the spring of 1972, a cowbird removal program was initiated with the cooperation of the Fish and Wildlife Service, Michigan Department of Natural Resources (DNR), Michigan Audubon Society, and the U.S. Forest Service. In 1980, a total of 2,961 cowbirds were trapped. This program of systematic control trapping has been an unqualified success in reducing parasitism and increasing the yield of young warblers, according to the Fish and Wildlife Service-appointed Kirtland's Warbler Recovery Team.

### 1980 Census

According to the results of the 1980 census of the Kirtland's warbler, this fragile species has shown a 15 percent increase over 1979. (The census is the responsibility of the Kirtland's Warbler Recovery Team, which has delegated coordination to the Wildlife Division, DNR.) The census tallied 243 singing males in 1980, (including one male found in Wisconsin and not accompanied by a female), compared to 211 in 1979. Assuming one female is present for the remaining males, the total breeding population would be 242 pairs, or 484 birds. If all of these Kirtland's warblers could be gathered up and placed on a scale, their combined weights would only come to about 15 pounds.

In 1980, the Kirtland's warbler was found in six Michigan

### Warbler Depends on Specialized Habitat

The Kirtland's warbler does not adapt to a variety of environmental conditions. This bird has never been found nesting anywhere except in northern Lower Michigan. Since the nesting grounds were discovered in 1903, 90 percent of

### Cowbird Parasitism

Another threat to the warbler has been parasitism of nests by the brown-headed cowbird (*Molothrus ater*). Cowbirds have been in the warbler's breeding range since the late 1800's but have only posed a serious threat to its

