60 (23%) boxes on 10 of 18 (56%) treatment mines in 1980, and accepted 33 of 91 (36%) boxes on 19 of 24 (79%) treatment mines in 1981. During the 2-year study, 122 young fledged from these boxes. Of 14 boxes accepted by Kestrels in 1980, 13 (93%) were reoccupied in 1981. Nesting chronology, clutch sizes, and productivity were comparable to published studies of kestrels on unmined areas.

A search of the mines and adjacent woods borders revealed that natural cavities were absent on 20 of 30 (67%) sites. Kestrels nested in 1 natural cavity, on a treatment mine, and nested in boxes on 14 mines that lacked natural cavities.

To examine the relationship among box use, mine, and site characteristics, the following information was recorded: individual box use by Kestrels, site characteristics for individual nest boxes, vegetation characteristics for each mine, and insect and rodent abundance. Stepwise discriminant analysis of 10 nest box location variables revealed that a single variable, the distance of a box to a woods border was the most important for classifying box use by Kestrels during each year of the study. Group means of this variable were significantly higher for used boxes than unused boxes, indicating that used boxes were farther from a woods border. Only 10 of 65 (15%) availble woods border boxes were used during the study period while 47% of all boxes erected 50 m or more from a woods border were used. Effective management of kestrels involves erecting boxes on isolated trees that are at least 50 m from a woods border.

Mines where boxes were used were characterized by a significantly lower percent of bare ground and a deeper litter depth than unused mines. Unreclaimed or marginally reclaimed mines with excessive bare ground may be unsuitable Kestrel habitat even if boxes are provided. Recommendations for managing Kestrels on reclaimed surface mines are provided.

Noteworthy behavioral observations were made during the study period. Vigorous defense of a nest box containing 3 downy eyasses by 4 fully-feathered Kestrels was observed during July at 1 mine. Ground-perching on barren spoil areas was noted during both years of the study. In 1981, this habit was observed on 11 mines, and involved as many as 14 individuals on a single mine. Nearly all ground-perching was observed during July of both years.

Examination of prey remains found in boxes used by Kestrels revealed 4 species of birds not previously recorded as prey items. Incubation by male Kestrels was observed at 6 boxes. With 1 exception, males were found incubating after 1800 hr.

Wilmers, Thomas J. 1982. Kestrel use of nest boxes on reclaimed surface mines in West Virginia and Pennsylvania. M.S. Thesis, West Virginia University, Morgantown. 182 pp.

ANNOUNCEMENTS

SECOND SYMPOSIUM ON AFRICAN PREDATORY BIRDS

The Natal Bird Club, a branch of the Southern African Ornithological Society, will be holding a symposium on African Predatory Birds from 22-26 August 1983. The first symposium on this topic was held in Pretoria in August 1977.

Four sessions are planned: The role of captive breeding in conservation; The effects of pesticides, particularly in the 3rd World; The energetics of large predators, and; The biology of rare and poorly known species.

The meeting will be held at the Golden Gate National Park in the Orange Free State. Further information and application forms are obtainble from Dr. John Mendelsohn, Durban Museum, P.O. Box 4085, Durban, South Africa 4000.

REQUEST FOR INFORMATION

The Marsh Hawk (*Circus cyaneus*) is a commonly-observed bird of prey of grasslands and marshes throughout California. It feeds largely on rodents, but is opportunistic in hunts on other avian, mammalian, and occasionally reptilian and amphibin species. Sexes are identifiable in adult plumage due to color dimorphism. Nests are on the ground; large broods are common.

Although Marsh Hawk wintering habitat in California is extensive, breeding habitat (largely marshes or some other natural grasslands situation) is *severely* reduced. Some estimate marshland habitat has been reduced in terms of acreage in excess of 90% since the early 1900s. Coastal bay and estuary and Central Valley habitats are continuing to decline.

The Marsh Hawk is a Species of Special Concern for the state of California (Remsen, 1982). Unfortunately funds are not available for studies by California Department of Fish and Game (CDFG) at this time. As a result, the Santa Cruz Predatory Bird Research Group (SCPBRG) is attempting to establish baseline information on this species to provide to CDFG, U.S. Fish and Wildlife Service (USFWS), and other government agencies who have management responsibility for birds of prey or habitat protection.

We are requesting information from all sources regarding Marsh Hawk natural history observation. Of special importance are observations of breeding attempts, both successful and failing; and also both current and historic. Information on Marsh Hawk breeding in areas no longer suitable is equally important to observatios in areas remaining habitable.

Should you be able to provide observations or have opinions or comments on any aspect of Marsh Hawk ecology in California, please respond.

Send responses to:

Santa Cruz Predatory Bird Research Group
Room 231 Clark Kerr Hall, University of California
Santa Cruz, CA 95064 (408) 429-2466

Information obtained in this project will be provided in the form of a report to Ron Schlorff, Non-Game Wildlife Management Section, California Department of Fish and Game, 1416 Ninth Street, Sacramento, CA 95814.