

1980

THE IDAHO CHAPTER OF THE WILDLIFE SOCIETY,
BONNEVILLE POWER ADMINISTRATION AND THE
IDAHO POWER COMPANY

Presents

A WORKSHOP ON RAPTORS AND ENERGY DEVELOPMENTS



Dear Participants:

Through a fortuitous circumstance, man has provided raptors with perching and nesting structures in the last one hundred years that have proven to be both beneficial and lethal. This massive powergrid found throughout the world runs our society of manufactures and consumers. It is a pandoras box to raptors; depending upon the activity of a particular species. It is expressed by the American kestrel using the powergrid of a rural area for hunting perches. One may see it when the prairie falcon lands on an H pole crossarm during mid-summer, seeks the shade adjacent to the vertical pole, and become concealed from all but the astute observer. It is reflected in the shadow of a golden eagle circling its nest which is located in the lattice structure of a 500 kV line.

In 1972, a group of western utilities in concert with the Edison Electric Institute and various State and Federal agencies held a workshop on electrocution problems and raptors. The product of this effort was a cookbook for correcting lethal designs titled "Suggested Practices for Raptor Protection on Powerlines".

Since the early '70's, our vision of the positive and negative impacts of a powergrid imposed on an ecosystem has broadened considerably. We have come to consider the siting of powerplants and utility corridors, including gas and oil, and to develop techniques for integrating these projects with a respect for wildlife.

The following papers, presented at the 1980 meeting of the Idaho Chapter of The Wildlife Society, represent a compendium of information on raptors and energy developments. It is not a definite statement on the subject since many studies are not yet completed. Rather this symposium serves as a midstream review of where we are and what directions we want to explore.

Through the contributions of The Idaho Power Company and services of the Bonneville Power Administration, the Idaho Chapter of The Wildlife Society will publish the papers under one cover. They will be available in several months through the U.S. Fish and Wildlife Service, Boise Area Office.

Sincerely,

R. P. Howard and Jay Gore
Co-Chairmen

AGENDA

January 25

- 8:00-9:00 am Registration
- 9:00-9:30 Strychnine-Pocket Gopher Control Impact on the Grizzly:
Victor Barnes, U.S. Fish and Wildlife Service
- 9:30-10:00 Powerline Electrocution of Raptors: Eric Peacock, U.S.
Fish and Wildlife Service
- 10:00-10:15 Break
- 10:15-10:45 Historic Overview of Raptor-Powerline Problems and
Suggested Corrective Measures: Morlan Nelson,
Raptor Consultant
- 10:45-11:15 Impacts of Nuclear Energy Facility on Raptorial Birds:
Dr. R. E. Fitzner, Battelle Laboratories
- 11:15-11:45 MOVIE - "Snake River Birds of Prey" Introduced by Mark
Hilliard, Bureau of Land Management
- 11:45-1:00 pm Lunch
- 1:00-1:30 A Study of Large Raptor Electrocution and Powerpole
Utilization in Six Western States: Patrick C.
Benson, Brigham Young University
- 1:30-2:00 Raptors and the BPA Transmission System: Jack M. Lee,
Jr., Bonneville Power Administration
- 2:00-2:30 Golden Eagle Reproduction and Population Changes in
Relation to Jackrabbit Cycles; Implications to Eagle
Powerline Mortalities: Michael Kochert, Bureau of
Land Management
- 2:30-3:00 Government Agencies and Industry Do Work Together:
Wendell Smith and Allan Ancell, Idaho Power Company
- 3:00-3:15 Break
- 3:15-3:45 Osprey and Power Poles in Idaho: Lawrence J. Van Daele,
University of Idaho

January 25 (Con't)

- 3:45-4:15 Artificial Nest Structures and Grassland Raptors: Richard P. Howard, U.S. Fish and Wildlife Service
- 4:15-4:45 Nesting Platforms for Use with Transmission or Distribution Structures: John Bridges, Gilbert/Commonwealth Associates
- 7:00 pm Attitude Adjustment Time - Grizzly Bear Pizza Parlor
1677 Broadway

January 26

- 8:30-9:00 A Study of Wintering Bald Eagles to Assess Potential Impacts from a Proposed 230-kV Transmission Line: James R. Meyer, Bonneville Power Administration
- 9:00-9:30 Wading Bird Prey-base, Pesticide Relationships: Charles Trost, Idaho State University
- 9:30-10:30 Business Meeting - Idaho Chapter, The Wildlife Society
- 10:30-10:45 Break
- 10:45-11:15 Significance of Idaho to the Mid-Continental Trumpeter Swan Population: Ruth Shea, U.S. Forest Service
- 11:15-11:45 MOVIE - "Common Ground" Sponsored by U.S. Forest Service
- 11:45 Adjourn

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Location: State of Idaho Department of Transportation Auditorium
3311 W. State Street, Boise, Idaho

ABSTRACTS

Proceedings will be available from U.S. Fish and Wildlife Service, 4620 Overland Road, Boise, ID 83705, within two months.

Victor G. Barnes, Bend Field Station, U.S. Fish and Wildlife Service,
1027 Trenton Avenue, Bend, OR 97701 (503) 382-6922, Ext. 283

Strychnine-Pocket Gopher Control Impact on the Grizzly - Abstract
not provided by author.

Eric Peacock, U.S. Fish and Wildlife Service, 4620 Overland Road,
Boise, ID, 93705 (208) 334-1440

Powerline Electrocution of Raptors - Abstract not provided by
author.

Morlan Nelson, 73 E. Way, Boise, ID 83702 (208) 343-0212

Historic Overview of Raptor-Powerline Problems and Suggested
Corrective Measures - Abstract not provided by author.

R. E. Fitzner, Pacific Northwest Labs, P.O. Box 999, Richland, WA
99352 (509) 942-7179

Impacts of Nuclear Energy Facility on Raptorial Birds - Abstract:
This report presents some of the results of a 5 year research study
on the nesting ecology of birds of prey and the common raven on the
U.S. DOE Hanford Site and discusses the impact of mans activities
and facilities on these birds. The findings of the study add
insight into the population dynamics of the birds of prey community
at the Hanford Site and the expected impacts of nuclear energy
facilities now under construction. These findings may have implications
towards other nuclear and non-nuclear energy facilities, particularly
in the grasslands of the western United States.

Patrick C. Benson, 574 Widtsoe Building, Brigham Young University,
Provo, Utah, 84602 378-1211 Ext. 2006

A Study of Large Raptor Electrocution and Powerpole Utilization in
Six Western States - Abstract: In an attempt to determine the
ecological factors influencing the majority of raptor electrocution
mortalities in the West, data from 24 five mile sections of power-
line were collected. Soil and vegetation types, topographic relief,
weather patterns and prey base were all considered to isolate the
ecological types where the problem most often occurred. Human

disturbance both active and passive were considered, attempting to eliminate bias due to shooting. Age was determined, when possible, to assess the impacts upon breeding and subadult populations. Construction and power output of the poles were measured to determine the safest types available for use. These data will hopefully be used by power companies and state and federal management agencies to determine modification needs and the most practical solutions to eliminate raptor electrocutions.

Jack M. Lee, Jr., P.O. Box 3621, Portland, OR 97208 (503) 234-3361

Raptors and the BPA Transmission System - Abstract: The use of powerline structures by raptors is one of the more visible effects of these lines on wildlife. Because of this visibility and because birds may affect the reliable operation of the lines, the raptor/powerline association has been studied for many years.

Much of the early study was by power company personnel who were interested primarily in reducing power outages caused by birds. Some of these early efforts were recounted by Dickinson (1957) and Benton (1954). Considerable work has also been done on the subject of raptor electrocutions (Miller et. al. 1975).

Raptors have received attention from Bonneville Power Administration (BPA) personnel for a number of years. BPA is the agency within the U.S. Department of Energy responsible for marketing power generated by Federal hydroelectric dams in the Pacific Northwest. BPA began building transmission lines in 1938 and today the agency operates approximately 20,000 km of transmission lines. This includes 5520 km of 115-kV lines, 5430 km of 230 kV, 4648 km of 500 kV, and 425 km of +400 kV d-c line. BPA operates a few 34.5 kV and 69 kV lines but problems with bird electrocutions have not developed.

In this paper I will briefly discuss BPA maintenance policy regarding birds and powerlines, and present some preliminary results from our raptor nesting study.

Michael N. Kochert, Snake River Birds of Prey Research Boise District
BLM, 230 Collins Rd. Boise, ID 83702 (208) 334-1582

Golden Eagle Reproduction and Population Changes in Relation to Jackrabbit Cycles; Implications to Eagle Powerline Mortalities - Abstract: Golden eagle reproductive performance and relative jackrabbit densities were assessed in the Snake River Birds of Prey Area from 1970-1979. Golden eagle winter densities were enumerated from 1973-1979. The proportion of eagles breeding, young eagles fledged per pair and per breeding attempt and eagle breeding success all declined in response to lower jackrabbit numbers. Winter densities of golden eagles appear to be related to golden eagle reproductive performance. The relationship among golden eagle winter density, reproductive performance and the incidence of golden eagle electrocutions is assessed. The association between large scale prey fluctuations and the incidence of golden eagle electrocutions is discussed.

Wendell Smith and Allan Ancell, 1220 W. Idaho St., Boise, ID 83702.
(208) 383-2727.

Government Agencies and Industry Do Work Together - Abstract not provided by author.

Lawrence J. Van Daele, Department of Biological Science, University of Idaho, Moscow, Idaho 83843 (208) 885-6583

Osprey and Power Poles in Idaho - Abstract: Throughout their range, ospreys (Pandion haliaetus) frequently nest on power poles. This habit is advantageous because it provides the birds with good nest sites, increases public exposure to a large raptor, and facilitates scientific research. Disadvantages of these sites are an increased susceptibility of the osprey to human disturbance, more chances for osprey electrocutions, and power interruptions caused by hanging nest material. Management practices which can be used to minimize the adverse effects of power pole nests include the construction of artificial nesting platforms and/or nesting discouragement devices. All management activities should be coupled with a public education program for a better understanding of the osprey and the managing agency's activities.

Richard P. Howard, U.S. Fish and Wildlife Service, 4620 Overland Road, Boise, Idaho 83705 (208) 334-1866

Artificial Nest Structures and Grassland Raptors - Abstract: During a four year study of the Snake River Birds of Prey Area in Idaho, nest structures were placed in three different habitat types. Two species of birds, the ferruginous hawk (Buteo regalis) and the raven (Corvus corax), successfully nested on these structures. Ferruginous hawks utilized sites where no raptor nests had previously been found. Component factors are discussed that may affect the selection of artificial nests by raptors. Applications are presented where artificial nest structures may serve to mitigate loss of natural nest sites and associated habitat.

John Bridges, Commonwealth Associates, 209 E. Washington Avenue, Jackson, MI 49201 (517) 788-3000

Nesting Platforms for Use with Transmission or Distribution Structures - Abstract: Artificial nesting structures have been placed in 400 kV d.c. transmission line towers in central North Dakota to provide additional nesting habitat for raptor species in that area. Three different types of nesting platforms were regularly spaced over approximately 80 miles of the line. One type is wooden and follows the designs suggested by Morlan Nelson for Idaho Power and Light. The other two are experimental designs developed by Commonwealth Associated in conjunction with United Power Association. The latter two designs are somewhat less expensive to construct and should realize a greater longevity. Additional studies are recommended which might enhance the few positive aspects of transmission line-raptor inter-actions.

James Meyer, P.O. Box 3621, Portland, OR 97208 (208) 882-7991

A Study of Wintering Bald Eagles to Assess Potential Impacts from a Proposed 230-kV Transmission Line - Abstract: A biological study of the Northern bald eagle (Haliaeetus leucocephalus alascanus) was conducted from November 1978 through April 1979 to assess the potential impacts from Bonneville Power Administration's proposed 230-kV transmission line project in Northwestern Montana and Northern Idaho. Bald eagles' use of wintering habitat was investigated on the Pend Oreille and Kootenai Rivers. The overall impact of the proposed project was considered to be minor and not likely to jeopardize the continued existence of the bald eagle.

Charles Trost, Biology Department, Idaho State University, Pocatello, ID 83201 (208) 236-0211 Ext. 3337

Wading Birds Prey-base, Pesticide Relationships - Abstract not provided by author.

Ruth Shea, U.S. Forest Service, Bridger-Teton National Forest, Box 1888, Jackson, Wyoming 83001 (307) 733-2752

Significance of Idaho to the Mid-Continental Trumpeter Swan Population - Abstract not provided by author.