MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

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TO: Bill Irvine, Mike DeCapita, Sylvia Taylor, Carl Bennett, John Byelich, John Probst, Craig Faanes, Bob Hess, Keith Heezen

FROM: Jerry Weinrich, Wildlife Habitat Biologist - Houghton Lake

SUBJECT: Proposal to Study - Kirtland's Warbler

Please review the attached proposal so that we can get together sometime soon to refine and elaborate on this.

JW:sp

Jerry

Proposal to Study:

# Habitat Utilization by Kirtland's Warbler - Mack Lake Burn, Oscoda County, Michigan

1. Need:

Although the Kirtland's warbler has been the subject of considerable scientific study, most previous research has concentrated on the warbler's reproductive biology. Little quantitative information on habitat requirements has been published. The Kirtland's Warbler Recovery Plan (Byelich, et al. 1976) identified the availability of nesting habitat as a major factor limiting the population of this species, and considerable effort and funding has been expended in recent years to provide additional nesting habitat.

Large acreages of new potential nesting habitat resulting from the May 5, 1980, 25,000 acre wildfire around Mack Lake (Oscoda County, Michigan) provides a unique opportunity for study of the habitat requirements of Kirtland's warbler. Because of the location, amount, and age of the jack pine regeneration in this wildfire area, and the status of other habitat in nearby counties, it is possible that a high percentage of the Kirtland's warbler population will be located in this area within a few years.

2. Objectives:

A. Determine the bounds of suitability of reproductive habitat for the Kirtland's warbler.

a) Refine habitat management guidelines concerning planting densities, soil types, ground cover, disturbance, stand size, hardwood component, and other factors relative to warbler use of the Mack Lake Area.

B) Determine optimal characteristics for Kirtland's warbler habitat again as demonstrated by warbler use of the Mack Lake Area.

C) Relate site fidelity, dispersal from natal grounds, and mating status to changes in habitat characteristics through time.

3. Expected Results and Benefits:

A) Determine what constitutes breeding habitat with highest density of mated warblers.

B) Prepare alternative management schemes that accommodate different regeneration methods and geographical locations to insure adequate quantities of suitable habitat.

C) Develop cost-effective management alternatives that minimize regeneration costs and optimize benefits to timber production, wildlife, and recreational uses.

4. Approach:

Habitat Analysis

A) To the extend possible, integrate existing vegetative data for the Mack Lake Area and other areas used by Kirtland's warblers in the past.

B) Beginning as soon as possible, sample and quantitatively describe vegetative composition of the Mack Lake Wildfire Area.

C) Continue to quanitatively describe vegetative composition at the Mack Lake Area (and certain other areas of warbler habitat) through the period which the Mack Lake Wildfire Area is occupied by Kirtland's.

Species Responses

A) Color band fledglings and immatures (July to September) in other occupied habitats as soon as possible; shift emphasis to Mack Lake Wildfire Area as population increases.

B) Determine proportion of banded birds from each of several other areas which colonize the Mack Lake Area.

C) Determine matedness (unmated, mated, polygynous) of banded and unbanded birds at Mack Lake and other areas.

D) Develop use of sonograms of singing male warblers as a means for individual identification.

5. Location:

Within present known nesting range of Kirtland's warbler. Research will be concentrated in the Mack Lake Wildfire Area.

6. Estimated Manpower and Costs:

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| Salaries and wages (two biologists, eight temporaries) | $65,000 |
| Travel | 7,000 |
| Equipment | 2,000 |
| Other | 1,000 |

Prepared by:

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