in a tree occupied by another Merlin, with no interaction observed even when it flew and then returned to a perch 3 m from a male Merlin. The Merlin also stooped on a Northern Harrier (*Circus cyaneus*) and on another unidentified raptor.

ACKNOWLEDGMENTS

D. D. Berger and G. Allez trapped the Merlin and assisted with observations. K. Robertson assisted with plant identification. This study was supported in part by U.S. Army contract from F. P. Ward. W. Edwards and W. Iko critically reviewed the manuscript.

LITERATURE CITED

BECKER, D. M. 1985. Food habits of Richardson's Merlins in southeastern Montana. *Wilson Bull.* 97:226–230.

BENT, A. C. 1938. Life histories of North American Birds of prey. Part 2. *U.S. Nat. Mus. Bull.* 167.

BRECKENRIDGE, W. J. AND P. L. ERRINGTON. 1938. Food habits of small falcons in north-central states. *Auk* 55: 668–670.

BUCHANAN, J. B., C. T. SCHICK, L. A. BRENNAN AND S. C. HERMAN. 1988. Merlin predation on wintering Dunlins: hunting success and Dunlin escape tactics. *Wilson Bull.,* 100:108–118.

CLENCH, M. H. AND R. C. LEBERMAN. 1978. Weights of 151 species of Pennsylvania birds analyzed by month, age and sex. *Bull. Carnegie Mus. Nat. Hist.* 5.

COCHRAN, W. W. 1975. Following a migrating peregrine from Wisconsin to Mexico. *Hawk Chalk* 14(2): 28–37.

CRAIGHEAD, J. J. AND F. C. CRAIGHEAD. 1940. Nesting Pigeon Hawks. *Wilson Bull.* 52:241–248.

HODSON, K. 1978. Prey utilized by Merlins nesting in shortgrass prairie of southern Alberta. *Can. Field-Nat.* 92:76–77.

OLIPHANT, L. W. AND S. MCTAGGART. 1977. Prey utilized by urban Merlins. *Can. Field-Nat.* 91:190–192.

——— AND W.J.P. THOMPSON. 1976. Food caching behavior in Richardson's Merlin. *Can. Field-Nat.* 90: 364–365.

PAGE, G. AND D. F. WHITACRE. 1975. Raptor predation on wintering shorebirds. *Condor* 77:73–83.

RUDEBECK, G. 1951. The choice of prey and modes of hunting of predatory birds with special reference to their selective effect. *Oilos* 3:200–231.

SPERBER, I. AND C. SPERBER. 1962. Notes on the food consumption (activity, storage) of Merlins (*Falco columbarius*). *Zool. Bidr. Upps.* 35:263–268.

TOLAND, B. 1986. Hunting success of some Missouri raptors. *Wilson Bull.* 98:116–125.

WARD, F. P. 1975. International color-banding studies of Peregrine Falcons: 1975 Status Report. U.S. Army Biomedical Laboratory, Aberdeen Proving Ground, MD.

WIDEN, P. 1984. Activity patterns and time budget in the goshawk *Accipiter gentilis* in a boreal forest area in Sweden. *Ornis Fenn.* 61:109–112.

Illinois Natural History Survey, Section of Wildlife Research, 607 East Peabody Drive, Champaign, IL 61820. Present address of third author: Department of Inland Fisheries & Wildlife, Wildlife Resource Assessment Team, Wildlife Division, P.O. Box 1298, Bangor, ME 04401-1298.

Received 1 July 1988; accepted 6 March 1989

J. Raptor Res. 23(2):52–53

BALD EAGLE DIES FROM ENTANGLEMENT IN FISH NET

JAMES W. WATSON

Discarded fishing line is a reported source of mortality to birds (Bartel, *N. Am. Bird Band.* 9:8, 1984) including raptors (Knight, Skriletz and Ryan, *Raptor Res.* 14:40, 1980; L. Young, Snake River Birds of Prey Research Project, pers. comm.). Fish nets also kill non-target wildlife including fish, marine mammals, reptiles and seabirds (Stone, NOAA Tech. Memo. NOAA-TM-NMFS-SWR-012, 1986). There is apparently no reference in the literature to raptor deaths from net entanglement.

On 20 April 1988, while collecting information on Bald Eagle (*Haliaeetus leucocephalus*) nest parameters near Lummi Bay in northwestern Washington, I came upon the badly decomposed carcass of a juvenile (approx. 9 wk old) eagle. The bird was evidently 1 of 2 observed in the nest in 1987. A closer investigation revealed that the eaglet was hanging by a 3 m × 0.5 m piece of 12 cm mesh monofilament fish net. The bird's head had passed through 2 of the gillnet meshes which were taut around the neck.

The nest was suspended in branches 3 m above the ground and held by nest sticks that were entangled in the net. Also entangled in the net was part of a steelhead (*Salmo gairdneri*) carcass and an unidentified bone. Evidence suggests that an adult eagle carried the entangled fish and net to the nest. Death to the eaglet resulted from strangulation and the 18 m fall from the nest.

This type of monofilament gillnet is commonly used by local steelhead fishermen. Gillnet fishing is increasing in the near-shore waters of Puget Sound and the Washington Coast (L. Clockin, Wash. Dept. of Fisheries, pers. comm.) where the majority of nesting and wintering eagles forage in the state. Although the population impacts from net entanglement are unknown, this observation is significant because it documents that such nets can be a secondary source of mortality to Bald Eagles.

ACKNOWLEDGMENTS

I thank Ken Dixon and Steve Jeffries for their comments on an earlier draft of this note. Rick Knight, Gary Bortolotti and Al Harmata critically reviewed the final draft.

Washington Department of Wildlife, 16018 Mill Creek Blvd., Mill Creek, WA 98012.

Received 10 November 1988; accepted 20 March 1989

J. Raptor Res. 23(2):53–55

FOOD HABITS OF RED-TAILED HAWKS IN BOULDER COUNTY, COLORADO

DANIEL T. BLUMSTEIN

The Red-tailed Hawk (*Buteo jamaicensis*) is a common raptor in Colorado, yet nothing is known about its food habits there. The objective of this study was to qualitatively document nesting season food-habits of Red-tailed Hawks in Boulder County, Colorado. Boulder County is located on the eastern slope of the Front Range of the Rocky Mountains in north central Colorado. The county contains 5 major ecosystem types defined along an altitudinal gradient: Plains Grassland, ≤1707 m; Lower Montane Forest, 1829–2348 m; Upper Montane Forest, 2439–2744 m; Subalpine Forest, 2835–3354 m; and Alpine Tundra, ≥3445 m (Marr 1964).

Nests were located early in 1985 by visiting areas where Red-tailed Hawks and their nests were historically known to occur. After a nest fledged young or was abandoned, pellets and other prey remains (e.g., carcasses, body parts, etc.) found in its "white-wash" zone were collected during a 1 hr search. One nest tree was climbed and pellets and other remains were removed. Skulls and other identifiable body parts were identified whenever found. From nests having ≤20 pellets, all pellets were analyzed for mammalian and avian prey; 20 randomly selected pellets were analyzed from nests with >20 pellets. Five percent of the pellets that contained hair were re-analyzed to obtain a measure of precision (N consistently reidentified/N reidentified); 82% of the prey items in these were re-identified consistently. No attempts were made to identify scales or chitinous remains in this study despite their presence in pellets.

Ten nests were located (including 1 nest used in 1984 but not in 1985) in 3 ecosystem types (Plains Grassland, 6 nests; Lower Montane Forest, 2 nests; Upper Montane Forest, 1 nest) and 1 nest in the ecotone between Plains Grassland and Lower Montane Forest. Pellets and remains were collected beneath 7 nests and within 1 nest. Of 380 pellets collected from 8 of the nests (range 2–147), 112 (29%) were analyzed for content. Pellets from all habitats with nests were represented in the analysis.

Twenty-six mammalian and 6 avian species were identified, including 6 species that, to my knowledge, had previously not been reported to be consumed by Red-tailed Hawks (Table 1). Prey species were those expected to be found near respective nests based on known mammalian and avian distributions in Colorado (Armstrong 1972; Kingery and Graul 1978). Hawks from Plains Grassland consumed 17 different species (14 mammals, 3 birds), ecotone hawks, 7 species (4 mammals, 3 birds), Lower Montane Forest hawks, 12 species (11 mammals, 1 bird), and Upper Montane Forest hawks, 9 species (8 mammals, 1 bird). However, these discrepancies may be an artifact of the numbers of nests studied in each ecosystem. Preferences of individual hawks and availability and vulnerability of prey around a given nest influence what individual Red-tailed Hawks consume (Errington and Breckenridge 1938; Beebe 1974; Adamcik et al. 1979).

ACKNOWLEDGMENTS

I thank D. M. Armstrong for advice, criticism, and encouragement while conducting this project. M. Figgs, S. Jones, N. Lederer, and many members of the Boulder