

Height and diameter of roost tree, distance between daily roost sites, and distance from nest for juveniles differed significantly with age. Entire families roosted together on 37 occasions (22%).

Six juvenile owls occupied minimum area home ranges that averaged 33.4 ha in size (range, 12.3–60.4 ha). Four adult home ranges averaged 45.3 ha in size. Biweekly and cumulative home ranges of both adults and juveniles increased as post-fledging period progressed. Adult and juvenile home ranges did not differ significantly in size among families. Juvenile owls began to range more widely outside home ranges of their parents after about five weeks post-fledging, as evidenced by a smaller percentage of overlap in home ranges after this time.

Nine juvenile Eastern Screech-Owls remained on their natal territories for an average of 56 d (range, 45–65 d) after fledging. Dispersal dates ranged from 8–21 July 1985 ( $\bar{x}$  = 14 July). Median straight-line dispersal distance was 1.8 km (range, 1.2–16.9 km). Median dispersal direction was 161 degrees (range, 141–306 degrees). There were no significant differences in dispersal distance or direction among families.

Juvenile mortality prior to dispersal was 10%. Five of six juveniles (83%) known to be alive following dispersal either starved or were killed by predators by March 1986. One juvenile male was known to have survived into the 1986 breeding season at which time it acquired a mate and nested. Four young hatched, but the nest was abandoned for unknown reasons. The young failed to fledge. **Belthoff, James R. 1987. M.Sc. Thesis, Department of Biological Sciences, Eastern Kentucky University, Richmond, KY 40475 U.S.A. Thesis Advisor: Gary Ritchison. Present address of author: Department of Biological Sciences, Clemson University, Clemson, SC 29634, U.S.A.**

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THE FEEDING, ROOSTING, AND PERCHING BEHAVIOR OF THE  
BALD EAGLES (*Haliaeetus leucocephalus*) OF MASON NECK, VIRGINIA  
WITH SPECIAL REFERENCE TO THE DEVELOPMENT OF MASON NECK STATE PARK

The feeding, roosting and perching behavior of Bald Eagles on Mason Neck, Virginia, were studied with special reference to effects from development of Mason Neck State Park. Observations were begun in January 1981 and continued into 1985.

Most eagle feeding activity was observed when wind speeds were <16 km/hr and temp was 18–26°C, although hunting success was not found to be dependent on wind speed, temp, or cloud cover. Eagles were observed to use four main hunting methods: 1) swooping from flight, 2) swooping from a tree perch, 3) wading from shore and grabbing with the beak or talons, and 4) gliding out from ice or a low perch on piles of ice. The last two methods were only used by adult eagles, but the frequency of use and success rates of methods one and two were independent of age. Few inter- and intraspecific interactions were seen in feeding areas, likely due to the fact that neither eagles nor their prey species were found in highly concentrated numbers. Observations of feeding and analysis of prey remains and pellets (N = 82) indicated that diet of the eagles was composed of 53.7% fish [mostly Brown Bullhead (*Ictalurus nebulosus*)], 9.8% mammals [mostly Eastern Cottontail (*Sylvilagus floridanus*)], 28% birds, 6.1% turtles and 2.5% crayfish.

Roost trees selected by eagles were typical in that they were fairly large with a strong, open branching structure, easily accessible, had good visibility and were close to water and feeding areas. Roost trees measured (N = 22) had a mean ( $\pm$ SD) diameter at breast height (DBH) of 54.4 cm ( $\pm$  27.4), height of 18.9 m ( $\pm$  5.5) and distance from water of 12.4 m ( $\pm$  17.7).

Weekly roost counts showed that the numbers of eagles using the roost peaked between September and April with only a few birds using the roost during summer. Annual peak counts of eagles using the roost ranged from nine to 20 with highest numbers occurring in November, December and January. Color band numbers identified some of the eagles as coming from specific localities; 24 from the Chesapeake Bay Region of Virginia and Maryland, two from Maine, two from New York, and one from South Carolina. Many interactions were seen between immature eagles, the majority age group in the roost. Incidents of potential human disturbance in the roost are discussed.

Perch trees were found to be similar to roost trees in dimensions, but their mean distance from water was less. Eagles perched in 36% of all sightings exclusive of the roost. Interactions of birds perched in feeding and breeding areas are described.

A certain amount of tolerance to human activity was shown by eagles on Mason Neck, but caution must be maintained to protect sensitive areas such as roost and nesting territory from adverse human disturbance. Recommendations are made to the state park to restrict human use near the roost site. **Haines, Susan L. 1986. M.Sc. Thesis, Biology Department, George Mason University, Fairfax, VA 22030, U.S.A. Present address: 107 Beaver Lodge Road, Stafford, VA 22554, U.S.A.**

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## NEWS AND REVIEWS

**Hawk Mountain Research Award.** The Hawk Mountain Sanctuary Association is accepting applications for its eleventh annual award for raptor research. To apply for the **\$750 award**, a student applicant should submit a brief description of his or her research program (five pages maximum), a *curriculum vitae*, and two letters of recommendation to **Stanley E. Senner, Executive Director, Hawk Mountain Sanctuary Association, Rte. 2, Kempton, Pennsylvania 19529.** The deadline for applications is **October 15, 1987.** The Association's board of directors will make a final decision early in 1988. Only students in degree-granting institutions are eligible to apply; both undergraduate and graduate students may apply. The award will be granted on the basis of a project's potential to improve understanding of raptor biology and its ultimate relevance to the conservation of North American raptor populations.

**Western Raptor Management Symposium and Workshop**—The Western Raptor Management Symposium and Workshop, co-organized by the National Wildlife Federation and the Idaho Chapter of The Wildlife Society, will be held **26-28 October 1987 in Boise, Idaho.** The symposium will feature technical paper sessions on the status of western raptors and their habitats, land use activities impacting raptors, as well as workshops and a poster session. For more information, contact the **National Wildlife Federation, Institute for Wildlife Research, Department 162, 1412 Sixteenth Street NW, Washington, DC 20036-2266, or telephone (703) 790-4264.**

**Request for Assistance**—The Stazione Romana per l'Osservazione e la Protezione degli Uccelli (S.R.O.P.U.) is forming a library on diurnal and nocturnal birds of prey. Currently, the aim is to gather works on status, biology, methodologies, etc., on raptor research. Such a library will be of great value and interest to S.R.O.P.U. members conducting research on raptors. Anyone wishing to contribute materials to the library should contact **Vincenzo Penteriani, Via Festo Avieno No. 56, 00136 Roma, ITALY.** Your cooperation will be greatly appreciated.

**Raptor Research Foundation Resolutions Committee Chairman Needed**—Duties involve organizing, standardizing and posting proposed resolutions at the annual meeting of the Foundation, presenting them to the Board of Directors and/or membership, and processing final versions. Anyone interested in serving, please write to: **Jeffrey L. Lincer, President, The Raptor Research Foundation, Inc., % EcO-Analysts, Environmental Consultants, 4718 Dunn Drive, Sarasota, FL 33583.**

**Stephen R. Tully Memorial Grant.** The Raptor Research Foundation and the Tully family announce the availability of a **\$500** grant to provide financial assistance to promote the research, management and conservation of birds of prey. Individuals demonstrating serious interest in raptors, particularly students and amateurs with limited access to major granting agencies, are eligible. Applicants must supply three copies of resume (*vitae*), specific study objectives, an account of how funds will be spent, and a statement indicating how the proposed work would relate to other work by the applicant and to other sources of funds. **Applications must be postmarked by 15 September 1987** and sent to **Stephen R. Tully Memorial Grant, 5666 West Flying Hawk Lane, Boise, ID 83709, U.S.A.** Grant awards will be announced at the annual Raptor Research Foundation meeting 28-31 October 1987 at Boise, Idaho. Persons wishing to contribute to this and future Tully Grants may make their checks payable to The Raptor Research Foundation, Inc./Tully Grant and should be sent to the above address.