

1982

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Recommended Citation

Perkins, Michael W. (1982) "Tree-nesting Raptors in Nevada," *North American Bird Bander*. Vol. 7 : Iss. 3 , Article 5.

Available at: <https://digitalcommons.usf.edu/nabb/vol7/iss3/5>

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Tree-nesting raptors in Nevada

Michael W. Perkins

The Ely District Bureau of Land Management, in east-central Nevada, initiated a study of tree-nesting raptors in the spring of 1981. The key species studied was the Ferruginous Hawk (*Buteo regalis*), although six other tree-nesting raptor species were also encountered during the course of the study. The author had the responsibility for planning, organizing, and conducting the study. Most of the study and data collection were conducted in conjunction with a wildlife inventory in the four-million-acre Egan Resource Area, White Pine County, Nevada.

The main objective of the study was to find Ferruginous Hawk nest sites so that Land Management decisions could be made with current information. The tremendous increase in seismic, geophysical, and geothermal exploration activity within the district made it likely that disturbance would occur within active nest territories. By knowing the township, range, and section of nest sites, exploration activity can be delayed until courtship, incubation, and fledging of the young has been completed. Nevada Department of Wildlife's Upland Game Bird Specialist, San J. Stiver, estimates that there are 250 to 350 nesting pairs of Ferruginous Hawks within the state, with approximately 50% of the yearly production of this species occurring in the Ely District Bureau of Land Management. Based on previous information and data collected during the course of this study, the breeding season of the Ferruginous Hawk in this area of Nevada is from April through July.

A total of 27 Ferruginous Hawk nests were found with a production of 76 fledglings. Fledglings were banded in an effort to determine the migration corridors and wintering areas. Seventy-three fledglings were typical (light phase) and three were melanistic (dark phase). A similar study conducted in southern Idaho and northern Utah discovered approximately the same ratio of light phase young to dark phase young (R. Howard, pers. commun.). Ferruginous Hawk production in the Ely District, BLM study was slightly less than the long-term average as computed by the Nevada Department of Wildlife (NDOW). The long term average in the NDOW study was 2.91 young per nest site (G. Herron, pers. commun.), while the average in the Ely District study was 2.81 young per nest site. This difference in productivity is not statistically significant.

Table 1. Raptor banding results

Species	Male	Female	Unknown
Ferruginous Hawk	26	45	—
Great Horned Owl	6	4	2
Goshawk	1	—	—
Red-tailed Hawk	2	3	—
American Kestrel	2	3	—
Burrowing Owl	—	1	—
Cooper's Hawk	1	2	—
Swainson's Hawk	—	2	—
Totals	38	60	2

In this area of Nevada, the greatest percentage of Ferruginous Hawk nest sites are within juniper (*Juniperus opeosperma*) stringers on big sagebrush (*Artemisia tridentata*), or black sagebrush (*Artemisia nova*) knolls, within 2 miles of a white sage (*Ceratoides lanata*) vegetative type. Active nests located in this study were in both live and dead junipers from a low of 5 feet above the ground to a high of 16 feet. The average height of active nests found in this study was 12 feet. Egg laying begins in April, usually after the first week, (Snow, 1974). However, one nest site noted in Steptoe Valley, White Pine County, Nevada had 4 young judged to be 4 or 5 days old on 29 April 1982. Allowing for an incubation period of 28-35 days (Snow, 1974), these eggs must have been laid in late March.

In addition to the Ferruginous Hawk data, one of the most significant finds of the entire study was the location of a Swainson Hawk (*Buteo swainsoni*) nest site. There are only 29 documented Swainson's Hawk nest sites within the state that were active when first located (G. Herron, pers. commun.). Previous aerial surveys specifically directed to inventory Swainson Hawk nest sites, found that most of the territories have been or are inactive. There are strong indications that the Nevada population of Swainson Hawks is declining (G. Herron, pers. commun.). Within the State of Nevada most of the active documented Swainson Hawk nest sites are on private land. The Swainson Hawk nest site located in this study is one of the only documented Swainson's Hawk nest site on public land within the state. Both nestlings, judged to be females, successfully fledged.

As determined in this study, Great Horned Owl production is on the increase in this area of Nevada. Great Horned Owls took over traditional Red-tailed Hawk



Banding Ferruginous Hawk nestlings, Spring Valley, Nevada



Melanistic and typical phase Ferruginous Hawk nestlings, Butte Valley, Nevada

(*Buteo jamaicensis*), Goshawk (*Accipiter gentilis*), and Cooper's Hawk (*Accipiter cooperii*) nesting sites in this breeding season. This phenomenon is probably the result of an increased number of nesting owls and the earlier date at which this raptor commences breeding and incubation.

One interesting incident occurred in May 1981 during the course of this study. On 7 May, a Goshawk nest was checked to determine activity and was found to contain 2 young (judged to be 1 week old). Upon returning to this site on May 22 to band them, I found an adult Great Horned Owl in the nest eating 1 of the young Goshawks. The fate of the other nestling is unknown; however, a number of Goshawk feathers were found scattered beneath the nest.

During the course of this study I banded 100 nestlings of 8 raptor species. The study will be continued in 1982 in an attempt to further document all nesting

Ferruginous Hawks and other tree-nesting raptors with in the Ely District.

I was assisted throughout the course of the study by William J. Lindsey, Range Conservationist; John McGlothlin, Forester; and Scott Robinson, Wildlife Biologist — all with the Ely District, Bureau of Land Management.

Literature Cited

- Snow, C. 1974 Ferruginous Hawk, (*Buteo regalis*.) Report No. 13. Habitat Management series for unique or endangered species. Technical Note, Bureau of Land Management, Denver. 23p.
- Michael W. Perkins, Wildlife Biologist, Bureau of Land Management, Ely District Office, Star Route 5, Box 1, Ely, Nevada 89301