MICHIGAN DEPARTMENT OF NATURAL RESOURCES – www.michigan.gov
Wildlife Division

Featured Species Habitat Management Guidance for

Beaver

Latin Name: *Castor canadensis* **Scope:** Statewide

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

The North American beaver is a valued furbearer species. In 2012, 1770 trappers spent 46,900 days afield pursuing beavers (Frawley 2013). Beavers are ecosystem engineers which frequently create ponds. The progression from pond creation, to senescence, abandonment, and eventual re-vegetation is a unique cyclic disturbance regime. Beaver ponds and abandoned pond meadows provide essential conditions for many wildlife species including waterfowl, otters, warblers, and woodcock (Naiman et al. 1988). The loss of beavers reduces or eliminates this disturbance regime and the suite of associated wildlife. Beavers are frequently removed from streams because they flood human activities, set back mature forest conditions in riparian zones, and alter stream conditions desired for cold water fisheries management.

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

Beavers prefer relatively narrow, low gradient streams with emergent vegetation and abundant alder, aspen, birch, maple or willow (Howard and Larson 1985). Beaver depend upon water depths sufficient for under ice travel and feeding (Kurta 1995; Allen 1983). Although beavers are known to forage as far as 650 feet from water, 90% of cuttings occur within 100 feet (Allen 1983).

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

1) Where possible, maintain or promote alder, aspen, birch, maple or willow within 100 feet of streams with gradients of less than 15% or other bodies of water.
2) Remove or discourage beavers only where essential to maintain higher priority values.

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

The 11 woodcock initiative management units identified by the DNR, USFS, & USFWS workgroup; and the 21 Regional State Forest Management Plan Management Areas (1 WUP, 3 EUP, and 17 NLP) and 8 WLD Project Areas which identify beaver as a featured species.

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

Forested riparian zones where alder, aspen, birch, maple or willow are already present and/or can be encouraged. Public forests offer the best opportunity to minimize beaver-human conflicts. Management to promote beavers should focus on but not be limited to warm water systems.

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

Maintain or increase beaver numbers in the northern two thirds of the state.

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

Beaver population trends are monitored through annual trapper harvest surveys. The number of beavers harvested and trapper effort are used as an index of beaver numbers. While harvest surveys give a coarse measure of regional or statewide numbers, anecdotal information such as numbers of complaints or observations of beaver activity may be used to assess local beaver conditions. Regions should compare population assessments against local goals and adjust planned beaver habitat management as needed during compartment reviews.

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

American woodcock; golden-winged warbler; moose; pileated woodpecker; red-headed woodpecker; red-shouldered hawk; and wood duck.

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

Allen, A. W. 1983. Habitat suitability index models: Beaver. U.S. Department of the Interior, Fish and Wildlife Service bulletin FWS/OBS-82/10.30. 20 pp.

Frawley, B. J., 2013. 2012 Otter and Beaver Harvest Survey - Wildlife Division Report No. 3577 Michigan Department of Natural Resources.

Howard, R.J. and Larson J.S. 1985. A stream habitat classification system for beaver. Journal of Wildlife Management. 49(1):19-25.

Kurta, A. 1995. Mammal of the Great Lakes Region. Revised Edition. University of Michigan Press. 376 pages.

Naiman, R.J., Johnston, C.J. and Kelley, J.C. 1988. Alteration of North American streams by beaver. Bioscience. 38(11):753-762.