



Reply to: 1630 Publications  
(2670)

Date: December 7, 1983

Subject: Research Paper on Kirtland's Warbler  
(NCFES - Dr. John R. Probst)

To: District Ranger, Mio, Tawas, and Harrisville R.D.

Enclosed is a preliminary copy of the first of four papers that John is writing on his KW habitat studies.

Although there is to be a more definitive paper to be written on habitat suitability, this paper does cover several factors on suitability that are germane to habitat management. First, it appears that there would be significantly fewer nesting KW's in marginal habitats (i.e. stands with <1200 stems of jack pine per acre). There would be virtually no use where jack pine stems are <1000 per acre. Thus, it appears that we must develop stands with >1200 stems of jack pine per acre to provide optional KW nesting habitat. This would be true whether the jack pine is regenerated naturally or by planting on sites prepared by prescribed burns, mechanical treatments or on wildfire areas. The marginal habitats (<1200 stems per acre) would not only have a lower KW population densities, but would probably have a slower population buildup and reduced nesting success. Planting density should be made at a rate that exceeds 1200 stems per acre for the planted area. Where stocking is under the 1200 rate after first or third year stocking surveys, fillin planting should be done.

The second factor of habitat suitability covered by John that has management implications is the amount of hardwoods (chiefly oak but may include aspen, cherry and June berries) that would make habitat unsuitable. It appears that the KW will use habitat with a relative high amount of deciduous species. As stated by John, Elaine Smith found KW's nesting in stands with as much as 20% oak cover (crown cover). However, jack pine was still the dominant tree species ranging from 55% to 95% by stem counts while oak accounted for 2% to 28% of the stems on her study areas. Mayfield stated, "If any of these deciduous trees or shrubs begin to approach the jack pine in numbers, the area is not used by the Kirtland's Warbler." The criterion established for type composition of KW habitat recognized the "Areas may contain a limited hardwood (oak) component." A definite amount was not stated but we tried to identify only those stands where the oak component did not exceed 25% of a moderate to well stocked jack pine stand. In the interest of habitat dispersion some stands were identified as KW habitat where the oak component was higher. It was recognized that oak control would be necessary in some cases. Where a potential for oak problems have been recognized, we have advised summer burns. There are a couple of examples where this may have cut back the oak sprouting. There are other areas that have been treated, especially spring burns, where the new stand has regenerated to a stocking of more than 25% oak. We have cut the oak sprouts to favor jack pine seedlings. In some very limited tests we have used herbicides on oak also. Early indications are that this does suppress the oak and create better KW habitat.

We do not (cannot) dispute John's statement, "It seems likely that the species is adapted to moderate amounts of oak." The question is, what is moderate? It still seems that we should still try to keep the oak stocking below 26% either by stand selection, summer burns or oak sprout treatments.



District Ranger, Mio, Tawas, and Harrisville P.D.

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We have been finding more instances of KW's using jack pine stands that have regenerated without a recent fire history. If the density and configuration of jack pine cover is a major habitat factor and fire does not have a major influence on ground cover composition as suggested in John's paper, recent changes in methods of harvesting jack pine or post sale treatments could explain why these birds are using "unburned habitats." It opens up the possibility of developing nesting habitats in areas where prescribed burning may not be feasible.

But why are KW's occupying some unburned areas and not others where soils, etc. are seemingly the same? One thing that seems to be common to the areas that have been occupied has been the removal or reduction of slash. Without the shade of the slash, this could have a significant effect on the succession of the ground vegetation. Perhaps this should be investigated. .

If you have any comments on this paper I'm sure John would be interested in hearing them. We will send you copies of his other papers as they are received. I'm sure they will give us a better basis for our management directions.



HORACE H. LaBUMBARD  
Timber and Wildlife Management  
Staff Officer

Enclosure

cc; Nels Johnson, DNR, Roscommon  
John Probst, NCFES, St. Paul

CW:Irvine:ckg

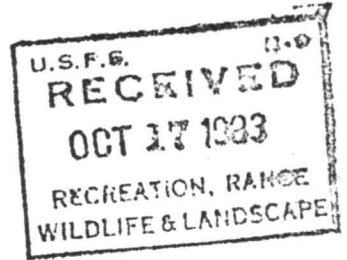
Radtke

September 1983

JRP

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POPULATION LIMITATION OF THE KIRTLAND'S  
WARBLER ON THE BREEDING GROUNDS



Bill - as per  
call Bob Radtke

John R. Probst

Bob - This is the first of four RW papers I  
hope to get to journals by the end of 1984,  
incl. our major paper on habitat suitability.  
(Our Station editors have ~~added~~ added  
some minor editorial corrections to the  
present draft which will not affect ~~the~~ the  
content)

JRP

