



## Featured Species Habitat Management Guidance for Kirtland's Warbler

**Latin Name:** *Setophaga kirtlandii*

**Scope:** Statewide

**Rationale** - *why we value the species and the problem for the species:*

Kirtland's warbler (KW) is a federal and state listed endangered species (Michigan DNR 2015; Walkinshaw 1983), a Species of Greatest Conservation Need (Michigan DNR 2015; WAP 2005), and a Joint Venture landbird focal species (Potter et al. 2007). The KW nests predominantly in the northern lower peninsula of Michigan. Historically, KW breeding habitat is assumed to have been created by wildfire. With necessary modern fire suppression, land managers regenerate jack pine with commercial harvests and planting. It is considered a conservation-reliant species in that managing jack pine in large patches with relatively high stem densities is necessary to sustain a viable population. Since the early 1990's birds have been found in the Upper Peninsula in suitable jack pine habitat, and species experts are concerned that with global climate change the primary nesting range may shift north.

**Habitat Need** - *the cause & effect relationship between habitat and species and its primary limiting habitat need:*

Breeding habitat is most closely associated with dense stands (> 1000 stems per acre) of 5-16 feet tall jack pine (5-18 years old) growing on well-drained sandy soils, interspersed with small openings and ground cover of low-growing shrubs and grass (Probst and Weinrich, 1993). Large areas (> 300 acres) provide the best KW habitat because they offer the best chance for colonization, are occupied by KW for longer periods, and support denser KW colonies (Michigan DNR et al., 2010).

**Habitat Objectives** - *the treatment or management to address the primary limiting habitat need:*

- 1) In the NLP: maintain 38,000 acres of 5 to 18 year-old jack pine for 10-year duration by a 50-year age rotation on 190,000 acres of dedicated DNR, USFS, and USFWS lands (Kirtland's Warbler Recovery Team, 1985; Michigan DNR et al. 2001; Kirtland's Warbler Recovery Team 2002.)
- 2) In the UP: regenerate 1 to 3 treatment blocks of jack pine in patches of 300 to 550 acres for Kirtland's warbler every 10 years in each priority geographic area if feasible. When possible, large blocks should be created by placing several smaller harvest blocks adjacent to each other (Michigan DNR et al. 2010).

**Priority Geographic Areas** – *the specific geographic areas where we should focus management for the species:*

- 1) In the NLP: designated KW Management Areas on DNR, USFS, and USFWS lands in portions of Alcona, Clare, Crawford, Iosco, Kalkaska, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, and Roscommon counties.
- 2) In the UP: the 7 Regional State Forest Management Plan Management Areas (Baraga Plains, Danaher-Kingston Outwash, Deer Park, Panola Plains, Sands Plains, Voelker Plains, and Yellow Dog Plains), which identify KW as a featured species.

**Priority Landscapes** – *the landscape, setting, or cover-type where we should focus management within the areas above:*

Forest cover types dominated by jack pine and associated site specific species including northern pin oak and red pine. Dedicated KW management areas and associated private lands cooperators.

**Population Goal** - *the goal for the species, its habitat, or a stakeholder's actions:*

- 1) In the NLP: Maintain population of at least 1000 KW pairs. This level has been reached annually since 2001.
- 2) In the UP: Because this species appears to be expanding beyond the core range in the Northern Lower Peninsula, an increase in KW over the next ten years may be considered as a success in providing alternative breeding habitat.

**Evaluation Method** - *the monitoring method to measure progress towards the goal above:*

- 1) Census of singing males in June; and 2) Annual assessment of potential habitat.

**Incidental Species** – *other species which may benefit from management for this species:*

Upland sandpiper; sharp-tailed grouse; snowshoe hare; and white-tailed deer.

**References** - citation for documents referenced in this guidance:

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- Kirtland's Warbler Recovery Team, 2002. Letter of clarification from Recovery Team to USFWS
- Michigan Department of Natural Resources (DNR). 2015. DNR online list of Frequently Asked Questions on the 2009 Revision of the State Endangered Species List. <[http://www.michigan.gov/dnr/0,1607,7-153-10370\\_12141-213610--,00.html](http://www.michigan.gov/dnr/0,1607,7-153-10370_12141-213610--,00.html) > Accessed 09 Sept. 2015.
- Michigan Department of Natural Resources, USDA Forest Service, and US Fish and Wildlife Service. 2001. Strategy for Kirtland's Warbler Habitat Management.
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- Potter, B.A., G.J. Soulliere, D.N. Ewert, M.G. Knutson, W.E. Thogmartin, J.S. Castrale, and M.J. Roell. 2007. Upper Mississippi River and Great Lakes Region Joint Venture Landbird Habitat Conservation Strategy. U.S. Fish and Wildlife Service, Fort Snelling, MN. 124pp.
- Probst, J.R. and Weinrich, J. 1993. Relating Kirtland's warbler population to changing landscape composition and structure. *Landscape Ecology* 8:257–271.
- Walkinshaw, L.H. 1983. Kirtland's Warbler: the natural history of an endangered species. Cranbrook Institute of Science, Bloomfield Hills, Michigan.