

STUDY PERFORMANCE REPORT

State: Michigan

Cooperators: Michigan Department of Natural Resources, U. S. Fish and Wildlife Service

Project Title: Michigan's Endangered and Threatened Species Program

Project Number: E-1-13

Study Number: 601

Study Title: Management of the Kirtland's Warbler

Period Covered: September 30, 1984 through September 30, 1985

I. Summary

With the exception of limitations imposed by a shortage of available planting stock, all objectives scheduled for accomplishment during this segment were accomplished. These accomplishments partly fulfill the objectives of the Kirtland's Warbler Management Plan. An average of 1,550 acres per year of new habitat is needed on state land to meet the objectives of the management plan for the recovery of the Kirtland's warbler. This goal has not been met, mainly because of limited funding and a shortage of prescribed burning.

From time to time wildfires create new habitat, offsetting the need to artificially regenerate the full acreage prescribed by the management plan. However, wildfire prevention and control are of highest priority because of risk to public safety and private property by jack pine fires. There were no significant wildfires in Kirtland's warbler management units in 1985.

The plantings in 1985 are to provide habitat after the large Mack Lake burn on U. S. Forest Service land has passed peak use by nesting Kirtland's warblers. It is too late to plant to offset a critical habitat shortage which will occur between 1986-1990 prior to Kirtland's warbler use of the Mack Lake burn. During this period available habitat will be divided between plantations created during the early years of this plan and a wildfire produced habitat, the bald hill burn, on military land at Camp Grayling. Efforts are in process to arrive at a management agreement with the military which will maximize benefits to the Kirtland's warbler on military land during this critical period, and thereafter.

II. Background

The Kirtland's warbler (Dendroica kirtlandii) is a federally listed endangered species. Because of its limited summer range and unique habitat requirements, and because of its decreasing numbers in recent years, this bird is in need of specialized protective and management measures.

The Kirtland's warbler population has been censused in 1951, 1961 and every year from 1971 on. In 1971, the bird was found to have declined in numbers by about half. Several things have contributed to this decline. Acceptable warbler habitat has been declining and will continue to do so into the early 1990's. Brown-headed cowbirds (Molothrus ater) are known to parasitize warbler nests reducing warbler productivity. Even people in their zeal to see the bird inadvertently disturb the warbler during these critically low population periods. These are only the hazards we know of and do not include the unknowns that befall the warbler during migration or on their winter range.

As early as the 1950's, some habitat management was being done to help the warbler. However, it was not until the 1970's that major efforts were put forth in behalf of the bird. In 1975, the Kirtland's Warbler National Recovery Team was established to prepare a plan to guide the bird's recovery. That plan, the Kirtland's Warbler Recovery Plan, was completed in 1976. It calls for on-the-ground management of approximately 135,000 acres on both U. S. Forest Service and state-owned land, enough for about 1,000 pairs of warblers, to be managed by cutting, burning and planting for the bird. This is in addition to special regulatory protection, land acquisition and research to both learn more about the birds and find better techniques to come to their aid.

The Recovery Plan for the Kirtland's warbler is largely a land-based plan. Although there is a general concensus that brown-headed cowbird parasitism and human interference have a negative effect upon the bird and should be controlled, most experts agree that providing more habitat for the bird is the surest means to recovery.

Kirtland's warbler habitat is a sometimes variable community with jack pine (Pinus banksiana) overstory growing on Grayling Sand or other similarly well-drained soil. Recent research has shown that the plants composing the understory of this jack pine community, and more specifically their structure, may influence the female warbler's choice of nest site while the male may key in on aspects of the overstory.

Management techniques used to produce or regenerate this jack pine community traditionally have been limited to cutting, burning and planting. While there have been no additions to these major manipulative techniques, certain refinements have been added to produce "better quality" habitat. Plantations are designed to leave nesting openings by laying out rows of trees in an opposing wave pattern. Cutting small openings in dense new stands of jack pine, burning without previously cutting, and planting in unburned areas are some of the refinements being tried. Of course, the ultimate objective is to find a means to provide quality Kirtland's warbler habitat.

Managing any wildlife species is, at least in part, a human problem. Because it is ourselves that determined there was a problem in the first place, it is not unexpected that not everyone agrees with our conclusions just as there are those who agree with our position. Yet the Kirtland's warbler is to be protected pursuant to federal and state statutes.

The Kirtland's Warbler National Recovery Team has recommended a three-pronged approach to protect the warbler: an information and education program, fire prevention, and regulatory protection. To this end, slide shows, brochures, talks and movies have been prepared for presentation to the public. Within Michigan, the warbler is the most widely promoted of the endangered species. This effort is producing desirable results in not only educating the public, but also positively influencing people's opinions toward the bird.

Wildfires, the boon of the warbler for so many years, are now potentially its nemesis. At present when the bird's numbers are critically low, a wildfire could destroy a considerable portion of existing warbler habitat and jeopardize the bird's existence. Therefore, in Kirtland's warbler areas, fire suppression has been a matter of high priority.

Regulations have also been used. A perimeter around known nest sites of Kirtland's warblers has been posted against human entry during the nesting period on an annual basis. Also, any project receiving federal funds must first demonstrate that by its activities it does not negatively affect any endangered or threatened species, Kirtland's warblers included. This requirement has prompted mitigation on many activities that would likely otherwise have negative impacts on these species.

Because of the uniqueness of Kirtland's warbler habitat in terms of soil type and plant community, these warblers are concentrated on a limited number of land parcels. This concentration effectively increases the opportunity for some catastrophic event to eliminate the species while limiting the warbler's ability to colonize new areas from these sources.

One way to relieve this situation is to establish other independent colonies, thus reducing the changes that all of the warblers will experience the same forces on their population. However, the methodology needed to establish these independent colonies has not been worked out, especially when working with endangered species having limited numbers of individuals.

