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Thesis Abstract

Ecology of Bald Eagles at Hungry Horse Reservoir, Montana

I documented bald eagle (*Haliaeetus leucocephalus*) nesting activity, behavior, habitat use, and human disturbance during 1985–88 at Hungry Horse Reservoir, northwestern Montana. All available records of bald eagle sightings (including migrating eagles) at the Reservoir were evaluated to help locate historic eagle-use sites and previous nesting territories. Only 13% of reported bald eagle sightings were adults during summer. Most records were of autumn migrants that foraged along the 100-km-long Reservoir or its inlet stream.

Two nest locations, apparently alternate sites on the same territory, were found. Productivity (young produced per occupancy) declined from 1.8 (1979–83) to 0.4 (1984–88). Durations of adult bald eagle visits to active nests in 1985 and 1986 averaged 42 min through the first week in July, but only 4 min thereafter despite differences in nestling age. The eagles nested in an old-growth stand and perched and roosted in large, old trees on an island or near the shoreline. Adults often flew to recently burned sites, where they soared on thermals rising from the blackened surface. Mountain whitefish (*Prosopium williamsoni*) and largescale sucker (*Catostomus macrocheilus*) were most frequently present in prey remains below perches.

Levels of lead, mercury, and cadmium in blood samples from 1985 and 1986 juveniles were within normal limits. Transmitters placed on the 1985 and 1986 juveniles from the Hungry Horse nest facilitated observation of post-fledging behavior and migration. After fledging, juveniles remained associated with the adults and the nest until early autumn, when they moved south across Montana. Both juveniles were near Dillon, Montana by 10 October. The 1985 juvenile was located near Cardston, Alberta, Canada, on 23 April 1986; it was with a group of migrating eagles traveling north.

Timber harvest and recreational activities precluded bald eagle use of several potentially important foraging areas. Eagles used areas well beyond previously established interim management zones. Information from this study provided a basis for preparation of a nest-site management plan for the U.S. Forest Service.—**Patricia T. McClelland. 1992. M.Sc. thesis, Wildlife Biology Program, University of Montana, Missoula, MT 59812 U.S.A.**