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EUREKA ENERGY COMPANY
A SUBSIDIARY OF PACIFIC GAS AND ELECTRIC COMPANY
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June 11, 1981

Mr. John Livesay, Supervisor
Division of Wildlife Resources
Southeastern Regional Office
455 West Railroad Avenue Box 840
Price, UT 84501

Re Sage Point-Dugout Canyon Project/Golden Eagle Nests

Attention Larry Dalton

Dear Mr. Livesay:

Since golden eagles are of high federal interest and are of high interest to the State of Utah, Eureka decided to retain the services of a reputable ornithologist to conduct a limited raptor survey within the project area. Specifically, the purpose of this investigation was to locate, verify, and determine the nesting stage of the five golden eagle aeries observed this year by UDWR personnel. I have enclosed for your information Dr. Jan Young's report. I think you will find her evaluation and recommendations useful.

If you have any questions, please contact me.

Sincerely,

Nicolas Temnikov

Nicolas K. Temnikov
Regulatory Coordinator

NKT:ep
Enclosure

cc Mary Ann Wright/DOGM ✓

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REPORT ON GOLDEN EAGLE NEST SITES FOR EUREKA ENERGY COMPANY

JANET LEE YOUNG, Ph.D.

MAY 1981

In Utah the Golden Eagle lays one to three eggs in late February or March, incubation lasts an average of 42 days, and the young are fledged in 60 to 70 days (Eyre and Paul 1973). According to Call (1978) the average nesting sequence is as follows: Nest Building (2-2 to 2-26); Egg Laying (3-6 to 3-30); Incubation (3-10 to 5-14); Hatching (4-2 to 5-14); Fledging (6-7 to 6-21). In Utah young hatched in late April or early May would be fledged in late June or early July. After leaving the nest the eaglet is dependent on its parents for another 30 days or more (Terres 1980).

On 4 May and 5 May 1981 I attempted to locate, verify, and determine the nesting stage of the five Golden Eagle nests observed this year by UDWR personnel.

Methods

The survey was conducted on the ground. Field equipment included Trinovid Leitz 10 x 40 binoculars, The Discoverer Bausch & Lomb Zoom 60 mm telescope, Minolta camera, topographic map, compass, watch, field notebook, and UDWR field notes and two pages from UDWR Monthly Report for March 1981. Care was taken not to disturb the birds for fear of nest abandonment since it was not known if hatching had occurred. There is less chance of nest abandonment after the young appear in the nest and closer approaches may be made at that time.

Results

Nest Site #2--Fish Creek Canyon

A stick nest with vegetation that had turned red-brown was located above the exploration road above the proposed portal area. There was adult Golden Eagle activity in the canyon. There appeared to be two adult birds although they were not both visible at the same time. I stayed on the road, made a quick sketch of the nest site, took a picture

of the nest site and another picture with my back to the nest giving a view fairly comparable to what would be visible from the nest.

Nest Site #1--Dugout Canyon

There was one adult bird circling above the approximate nest site (determined from the topographic map). However, I did not locate the stick nest. I did not find a nest description in the UDWR field notes. I believe I did not hike far enough to the east. The nest was not visible from the road.

Nest Site #4--Soldier Creek

I found a stick nest in a pocket in the cliffs which contained greenery and brown vegetation. This corresponded to a scanty nest description in the UDWR field notes of 3-25-81. There was a pair of adult Golden Eagles circling above this nest site at 11:10-11:16 a.m. I did not observe any attentiveness to the nest by the birds. I photographed the nest site from the paved road.

Nest Site #3--Alternatives

I found one stick nest at this site. There was no indication that the nest was being used by any raptor species. There were no eagles in the area. I photographed the site.

Discussion

Golden Eagle nests generally can be seen from some distances, appearing as large dark objects (eight to ten feet across and three to four feet thick) on shelves or ledges on cliff faces. The large size of an eagle nest is usually an important clue in identifying it from the smaller Buteo nests. Usually a patch of whitewash from excretion is visible and the rock surrounding an eagle nest may be covered with an orange foliose lichen (Call 1978).

Some Golden Eagles commonly use alternate nests in successive years whereas other pairs may never use alternatives even though they may spend time repairing all or some of their nests. Each pair has up to 10 nests but only 2 or 3 are used in rotation (Brown and Amadon 1968). The nest may

be huge if the site permits with a foundation of sticks 1/2 to 2 inches in diameter and twigs, and is lined loosely with available greenery. The other nests may be mere scrapes on a shelf in a cliff with a circle of branches surrounding them.

Nest Site #2--Fish Creek Canyon

From the behavior of the adult bird or birds in the area I could not determine if this nest is active. Golden Eagles are generally unaggressive at the nest site and frequently fly off to a distance when an intruder approaches on foot. The inattentiveness to the nest at this time, either late incubation or early hatching, cannot be used to conclusively say the nest is inactive. The nest should be watched for the appearance of white downy young which will be visible from a considerable distance. The young birds will develop their dark wing and body feathers from two to four weeks prior to fledging. Observations of these events will allow for the reconstruction of an activity time schedule back to egg laying for the nest.

From the UDWR field notes taken on 3-31-81 it is obvious the observer (unidentified) is not familiar with the natural history of the bird. In the early part of the year eagles actively engage in aerial acrobatics as part of their pair bonding behavior in courtship. Young are not present on the nest at this time, the nest is either empty or eggs are being laid. Activity of an adult at the nest at this time would either be arranging nest material or rolling eggs, not feeding young as indicated in the field notes. Although most of the incubation is done by the female, the male parent does participate. I got the impression the observer was terming one bird, the female, because it was on the nest which is not necessarily true. The sexes look alike with the female being larger than the male.

This nest should be observed in June for the presence of young. If young are not present the active nest of the birds should be found so the impact of development at the portal site can be properly evaluated. (1) ✓

The pertinent data for each raptor nest located should be recorded on a raptor data form, such as the attached Raptor Inventory Data Sheet. When young are in the nest, a photographic record of the number of young in the nest and their relative condition and/or age should be made. (2)

Disturbance to the adults must be kept to a minimum. Much information can be gained from a distance with binoculars or a spotting scope without disturbing the birds. There is less chance of nest abandonment after young are present. When the young have their black feathers one must be careful not to cause premature fledging which can result in injury to the young birds.

A nest card should be kept on the nest listing the date, time of day, observer, behavior of adult birds, number of young, appearance of young, behavior of young, prey items visible at nest, flight path of adults to and from nest, and space for other remarks. The information should be recorded each time the nest is observed. Once young are observed observations should be made at least weekly to document fledging and nest success. (3)

Nest Site #1--Dugout Canyon

A Raptor Inventory Data Sheet and nest card need to be provided for this nest. Compass directions from which the nest is visible and distance from the road are needed to evaluate the impact of improving the road.

Data sheets should also be provided on the Cooper's Hawk nest to have the data on file for comparison after disturbance. It is a bird of high federal interest.

Nest Site #4--Soldier Creek

This nest could be of critical interest in the event that it is active. It can be viewed easily with a spotting scope from the paved road. It could provide a lot of insight into proposing practical mitigation measures to ameliorate any significant impacts upon the other Golden Eagle nests. Behavior of the adult eagles in the vicinity of this nest could not be used to conclusively call the nest active or inactive. Further observation and the proper data sheets are needed. If young do not appear, the active nest of the pair in the area should be determined for the valuable information which would be gained because of the close proximity of the existing Soldier Creek Mine Portal.

Nest Site #3--Alternatives

Old stick nests may be alternate Golden Eagle nest sites or they may be nests used by other species. The small size of the nest I located

would indicate it has not been a primary nest site. Better nest descriptions need to be provided and the nests should be observed in subsequent years for eagle activity. Several other raptor species use stick nests on cliffs and not all available nest sites are used each year. The presence of a bird at a nest is needed to determine that the nest is at some time used by that species in some capacity.

Conclusions

It is quite a responsibility to designate a stick nest as an active Golden Eagle aerie. Especially when each eagle pair may require 20 to 30 square miles of territory containing up to 10 nests of which seven or eight may never be used. The presence of greenery is not restricted to Golden Eagles and old nests cannot be identified as to former occupants after the birds have left. The UDWR should have stated there was adult Golden Eagle activity in the vicinity of some of the nests with courtship flights and possible nest repair or building activity observed. Then they should have maintained data sheets on the nests. They should have indicated more observations were necessary to determine if the nest sites were active. The presence of young in June will document nest activity (a photographic record should be made) and fledging will determine nest success.

In the monthly Report for March 1981 the UDWR stated that the birds utilize the nest between April 15 and June 15. This is false in that the nest is used from February to July in Utah.

Buffer zones around active eagle nests need individual consideration. More information is needed on the three nest sites designated as active by the UDWR before recommendations can be made.

Literature Cited

Brown, L. and Amadon, D. 1968. Eagles, Hawks, and Falcons of the World. 2 vols. New York: McGraw-Hill Book Company.

Call, Mayo W. 1978. Nesting Habitats and Surveying Techniques for Common Western Raptors. Technical Note TN-316, Bureau of Land Management, Denver Service Center.

Eyre, L. and D. Paul. 1973. Raptors of Utah. Utah Division of Wildlife Resources Publication No. 73-7.

Terres, John K. 1980. The Audubon Society Encyclopedia of North American Birds. Alfred A. Knoph, New York.

Submitted by:

Janet Lee Young, Ph.D.
Field Ornithologist
220 North 100 East
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(801) 258-5445

RAPTOR INVENTORY DATA SHEET
[for field notebook (looseleaf)]

Observer _____ Nest Number _____

Date of Observation _____ Species _____

Land Ownership: P S BLM Location: T____ R_____ Sec._____

Description of Nest Site:

Nest Substrate _____

Height of Substrate _____

Height of Nest Above Ground_____

Active_____ Inactive_____

No. of Eggs or Young_____

Exposure_____

Elevation_____

Vegetative Type_____

(Topographic Map)

Remarks:

(Photograph)

GPO 848-738

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JANET LEE YOUNG

220 North 100 East, Richmond, Utah 84333 (801) 258-5445

OBJECTIVE

Field Ornithology--preferably bird surveys, raptor and migratory bird inventories, breeding bird censuses, and avian-habitat interaction studies.

EDUCATION

Doctor of Philosophy from Utah State University, 1977. Dissertation: Density and Diversity Responses of Summer Bird Populations to the Structure of Aspen and Spruce-Fir Communities on the Wasatch Plateau, Utah. Master of Science in Zoology from Utah State University, 1973, and Bachelor of Arts, Hiram College, with a Major in Biology, 1969. Additional field ornithology classes taken at the University of Michigan Biological Station and Arizona State University.

PAPERS PRESENTED

"Breeding Bird Populations and Habitat Utilization in Aspen Stands," Cooper Ornithological Society Meeting, San Francisco, 1973; "Aspen and Spruce-Fir Forest Heterogeneity and Bird Species Diversity," Cooper Ornithological Society Meeting, Pocatello, Idaho, 1977.

EXPERIENCE

Ornithological consulting contracts, Spring 1981: Price River Coal Co., Science Applications, Inc., and Eureka Energy Company.
Raptor and migratory bird surveys conducted in compliance with State and Federal regulations for mining, Spring 1980:
Sanders Exploration Limited--Shakespear Mine and C&W Mine Sites.
Price River Coal Company--Crandall Canyon Site.
Northwest Carbon, Inc.--Tie Fork Canyon, Rilda Canyon, and the Mohrland Sites.
Bird censuses for the Forest Service, Summers 1973-1977.
Teaching field ornithology for Logan City Community Education Program, 1980-1981.
Teaching assistantships including Ornithology, 1969-1974.

PROFESSIONAL AFFILIATIONS

The American Ornithologists' Union, Cooper Ornithological Society, Wilson Ornithological Society, Sigma Xi.

OTHER FACTS

Born March, 1948--Enjoy cross-country skiing, back-packing, and fishing--Active member and officer in the Bridgerland Audubon Society, group leader for the Christmas Bird Counts and field trip leader for the Regional Conference, May 1980.

INVOICE FOR CONSULTING SERVICES

Janet Lee Young, Ph.D. Field Ornithologist

220 North 100 East
Richmond, Utah 84333
(801) 258-5445

Soc. Sec. No. 299-42-3083
Date of Invoice:
29 May 1981

Date	Location, Nature and Scope of Work	Hours	Other Expenses
4-5 May	Observations of Golden Eagle Nest Sites	1½ days	
3+5 May	Travel Time	½ day	
3-5 May	Mileage 662 x .20		132 40
3-5 May	Per diem 22°° x 2		44 00
	2 nights Crest Motel		37 72
29 May	Report	6	150 00
	Total Hours and Other Espenses	$ 2 days	$ 364 12
	Total Days @ $ 225 per day		$ 450 00
	Total Invoice Amount		$ 814 12

Janet Lee Young, Ph.D.

Janet Lee Young, Ph.D.

29 May 1981
Date