

Bird Of Fire

Kirtland's Warbler Update

By Harold Mayfield

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Male Kirtland's Warbler in dense jack pine thicket.

Photo Credit: Harold Mayfield

In the eyes of bird watchers across the nation, the Kirtland's Warbler is Michigan's greatest claim. Hundreds travel every year to the sandy jack pine plains of northern Lower Michigan to see this warbler on its nesting ground. In a lifetime of birding there is very little chance of seeing it otherwise. It nests nowhere else, and even here it breeds only in extensive tracts of Christmas-tree-size pines, concealing its nest on the ground under scanty cover. Ordinarily these conditions are created only by major forest fires.

For more than a century, dating back even before the discovery of its nesting grounds in 1903, it has been called America's rarest songbird, and that distinction seems even more secure now that the Bachman's Warbler of the Southeastern swamps has not been seen for many years. Recognizing this unique resource, the Michigan Department of Natural Resources in 1957 set aside three tracts of state forest lands to be managed for timber production in such a way as to guarantee continued habitat for the warbler. The National Forest Service followed suit in 1961 with a large tract in Oscoda County.

Rarity in birds, as in gems, attracts attention. This is true among researchers as well as conservationists. As a result, the Kirtland's Warbler is better known scientifically than almost any of our more common birds. Kristina Huber's annotated bibliography of 1982 listed 800 titles, and Amy Stone's unpublished

bibliography of 1986 listed 291 on migration and wintering alone. Can you match this for other species?

Yet, in spite of all this study, the bird is still in some respects an enigma. For example, we know that the Brown-headed Cowbird is one of its greatest enemies. This cowbird, by removing warbler eggs and placing its own in the nests, has had a devastating effect on the reproduction of the warblers. This was not always so, because the cowbird, a creature of the Western grasslands, did not move into the pineyards of Michigan until late in the last century when farmers had cleared a way for it, and it did not become abundant here until well into this century.

With its limited range and distinctive habitat, the Kirtland's Warbler can be censused completely. That was done in 1951 with the aid of many enthusiastic birders, the first time an entire species of songbirds was counted in the world. Then in 1961 the census was repeated, and both times the count was roughly 500 singing males, in spite of ominous reports from nesting studies that the cowbird might be taking an insupportable toll. Alarming predictions were confirmed in 1971 when

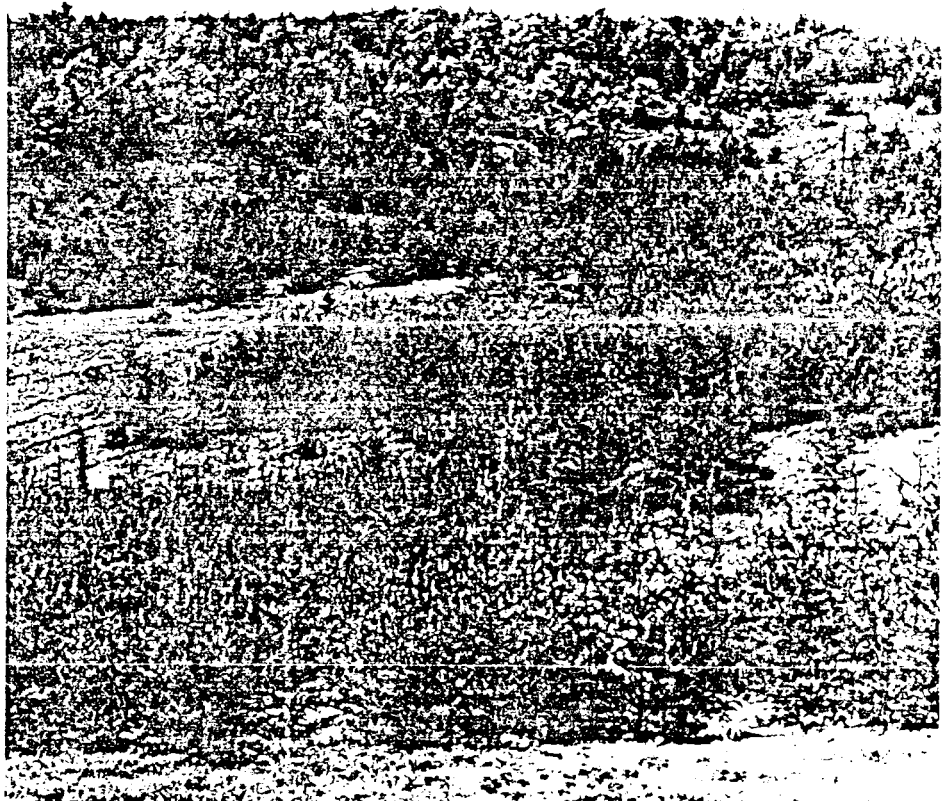
the population hit 200 singing males, a decline of 60%. Since it is assumed there is a female for every male the full population before the young were hatched was thus about 400.



Kirtland's Warbler nest with two cowbird eggs and one warbler egg showing.

Photo Credit: Harold Mayfield

An "ad hoc" committee of many interested agencies, including the Michigan Audubon Society, met in the fall of 1971 in Ann Arbor, to consider steps to save the warbler. Previous research had revealed a way to remove cowbirds from the vicinity of nesting sites by large chicken-wire cage-traps. In the spring of 1972 such traps were in place at nearly all the "colonies" of warblers.



Openings among the pines are characteristic, but here more extensive than usual.

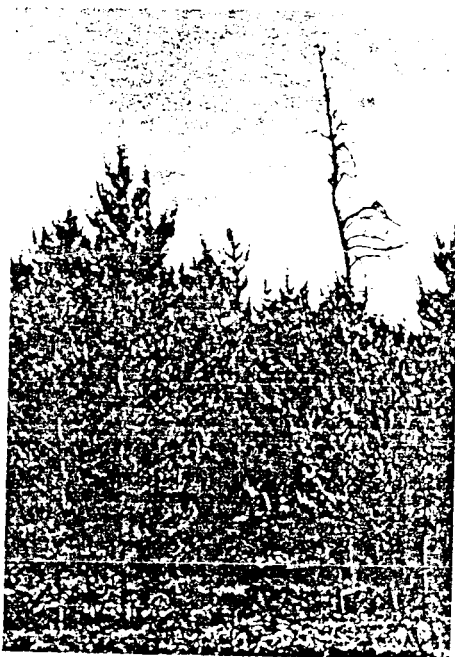
Photo Credit: Harold Mayfield

The trapping program was a fantastic success. Cowbird parasitism was virtually eliminated, and warbler production was excellent, laying to rest any doubts about the fecundity of this rare species. Annual censuses were instituted, and we were gratified to find that the decline in Kirtland's Warblers had been arrested, but astonishingly, the population did not spring upward as we had hoped.

Now for more than a decade the count has hovered a bit over 200 singing males. This is remarkable not only because there has been no increase, but also because the population curve has been so utterly flat. It is almost an axiom of biology that wild populations fluctuate substantially even when there are no gross changes in the environment. There are many examples among birds and mammals.

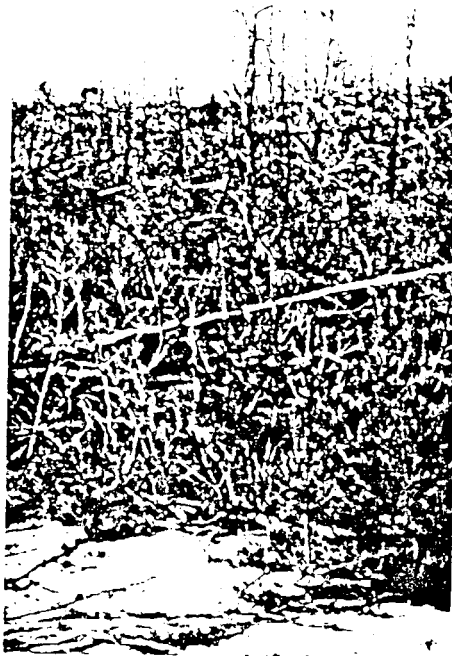
In contrast, the Kirtland's Warbler population seems to be remarkably unchanging. There are small variations in the counts from year to year, but the magnitude of these changes is less than the probable error in the count. It is as though the entire population is hard up against a rigid limitation. You will look hard in your textbooks to find anything like this.

For explanations to population questions, biologists intuitively look first at breeding habitat. This is where most of their work is done. Indeed, habitat is ultimately limiting, but it is puzzling that it should be so invariable. It is obvious that some tracts are more attractive than others, but conditions, however defined, taper off from the optimal to others that are still usable. Also we note that the number of birds in separate "colonies" do not show the constancy from year to year that we find in the total figures. No one can say from examination of the jack pine tracts themselves how many warblers they ought to support. In questions like this it is easy to be caught in circular reasoning: if the birds are not there, the tract is unsuitable; if the tract is unsuitable, the birds will not use it.



Jack pines 19 years after forest fire are almost too large. Lower branches start dying when shading occurs, making it unsuitable nesting habitat.

Photo Credit: Harold Mayfield



Jack pine forest after fire with regrowth and ground cover not yet tall enough for Kirtland's to nest.

Photo Credit: Harold Mayfield

When baffled in the areas we know best, we look for some place else to turn. Since our knowledge of this bird is limited mainly to the period from mid-May to mid-August, we wonder about the other nine months of the year. This brings up many difficult problems, because the bird is rarely seen in migration and almost impossible to find on its wintering grounds in the Bahama Islands.

For insight into the winter range, the U.S. Fish and Wildlife Service has put small teams of searchers in the Bahama Islands in the winters of 1984-85 and 1985-86. In each of these two seasons with great effort they were able to locate a few Kirtland's Warblers. In general, they confirmed what the scattered previous records had indicated. The birds are solitary, or nearly so, at widely scattered locations in virtually all the islands. They prefer low sparse scrub vegetation and this is to be found on every island. There are pine trees on four of the northernmost islands, but no recent sightings have been in these pines.

The government workers extended the known winter range to the extreme southeastern end of the chain, Turks Island, which along with Caicos is separate politically but geologically a part of the same land mass with the Bahamas. Their most exciting accomplishment was the capture and banding of a male Kirtland's Warbler on Eleuthera Island, half-way down the group. The following summer this bird was discovered on nesting territory in Crawford County, and then the following winter again in the same spot on Eleuthera. This bird was watched at length at its winter location, where it fed on small local fruits and insects, which it gathered on the ground or low in shrubs.

The big event of the 1980s in Michigan was the forest fire near Mack Lake in Oscoda County. In this fire 30,000 acres of pine lands were burned, yielding several thousand acres of promising habitat for the warbler. The fire occurred in the spring of 1980 and the fastest growing portions of the regrowth had warblers

for the first time in 1986. We predict that many of these tracts will be at their best throughout the 1990s, when we may momentarily have more good habitat than we have warblers to occupy it, a novel circumstance in modern times.

In the meantime, the government agencies (Michigan Department of Natural Resources, U.S. Forest Service, and U.S. Fish and Wildlife Service) continue working under the guidance of the Kirtland's Warbler Recovery Team to improve habitat, protect the bird, and sponsor research in accordance with the Recovery Plan published in 1976 and updated in 1986 under the Endangered Species program of the U.S. Fish and Wildlife Service. The long-range goal is to manage 127,000 acres with the ultimate objective of achieving a population of 1,000 pairs of warblers.

Warbler Management Funding [not by H.M.]

Kirtland's Warbler management, although on U.S. Forest Service and Michigan Department of Natural Resources lands, is mostly carried out through the cooperation of the U.S. Department of Interior's Fish and Wildlife Service, Endangered Species Act, and the Michigan Department of Natural Resources. The limited budget of \$36,000, which has not changed in ten years, is used entirely for cowbird trapping and related activities in Grayling and Mio; salaries for two fulltime wildlife biologists in the Michigan Wildlife Assistance Office and their activities relating to Kirtland's Warbler management; trucks or vehicles needed for the recovery program; and salaries for four seasonal employees, three operating cowbird traps and one as a tour guide at the Grayling facility.

In the past years, additional money from Section 6 of the Federal Endangered Species Act to the state's Endangered Species Program, which aided the recovery effort, has diminished greatly.

The Michigan Audubon Society gives \$1,500 each year from membership donations to help supplement the tour guide salary.

The U.S. Forest Service receives some funding to operate the tours out of their office in Mio. They also donated \$1,000 to the publication of the *Bird of Fire* booklet, a joint venture funded by them, MAS and Mason Printing Company, who prints all of the MAS publications and donated a sizeable sum to this service. This brochure is given to the public when attending a tour of the nesting grounds.

The U.S. Fish and Wildlife Service has spent several millions of dollars over the past six years on the acquisition of private lands in holding within or on the edge of State Forest Management Units. The intention is to eventually trade this land with the M.D.N.R. for land that would develop a Kirtland's Warbler Wildlife Management Area under the jurisdiction of the Wildlife Refuge System.

Twelve additional cowbird traps as well as operational funds, will be needed for the Mack Lake Burn as the area becomes populated with warblers. MAS members can be directly involved with the recovery effort when they donate to the M.A.S. Kirtland's Warbler Fund through the Michigan Audubon Society Office, 409 West E Avenue, Kalamazoo, MI 49007.