

PUBLICATION NOTICE:

NEW PUBLICATIONS FROM BRIGHAM YOUNG UNIVERSITY

Two important papers have been published recently in the *Brigham Young University Science Bulletin, Biological Series*. They can be obtained from University Press Marketing, Brigham Young University, Provo, Utah 84602. Descriptions and the authors' abstracts follow.

Smith, D. G., and J. R. Murphy. 1973. Breeding ecology of raptors in the eastern Great Basin of Utah. *Brigham Young Univ. Sci. Bull., Biol. Ser.* 18(3): 1-76, June, 1973. 8"x10½". 27 figures and 39 tables. Paper covers. Price \$2.00.

A comparative study of the breeding ecology of 12 raptor species was conducted in the eastern Great Basin from 1967-1970. The project was designed to determine the composition and densities, habitat selection, territoriality and predatory habits of raptorial birds in a semi-arid environment. All topics were analyzed comparatively, relating the requirements and activities of the 12 raptor species.

Average yearly population densities of all species approximated 0.5 pairs per square mile, but much of the available habitat was not utilized. Predominant raptors were the Ferruginous Hawk and Great Horned Owl. Other important raptors included the Golden Eagle, Red-tailed Hawk and Raven.

The breeding activities of the collective raptor populations occurred over a period of eight months. Great Horned Owls and Golden Eagles were the first raptors to initiate nesting activities, usually in late January and early February. The raptor breeding season terminated with the fledging of the young Cooper's Hawks and Burrowing Owls in late August.

The fecundity of the raptor populations varied between years. Specific causes of mortality of eggs and young included nest desertion and destruction, predation, apparent egg infertility, and accidents, most of which could be directly attributed to some form of human interference.

The observed home ranges of the raptor species were a function of their body size and breeding status.

The food of the raptors included at least 55 different prey species, but most relied heavily on only one or two species. A correlation between raptor size and mean prey weight was evident. No examples of raptor predation on game or domestic livestock were found.

Porter, R. D., and C. M. White. 1973. The Peregrine Falcon in Utah, emphasizing ecology and competition with the Prairie Falcon. *Brigham Young Univ. Sci. Bull., Biol. Ser.* 18(1):1-74, June, 1973. 8"x10½". 46 figures and 11 tables. Paper covers. Price \$2.00.

This study was undertaken to record the known history of the Peregrine Falcon (*Falco peregrinus*) in Utah as we have been able to construct it from both the literature and from our original research that extends over about a 30-year period in the state. The present total population of the Peregrine in Utah is possibly only 10% of what it has been in historic times. In an effort to find explanations for the decline, we have explored hypotheses of climatic changes, impact of pesticides, disease and human disturbances. We conclude that pesticide contamination and climatic changes may have been the major reasons for their decline in Utah.

A general background of the geographical and ecological distribution of the species in Utah is provided as are also details of its nesting behavior from some Wasatch Mountain eyries. Our data suggest that its nesting density along the Wasatch Mountains was about the same order of magnitude as nesting densities in other regions of North America that are generally considered more favorable to the Peregrine.

We have considered some of the environmental factors that may limit the species in Utah and especially its relationship with a congener, the Prairie Falcon (*Falco mexicanus*). We conclude that the Peregrine may live jointly with the Prairie Falcon with a minimum of intraspecific competition. We present evidence which suggests that the Peregrine has been in Utah since the late Pleistocene and that it has had a long history of sympatric existence with the Prairie Falcon.