

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

NC

REPLY TO: 2630 Habitat
(FER)

March 26, 1979

SUBJECT: Kirtland's Warbler Habitat Research



TO: Supervisor, Huron Manistee NF

This is in response to Mr. Horace LaBumbard's request for information on the need for the use of fire to produce suitable habitat for the Kirtland's Warbler. It is difficult to separate the role of fire in the historical development of Kirtland's Warbler habitat from a necessity to burn at the beginning of each rotation in a management program. Fire has been an integral component in the creation of the natural jack pine communities. While we hope to eventually be able to assess the short-term effects of the elimination of fire during stand establishment, a number of rotations will be required before the long-term effects can be assessed. Thus, an absolute answer to the question of the need for burning in the near future is not likely.

We think that it is important to relate measured habitat variables to many of the known or observed life history events of the species. Most research on the Kirtland's Warbler has focused on nest site selection and nesting biology. We see the problem to be broader than the determination of ground cover suitability for nesting. From a research standpoint, it is efficient to move from an examination of the general habitat physiognomy to the specifics of vegetation structure, species composition, etc. Our early habitat measurements have focused on general attributes such as tree density and spacing, snag density, "residual" density, and general ground cover characteristics. Only the results of an early pilot study are available. A preliminary copy of a manuscript describing those results is attached. This study characterized the vegetation on two portions of the Muskrat Lake burn which had different cultural histories, and that around nest sites on the Lowell's Management area, which, in turn, had a different cultural history than that at Muskrat Lake. While the ground vegetation on all areas could be characterized as low

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shrub-grass-sedge communities, the relative abundance of these major components differed between areas. Limited data on nest canopy composition suggested that the growth form and density of low shrubs, grasses, and sedges are probably more important than the existence of particular species.

Vegetative differences among plots alone give little definitive information about habitat suitability unless these differences can be related to differential habitat use by the Warbler. Consequently, our early vegetation results are subject to inconclusive or ambiguous interpretation because they were not accompanied by behavioral observations.

In attempting to initiate our research program, we have experienced some problems of access to the area because of the jurisdiction of the recovery Team and the U.S. Fish & Wildlife Service, but most of these problems now appear resolved. However, we still have not been able to complete a full season in the field and any additional restriction of access will cause further delay in data acquisition. Our plan for this field season includes selecting paired burned and unburned plots with completion of vegetation data collection by fall of 1980. Until our study is complete, we cannot give you an opinion as to whether fire is required or not.

There are areas where we would very much like to work more closely with you. For example, we would like to have available some stands planted without controlled burning as a long-range experiment to test study results as they become available. Also, since our initial results document the importance of tree density on a number of aspects that have been suggested as important to the Kirtland's Warbler, we would welcome the opportunity to investigate this aspect through a series of plots planted to different densities and spacing.



DENVER P. BURNS
Deputy Director

Enclosure

cc: Smythe
Ohmann
Kemp