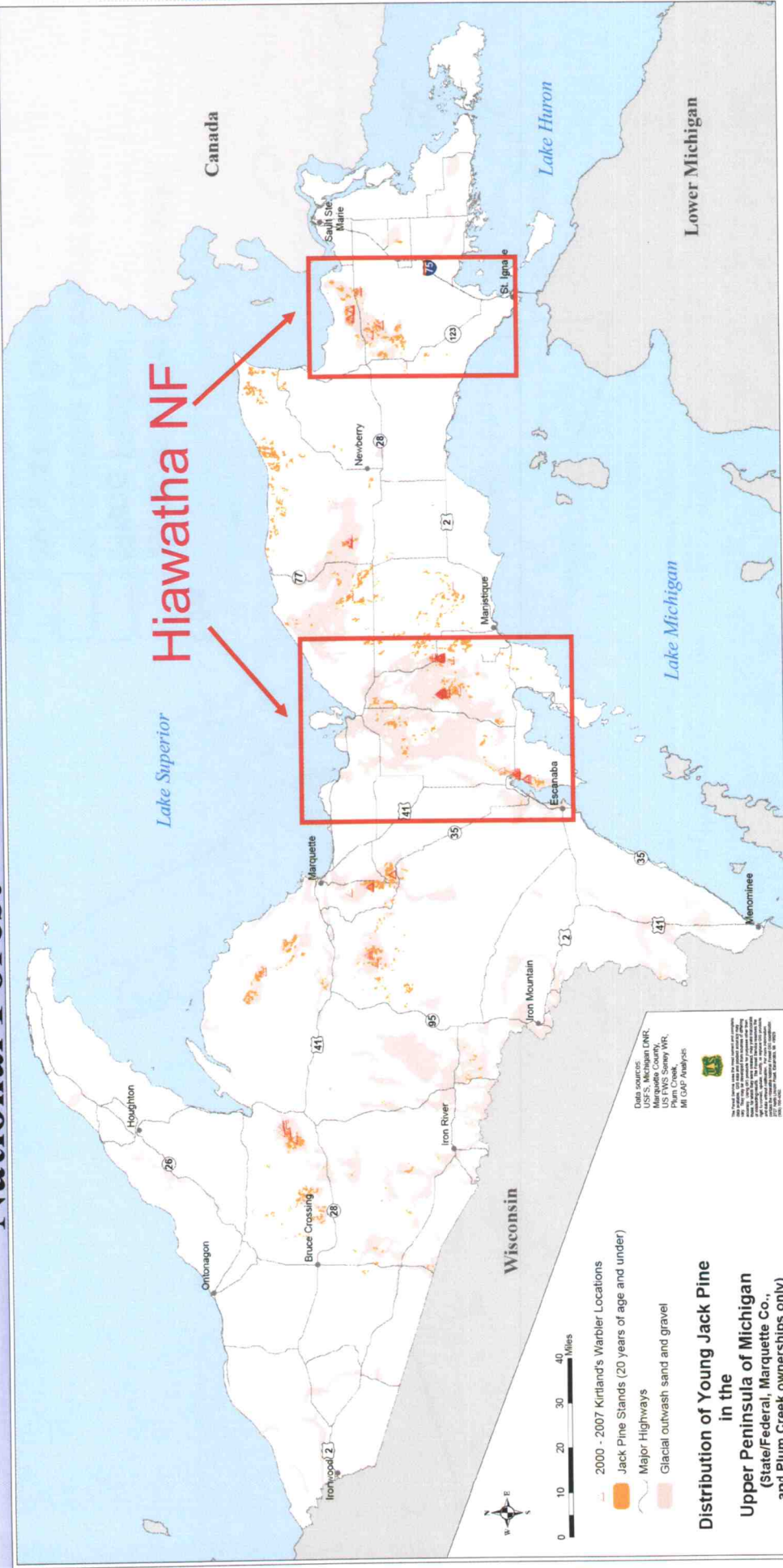
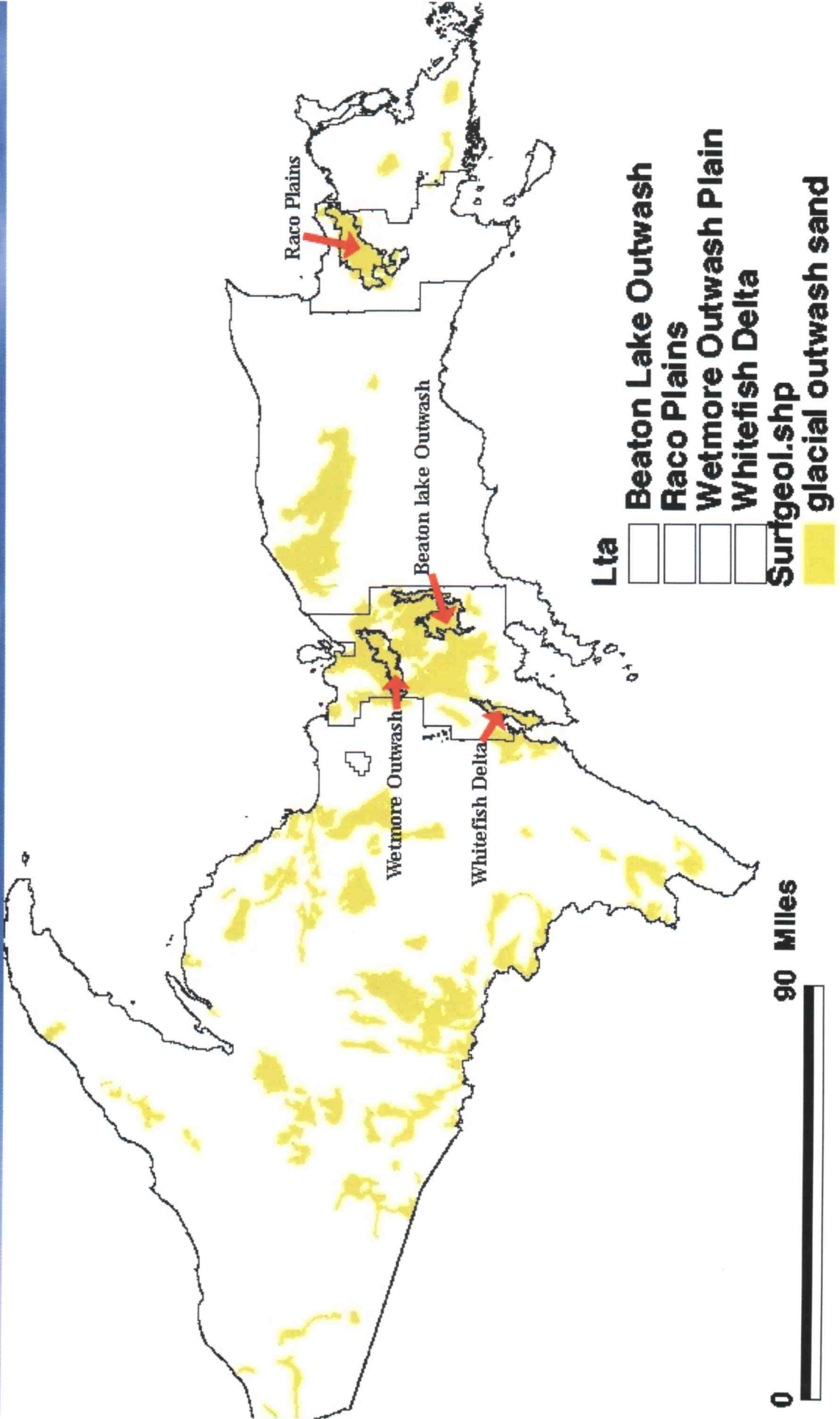
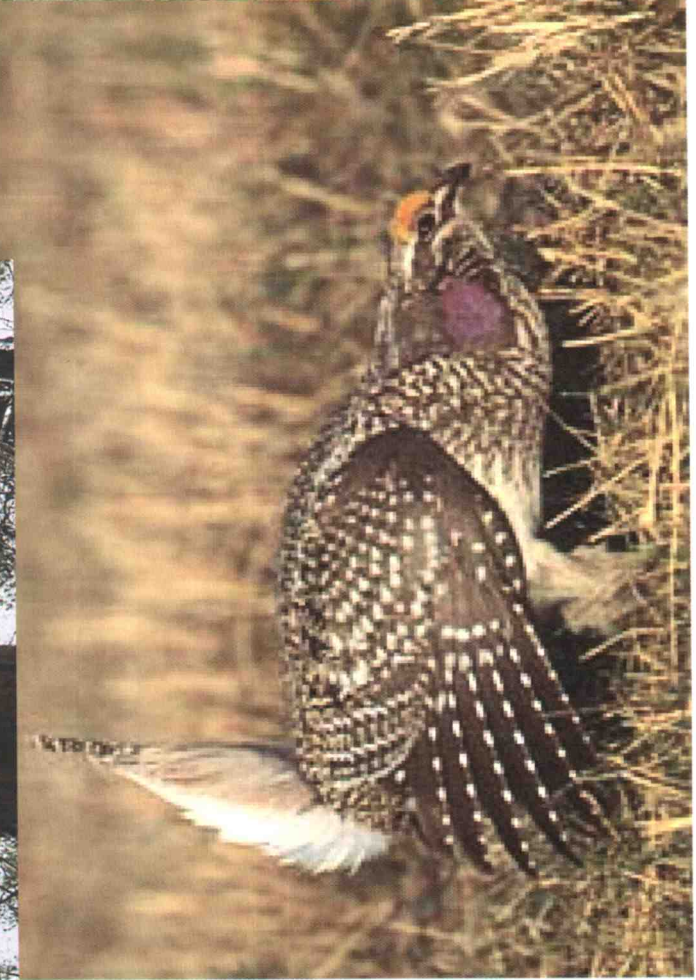


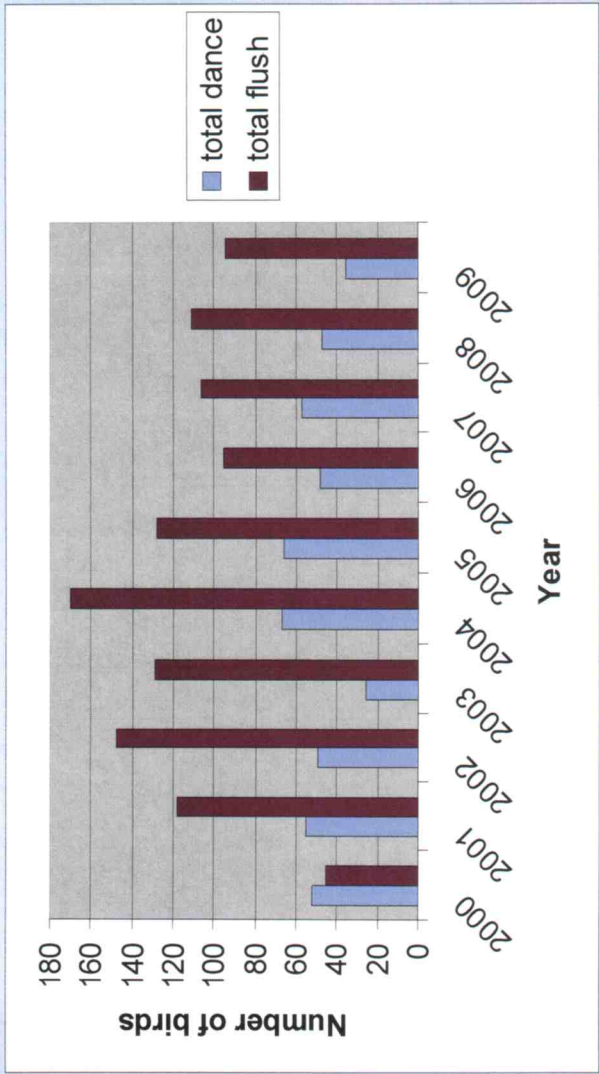
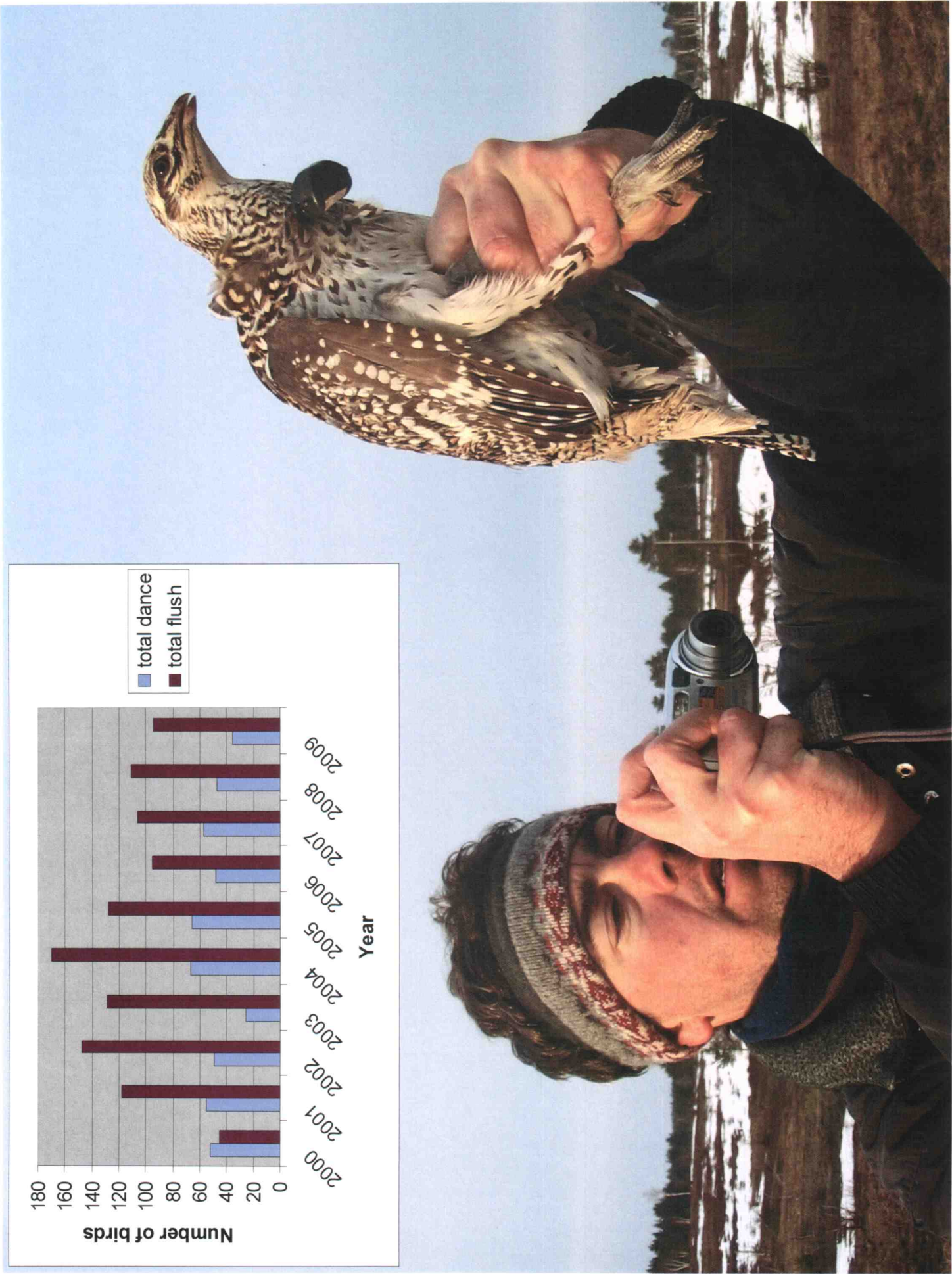
Multi-species Jack Pine and Barrens Management on the Hiawatha National Forest



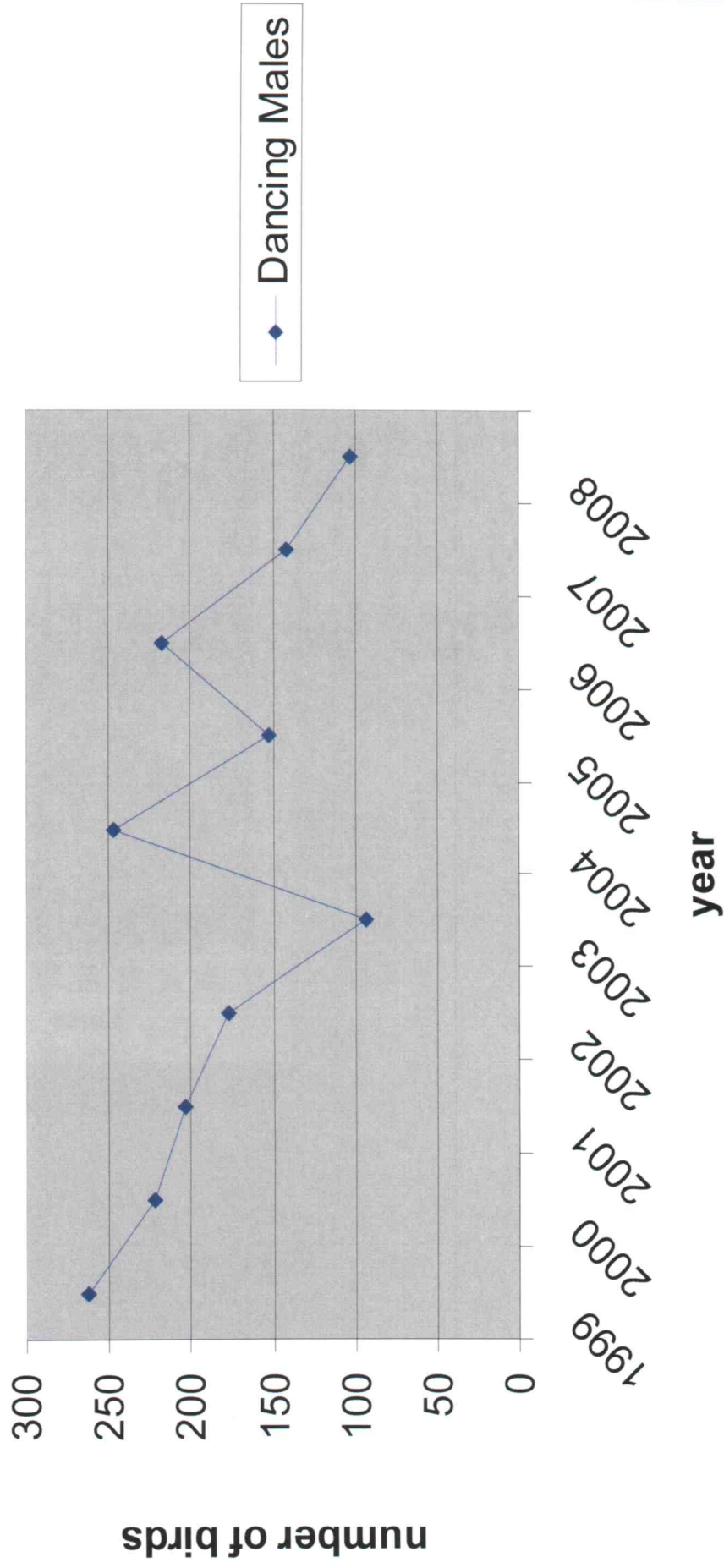
Presented at Jack Pine Symposium 2009 - July - WI
 Theme: Transition from a single species to multi-species ecosystem approach

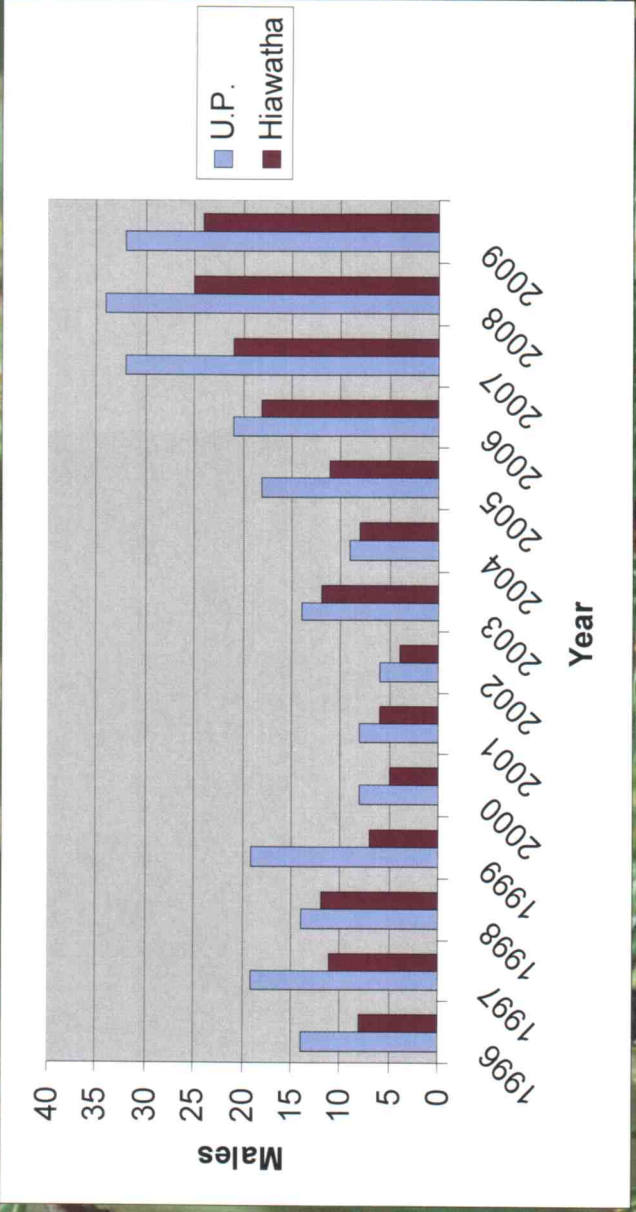
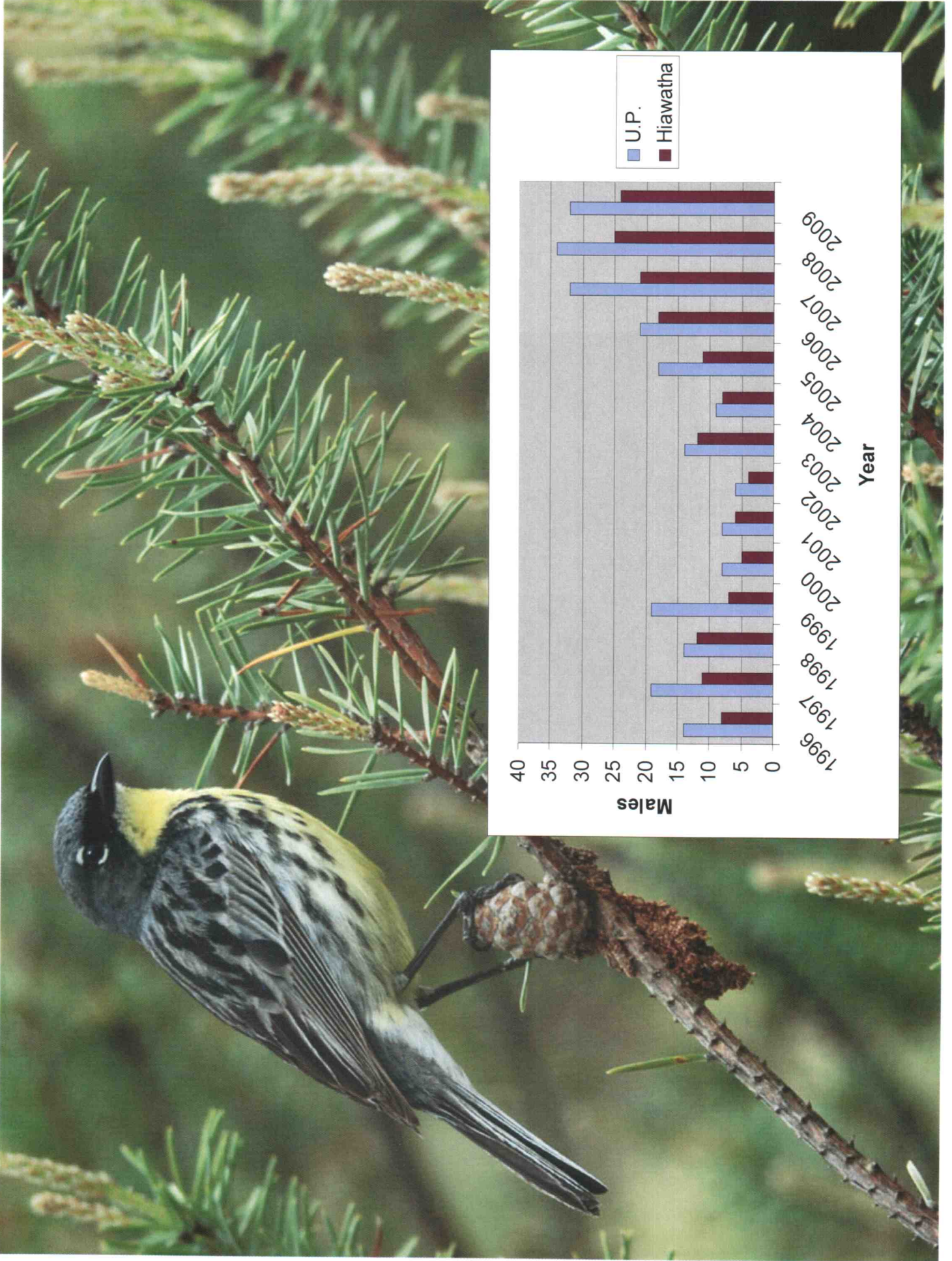






Michigan state-wide sharp-tailed grouse population 1999-2008 based on spring lek counts (MDNR data)





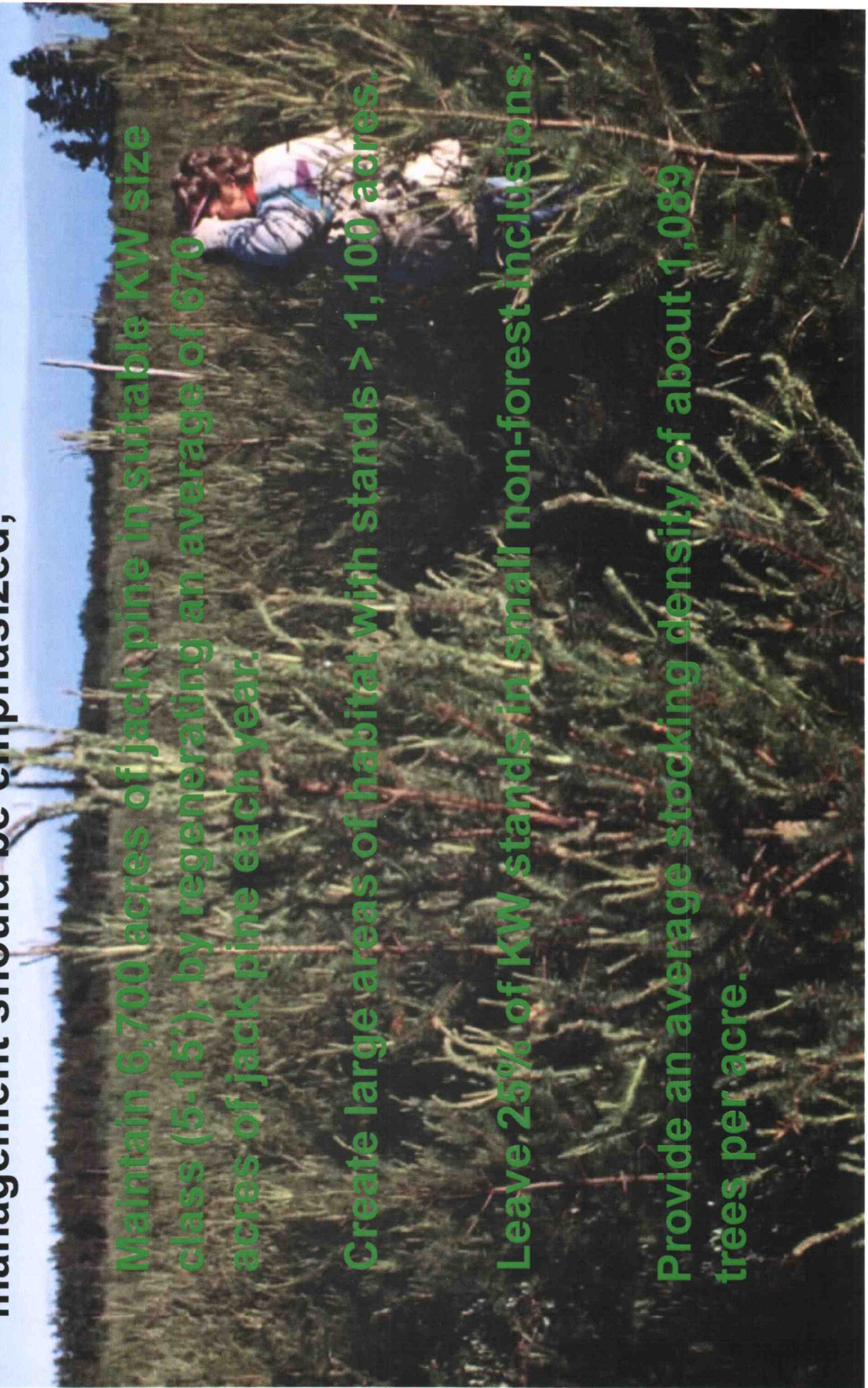
The HNF's 2006 Forest Plan identified management areas on nutrient-poor soils as the locations where KW habitat management should be emphasized;

Maintain 6,700 acres of jack pine in suitable KW size class (5-15'), by regenerating an average of 670 acres of jack pine each year.

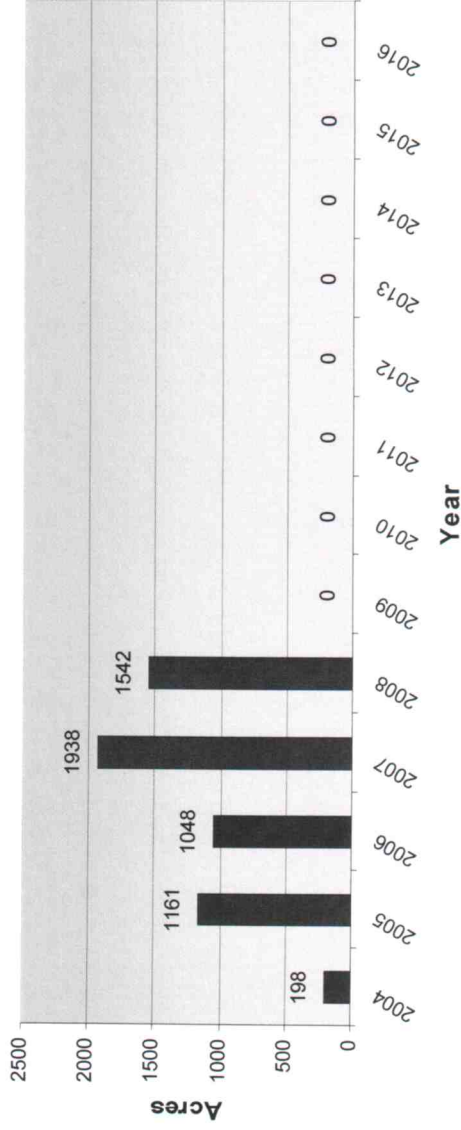
Create large areas of habitat with stands > 1,100 acres.

Leave 25% of KW stands in small non-forest inclusions.

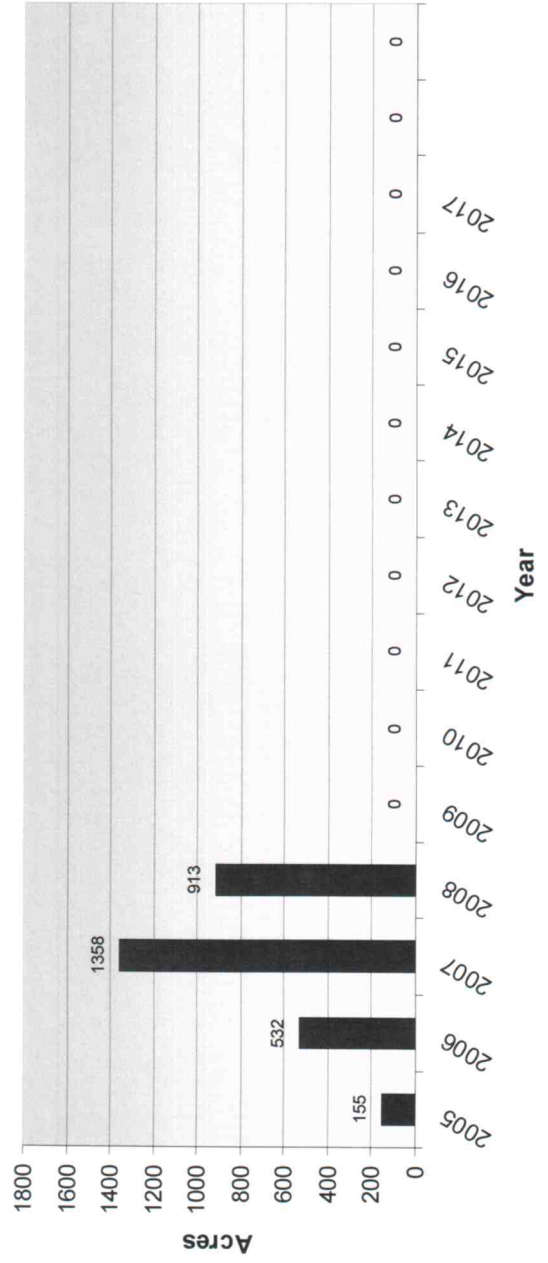
Provide an average stocking density of about 1,089 trees per acre.



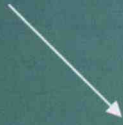
HNF Acres Sold for KW



HNF Reforestation for KW



Sharp-tailed grouse
temporary opening
habitat (jack pine is
too young for KW)



7 year old KW
habitat



How do we *simulate* post wildfire conditions

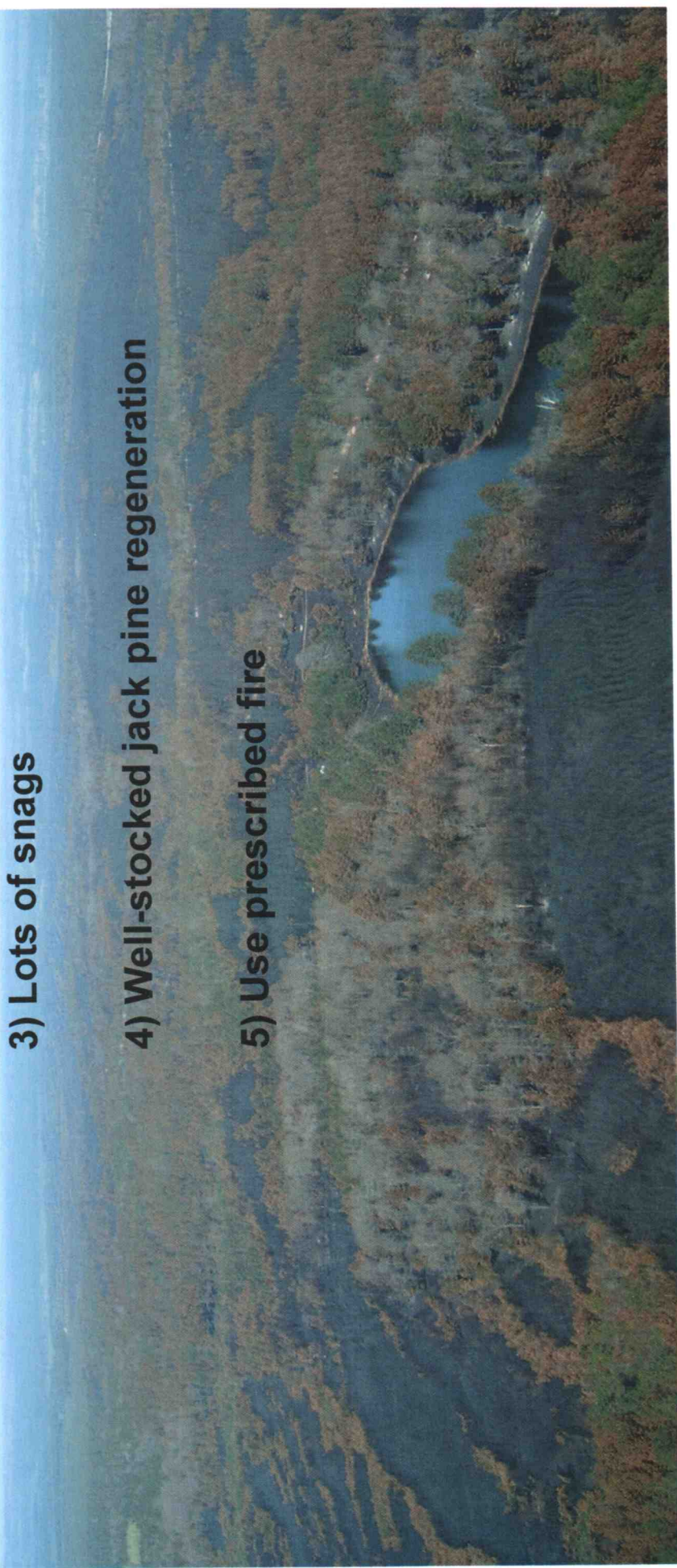
and

why do we want to?



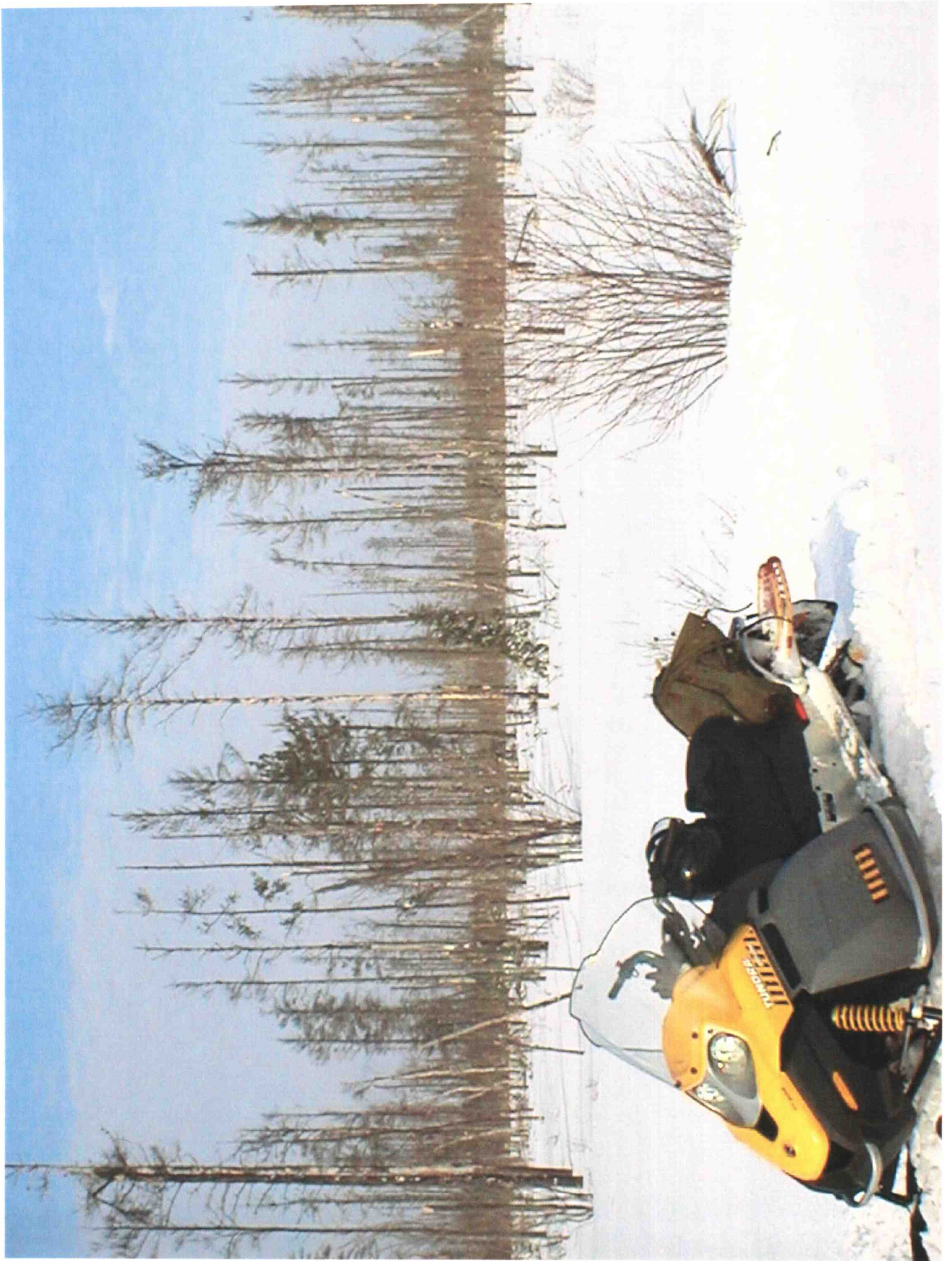
Hughes Lake Wildfire. Huron-Manistee NF,
MI. (photos by Angie Sites, April, 30, 2006)

- 1) Large size disturbance
- 2) Green leaf trees or islands
- 3) Lots of snags
- 4) Well-stocked jack pine regeneration
- 5) Use prescribed fire



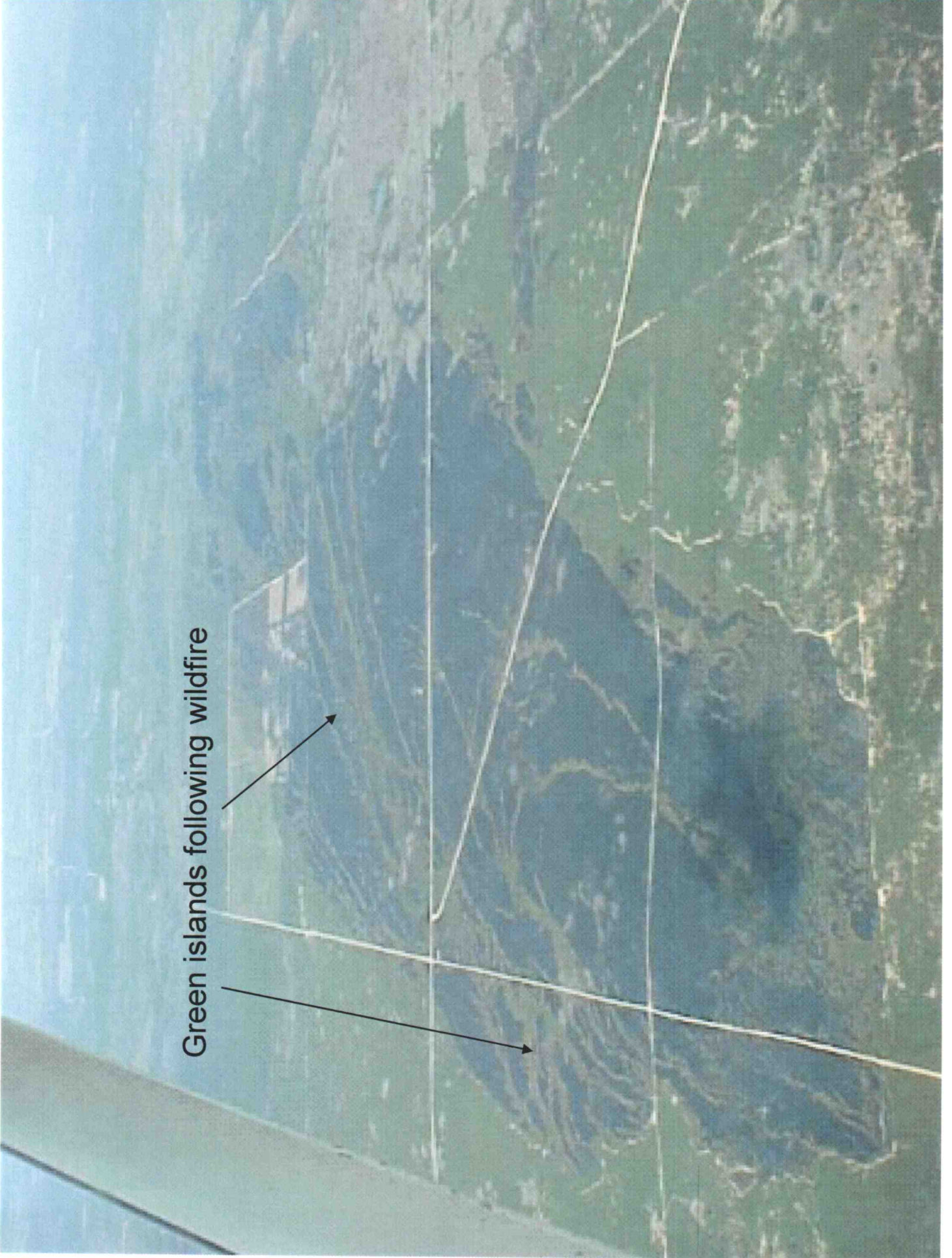






2 ac green tree leave strip



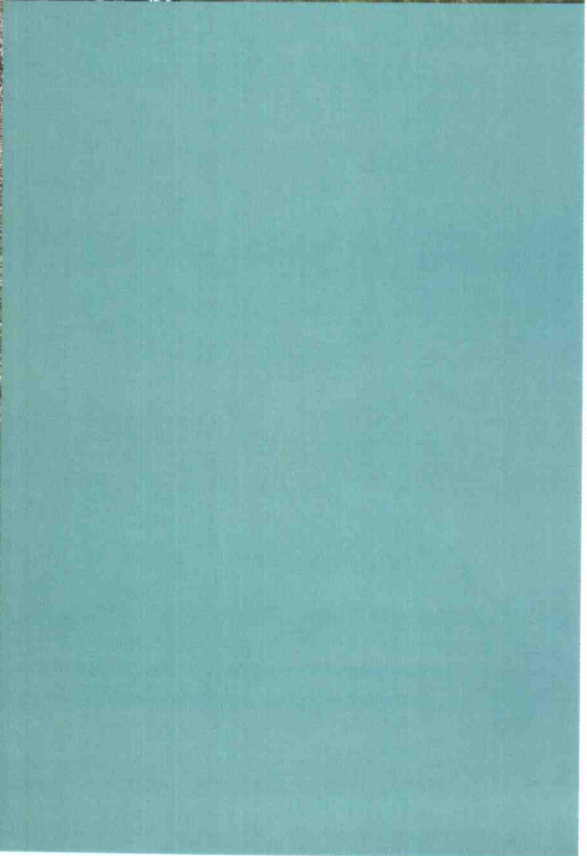
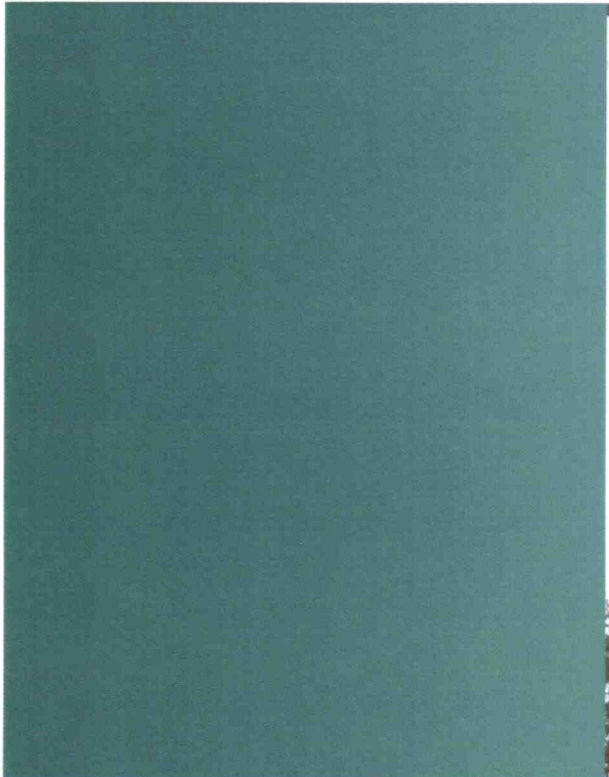


Green islands following wildfire

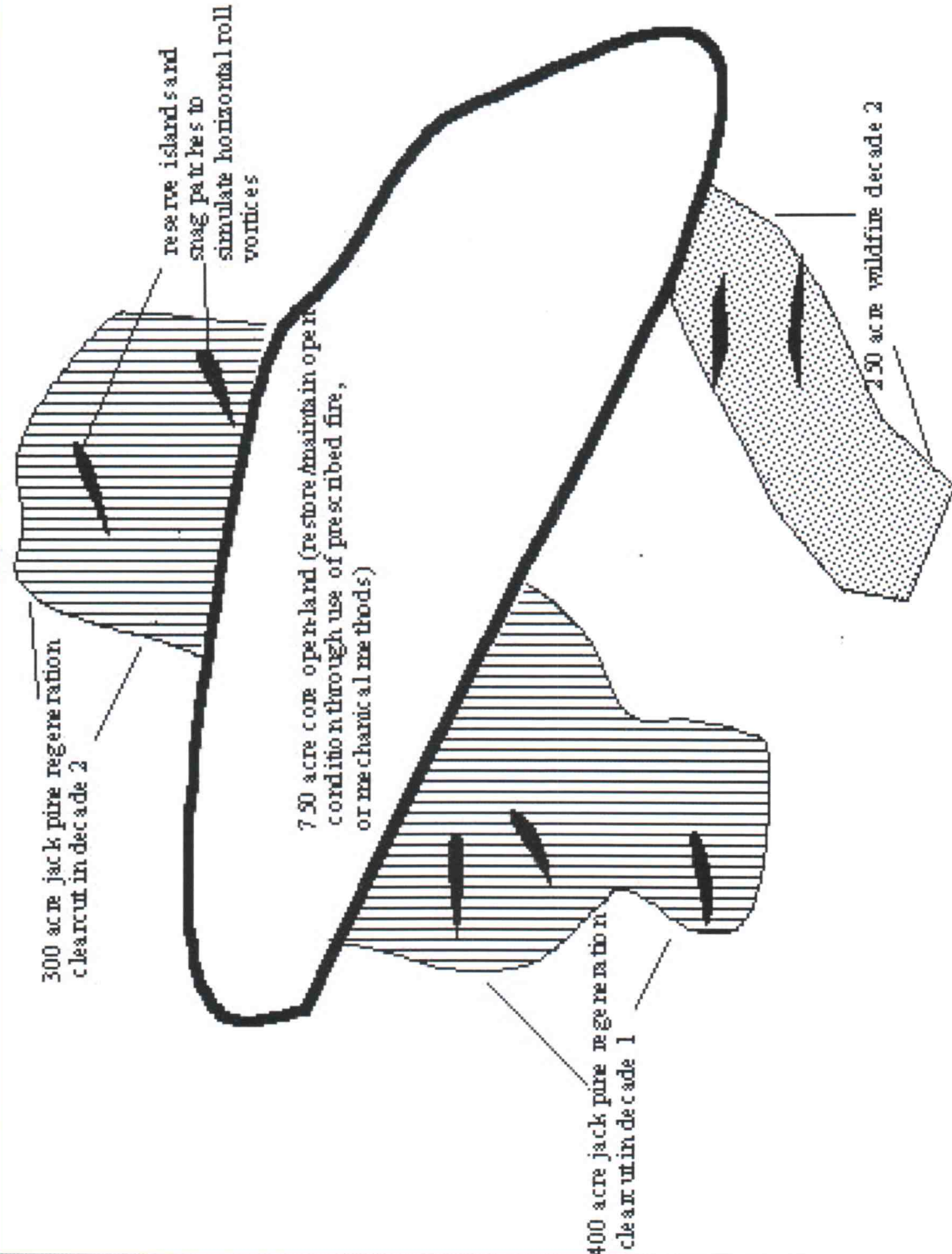












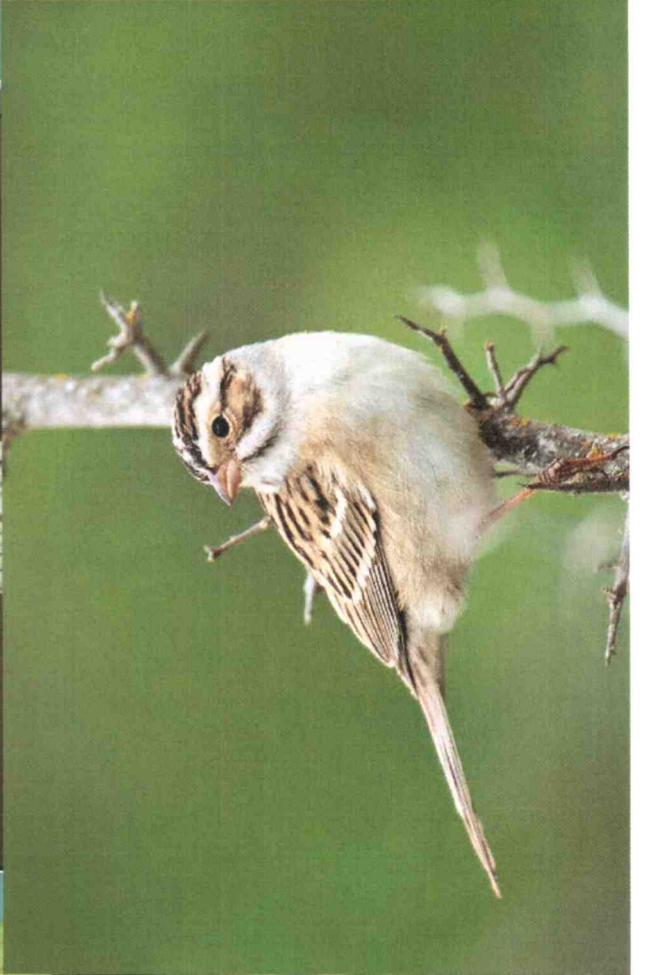
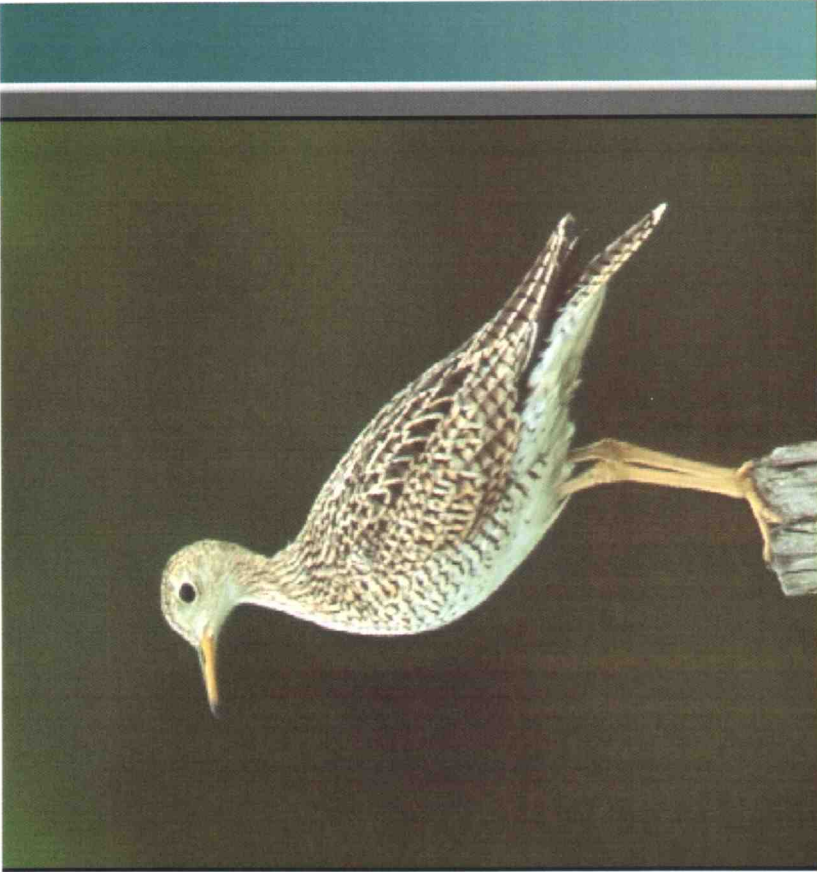
300 acre jack pine regeneration clearcut in decade 2

reserve island sand snag patches to simulate horizontal roll vortices

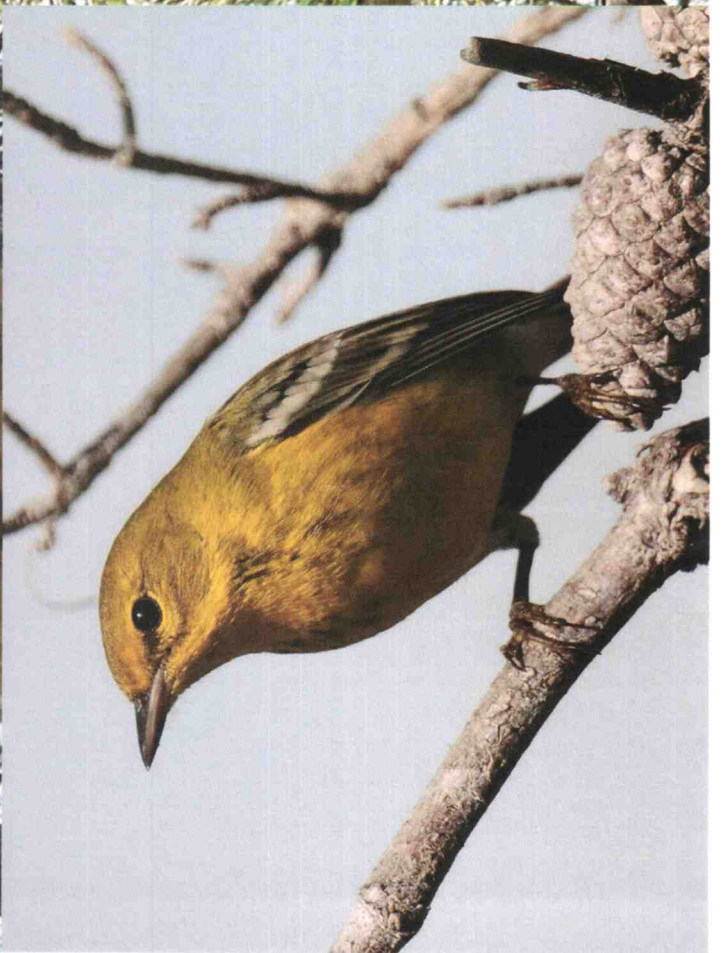
750 acre core open-lard (re store / maintain in open condition through use of prescribed fire, or mechanical methods)

400 acre jack pine regeneration clearcut in decade 1

250 acre wildfire decade 2









Thank You!

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