# Special Management Practices for Bald Eagle Nests

## Introduction

Bald eagles (*Haliaeetus leucocephalus*) require relatively large areas of suitable habitat in mixed or deciduous forest for breeding. Nests are often associated with large rivers or lakes and often located in prominent old growth trees. Therefore the potential for conflict with forest management exists (Arnett *et al.*, 2001). The special management practices (SMPs) outlined below for forestry operations in the vicinity of bald eagle nesting areas have been developed to maintain and procure future habitat for this species. The SMPs adhere to a zoning system that becomes less restrictive as distance from the nest increases. While acknowledging that the level of human disturbance which eagles will tolerate varies among nesting pairs and nest locations, these SMPs specifically target nests in forested locations distant from human habitation. Guidance for activities that may affect nests located near human habitation should be requested on a case by case basis by contacting a Regional Biologist with the Department of Natural Resources (DNR). These SMPs are based upon the experience of DNR Regional Biologists and published sources (e.g. OMNR 2010, USFWS 2007, Gende *et al.* 1997).

Essential habitat at each nest site is generally considered to encompass a minimum of 260 hectares (640 acres) including aquatic and terrestrial habitat used for foraging and breeding. In potential nesting habitat, four to six over mature but wind-firm living trees (especially white pine, hemlock and large-toothed aspen) should be preserved for each 130 hectares (320 acres) within 400 m of a lake or river. Additionally, eagles require dead, partially dead or living perch trees that project above the canopy within 400 m of each nest site. The following guiding principles should be considered for regional management of breeding habitat where at all feasible:

- It is important to maintain large contiguous areas of suitable habitat, not just small, specific sites where nests are located. Within this habitat, primary focus should be given to nest trees and secondary focus given to perch trees.
- Forest harvesting and silviculture plans should be clearly documented prior to commencing forestry activities and further unplanned development should be discouraged or prohibited. Additionally, the upper limit of forestry activities in the area should be reached gradually, avoiding sudden large-scale development.
- All large scale forestry-related activities and development should be restricted to low or non-critical time periods of the year.
- Buffer zones should be established around all nest trees within a breeding area regardless of activity status, as alternate nests are sometimes used for nesting, feeding or roosting sites. Nest trees should be allowed appropriate vegetation to provide a visual screen and wind protection.
- Roost trees, tall old-growth trees (preferably dead or with dead tops) within 50m of water, should be left to be used for hunting and roosting.

## Special Management Practices

### Definitions:

**Active nest**: a nest known or suspected to have been occupied at least once within the last 5 years. When 2 or more nests are present in close proximity and used in different years by one pair, the most recently used nest should be considered the active nest.

**Alternate nest**: a nest known or suspected to have been occupied at least once within the last 5 years and which is not an active nest.

**Inactive nest**: a nest not known or suspected to have been occupied at least once within the last 5 years.

**Breeding season**: February to July.

### Bald Eagle Active and Alternate Nest SMP:

1. Primary zone extends 100 m (ca. 330 ft.) from the nest.
    a. In this zone all land use except that necessary to protect or improve the nest site should be prohibited. This includes forest harvesting and silviculture, land clearing, road construction or any major construction.
    b. Human entry, low-level aircraft, and motorized access should be prohibited during the breeding season.
    c. Restrictions at other times should be addressed on a case by case basis.

2. Secondary zone extends 200 m (ca. 660 ft.) from the nest.
    a. In this zone all land-use activity that results in significant changes to the landscape should be prohibited. This includes clearcutting, land clearing, road construction or any major construction.
    b. Non-clearcut forest harvesting and other silviculture must be conducted outside of the breeding season.
    c. At least 1 mature wind-firm tree per ha should be retained in this zone as alternate nest/roost trees. Wind-firm pine, hemlock, spruce and aspen that project above the canopy will be favoured when available.
    d. Human entry, low-level aircraft, and motorized access should be prohibited during the breeding season.
    e. Restrictions at other times should be addressed on a case by case basis.

3. Tertiary zone extends 400 m (one-quarter mile) from the nest.
    a. Land clearing, road construction or any major construction should be minimized as much as possible and should be avoided during the breeding season.
    b. Forest harvesting and silviculture should be conducted outside of the breeding season.

c. At least 1 mature wind-firm tree per 5 ha should be retained in this zone as alternate nest/roost trees. Wind-firm pine, hemlock, spruce and Aspen that project above the canopy will be favoured when available.
d. Restrictions at other times should be addressed on a case by case basis.

**Bald Eagle Inactive Nest SMP:**

1. Although meeting the definition of an inactive nest, eagles prospecting for a nest site may establish a nesting territory at the site during the early part of the breeding season (February – March). No activity is to be conducted within 200 m of the inactive nest site during the February - March period. If the site becomes active, follow the active primary SMP outlined above. If the site remains inactive, forest harvesting can proceed beginning 1 April.

2. For inactive nest sites, the primary zone extends 20 m (63 ft.) from the nest.
    a. In this zone all land use except that necessary to protect or improve the nest site should be prohibited. This includes forest harvesting and silviculture, land clearing, road construction or any major construction.

3. Secondary zone extends 100 m (ca. 330 ft.) from the nest.
    a. In this zone all land-use activity that results in significant changes to the landscape should be prohibited. This includes clearcutting, land clearing, road construction or any major construction.
    b. Non clearcut forest harvesting should retain at least 1 mature wind-firm tree per ha in this zone as alternate nest/roost trees. Wind-firm pine, hemlock, spruce and Aspen that project above the canopy will be favoured when available.

4. Tertiary zone extends 400 m (one-quarter mile) from the nest.
    a. Land clearing, road construction or any major construction should be minimized as much as possible.
    b. At least 1 mature wind-firm tree per 5 ha should be retained in this zone as alternate nest/roost trees. Wind-firm pine, hemlock, spruce and aspen that project above the canopy will be favoured when available.

**References**

Anthony, R. G. and F. B. Isaacs. 1989. Characteristics of bald eagle nest sites in Oregon. Journal of Wildlife Management. 53(1): 148-159.

Arnett, E. B., R. J. Anderson, C. Sokol, F. B. Isaacs, R. G. Anthony and W. P. Erickson. 2001. Relationships between nesting bald eagles and selective logging in southcentral Oregon. Wildlife Society Bulletin. 29(3): 795-803.

Buehler, D. A., T. J. Mersmann, J. D. Fraser and J. K. Seegar. 1991. Nonbreeding bald eagle communal and solitary roosting behavior and roost habitat on the Northern Chesapeake Bay. Journal of Wildlife Management. 55(2): 273-281.

Chandler, S. K., J. D. Fraser, D. A. Buehler and J. K. Seegar. 1995. Perch trees and shoreline development as predictors of bald eagle distribution on Chesapeake Bay. Journal of Wildlife Management. 59(2): 771-778.

Cline, K. 1985. Bald Eagles in the Chesapeake: a management guide for landowners. National Wildlife Federation publication in cooperation with US Fish & Wildlife Service, Delaware Division of Fish & Wildlife, Maryland Forest, Park, & Wildlife Service and Virginia Commission of Game & Inland Fisheries.

Dzus, E. H., J. M. Gerrard. 1993. Factors influencing bald eagle densities in north-central Saskatchewan. Journal of Wildlife Management. 57(4): 771-778.

Fraser, J. D., L. D. Frenzel and J. E. Mathisen. 1985. The impact of human activities on breeding bald eagles in north-central Minnesota. Journal of Wildlife Management. 49(3): 585-592.

Garrett, M. G., J. W. Watson and R. G. Anthony. 1993. Bald eagle home range and habitat use in the Columbia river estuary. Journal of Wildlife Management. 57(1): 19-27.

Gende, S. M., M. F. Wilson, B. H. Marston, M. Jacobson, and W. P. Smith. 1998. Bald eagle nesting density and success in relation to distance from clearcut logging in Southeast Alaska. Biological Conservation. 83(2): 121-126.

Grubb, T. G. and R. M. King. 1991. Assessing human disturbance of breeding bald eagles with classification tree models. Journal of Wildlife Management. 55(3): 500-511.

Grubb, T. G., W. L. Robinson, and W. W. Bowerman. 2002. Effects of Watercraft on bald eagles nesting in Voyageurs National Park, Minnesota. Wildlife Society Bulletin. 30(1): 156-161.

Lanier, J. W. and C. F. Foss. 1988. Habitat management for raptors on large forested tracts and shorelines. Proceedings of the Northeast Raptor Management Symposium and Workshop, Syracuse NY. National Wildlife Federation Scientific and Technical Series. No. 13.

OMNR. 2010. Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales. Toronto: Queens Printer for Ontario. 211 pp. - http://www.mnr.gov.on.ca/en/Business/Forests/Publication/272847.html

Sabine, N. and W. D. Klimstra. 1985. Ecology of Eagles Wintering in Southern Illinois. Transactions of the Illinois Academy of Science. 78(1 & 2): 13-24.

Steidl, R. J. and R. G. Anthony. 2000. Experimental effects of human activity on breeding bald eagles. Ecological Applications. 10(1): 258-268.

USFWS. 2007. National Bald Eagle Management Guidelines, US Fish and Wildlife Service, May 2007 - http://www.fws.gov/mississippiES/pdf/Eagle%20Guidelines.pdf.

White, C. M. , R. J. Ritchie, and B. A. Cooper. 1995. Density and productivity of bald eagles in Prince William Sound, Alaska, after the Exxon Valdez oil spill. Exxon Valdez Oil Spill: Fate and Effects in Alaskan Waters, ASTM STP 1219. P. G. Wells, J.N. Butler, J. S. Hughes, Eds. American Society for Testing and Materials.

Willson, M. F., S. M. Gende, B. H. Marston. 1997. Wildlife habitat models and land management plans: lessons from bald eagle (*Haliaeetus leucocephalus*) in Tongass National Forest. Natural Areas Journal. 17: 26-29.

Wood, P. B. 1999. Bald eagle response to boating activity in north-central Florida. Journal of Raptor Research. 33(2): 97-101.