



# Kirtland's Warbler Recovery Team

Care of: Huron-Manistee National Forests, 1755 S. Mitchell,  
Cadillac, MI 49601

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**William F. Hartwig**  
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U.S. Fish and Wildlife Service  
1 Federal Drive  
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Dear Mr. Hartwig:

The Kirtland's warbler population has increased steadily and significantly since 1989 as a result of interagency implementation of the *Kirtland's Warbler Recovery Plan*. The numeric goal of 1000 pairs was reached and exceeded for the first time in 2001. The recovery plan has not been revised since 1985 and the Recovery Team agrees that clarification of the recovery goals and objectives is necessary. These clarifications are based on the results of over 20 years of research on Kirtland's warbler ecology and management and are provided as an addendum to the 1985 Recovery Plan. In addition, these clarifications are designed to promote and enhance continued interagency cooperation to ensure the recovery of this species.

The primary objective in the 1985 plan was to "...reestablish a self-sustaining Kirtland's Warbler population throughout its known range at a minimum level of 1,000 pairs." We believe the term "self-sustaining" means a population free from intensive management. As pointed out in the Recovery Plan, fire suppression has decreased the frequency and size of burns which have regenerated warbler habitat historically. Today, only intensive management focused on developing appropriate aged stands of jack pine and removal of parasitic brown-headed cowbirds allows the warbler population to persist and increase. It is unlikely that human land use requirements, such as fire suppression, that preclude pre-settlement natural processes will change in the foreseeable future. Therefore, a true self-sustaining population is not possible and the need for intensive management will continue. Until the Recovery Plan is revised, the Recovery Team recommends clarifying the primary objective to:

*The primary recovery objective is to establish and sustain a Kirtland's Warbler population throughout its known range at a minimum level of 1,000 pairs using adaptive management techniques.*

The ecological requirements for Kirtland's Warblers on the breeding grounds are well understood. A combination of continually-refined habitat management, cowbird control, closure of breeding areas, population monitoring, research, and educational programs has been successful. Population estimates have increased from 167 pairs in 1987 to 1085 pairs in 2001.

As further clarification of the 1985 plan, we recommend the Kirtland's warbler be reclassified to threatened when population estimates are sustained at or above 1,000 pairs for five years. We also recommend removal from the endangered species list when mechanisms are in place to assure continuation of the required intensive management of the jack-pine ecosystem at the level required to sustain the population at or above 1,000 pairs in perpetuity.

Approximately 38,000 acres of the appropriate age and density of jack pine are required each year for breeding. This required acreage is based on a density of singing males averaging 26.5 per 1,000 acres of breeding habitat; an average based on data collected during the past 20 years.

Further, research over the past 20 years also indicates a 10-year duration of occupancy, which is shorter than the 15-year duration estimated in the 1985 Recovery Plan. Therefore, in order to maintain the annual 38,000 acres of breeding habitat requirements, approximately 190,000 acres of jack pine would have to be managed on a 50-year rotation. Today, only about 150,000 acres are under management. A higher number of acres will require identifying and managing additional lands outside of current Kirtland's Warbler Management Areas. Opportunities remain for some additional management areas in the core breeding range of the northern Lower Peninsula of Michigan. However, a substantial portion of new management areas will need to be developed in the Upper Peninsula.

Kirtland's warbler breeding habitat is short-lived and progresses rapidly to an unsuitable condition as the trees age, so continuous intensive management practices cannot stop once reclassification or delisting occurs. Commitments necessary to sustain population levels once recovery goals are reached include:

- 1) Adaptive Management of Breeding Habitat—Continual management of breeding habitat is the most critical component required to sustain the population at 1,000 or more breeding pairs. Recent research has resulted in a better understanding of how the Kirtland's warbler responds to various habitat treatments. Population responses to changes in the habitat must be monitored and these results should be used to modify management techniques where appropriate.
- 2) Cowbird Control—For 30 years, cowbird control has contributed significantly to increasing Kirtland's warbler productivity. Human-caused changes in Michigan's landscape in areas surrounding Kirtland's warbler breeding areas resulted in the presence and maintenance of cowbird populations. Once recovery goals are reached, continued habitat management will be successful only in combination with continued cowbird trapping. Other agencies presently not involved with Kirtland's warbler management (e.g., USDA-APHIS, Wildlife Services) should be encouraged to become a partner in these efforts.
- 3) Closure of Breeding Habitat—Protection of breeding areas through closure orders and posting signage will need to continue. These closures should be conducted in association with local outreach and educational efforts.

- 4) Consolidation of Breeding Habitat—Consolidation of agency land holdings through exchanges, purchase, and conservation easements should be continued.
- 5) Wintering Habitat—On the wintering grounds in The Bahamas, additional work is required to identify and evaluate specific ecological requirements and threats during this critical time period of the warbler's life history. Efforts needed include monitoring of population numbers, habitat use, and increased protection of habitat; and education and outreach.
- 6) Population Monitoring—Monitoring of the population using the annual census as a relative index of change is a critical component of adaptive management and must continue. Only knowledge of the warbler's response over time to management practices allows refinement of programs to enhance the sustainability of the population. In addition, because stochastic events potentially have much larger effects on small populations, it is critical to monitor populations to evaluate the impacts of such events.
- 7) Research Programs—Fundamental questions about the warbler's breeding biology have been addressed by recent research, but additional questions remain about its biology. Research opportunities in all appropriate areas should be considered, and wintering ground research must be a high priority.
- 8) Educational Programs—Public support for Kirtland's warbler habitat management must continue. With increased use of potential Kirtland's warbler breeding and wintering areas for homes, cottages, and recreation, outreach and education must be continued and enhanced. These programs largely have been successful on the breeding grounds, but additional efforts must be expended on the wintering grounds.
- 9) International Relations—Our partnership with the Commonwealth of the Bahamas is strengthening and the Bahamian government is represented on the Recovery Team. This relationship must continue and be enhanced to help promote Kirtland's warbler conservation efforts on the wintering grounds.

Kirtland's warbler delisting should occur only if and when agreements or mechanisms are in place to assure the continuation of annual intensive management activities. The Recovery Team recommends an interagency Memorandum of Understanding (MOU) that ensures continued support for Kirtland's warbler management efforts after recovery goals are met and the species is taken off the endangered species list. Signatories on the MOU should include at least the U.S. Fish and Wildlife Service; Michigan Department of Natural Resources; U.S. Department of Agriculture, Forest Service; the Bahamian government; U.S. Geological Survey, Biological Resources Division; Michigan Department of Military and Veterans Affairs; and any other governmental or non-governmental agencies willing to invest in long-term Kirtland's warbler management, research, and protection.

Given the fiscal uncertainty faced by resource management agencies, the Recovery Team recommends the establishment of a privately-endowed Kirtland's Warbler Trust Fund. Proceeds from this trust would be used annually to sustain the Kirtland's warbler population on both the breeding and wintering grounds. A formal plan to establish such a trust should be developed and potential donors should be approached.

Successes on the breeding grounds could be negated if wintering habitat in The Bahamas is diminished or degraded. The Recovery Team recommends increasing the focus on understanding the ecological factors influencing Kirtland's warblers during the eight months of

the year not spent on the breeding grounds. Winter population monitoring, winter habitat evaluation, identification and evaluation of potential threats, education ,and outreach all should be intensified. The Recovery Team recommends that the U.S. Fish and Wildlife Service and other agencies make serious commitments to support winter work on Kirtland's warblers in The Bahamas.

Sincerely,



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