Status Review of Wildlife Mitigation

at Columbia Basin Hydroelectric Projects

Oregon Facilities

Prepared by:

K. L. Bedrossian
R. D. Carleson
J. H. Noyes
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Final Report
August 1984

Environmental Management Section
Oregon Department of Fish and Wildlife
Portland, Oregon

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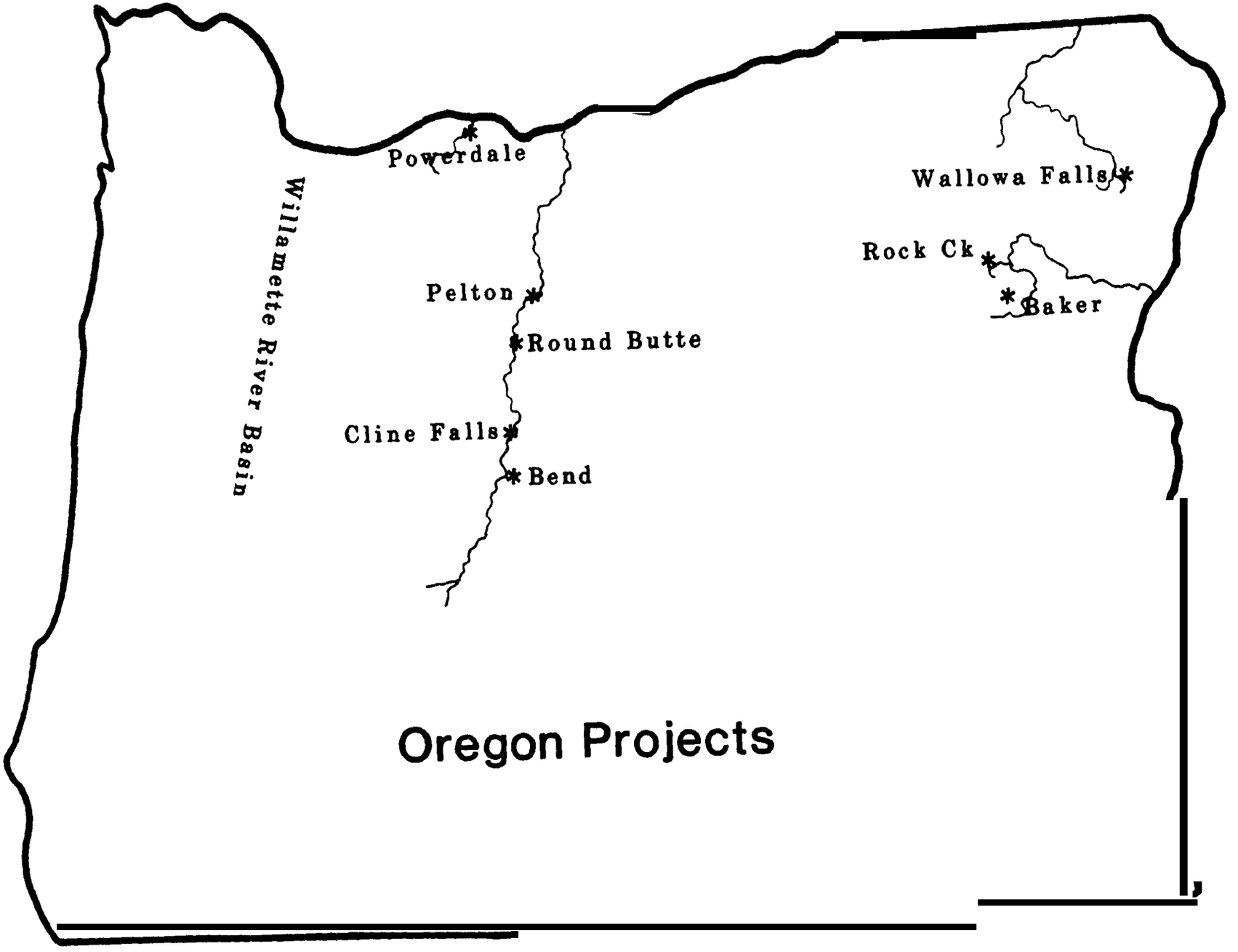
PREFACE

The Pacific Northwest Electric Power Planning and Conservation Act (Public Law 96-501) directed the Northwest Power Planning Council (Council) to develop and adopt a program to protect and enhance fish and wildlife and their habitat in the Columbia River Basin and to mitigate for the losses to those resources resulting from the development, operation and maintenance of hydroelectric projects in the river and its tributaries. To accomplish this goal, the Council developed the Columbia River Basin Fish and Wildlife Program (Program). The reports contained within this volume were written to meet the requirements of Measure 1004(b)(l) of the Program. The purpose of these wildlife mitigation status reports is to provide a factual review and documentation of existing information on wildlife resources at Columbia River Basin hydroelectric facilities within Oregon. Effects of hydroelectric development and operation; existing agreements; and past, current and proposed wildlife mitigation, enhancement, and protection activities were considered. In compliance with the Program, the wildlife mitigation status reports were written with the cooperation of hydroelectric project operators, and in coordination with federal resource agencies.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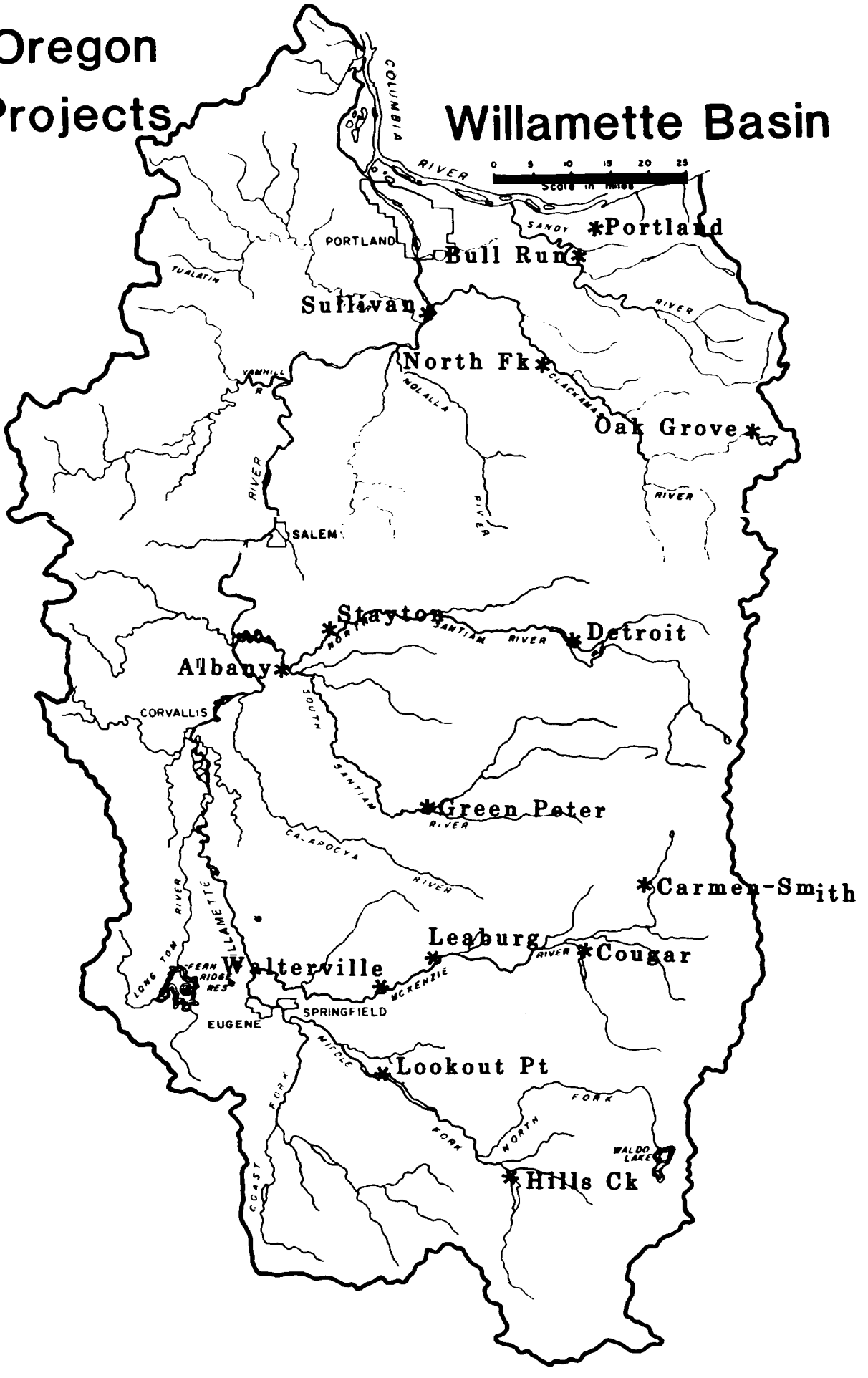

Wildlife Mitigation Status Report

COUGAR DAM and RESERVOIR PROJECT

Prepared by:

K. L. Bedrossian
R. D. Carleson
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I. PROJECT NAME

Cougar Dam and Reservoir Project

II. PROJECT OPERATOR

U.S. Army Corps of Engineers (USACE)

III. PROJECT DESCRIPTION

A. Location and Size

The Cougar Dan and Reservoir Project is located in Lane County, Oregon, approximately 42 miles east of Eugene on the South Fork of the McKenzie River at river mile 4.4 (USACE 1982). The project is located within the Willamette National Forest. The main access is the McKenzie Highway, U.S. 126.

The project structure is "a rockfill dam with an impervious earth core", 445 feet high with a crest length of 1,738 feet (USACE 1982). There is a gated spillway with a discharge channel 89 feet wide. The project includes two 12,500 kilowatt generating units. At full pool level the reservoir surface area is 1,280 acres, 6.5 miles long with a maximun width of 0.7 mile.

B. Authorized Purposes

Flood control was the primary purpose of the Cougar project. Other authorized purposes included power qeneration, irrigation, navigation, pollution abatement and recreational use (USACE and U.S. Forest Service [USFS] 1965, USACE 1973).

C. Brief History

Authorization of Cougar Dam was provided by the Flood Control Act of 1950. The Flood Control Act of 1954 authorized power development at Cougar. Construction began in 1956. Flood control began in 1963. The project was considered complete in 1964 when the two power generators were put into operation (USACE 1964).

The Flood Control Act of 1962 authorized development of additional power generating capacity at Cougar and development of Strube reregulating dam 2 miles downstream. Construction of this project would allow "Cougar to operate as a peaking powerplant" (USACE 1982). In 1979, a combined general design memorandun and environmental impact statement was published. Construction of the Strube Dan/Cougar additional unit has not been initiated (USACE 1982).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The present method of operation provides uniform (baseload) power generation and a relatively smooth release of water downstream. The flood control season is from 1 December to 31 January, followed by

conservation storage filling from 1 February to 10 May and conservation holding and release from 11 May to 30 November (USACE 1980b). Maximum pool elevation is 1,699 feet; minimum power pool evaluation is 1,516 feet (USACE 1980a).

(2) Land ownership

The project includes approximately 5,075 acres (USACE 1983). USACE regulates the water controlled by the dam and is responsible for 220 acres of land adjacent to the reservoir that are necessary for operational purposes (USACE 1983). USFS manages activities on the water surface of Cougar Lake (1,280 acres) and administers 3,575 acres of project land contiguous to the reservoir within the National Forest boundaries (USACE 1973, 1983). Oregon Department of Fish and Wildlife (ODFW) serves in an advisory capacity to USFS regarding activities such as timber sales and other forest management around the reservoir (J. Greer, ODFW, pers. commun.). ODFW is responsible for management of wildlife within the project area (USACE 1979); however, USFS and USACE are responsible for management of the habitat. The project is located within ODFW's McKenzie Wildlife Management Unit and the USFS Blue River Ranger District.

(3) Indian rights

No tribes are involved with the actions taken at the Cougar Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Information on preconstruction conditions was obtained from written reports, project files and conversations with appropriate individuals. Pre-construction aerial photos are available from USACE and the University of Oregon Map Library. Three reports provided information on conditions prior to construction and predicted impacts to a limited number of wildlife species. Big game, upland game, waterfowl and furbearers were considered. Oregon State Game Commission (OSGC) and Fish Commission of Oregon (FCO) published a report in 1948 entitled "Fish and wildlife problems arising from the Willamette Valley Project." The report provided an evaluation of "the benefits and losses...to various game and fur animal species", and presented "recommendations concerning methods of mitigating losses" as a result of the Willamette Valley Project. Potential impacts were addressed briefly by watershed. U.S. Fish and Wildlife Service (USFWS) published a report in 1948 entitled "Willamette Valley Project, Oregon, preliminary evaluation report on fish and wildlife resources." The effects of the entire Willamette Valley Project on wildlife were considered. USFWS published "A detailed report of fish and wildlife resources affected by Cougar Dam and Reservoir Project" in 1959. This report provided the most information on pre-construction conditions; however, information was general and not quantitative. The following information was based on these reports and conversations with R. Jubber, the ODFW Lane District

wildlife biologist from 1956 to 1981. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The area surrounding the project site generally consists of steep terrain and coniferous forest. It is in the Western Hemlock Zone described by Franklin and Dyrness (1973). Prior to construction the reservoir site was primarily covered with stands of Douglas fir, western red cedar and western hemlock. Bigleaf maple and cottonwood occurred along the river in "scattered stands" (USFWS 1959). Common understory vegetation included red alder, vine maple, pacific dogwood, willows, rhododendron, Oregon grape and various grasses and forbs.

The South Fork watershed upstream from the project site was (and still is) a major wintering area for Roosevelt elk. Land surrounding the reservoir site also was used by elk during winter (R. Jubber, ODFW, pers. commun.). The elk would "make some use of the reservoir site" during severe winters (USFWS 1959). The elk usually did not migrate early enough to be in the project area during the hunting season. Black-tailed deer occurred in the reservoir area in "average" numbers (USFWS 1959). OSGC (1948) estimated 5 deer per square mile in the McKenzie watershed in 1948 (8 years prior to initiation of construction). According to R. Jubber (ODFW, pers. commun.), deer density was probably higher at the time of construction (1956) due to an increase in timber harvest and improved forage conditions in the drainage. Hunting pressure was "moderate" (USFWS 1959). A limited number of black bear inhabited the area.

The reservoir site supported beaver, otter, mink, raccoon, gray fox and skunk. USFWS (1959) reported that beaver were harvested in the greatest number.

The project area was inhabited by blue grouse, ruffed grouse, mountain quail and band-tailed pigeon. Grouse populations were "quite large" and supported "most of the hunting pressure" for upland game (USFWS 1959). OSGC estimated 4 grouse per square mile in the McKenzie watershed in 1948.

Quantitative information was not available for species other than deer and grouse. Nongame species were not mentioned in the literature on pre-construction conditions. This probably reflects the past emphasis of wildlife management on game species only. ODFW was not given legal jurisdiction over nongame species until 1971.

B. Post-Construction Period

(1) Available information

Reports providing information on wildlife after construction of Cougar Dam and Reservoir were not directed specifically toward wildlife impacts at Cougar. In 1965, USACE and USFS prepared a management plan for Cougar Reservoir, directed toward recreation. One paragraph considered

wildlife impacts. USACE (1973) published a final environmental statement on the "Operation of Cougar Lake Project and Construction of McKenzie River Salmon Hatchery." Four paragraphs included information on impacts to wildlife. A Cougar Lake master plan was published by USACE in 1974 (The Perron Partnership, P.C. 1974). Impacts to wildlife here not discussed. Information was provided on current use of the area by wildlife. In 1979, a general design memorandum/environmental impact statement for the proposed Strube Lake and Cougar additional unit was published by USACE. Impacts to wildlife as a result cf the Cougar Project were briefly considered. USACE published "An environmental impact statement on operations and maintenance of the Willamette Reservoir System" in 1980. Cumulative impacts of operation of the Willamette Reservoir System were discussed briefly. Post-construction aerial photos are available from USACE, USFS, and the University of Oregon Map Library. National Wetlands Inventory Maps do not include the Cougar area at the present time (D. Peters, USFWS, pers. commun.). The following information is based on the literature previously mentioned and on conversations with individuals knowledgeable of the Cougar area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

The Cougar project inundated 1,280 acres of wildlife habitat. Habitat for big game, upland game, furbearers and nongame animals in the impoundment area was eliminated or extensively altered. Habitat lost within the project area included riparian habitat and big game winter range. The habitat lost was "a significant amount of the available winter range for big game in this area" (USACE 1979). Elk usually winter on the mountains, buttes, and ridges east of the reservoir, then drop down into the creek drainage when the weather becomes severe (R. Jubber, ODFW, pers. commun.). According to USACE (1973), during severe winter weather elk, deer and several other species of mammals and birds "are forced down to the very edge of the reservoir".

Information regarding the effects of construction activities on wildlife was limited to potential illegal hunting by construction workers (OSGC and FCO 1948) and a discussion on the increase of deer on the reservoir site after clearing and prior to inundation (R. Jubber, ODFW, pers. commun.). Information on the impact of road construction as a result of the project was not available. Information was not available (without conducting a more detailed study) on specific wildlife habitat types and the amount of each habitat type affected by the project. No record of nongame species affected by the project was found. The number of game animals lost was not provided (density estimates for the McKenzie watershed were provided by OSGC in 1948 - eight years prior to initiation of construction). An evaluation of the significance of the loss of habitat for wildlife in quantitative or ecological terms was not available. It was not determined if the reservoir is a barrier to wildlife migration.

The reservoir is narrow and deep. The topography along the shoreline is steep with slopes often greater than 20 to 30% (USACE and USFS 1965).

These factors plus fluctuating water levels and annual drawdowns have prevented the natural establishment of aquatic and shoreline vegetation in the drawdown area. As a result, the reservoir has little value for nesting or feeding waterfowl. (USACE 1973; L. Agpoa, USFS; R. Denney, ODFW, pers. commun.).

USFWS (1959) predicted the shoreline area would receive limited use by mink, otter and raccoon and that the fluctuating water levels below the da.. would create "unfavorable conditions" for furbearers in that area. No quantitative information was available on the impacts of fluctuating dater levels.

Cumulative impacts as a result of the Willamette Reservoir System were predicted by USFWS and by OSGC in 1948 and were assessed by USACE 1980b) in an environmental impact statement. The most significant cumulative impact was probably the loss of wildlife habitat because of increased human development on the floodplains of the Willamette River. Human development was not possible prior to construction of the Willamette Reservoir System because of periodic flooding. Increased development has reduced wildlife habitat along the river from the dam site to Portland. Another cumulative impact is the reduction of wetland habitat previously created by seasonal flooding Upland habitat, winter range, riparian habitat, and wetland habitat have all been reduced as a result of the Willamette Reservoir System.

(3) Benefits

A limited number of waterfowl use the reservoir for resting during migration (USACE 1973). Hunting pressure is light (USACE 1973). According to R. Jubber (ODFW, pers. commun.), very few waterfowl (bufflehead, ruddy duck, merganser) use the reservoir. USFWS, USFS, and ODFW do not conduct waterfowl counts on Cougar Reservoir (L. Agpoa, USFS; J. Greer, ODFW, pers. commun.). It is estimated that no more than 100 birds use the reservoir at any one time (J. Greer, R. Jubber, ODFW, pers. commun.). There have been occasional sightings of Canada geese. ODFW considers Cougar Reservoir to have low potential for waterfowl use due to the drawdown and filling periods (Denney 1982).

(4) Additional information

The Cougar area was categorized into 5 major wildlife habitat types in the Master Plan (The Perron Partnership, P.C. 1974). Ten "ecosystem patterns" were discussed and the species likely to occur in them were listed. Data on abundance were unavailable in most cases. In their 1973 study, USACE estimated the density of big game, furbearers, upland game birds, hawks, owls and waterfowl within a 0.5 mile "radius" of the reservoir. It was not stated how these estimates were derived. A list of nongame birds in the area was provided. USFS has a species list for the Willamette National Forest (E. Harshman, USFS, pers. commun.).

Production, trend count, and harvest data are available from ODFW for big game in the McKenzie Wildlife Management Unit and for upland game in Lane County. Harvest data is available for furbearers in Lane County. This information is not specific to the project site. Deer trend count

information is available for Foley Ridge, an area about 10 miles from Cougar Reservoir and herd composition data are available for elk above the project site in the Upper South Fork of the McKenzie River drainage (J. Greer, ODFW, pers. commun.).

According to the USACE 1973 study, there were no rare or endangered species "known to be dependent on habitat in the project area." It was estimated that there were 2 bald eagles within a 0.5 mile "radius" of the reservoir. No bald eagle nests have been identified in the reservoir area (Isaacs and Anthony 1983). USFS has designated the area within 1 mile of the reservoir as potential bald eagle habitat (L. Agpoa, USFS, per-s. commun.). Cougar Reservoir is listed as a potential nesting area in the Pacific States bald eagle recovery plan (Pacific States Bald Eagle Recovery Team 1982). No bald eagles were observed at the project during the January 1983 mid-winter bald eagle survey (C. Bruce, ODFW, pers. commun.). Two bald eagles were observed near the reservoir in November 1983 (L. Agpoa, USFS, pers. commun.) Bald eagles are occasionally sighted foraging on or near the reservoir during the summer (L. Agpoa, USFS, pers. commun.). The overall effect dams have on bald eagle populations is not clear. Eagles may have benefited by construction of reservoirs if a greater year-round fish prey base occurred as a result (W. Haight, ODFW, per-s. commun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs in some areas.

There are 2 designated spotted owl management areas (SOMA's) near Cougar Reservoir (L. Agpoa, USFS; C. Bruce, ODFW, per-s. commun.). One SOMA is located on the west side of the reservoir and the other on the east. Spotted owls have been observed in other locations near the reservoir (C. Bruce, ODFW, pers. commun.).

There are currently 2 active osprey nests near the reservoir (L. Agpoa, USFS; J. Greer, ODFW, pers. commun.). Osprey use the reservoir as a foraging area.

USACE (1979) presented a list of endangered, threatened, rare, and unique species of wildlife that potentially were using the Strube Lake - Cougar Project area. Arctic and American peregrine falcon, northern bald eagle, northern spotted owl, wolverine, and western spotted frog were included. According to USACE (1983) "peregrine falcon and wolverine could be eliminated from that list". USACE considered the species list contained in the Fish and Wildlife Coordination Act report for the Strube Reservoir - Cougar Additional Unit Project (USFWS 1979) "much more appropriate".

Forest roads 163 and 1663 encircle the reservoir. Heavy logging traffic occurs on road 163, which parallels the South Fork of the McKenzie River. Recreational use of the area corresponds to fishing seasons and is heaviest from late April to the end of October (USACE and USFS 1965). Recreational use of the area also occurs in conjunction with deer and elk hunting, camping, picnicking, boating and swimming.

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

The U.S. Fish and Wildlife Service (1948) recommended mitigation measures for the Wiliamette Valley Project as a whole, including: a study of the effects of the project on upland game and furbearers, with a view to recommending feasible management practices beneficial to these animals; consideration of establishing a federal wildlife refuge at Fern Ridge; and land acquisition and development for waterfowl. OSGC (1948) proposed specific mitigation measures for the Willamette Valley Project, including increased law enforcement, feeding sites, marsh development, and furbearer research and management.

The general design memorandum for Cougar (USACE 1956) addressed the issue of wildlife as follows: "The present indications are that no special provisions will be required and that would entail expenditures of project funds for wildlife". In the report prepared by USFWS (1959) on wildlife resources affected by the Cougar Project, it was stated "all wildlife groups wi 11 be adversely affected to some degree, but there are no methods for compensating the losses". According to the USACE (1980b) EIS on the Willamette Reservoir System, "No mitigation was recommended by state or federal wildlife agencies for habitat lost to Corps reservoirs when the reservoirs were constructed."

Formal proposals for wildlife mitigation since the time of construction were not found in the references or from conversations with agency personnel. In the management plan for Cougar prepared by the USACE and USFS (1965) it was stated "Plantings of browse species preferred by deer would enhance recreational attractiveness by enticing animals into the area. This might be done in some of the openings created by timber cutting." Mention of mitigation in the Cougar area was found in a memo (comment from R. Jubber, ODFW, to A. H. Arp, Bureau of Sport Fisheries and Wildlife in a memo by Arp to RBS, PAO files, June 26, 1973 re: Cougar Lake - Offer of Draft copies of Master Plan Reports). It was stated "Big game (deer) use brushy areas along tributary streams for winter range. These areas should be preserved and if possible improved." It is not known if either of these measures were implemented. The vegetation and wildlife management plan (The Perron Partnership P.C. 1974) for the 220 acre operational area managed by the USACE included plantings for wildlife directly below the dam. it was recommended in the Master Plan (The Perron Partnership P.C. 1974) that secondary access roads be closed to vehicular traffic if they were not receiving much use. It was also recommended that a revegetation program be developed along the shoreline and the drawdown area for soil stabilization. This would benefit wildlife also. Mitigation measures were proposed for the Strube Lake and Cougar Additional Unit Project (USACE 1979) and could be implemented as part of a mitigation program for the Cougar Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

Not applicable to this project.

(2) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote tile conservation of wildlife, fish and game . . .." The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with U.S. Fish and Wildlife Service (USFWS) and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Federal development projects were required to contain adequate provision for "conservation, maintenance, and management of wilalife, resources thereof, and its habitat thereon," consistent with primary project purposes. This Act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be bdsed on impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The Cougar Project was required to comply with FWCA including the 1958 amendment. Although the 1958 amendment was enacted after initiation of construction of Cougar Dam and Reservoir, the amendment was applicable to projects not "considered to be substantially completed" ("sixty percent or more of the estimated construction cost has been obligated for expenditure"). Cougar was not 60% complete at that time (USACE 1958, 1959). The 1948 publications by USFWS and OSGC, and the USFWS 1959 report were prepared to meet the requirements of FWCA.

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that federal agencies consult with the Department of the Interior to ensure that federal actions would not jeopardize any threatened or endangered species. Since there have been no additions or major changes to the Cougar Project, no impact assessments or mitigation measures have been mandated during the operational history of the dam. An environmental impact statement was published by USACE in 1980 on "Operations and maintenance of the Willamette Reservoir System" (USACE 1980b) under authority of Public Law 91-190 (NEPA of 1969).

(3) MOU'S or other agreements

A Memorandum of Agreement (MOA) between the Secretaries of the Army and Agriculture dated 13 August 1964 covers the "management of land and water resources at water development projects of the Corps of Engineers located within or partly within" the National Forest System (The Perron Partnership, P.C. 1974; Appendix H). This MOA superseded an MOA dated 16 December 1946. Portions of the 1964 MOA affecting wildlife mitigation include:

a) USACE and USFS "will cooperatively plan the development, use and management of water resource projects as they relate to land resources.. .This planning will be pointed toward

achieving the maximum public benefits from each project and will delineate the procurement of necessary lands to assure meeting all foreseeable public needs for recreation, wildlife, and other use compatible with the primary purposes of the water storage facility."

b) "Water resource projects will be planned and operated to provide the greatest feasible public use for recreation, wildife and fish propagation, conservation of scenic and esthetic values, and the harmonious use of timber and other commodities consistent with the other water control and use purposes.

c) "In its construction activities, the Department of the Army will take all responsible precautions to prevent and suppress forest fires on and prevent any unnecessary damage to lands and resources associated with the project construction and to this end will collaborate with the Department of Agriculture in formulation of fire prevention and control plans and programs, location of access roads and relocation of transportation facilities, land clearing standards, and other matters essential to the protection of resources and conservation of the scenic and esthetic aspects of the reservoir environment." (The Perron Partnership, P.C. 1974, Appendix H).

At the present time, management of USACE Cougar Project lands by USFS (80 acres) and National Forest lands necessary for the operations of project facilities are "through mutual agreement" between USACE, Portland District and USFS, Willamette National Forest (USACE 1983). "Formal agreement is pending the submittal and approval of a Memorandum of Understanding between the two agencies by their higher authorities in Portland and Washington, D.C." (USACE 1983). This MOU "will be prepared following the principles and policies" of the 1964 MOA (USACE 1983). A MOU dated 10 May 1957 and 5 supplemental MOU's were found but primarily dealt with construction and operation of roads, trails and service facilities.

C. Mitigation Implemented

No wildlife mitigation measures were implemented to lessen the impact of the inundation of 1,280 acres of wildlife habitat (USACE 1979). Current and past personnel with USACE, USFS, and ODFW were not aware of any mitigation enhancement or protection measures that have been implemented by USACE to offset impacts to wildlife resulting from project construction or operation (P. Peters, USACE; M. Stegmeier, USACE; E. Harshman, USFS; L. Agpoa, USFS; D. Cleary, ODFW; J. Greer, ODFW; N. Behrens, ODFW; R. Jubber, ODFW; R. Carleson, ODFW, pers. commun.).

Although not as part of a mitigation program, USFS has conducted programs that benefit wildlife. USFS seeded 2 acres at the upper end of the reservoir with sedge in 1967. This planting is now a "fully closed stand" of sedge (D. Skeesick, USFS, pers. commun.).

VI. CURRENT STUDIES AND PLANNING

At the present time, no plans have been prepared by USACE for wildlife mitigation, enhancement or protection to directly offset impacts to wildlife as a result of the Cougar Project (L. Agpoa, USFS; J. Greer, OXW; C. Bruce, ODFW, P. Peters, USACE; M. Stegmeier, USACE pers. commun.). Current studies and planning for wildlife mitigation and protection specific to Cougar are limited to the bald eagle recovery plan. Cougar Reservoir was designated as a potential nesting area in the Pacific States bald eagle recovery plan (Pacific States Bald Eagle Recovery Team 1982). Consistent with this plan, USFS is considering habitat protection for 2 nesting pairs of eagles. The method of providing bald eagle habitat is being studied (C. Bruce, ODFW, pet-s. commun.).

Other studies and planning being conducted in the Willamette Valley and State of Oregon could eventually affect management in the Cougar area. USFS is studying the spotted owl and old growth forest management, and is currently conducting studies at Blue River, Lookout Point, and Hills Creek reservoirs to determine which plant species will survive under fluctuating water conditions (Skeesick 1983). ODFW is developing several management plans including a big game plan in the McKenzie Wildlife Management Unit, a statewide nongame plan, and cooperative waterfowl management plan for the Willamette Valley. A radio tagging study designed to provide information on migration routes and winter range of elk in the Cascade Range has been initiated by ODFW. This information could document use of the project area by elk and indicate the most suitable locations for mitigation, enhancement, or protection (D. Cleary, ODFW, pers. commun.).

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Karen Bedrossian
Dan Carleson
Jim Noyes
Mary Potter

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

G. Dorsey
R. Duncan
K. Dzimbal
P. Peters
M. Stegmeier
R. Willis

(2) Summary of Project Operator Contacts

Date	Individual	Summary
23 June 1983	R. Willis Portland District	Phone. Informal discussion on Cougar.
27 June 1983	R. Willis	Meeting. Informal discussion of Willamette Projects.
June 1983	P. Peloquin North Pacific Div.	Phone. R. Giger provided information on project, requested contacts.
1 July 1983	R. Duncan P. Peloquin	R. Giger sent letter to USACE providing information and requesting contacts.
20 July 1983	G. Dorsey Portland District (designated contact person)	Phone. Set up meeting. Requested information and documents on Cougar.
21 July 1983	G. Dorsey	Initial contact and coordination meeting. Obtained information on Cougar.
26 July 1983		Operator contact meeting arranged by R. Giger. P. Peloquin represented USACE in Spokane.
8 August 1983	G. Dorsey	Meeting. Discussion of projects and obtained information.

14 September 1983	G. Dorsey	Phone. Obtained information.
20 September 1983	G. Dorsey	Meeting. Discussion of reports and obtained information.
3 October 1983	G. Dorsey	Phone. Discussion of reports.
14 October 1983	P. Peloquin K. Dzimbal	Meeting. Wildlife mitigation at Willamette Valley Project.
20 October 1983	K. Dzimbal	Meeting. Discussion of reports and projects.
2 December 1983	G. Dorsey	Phone. Discussion of reports, reinitiation of contact and coordination.
9 December 1983	G. Dorsey K. Dzimbal	Meeting. Reinitiation of contact and coordination. Obtained information on MOU's and MOA's.
13 December 1983	G. Dorsey	Meeting. Obtained information on MOU's.
5 January 1984	P. Peters Mid-Willamette Project Office	Phone. Requested information on wildlife mitigation, enhancement and protection at Cougar.
5 January 1984	M. Stegmeier Former Resource Mgr. Mid-Willamette Valley Project Office	Phone. Requested information on wildlife mitigation, enhancement and protection at Cougar.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

N. Behrens
C. Bruce
R. Carleson
D. Cleary
R. Denney
J. Greer
R. Jubber

U.S. Fish and Wildlife Service

H. Haid
M. Yoshinaka
D. Peters

U.S. Forest Service

L. Agpoa
J. Caswell
E. Harshman
D. Skeesick

Other

S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 7 FEBRUARY 1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (USFWS and USFS)

(3) Tribes

No tribes are involved with the actions taken at the Cougar Project.

(4) Facility operator (USACE)

BPA requested comments on the 7 February 1984 Cougar draft report by 9 April 1984. Comments by USACE were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife

506 SW MILL STREET. P.O. BOX 3503. PORTLAND. OREGON 97200

April 2, 1984

APR 09 1984

No explanations or report modifications necessary.

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Dear Mr. Palensky:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Cougar Wildlife Mitigation Status Report and our attached comments on that report indicate, comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency. Knowledge of wildlife resources and legal mandates have changed since the Willamette Valley projects were constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of animal populations and habitat. The Willamette Valley projects have high priority due to the high value of wildlife resources involved.

In recognition of our increased responsibilities to address a broad range of concerns, I strongly urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we must proceed with a mitigation plan based on a comprehensive assessment of wildlife impacts at the Cougar Project. The Department is prepared to take the lead in this endeavor using: 1) the expertise of biologists from various agencies; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the Cougar Project.

Sincerely,

for John R. Donaldson, PhD
Director

JRD:aj
Encl.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Cougar Dan and Reservoir
April 2, 1904

These comments respond to a request from James R. Meyer, Bonnevllle Power Administration, dated 13 March 1904 to review the Mitigation Status Report for Cougar Dam and Reservoir.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall bc managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any Indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to animal populations and habitat result from project construction and operation These policies are consistent with the Power Act dnd Wildlife Program purpose "to protect, mitigate and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries...." This goal has yet to be achieved at the Cougar Project.

The Cougar Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from the construction of the dam was not comprehensive. This is evident by the lack of information available regarding the impact Of road construction the types and amounts of habitat inundated, and the nongame species affected by the project. No project specific population estimates were made. The significance of the inundated habitat to wildlife has not been fully explored. Even though impact assessment has not been adequate, It is obvious that substantial impacts occurred to wildlife as d result of the Cougar Project, considering acreage of habitat inundated (which Included riparian habitat dnd big game winter rdnge). The status report indicates no substantial mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In evaluating the effects of the Willamette Valley Projects, we should not overlook the cumulative effects of the entire Wlllamette Valley Reservoir System. Although consideration of the overall system may be beyond the bounds of this portion of the NPPC wildlife program, the impact on wildlife cannot be ignored. The development of the former flood plain could not hdve been possible without the reservoir system. Extensive revetment and riprap work has been done on the Wlllamette River, effectively eliminating riparian habitat and cutting off oxbows dnd side channels. Wetlands hdve been drained and other productive wildlife habitats have been lost to development,

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

The Cougar Project should be considered in context with the other dams and reservoirs in the system and their cumulative impact on wildlife taken into account.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the hydroelectric generating facilities at the Cougar Project, it is necessary to determine what impacts occurred. Upon the approval of and funding by the Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Cougar Project and to prepare a net impacts statement. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with appropriate agencies involved in the Cougar Project, is of course, an integral part of both of these processes. We believe that a workable net impacts statement and mitigation plan can be developed based on existing information, and the expertise of biologists from the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has greatly improved since the time of construction of the Cougar Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife wants to see that opportunity realized to the fullest degree possible in a timely, effective, and cost-effective manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary

USFWS Comments:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
LLOYD 500 BUILDING, SUITE 1692
500 N.E. MULTNOMAH STREET
PORTLAND, OREGON 97232

APR 12 1984

April 9, 1984

Mr Peter Johnson, Administrator
Bonneville Power Administration
Attention! James Meyer
P. 0. Box 3621
Portland, Oregon 97208

Dear Mr. Johnson:

As requested in Mr. Meyer's 1etter of March 13, 1984, we have reviewed the Wildlife Mitigation Status Report for Cougar Dam and Reservoir. The following comments are being provided for inclusion in the final report.

General Comments

We believe the report is well written and adequately describes the status of past, present,and proposed wildlife mitigation for the Cougar Project.

Based on the report's content it is evident that the construction and operation of the project has resulted in substantial adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore,the service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Cougar Project on wildlife resources and 2) based on the findings of that evaluation develop a mitigation and enhancement plan which would fully compensate the adverse wildlife Impacts attributable to the Cougar Project.

The Service has the necessary expertise and would like to participate in both the Impact evaluation and mitigation plan development tasks.

Specific comments

A comprehensive evaluation of Cougar Project's Impact on wildlife resources should be conducted by a team of qualified biologists composed of representatives from appropriate state and federal resource and development agencies. These include the Oregon Department of Fish and Wildlife Army Corps of Engineers, U.SForest Service,and Fish and Wildlife Service. We

Explanations or Modifications:

No explanations or report modifications necessary.

USFWS Comments (cont.):

suggest the evaluation be habitat based and supported by population data when available. We believe that such an evaluation could be accomplished with a minimum of new data collection by:1) analyzing the existing data referenced in the status report such as pre- and post-construction photography, and 2) consultation with professional wildlife biologists familiar with the area's wildlife resources as they existcd prior to project construction The evaluation's results should be presented in an impact assessment report.

Utilizing the results from the aforementioned Impact statement, we believe that the same team of biologists with assistance from their agencys' respective habitat specialists, should develop a mitigation plan. The plan, if implemented, would be designed to fully compensate the adverse wildlife impacts identified.

In addition to assessing the direct impacts,we strongly believe the cumulative effects of this and the other Willamette Valley Reservoirs should be evaluated. The extensive development that has occurred along the Willamette River's flood plain has significantly reduced a variety of wildlife habitat. and related resources That development and resultant wildlife losses would have been considerably less without the construction and operation of Cougar and the other major Willamette Basin projects. Although this level of impact evaluation may go beyond the intent of Section 1004 measures, the inpacts are partially attributable to hydropower development and should be addressed by the Power Planning Council.

In conclusion, we believe no single agency or user group is responsible for the adverse wildlife impacts which have resulted from the development and operation of Cougar Dam and Reservoir. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under preseent state and federa1 laws, regulations, and policies. Unfortunatley, these legal mandates which today provide for the protection of our wildlife resoureces were not as strong when the Cougar Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

Richard J. Myshak

Richard J . Myshak
Regional Director

Explanations or Modifications (cont.):

No cxplanatlons or report modifications necessary.

USFS Comments:

Explanations or Modifications:

United States Department of Agriculture
Forest Service
Willamette National Forest
211 East Seventh Avenue
P.O. Box 10607
Eugene, OR 97440

7630
April 20 1984

Mr. Jim Meyer
Bonneville Power Administration
Box 12999
Portland, OR 97212

Dear Mr. Meyer:

Our review of the five Wildlife Mittgation Status Reports prepared by the Oregon Department of Fish and Wildlife indicates. for the most part. that the reviews are factual and complete. Our comments are meant to clarify the reports, rather than challenge the contents.

Under category IV B (2) Losses: Conspicuous by their absence are references to cougar, bobcat, and wolverine. As a minimum, the status report should address each species listed as Threatened or Endangered by the Federal Government or Threatened by the Oregon Department of Fish and Wildlife.

Information was limited regarding project impacts on wildlife, particularly nongame species. See Sections IV.B.(2) dnd IV.B.(4). When information was available on these species, it was provided in the status report.

Under category III D (2) the narratives indicate the USDA Forest Service manages 11,375 acres of project lands above the pool areas. We cannot verify this acreage, but assume your sources are correct. However, for clarification, only 3,679 acres are owned by the U.S. Army Corps of Engineers. The remainder are, and always have been National Forest lands.

Acreages were provided by USACE

The "mutual agreement" statements in category V B (3) for Hills Creek and Cougar Reservoirs only apply to U.S. Army Corps of Engineers lands managed by USDA Forest Service (Cougar = 80 acres and Hills Creek = 265 acres) and to National Forest lands necessary for the operations of the project facilities. The rest of the "project lands" are National Forest lands end are managed without U.S. Army Corps of Engineers involvement.

Cougar report modified as suggested. See Section V.B.(3). See Hills Creek report appendix.

For continuity of information, you may wish to modify the Detroit Reservoir narrative category V B (3) to include the information that USDA Forest Service manages 1,839 acres of land above pool level that is owned by U.S. Army Corps of Engineers.

See Detroit status report.

Under Category V C, MITIGATION IMPLEMENTED: Please delete all references to plantings recently completed by USDA Forest Service. Those planttngs are part of a project whose entire thrust is to develop technology--not to mitigate for the project. We believe the topic should be included under Category VI, CURRENT STUDIES.

Report modified as suggested. See Sections V.C. and VI

USFS Comments (cont.):

2

Project specific comments are as follows:

Detroit: Page 2, Item (2), lines 6 and 7: Dcletc "and Dig Cliff Reservoir (141 acres)."

Page 9, Item VI, paragraph 2, liner 5 and 6: Delete H. Lcgard USFS, pers. commun.). Replace with (Skeesick, 1983).

Page 10, add the following reference: Skecslck, O.G., 1983. Development of Technology and Methodoloav for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. dnd Appendix.

Hills Creek: Page 6, Item (4) paragraph 1: Replace entire paragraph with: two spotted owl management areas (SOMA's) are located wlthln I mlle of the east side of the reservoir.

Page 9, Item VII A, paragraph 1, line 2: Delete USACE, line 9: delete (H. Lcgard. USFS. pers. commun.). Replace with (Skeesick. 1983).

Page 11, add the following reference: Skeeslck, D.G.. 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegctatlon in Reservoir Drawdown Zones. USDA Forest Service, Wlllamettc National Forest, Eugene, Oregon. 39 pp. plus Appendlx.

Lookout Point: Page 3, Item (2), paragraph 2, line 8: mld-1980's is wrong time period.

Page 5, paragraph 3. lines 6-8: Sentence should be expanded to include the fact that elk forage on available vegetdtton exposed durlng drdwdom.

Page 6, Item (4), paragraph 2. line 4: Statement is incorrect: An active bald eagle (Federal Threatened Species) nest exists midway along the reservoir (USFS 1981). Two Spotted Owl Management Areas (SOMA's) are located within a mile of the reservoir.

Page 9. Item C, lines 6-10, Aerial seeding wds not done as mitigation for the project. It was accomplished to Improve production on USDA Forest Service lands.

Page 11 add the following references: Skeesick, D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Explanations or Modifications (cont.):

USFS Comments (cont. :

3

USDA Forest Service, 1981. Environmental Assessment Report Crale Creek Bald Eagle Management Area. Willamette National Forest, Lowell Ranger District, Lowell, Oregon. 51 pp. plus appendix.

Cougar: Page 10 tem V A, paragraph 2, ne 4: Delete USACE.

Line 6: Include the following reference: (Skeesick, 1983).

Page 11, add the following references: Skeesick, D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Wi lamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Any questions regarding suggested changes to the status reviews may be directed to Delbert Skeesick (FTS 425-6699).

Thank you for the opportunity to review and comment on the wildlife mitigation status reports.

Sincerely,

for MICHAEL A. KERRICK
Forest Supervisor

cc: Horn, RO
Skeesick, SO

WP00·M26A40.F7

Explanations or Modifications (cont.):

Report mod f d as suggested. See Section IV.

Report mo ω f d See Section VI.

Report modif ed See Section VII.

Wildlife Mitigation Status Report

LOOKOUT POINT DAM AND RESERVOIR PROJECT

Prepared by:

K. L. Bedrossian
R. D. Carleson
J. H. Noyes
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Lookout Point Dam and Reservoir Project (originally called "Meridian").

II. PROJECT OPERATOR

U.S. Army Corps of Engineers (USACE)

III. PROJECT DESCRIPTION

A. Location and Size

Lookout Point Dam and Reservoir are located in Lane County, Oregon approximately 22 miles southeast of Eugene on the Middle Fork of the Willamette River at river mile 21.3 (USACE 1982). The upper half of the reservoir is surrounded by the Willamette National Forest and small parcels of private land. The lower half of the reservoir is surrounded by private, corporate and public property. The main access route is State Highway 58 which borders the south side of the reservoir.

The project structure is an earth-and-gravel-fill dam with a concrete spillway about 3,381 feet long at the crest and 258 feet high. There are 3 Francis turbines with a total generating capacity of 120,000 kilowatts (USACE 1982). At full pool level the reservoir surface area is 4,255 acres, 14.2 miles long, with a maximun width of 1 mile (USACE 1983).

B. Authorized Purposes

Flood control was the primary purpose of Lookout Point Dam and Reservoir. Other purposes included power generation, irrigation, navigation, pollution abatement, domestic water supply, and maintenance of minimum stream flows to aid fish life (USACE 1955a).

C. Brief History

Authorization of Lookout Point Dam was provided by the Flood Control Act of 1938. This Act was modified by the Flood Control Act of 1950 to include power generating facilities at the dam and authorize construction of Dexter re-regulating dam. Construction of both Lookout Point and Dexter began in 1947. The reservoirs were in full operation for flood control during the 1954-55 flood season. The first power unit at Lookout Point was put into operation December 1954. The two remaining power units and the Dexter power plant were put into operation in 1955, and the project was considered to be "essentially completed" that year (USACE 1955b).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The main use of power generation at Lookout Point is for peaking purposes. The flood control season is from 1 December to 31 January, followed by conservation storage filling from 1 February to 10 May

and conservation holding and release from 11 May to 30 November (USACE 1980b). Maximum pool elevation is 934 feet; minimum power pool elevation is 819 feet (USACE 1980a). The reservoir has a vertical draw-down of about 118 feet and fluctuates between 1,860 and 4,360 surface acres (USACE 1955a).

(2) Land ownership

The project area includes approximately 8,543 acres of land (USACE 1983). USACE controls the water surface of the reservoir (4,255 acres), lands required for project operation, and other project lands outside of the National Forest boundary (2,083 acres). The U.S. Forest Service (USFS), under a Memorandum of Understanding with USACE, manages 2,205 acres of project land adjacent to the reservoir within the forest boundaries, not required for project operation (USACE 1955a, 1983; L. Klenke, USACE, pers. commun.). Oregon Department of Fish and Wildlife (OOFW) is responsible for management of wildlife within the State of Oregon (ODFW 1982) including the project area (USACE 1955a) and serves in an advisory capacity to the USFS regarding activities such as timber sales and other forest management. The reservoir and land north of Highway 58 lie within ODFW's McKenzie Wildlife Management Unit. Lands south of Highway 58 are located in the Indigo Unit. USFS and USACE are responsible for management of the habitat. The upper half of the reservoir is located in the USFS Lowell Ranger District.

(3) Indian rights

No tribes are involved with the actions taken at the Lookout Point Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Information on pre-construction conditions was obtained from written reports, project files, and conversations with appropriate individuals. Pre-construction aerial photos are available from USACE and the University of Oregon Map Library. Three reports provided information on conditions prior to construction and predicted impacts to a limited number of wildlife species. Big game, upland game, waterfowl and fur-bearers were considered. The Oregon State Game Commission (OSGC) and the Fish Commission of Oregon (FCO) published a report in 1948 entitled "Fish and wildlife problems arising from the Willamette Valley Project." The report provided an evaluation of "the effects and losses... to various game and fur animal species," and presented "recommendations concerning methods of mitigating losses" as a result of the Willamette Valley Project. Potential impacts were addressed briefly by watershed. U.S. Fish and Wildlife Service (USFWS) published a report in 1948 entitled "Willamette Valley Project Oregon, preliminary evaluation report on fish and wildlife resources." The effects of the entire Willamette Valley Project on wildlife were considered. A report written by S.D. Beckham and K.A. Toepel (1982) for USACE entitled "Historic use

of six reservoir areas in the Upper Willamette Valley, Lane County, Oregon," addressed settlement and development of the reservoir areas, with brief reference to wildlife resources at the time. The following information is based on these reports and conversations with the ODFW wildlife biologist in the Lane District from 1956 to 1981 (R. Jubber). Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The terrain near the reservoir site varies from gentle to steep, mostly from a 5 to 30% grade. The area surrounding the project site is predominantly coniferous forest. It was estimated that the reservoir site was 20% cultivated or pasture land and 80% consisted of a dense cover of conifers, deciduous trees, and brush (USACE 1955a). The principal forest species were Douglas fir, western hemlock, and western red cedar. Oak, Oregon maple, dogwood and alder were found throughout the area. Common understory vegetation included salal, vine maple, sword fern, Oregon grape, huckleberry and rhododendron (USACE 1955a). Much of the land outside of the Willamette National Forest was heavily logged. At the time of construction, unforested land in the impoundment area was used for stock grazing or growing feed crops (alfalfa and corn). Most of the farm and grazing land in the project area was located in the valley floor. Inundation of Lookout Point and Dexter reservoirs displaced approximately 150 families and flooded 3 towns. (Beckham and Toepel 1982).

Big game inhabiting the reservoir site before construction included black-tailed deer and black bear (USACE 1955a). OSGC (1948) estimated 5 deer per square mile on the Middle Fork of the Willamette River. There was no mention in the literature of elk in the project area at the time of construction. According to Beckham and Toepel (1982), settlers in the project area depended upon elk and deer for food, indicating the presence of both these species in the area during the mid-1880's.

Rabbit, raccoon, muskrat, mink, otter, beaver and skunk inhabited the reservoir area (USACE 1955a). Density and harvest data were not available for these species.

Upland game included blue and ruffed grouse, and ring-necked pheasant (USACE 1955a). OSGC (1948) estimated 4 grouse per square mile on the Middle Fork of the Willamette River.

Use of the area by waterfowl was considered negligible by OSGC (USACE 1955a). "A few" resident mallards and wood ducks inhabited the area (USACE 1955a).

Quantitative information was not available for species other than deer and grouse. Nongame species were not mentioned in the literature on pre-construction conditions. This probably reflects the past emphasis of wildlife management on game species only. ODFW was not given legal jurisdiction over nongame species until 1971.

B. Post-Construction Period

(1) Available information

Reports providing information on the Lookout Point Project after construction were not directed specifically toward wildlife impacts. The master plan for "reservoir management and public use development" for the Lookout Point Project (including Dexter), published in 1955 by USACE, was directed toward recreation. Wildlife conditions immediately after construction were briefly addressed. In the mid-seventies USACE (undated) published a vegetation and wildlife management plan which was part of a document entitled "Recreation - resource management appendices, Lookout Point Lake, master plan design memorandum." This report provided guidelines for protection and preservation of project resources to maintain aesthetic, ecological and recreational values. The Willamette Basin Task Force of the Pacific Northwest River Basins Commission published in 1969 "The Willamette Basin comprehensive study of water and related land resources." The task force addressed preferred habitats and general distribution of big and small game, waterfowl, furbearers, and selected nongame species in the Willamette Basin. Potential methods for increasing hunting opportunities in the Basin and recommendations for uses of water and related land resources were presented. USACE (1980b) published "An environmental impact statement on operations and maintenance of the Willamette Reservoir System" which briefly discussed cumulative impacts of operation of the reservoir system. Jones and Jones, in 1983, drafted a "Master plan for resource use, Phase I, Upper Willamette Valley Project" for USACE. The draft contained an updated inventory of soil and vegetation types, sensitive lands, wildlife use patterns, and potential development, protection, mitigation or enhancement at the project. Post-construction aerial photos are available from USACE and the University of Oregon Map Library. The following information is based on the literature previously mentioned and conversations with individuals knowledgeable of the Lookout Point area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Lookout Point Reservoir inundated 4,360 acres (USACE 1955a). Habitat for big game, upland game, furbearers and nongame animals in the reservoir area was eliminated or extensively altered. Habitat lost included riparian habitat and big game winter range. The impoundment area was removed from production but according to the USACE (1955a) report, the OSGC stated "adequate habitat is available for these species to move into." This assessment reflected USFWS and OSGC concerns regarding public access and maximized recreational opportunities during this era (USACE 1955a; J. Harper, ODFW, pers. commun.) but is not supported by current theory regarding wildlife/habitat interactions. OSGC estimated an average of 5 deer per square mile on the Middle Fork and predicted that Dexter and Lookout Point reservoirs would "displace habitat for about 40 deer" (USACE 1955a).

There is no mention in the literature of elk in the project area at the time of construction. Historical records indicate elk were in the area during the mid-1800's (Beckham and Toepel 1982). Elk were transplanted into the area around 1970 (R. Jubber, ODFW, pers. commun.). It is estimated that 60 to 70 elk now winter above the reservoir (J. Greer, ODFW, pers. commun.). It is likely that the elk would use the reservoir site during the winter if it had not been inundated, since elk forage on vegetation exposed during drawdown. (D. Carleson, J. Greer, R. Jubber, ODFW; D. Skeesick, USFS, pers. commun.).

OSGC estimated an average of 4 grouse per square mile on the Middle Fork and predicted that Dexter and Lookout Point reservoirs would displace about 32 grouse (USACE 1955a). Stream habitat for furbearers was eliminated (OSGC and FCO 1948). Use of the reservoir by furbearers is minimal because of the fluctuating water levels. Fluctuating water levels have prevented the natural establishment of aquatic and shoreline vegetation. As a result, the reservoir has little value for nesting or feeding waterfowl (USACE 1955a, Denney 1982).

Information regarding the effects of construction activities on wildlife was limited to potential illegal hunting by construction workers (OSGC and FCO 1948). Information on the impacts of road construction and railroad relocation as a result of the project was not available. Information was not available, without conducting a more detailed study, on specific habitat types and the amount of each habitat type affected by the project. Documentation of nongame species affected by the project was not found. An estimate of the number of animals lost was provided only for deer and grouse. The ecological significance of wildlife habitat alteration was not evaluated. It was not determined if the reservoir is a barrier to wildlife migration.

Cumulative impacts as a result of the Willamette Reservoir System were predicted by USFWS and by OSGC in 1948 and were assessed by USACE (1980b) in an environmental impact statement. The most significant cumulative impact is probably the loss of wildlife habitat because of increased human development on the floodplains of the Willamette. Human development was not possible prior to construction of the Willamette Reservoir System because of periodic flooding. Increased development has affected wildlife habitat along the river from the dam site to Portland. Waterfowl and other wildlife species were further affected by the loss of overflow and standing waters previously created by seasonal floods. Upland habitat, winter range, riparian habitat, and wetland habitat have all been reduced as a result of the Willamette Reservoir System.

(3) Benefits

A small number of Canada geese nest on rocky knobs around the reservoir and some may use the reservoir throughout the year (J. Greer, ODFW, pers. commun.). Waterfowl migrating between the Willamette Valley and the Klamath Basin use the reservoir for resting during migration. During average years less than 200 ducks use the reservoir at any one time (R. Jubber, ODFW, pers. commun.).

(4) Additional information

According to W. Dugas (USFS, pers. commun.), both bald eagles and ospreys probably benefited by construction of the reservoir. The effect dams have on bald eagle populations is not clear. Eagles may have benefited by construction of reservoirs if a greater year-round fish prey base occurred as a result (W. Haight, ODFW, pers. commun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs.

One active bald eagle nest is located near Lookout Point Reservoir (USFS 1981, Isaacs and Anthony 1983). Another nest site may be associated with the reservoir; however, this has not been confirmed (K. Johnson, USFS, pers. commun.; Jones and Jones 1983). Four bald eagles were observed at Lookout Point Reservoir during the January 1982 mid-winter bald eagle survey (W. Haight, ODFW, pers. commun.). Eleven bald eagles were observed at Dexter and Lookout Point during the 1983 mid-winter survey. According to K. Johnson (USFS, pers. commun.), 5 or 6 eagles have been seen at Lookout Point Reservoir in the winter. Osprey use the reservoir for foraging during spring and summer. Two active osprey nests and 4 inactive osprey nests were observed near the reservoir' in"1983 (C. Bruce, ODFW, pers. commun.; Jones and Jones 1983).

Sensitive lands, soil types and vegetation types on the project site have been mapped by Jones and Jones and are available in their review draft (1983). The draft also provides information on wildlife use patterns at the project. Other than bald eagles, no rare, threatened or endangered species were identified by Jones and Jones (1983) in the habitat surrounding the lake. Spotted owl habitat has been designated on USFS land within a mile of Lookout Point reservoir (C. Bruce, ODFW; D. Skeesick, USFS, pers. commun.).

State Highway 58 and the Southern Pacific railroad line closely border the reservoir on the south shore. There is log truck traffic on the county road on the north shore. Visitor attendance at Lookout Point is less than half that at nearby Dexter Reservoir. Major activities involve sightseeing and fishing. Peak attendance at the reservoir is from April through August (Jones and Jones 1983).

ODFW publishes wildlife production inventories, herd composition, trend counts and harvest data in the Wildlife Division annual report. These data are available by region, county, or wildlife management unit. The information is not specific to the project site.

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

USFWS (1948) recommended mitigation measures for the Willamette Valley Project as a whole, including: a study of the effects of the project on upland game and furbearers, with a view to recommending feasible management practices beneficial to these animals; consideration of establishing a Federal wildlife refuge at Fern Ridge; and land

acquisition and development for waterfowl. OSGC (1948) proposed specific mitigation measures for the Willamette Valley Project which included increased law enforcement, feeding sites, marsh development, and furbearer research and management.

According to the USACE (1980b) EIS on the Willamette Reservoir System, "No mitigation was recommended by state or federal wildlife agencies for habitat lost to Corps reservoirs when the reservoirs were constructed." The 1955 USACE Master Plan stated "No wildlife development is planned." Limited mitigation measures were recommended by OSGC and USFWS for the Lookout Point Project (USACE 1955a). Both agencies recommended further studies of areas suitable for wildlife habitat development (USACE 1955a). OSGC stated "limited food plantings for waterfowl may be possible depending on how operations develop". It was stated that OSGC was conducting studies at existing and proposed Willamette Basin projects (USACE 1955a).

The vegetation and wildlife plan for Lookout Point (USACE undated) stated that when additional vegetation was planted, consideration would be given to the value of the plantings for wildlife. This plan also mentioned the need for an adequate inventory and description of the wildlife resources at Lookout Point.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

Not applicable to this project.

(2) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife, fish and game...." The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with USFWS and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Federal development projects were required to contain adequate provision for "conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon," consistent with primary project purposes. This Act was named FWCA on 12 August 1958, at which time an amendment was added stating that "wildlife conservation shall receive equal consideration and be coordinated with other features of water resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The Lookout Point Project was not required to comply with the 1958 amendment since the project was completed and in full operation by 1955. The 1948 publications by USFWS and the OSGC were prepared to meet the requirements of the I938 Act and 1946 Amendment.

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that federal agencies consult with the Department of the Interior to ensure that federal actions would not jeopardize any threatened or endangered species. Since there have been no additions or major changes to the Lookout Point Project, no impact assessments or mitigation measures have been mandated during the operational history of the dam. An environmental impact statement was published by USACE in 1980 on "Operations and maintenance of the Willamette Reservoir System" (USACE 1980b) under authority of Public Law 91-190 (NEPA of 1969).

(3) MOU's or other agreements

A Memorandum of Agreement (MOA) between the Secretaries of the Army and Agriculture, dated 13 August 1964, covers the "management of land and water resources at water development projects of the Corps of Engineers located within or partly within" the National Forest System. This MOA superseded an MOA dated 16 December 1946.

A Memorandum of Understanding between USACE and USFS dated 28 July 1955 established management responsibility for Lookout Point project lands lying within the Willamette National Forest boundary. USACE was given exclusive control of all waters, and land beneath and adjacent to the water for functions related to project operations. USFS may authorize the use and occupancy of project lands located within the Forest boundary.

C. Mitigation Implemented

No documentation was found of mitigation, enhancement or protection measures implemented by USACE at the Lookout Point Project to offset impacts to wildlife resulting from construction or operation of the project. No documentation was found of the upland game and furbearer studies, land acquisition and development, marsh development, or feeding site development measures at Lookout Point Dam and Reservoir mentioned in Section V. A.

Although not as part of a mitigation program, USFS and ODFW have conducted programs to benefit wildlife at Lookout Point. According to K. Johnson (USFS, pers. commun.), approximately $600 worth of planting for big game was conducted by USFS in 1968. There currently is no trace of the plantings. An aerial seeding and fertilization program was conducted by ODFW and USFS over a 4-year period in the mid-seventies to improve production on Forest Service lands (D. Cleary, ODFW; D. Skeesick, USFS, pers. commun.). During this program a legume mixture was seeded on approximately 150 acres of clearings on the north side of the reservoir. ODFW seeded 15 acres at the upper end of Lookout Point reservoir to annual ryegrass in late September, 1983 (D. Cleary, ODFW, pers. commun.). Since the grass will be inundated in the spring, the seeding has no permanence. Sedge plantings were made in early 1984 at the upper end of the reservoir below the high water level by volunteers under the guidance of the Lowell Ranger District (D. Skeesick, USFS; J. Greer, ODFW, pers. commun.).

VI. CURRENT STUDIES AND PLANNING

USFS is currently conducting trial plantings at Blue River, Lookout Point and Hills Creek reservoirs to determine which plant species will grow under fluctuating water conditions, establish viable methods to conduct plantings, and monitor use of the plants by wildlife (D. Skeesick 1983). An August 1983 environmental assessment by the Willamette National Forest on flood control reservoirs vegetative planting proposed three alternatives for Lookout Point. These included the present course of minimal effort, plantings of non-woody vegetation, or plantings of woody and non-woody vegetation. The third alternative was preferred by USFS as having the most benefit to the widest number of wildlife species. USFS plans to continue trial plantings as money is available (D. Skeesick, USFS, pers. commun.).

ODFW intends continuation of mudflat seeding, but this program is contingent upon the period of drawdown. Suitable mudflats must be exposed before 1 October for effective seeding and growth (D. Cleary, ODFW, pers. commun.).

The Pacific States Bald Eagle Recovery Plan addressed statewide management of the bald eagle population. One known territory has been identified at Lookout Point, and 2 potential sites have been designated (Pacific States Bald Eagle Recovery Team 1982).

In the draft stage is a master plan for resource use of the Upper Willamette Valley Project prepared by Jones and Jones (1983) for the USACE, Portland District. The draft identified prairie grassland (remnants of the grasslands created by Indian burning of the valley floor) and old growth timber as sensitive habitats and recommended preserving them where they exist on project lands. Other recommendations included maintenance of nesting and roosting trees and buffer zones around these trees; construction of nest boxes; retention of some brush piles, downed logs and dead and woody material; maintenance of existing snags; provision of forage areas for upland and big game; increased vegetative diversity; provision of constant water levels in appropriate riparian and marsh areas; and restriction of human activities to marginal or less important wildlife areas.

Other studies and planning being conducted in the Willarnette Valley and State of Oregon could eventually affect management in the Lookout Point area. USFS is studying the spotted owl and old growth forest management. ODFW is developing several management plans including big game management plans for the McKenzie and Indigo Wildlife Management Units, a statewide nongame plan, and a cooperative waterfowl management plan for the Willamette Valley. A radio tagging study on Cascade Range elk has been initiated by ODFW. The study should provide information on elk migration routes and winter ranges. This information could designate reservoir use by elk and indicate the most suitable locations for mitigation, enhancement or protection (D. Cleary, ODFW, pers. commun.).

VII. REFERENCES CITED

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Karen Bedrossian
Dan Carleson
Jim Noyes
Mary Potter

U. S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

G. Dorsey
R. Duncan
K. Dzimbal
J. Holmes
L. Klenke
K. Pipes
R. Willis

(2) Summary of Project Operator Contacts

Date	Individual	Summary
27 June 1983	R. Willis Portland Distr.	Meeting. Informal discussion.
June 1983	P. Peloquin N. Pacific Div.	Phone. R. Giger provided information on project, requested contacts.
01 July 1983	R. Duncan P. Peloquin	R. Giger sent letter to USACE providing information and requesting contacts.
20 July 1983	G. Dorsey Portland Distr.	Phone. Set up meeting.
21 July 1983	G. Dorsey	Initial contact and coordination meeting.
26 July 1983		Operator contact meeting arranged by R. Giger. P. Peloquin represented USACE in Spokane.
01 August 1983	J. Holmes Lookout Point	Phone. Discussion on mitigation.
01 August 1983	R. Willis	Phone. Discussion on project and reports.
01 August 1983	G. Dorsey	Meeting. Discussion of projects and obtained information.
05 August 1983	K. Pipes Lookout Point	Phone. Discussion of projects.
08 August 1983	G. Dorsey	Meeting. Discussion of projects and obtained information.

30 August 1983	K. Pipes	Phone. Discussion of projects.
14 Sept. 1983	G. Dorsey	Phone. Obtained information.
13 Oct. 1983	G. Dorsey	Phone. Discussion of reports.
14 Oct. 1983	P. Peloquin K. Dzimbal	Meeting. Wildlife mitigation at Willamette Valley Projects.
20 Oct. 1983	K. Dzimbal	Meeting. Discussion of reports and projects.
02 Dec. 1983	G. Dorsey	Phone. Discussion of reports, reinitiation of contact and coordination.
09 Dec. 1983	G. Dorsey K. Dzimbal	Meeting. Reinitiation of contact and coordination. Obtained information on MOU's and MOA's.
13 Dec. 1983	G. Dorsey L. Klenke	Meeting. Obtained information.
15 Dec. 1983	G. Dorsey L. Klenke	Meeting. Obtained information and maps on projects.
07 Feb. 1984	L. Klenke	Phone. Obtained information.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

C. Bruce
R. Carleson
D. Cleary
J. Greer
W. Haight
R. Jubber

U. S. Forest Service

W. Dugas
E. Harshman
P. Howard
K. Johnson
D. Skeesick

Other

S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 10 FEBRUARY 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS and USFS)

(3) Tribes

No tribes are involved with the actions taken at the Lookout Point project.

(4) Facility Operator (USACE)

BPA requested comments on the 10 February 1984 Lookout Point Project draft report by 26 March 1984. USACE had not submitted their comments by 17 August 1984 when the final report was typed, therefore USACE comments could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife
506 SW. MILL STREET. P.O. BOX 3503. PORTLAND OREGON 97208

March 26, 1984

Peter Johnson, Administrator
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

Dear Mr. Johnson:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Lookout Point Wildlife Mitigation Status Report and our attached comments on that report indicate comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency. Knowledge of wildlife resources and legal mandates have changed since the Willamette Valley projects were constructed. In addition to the requirements of the Northwest Power Planning Act for protection. mitigation and enhancement of wildlife resources, the Fish and Wildlife Coordination Act now requires wildlife mitigation, and the Department of Fish and Wildlife has a policy to request mitigation for losses of animal populstions and habitat. The Yillamette Valley projects have high priority due to the high value of wildlife resources involved.

In recognition of our Increased responsibilities to address a broad range of concerns, I strongly urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we must proceed with a mitigation plan based on a comprehensive assessment of wildlife impacts at the Lookout Point Project. The Department is prepared to take the lead in this endeavor using: 1) the expertise of biologists from various agencies; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the Lookout Point Project.

Sincerely,

for John R. Donaldson, PhD
Director

JRD/RDC:sjw

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Lookout Point Ddm and Reservoir
March 26, 1984

These comments respond to a request from James R. Meyer, Bonneville Power Administration, dated 2 March 1984 to review the Mitigation Status Report for Lookout Point Dam dnd Reservoir.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum Recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species Of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to animal populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildllfe Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries...." This goal has yet to be achieved at the Lookout Point Project.

The Lookout Point Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from the construction of the dam was not comprehensive. This is evident by the lack of information available regarding the impact of road construction and railroad relocation, the types and amounts of habitat Inundated, and the nongame species affected by the project. Population estimates were made for only deer and grouse. The significance of the inundated habitat to wildlife has not been fully explored. Even though impact assessment has not been adequate, it Is obvious that substantial impacts occurred to wildlife as a result of the Lookout Point Project, considering 4,360 acres (including riparian habitat and big game winter range) were Inundated. The status report indicates no substantial mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In evaluating the effects of the Uillamette Valley Projects, we should not overlook the cumulative effects of the entire Uillamette Valley Reservoir System. Although consideration of the overall system may be beyond the bounds of this portion of the NPPC wildlife program, the impact on wildlife cannot be Ignored. The development of the former flood plain could not have been possible without the reservoir system. Extensive revetment and rlprap work has been done on the Willamette River, effectively eliminating riparian habitat dnd cutting off oxbows and side channels. Wetlands have been drained and other productive wildlife habitats have been lost to development.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.1:

The Lookout Point Project should be considered in context with the other dams and reservoirs in the system and their cumulative impact on wildlife taken into account.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the hydroelectric generating facilities at the Lookout Point Project, it is necessary to determine what impacts occurred. Upon the approval of and funding by the Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Lookout Point Project and to prepare a net impacts statement. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with appropriate agencies involved in the Lookout Point Project, is of course, an integral part of both of these processes. We believe that a workable net impacts statement and mitigation plan can be developed based on existing information and the expertise of biologists from the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has greatly improved since the time of construction of the Lookout Point Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and WildlIfe program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development dnd operation of hydroelectric power In the Columbia River Basin. The Oregon Department of Fish and Wildlife wants to see that opportunity realized to the fullest degree possible in a timely, effective, and cost-effective manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
LLOYD 500 BUILDING, SUITE 1692
500 N.E. MULTNOMAH STREET
PORTLAND, OREGON 97232

APR 3 1984

March 28, 1984

Mr. Peter Johnson, Administrator
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Copies to: Sienkiewicz
Johnson, Ratcliffe,
Jura, Robertson,
Klinger, Spigal,
Katz

Dear Mr. Johnson:

As requested In Mr. Meyer's letter of March 2, 1984, we have reviewed the Wildlife Mitigation Status Report for Lookout Point Dam and Reservoir. The following comments are being provided for Inclusion In the final report.

General Comment5

we believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for Lookout Point Dam and Reservoir.

Based on the report's content, It Is evident that the construction and operation of the Lookout Paint Project has resulted In substantial adverse Impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of Lookout Point on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate the adverse wildlife Impacts attributable to tho Lookout Point Project.

The Service has the expertise and would like to participate In both the impact evaluation and mitigation plan development.

Specific Comments

A comprehensive evaluation of Lookout Point's Impact on wildlife resources should be conducted by a team of qualified biologists composed of representatives from appropriate state and federal wildlife resource agencies. These include the Oregon Department of Fish and Wildlife, Army Corps of Engineers, U.S. Forest Service, and the Fish and Wildlife

Explanations or Modifications:

No explanations or report modifications necessary.

USFWS Comments (cont.):

Service. We suggest the evaluation be based on habitat; supported by population data when available. We believe that such an evaluation could be accomplished with a minimum of new data collection by: 1) analyzing the existing data referenced in the status report such as pre and post construction photographs; and 2) consultation with professional wildlife biologists familiar with the area's wildlife resources as they existed prior to project construction. The evaluation's results should be presented in an impact assessment report.

Utilizing the results from the aforementioned impact statement, we believe that the same team of biologists, with assistance from their agency's respective habitat specialists, should develop a mitigation plan. The plan, if implemented, would fully compensate the adverse wildlife impacts identified.

In addition to assessing the direct impacts, we strongly believe the cumulative effects of this and the other Willamette Valley Reservoirs should be evaluated. The extensive development that has occurred along the Willamette River's flood plain has significantly reduced a variety of wildlife habitats and related resources. That development and resultant wildlife losses would have been considerably less without the construction and operation of Lookout Point and the other major Willamette Basin projects. Although this level of impact evaluation may go beyond the intent of Section 1004 measures, the impacts are partially attributable to hydropower development and should be addressed by the Power Planning Council.

In conclusion, we believe no single agency or user group is responsible for the adverse wildlife impacts which have resulted from the development and operation of Lookout Point Dam and Reservoir. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, rules, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Lookout Point Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife program recognize this and together have given us an opportunity to correct our past mistakes. The Service is eager to move toward that end.

Sincerely yours,

Richard J. Myshak

Richard J. Myshak
Regional Director

Explanations or Modifications (cont.):

No explanations or report modifications necessary

USES Comments:

Explanations or Modifications:

United States Department of Agriculture
Forest Service
Willdmctte National Forest
211 East Seventh Avcnuc
P.O. Rox 10607
Eugene, OR 97440

2630
April 20, 1984

Mr. Jim Meyer
Bonneville Power Administration
Box 12999
Portland, OR 97212

Dear Mr. Meyer:

Our review of the five Wildlife Mitigation Status Reports prepared by the Oregon Department of Fish and Wildlife indicates, for the most part, that the reviews are factual and complete. Our comments are meant to clarify the reports, rather than challenge the contents.

Under category IV B (2) Losses: Conspicuous by their absence are references to cougar, bobcat, and wolverine. As a minimum, the status report should address each species listed as Threatened or Endangered by the Federal Government or Threatened by the Oregon Department of Fish and Wildlife.

Information was 1imited regarding project impacts on wildlife, particularly nongame species. See Sections IV.B.(2) and IV.B.(4). When information was available on these species, it was provided in the status report.

Under category III D (2) the narratives indicate the USDA Forest Service manages 11.375 acres of project lands above the pool areas. We cannot verify this acreage, but assume your sources are correct. However, for clarification, only 3,679 acres are owned by the U.S. Army Corps of Engineers. The remainder are, and always have been National Forest lands.

acreages were provided by USACE.

The "mutual agreement' statements in category V B (3) for Hills Creek and Cougar Reservoirs Only apply to U.S. Army Corps of Engineers lands managed by USDA Forest Service (Cougar = 80 acres and Hills Creek = 265 acres) and to National Forest lands necessary for the operations of the project facilities. The rest of the 'project lands" are National Forest lands and are managed without U.S. Army Corps of Engineers involvement.

See Cougdr and Hills Creek status report appendices.

For continuity of information, you may wish to modify the Detroit Reservoir narrative category V B (3) to include the information that USDA Forest Service manages 1,839 acres of land above pool level that is owned by U.S. Army Corps of Engineers.

See Detroit status report.

Under Category V C, MITIGATION IMPLEMENTED: Please delete all references to plantings recently completed by USDA Forest Service. Those plantings arc part of a project whose entire thrust is to develop technology--not to mitigate for the project. We believe the topic should be included under Category VI, CURRENT STUDIES.

Report modified as suggested. See Sections V.C. and VI.

USFS Comments (cont.):	Explanations or Modifications (cont.):
2	
Project specific comments are as follo· :	
Detroit: Page 2, Item (2), lines 6 and 7: Delete "and Big Cl ff Reservoir (141 acres)."	
Page 9, Item VI, paragraph 2, lines 5 and 6: Delete H. Legard USFS, pers. commun.). Replace with (Skeesick, 1983).	
Page 10, add the following reference: Skeesick, D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. and Appendix.	
Hills Creek: Page 6, Item (4), paragraph 1: Replace entire paragraph with: two spotted owl management areas (SOMA's) are located within 1 mile of the east side of the reservoir.	
Page 9, Item VII A, paragraph 1, line 2: Delete USACE, line 9: delete (H. Legard, USFS, pers. commun.). Replace with (Skeesick, 1983).	
Page 11, add the following reference: Skeesick, D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.	
Lookout Point: Page 3, Item (2), paragraph 2, line 8: mid-1980's is wrong time period.	Report corrected. See Section IV.A.(2).
Page 5, paragraph 3, lines 6-8: Sentence should be expanded to include the fact that elk forage on available vegetation exposed during drawdown.	Report modified as suggested. See Section IV.B.(2)
Page 6, Item (4), paragraph 2, line 4: Statement is incorrect: An active bald eagle (Federal Threatened Species) nest exists midway along the reservoir (USFS 1981). Two Spotted Owl Management Areas (SOMA's) are located within a mile of the reservoir.	Report corrected. See Section IV.B.(4).
Page 9, Item C, lines 6-10, Aerial seeding was not done as mitigation for the project. It was accomplished to improve production on USDA Forest Service lands.	Repor modified. See Section V.C.
Page 11 add the following references: Skeesick, D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.	Report modified. See Section VI

USFS Comments (cont.):

USDA Forest Service, 1981. Environmental Assessment Report Crale Creek Bald Eagle Management Area. Yillamette National Forest, Lowell Ranger District, Lowell, Oregon. 51 pp. plus appendix.

Cougar: Page 10. Item VII A, paragraph 2, line 4: Delete USACE.

Line 6: Include the following reference: (Skeesick, 1983).

Page 11, add the following references: Skeesick, D.G., 1983. Oevelopment of Technology and Hethodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Any questions regarding suggested changes to the status reviews may be directed to Delbert Skeesick (FTS 425-6699).

Thank you for the opportunity to review and comment on the wildlife mitigation status reports.

Sincerely,

for MICHAEL A. KERRICK
Forest Supervisor

CC: Horn, RO
Skeesick, SD

WPOO:M26A40.F7

Explanations or Modifications (cont.):

Report modified. See Section VII.

Wildlife Mitigation Status Report

DEXTER DAM AND RESERVOIR PRDJECT

Prepared by:

K. L. Bedrossian
R. D. Carleson
J. H. Noyes
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Dexter Dam and Reservoir Project

II. PROJECT OPERATOR

U.S. Army Corps of Engineers (USACE)

III. PROJECT DESCRIPTION

A. Location and Size

Dexter Dam and Reservoir are located in Lane County, Oregon, approximately 20 miles southeast of Eugene, on the Middle Fork of the Willamette River at river mile 18. The project is surrounded by private, corporate and public property. The City of Lowell lies adjacent to the project on the north side of the reservoir. The community of Dexter is located southwest of the reservoir. Lookout Point Dam and Reservoir are adjacent to Dexter Reservoir on the east side. The main access route is State Highway 58 which borders the south side of the reservoir.

The dam consists of an earth-fill section, a gate-controlled concrete-gravity spillway section, and a concrete-gravity nonoverflow section for a total length of 2,765 feet (USACE 1982). There is 1 Kaplan turbine with a generating capacity of 15,000 kilowatts (USACE 1982). At full pool level the reservoir surface area is 1,025 acres, 3.3 miles long, with a maximum width of about 0.75 mile.

B. Authorized Purposes

The primary purpose of Dexter Dam and Reservoir was re-regulation of water releases from Lookout Point Dam for a more uniform downstream flow. Power generation was also authorized (USACE 1955a).

C. Brief History

Authorization of Dexter Dam was provided by the Flood Control Act of 1950 which modified the 1938 Act that authorized the Lookout Point Project. The 1950 Act authorized power generating facilities at Lookout Point Dam and construction of Dexter Re-regulating Dam as part of the Lookout Point Project. Dexter Dam was built concurrently with Lookout Point Dam. Flow regulation began in 1954 and power generation began in 1955. The project was "essentially completed" in 1955 (USACE 1955b).

3. Other Pertinent Data

(1) Water level fluctuation and timing

The only water released from the Dexter full pool level is that amount required to regulate the varying power releases from Lookout Point to a uniform flow downstream. Under normal conditions the daily water level fluctuation range is 3 feet or less. Maximum pool elevation is 697 feet; minimum pool elevation is 690 feet (USACE 1980a).

(2) Land ownership

The project includes approximately 1,740 acres (USACE 1983). USACE controls the water surface of the reservoir and is responsible for administration of project lands at Dexter. Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the state of Oregon, including the project area (ODFW 1982). USACE is responsible for management of the habitat within the project boundaries. The reservoir and land north of Highway 58 lie within ODFW's McKenzie Wildlife Management Unit. Lands south of Highway 58 are located in the Indigo Unit.

(3) Indian rights

No tribes are involved with the actions taken at the Dexter Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Information on project impacts was obtained from written reports, project files, and conversations with appropriate individuals. Pre-construction aerial photos are available from USACE. Three reports provided information on conditions prior to construction and predicted impacts to a limited number of wildlife species. Big game, upland game, waterfowl and furbearers were considered. The Oregon State Game Commission (OSGC) and the Fish Commission of Oregon (FCO) published a report in 1948 entitled "Fish and wildlife problems arising from the Willamette Valley Project." The report provided an evaluation of "the effects and losses . . . to various game and fur animal species," and presented "recommendations concerning methods of mitigating losses" as a result of the Willamette Valley Project. Potential impacts were addressed briefly by watershed. U.S. Fish and Wildlife Service (USFWS) published a report in 1948 entitled "Willamette Valley Project Oregon, preliminary evaluation report on fish and wildlife resources." The effects of the entire Willamette Valley Project on wildlife were considered. A report written by S. D. Beckham and K. A. Toepel for USACE in 1982, entitled "Historic use of six reservoir areas in the Upper Willamette Valley, Lane County, Oregon," addressed settlement and development of the reservoir areas with brief reference to wildlife resources at the time. The following information is based on these reports and conversations with the ODFW wildlife biologist in the Lane District from 1956 to 1981 (R. Jubber). Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The project site is located in the transitional area of the Willamette Valley Foothills Douglas Fir-Oregon Oak Association and the Western Hemlock Zone of higher elevations (MMGOA 1975). Prior to inundation, the reservoir site contained a mixture of agricultural lands and

non-cultivated land consisting of conifers, deciduous trees, and brush (USACE 1955a, MMGOA 1975). At the time of construction, agriculture and stock raising was the primary land use within the project area. The reservoir inundated the lower fringes of the town of Lowell and, in conjunction with Lookout Point Reservoir, displaced approximately 150 families (Beckham and Toepel 1982).

The reservoir site was inhabited by black-tailed deer, and probably black bear, rabbit and raccoon (USACE 1955a), as well as muskrat, mink, otter, beaver and skunk. OSGC (1948) estimated 5 deer per square mile on the Middle Fork of the Willamette River. Upland game within the reservoir site included blue and ruffed grouse, and ring-necked pheasant. OSGC (1948) estimated 4 grouse per square mile on the Middle Fork. Use of the area by waterfowl was considered negligible by the OSGC; however, "a few" resident mallards and wood ducks inhabited the area (USACE 1955a).

Quantitative information was not available for species other than deer and grouse. Nongame species were not mentioned in the literature on pre-construction conditions. This probably reflects the past emphasis of wildlife management on game species only. ODFW was not given legal jurisdiction over nongame species until 1971.

B. Post-Construction Period

(1) Available information

Reports providing information on the Dexter Project after construction were not directed specifically toward wildlife impacts resulting from the project. The master plan for "Reservoir management and public use development" for the Lookout Point Project published in 1955 by USACE included Dexter Dam and Reservoir and was directed toward recreation. Wildlife conditions immediately following construction were briefly addressed. The Willamette Basin Task Force of the Pacific Northwest River Basins Commission published in 1969 "The Willamette Basin comprehensive study of water and -elated land resources." The task force addressed preferred habitat- and general distribution of big and small game, waterfowl, furbearers, and nongame species within the Willamette Basin. Potential methods for increasing hunting opportunities in the Basin and recomendations for uses of water and related land resources were presented. In 1975 MMGOA prepared a master plan for Dexter Lake which was published by USACE, Portland District. The plan concerned recreational development at Dexter Lake and provided geological, vegetation, topographical and soils maps of the project area, as well as pre- and post-construction aerial photographs. USACE published in 1980 "An environmental impact statement on operations and maintenance of the Willamette Reservoir System" which briefly discussed cumulative impacts of operation of the reservoir system. Jones and Jones, in 1983, drafted a "Master plan for resource use, Phase I, Upper Willamette Valley Project" for USACE. The draft contained an updated inventory of soil and vegetation types; sensitive lands; wildlife use patterns; and potential developments, protection, mitigation or enhancement at the project. Post-construction aerial photos are available from USACE and the University of Oregon Map Library. The

following information is based on the literature previously mentioned and on conversations with individuals knowledgeable of the Dexter area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Dexter Reservoir inundated 1,025 acres. Habitat for big game, upland game, furbearers and nongame animals in the impoundment area was eliminated or extensively altered. The impoundment area was removed from production, but according to the USACE (1955a) report, OSGC stated "adequate habitat is available for these species to move into". This assessment reflects USFWS and OSGC concerns regarding public access and maximized recreational opportunities during this era (USACE 1955a; J. Harper, ODFW, pers. commun.), but is not supported by current theory regarding wildlife/habitat interaction. OSGC estimated an average of 5 deer per square mile on the Middle Fork and predicted that Dexter and Lookout Point reservoirs would "displace habitat for about 40 deer" (USACE 1955a). OSGC estimated an average of 4 grouse per square mile for a total of 32 grouse displaced by Dexter and Lookout Point reservoirs (USACE 1955a). Stream habitat for furbearers was eliminated (OSGC and FCO 1948).

Information regarding the effects of construction activities on wildlife was limited to potential illegal hunting by construction workers (OSGC and FCO 1948). Information on the impacts of road construction and railroad relocation as a result of the project was not available. Information was not available (without conducting a more detailed study) on specific habitat types and the amount of each habitat type affected by the project. Documentation of nongame species affected by the project was not found. An estimate of the numbers of animals lost was provided only for deer and grouse. The ecological significance of wildlife habitat alteration was not evaluated. It was not determined if the reservoir is a barrier to wildlife migration.

The Dexter project area "retains no undisturbed ecosystems since the area has been almost entirely altered by dam, highway, railway and housing construction, or logging, or by agricultural use" (MMGOA 1975). "The area surrounding Dexter Lake has been highly developed for residences and recreation, leaving a small border of land available for resource management" (MMGOA 1975). Wildlife numbers are small in the vicinity of Dexter Lake "due to the generally disturbed character of the project area, noise intrusions, and isolation of land areas by adjacent roadways" (MMGOA 1975).

Cumulative impacts as a result of the Willamette Reservoir System were predicted by USFWS and by OSGC in 1948 and were assessed by USACE (1980b) in an environmental impact statement. The most significant cumulative impact is probably the loss of wildlife habitat because of increased human development on the floodplains of the Willamette. Human development was not possible prior to construction of the Willamette Reservoir System because of periodic flooding. Increased development has affected wildlife habitat along the river from the dam site to

Portland. Waterfowl and other wildlife species were further affected by the loss of overflow and standing waters previously created by seasonal flooding. Upland habitat, winter range, riparian habitat, and wetland habitat have all been reduced as a result of the Willamette Reservoir System.

(3) Benefits

Waterfowl migrating between the Willamette Valley and the Klamath Basin use the reservoir for resting during migration. A maximum of 5,000 waterfowl may use the reservoir at any one time. Counts in 1983 averaged 1,500 birds (J. Greer, ODFW, pers. commun.). Limited waterfowl feeding and nesting occurs at Dexter Reservoir (J. Greer, ODFW, pers. commun.). Small numbers of coot and other waterfowl winter on the reservoir. The fairly stable water level, in contrast to Lookout Point provides "moderate" potential to attract and hold waterfowl (Denney 1382).

(4) Additional information

According to W. Dugas (U.S. Forest Service [USFS], pers. commun.), both bald eagles and ospreys probably benefited by construction of the reservoir. The effect dams have on bald eagle populations is not clear. Eagles may have benefited by construction of reservoirs if a greater year-round fish prey base occurred as a result (W. Haight, ODFW, pers. commun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs.

An active osprey nest is located at the southwest corner of the lake (C. Bruce, ODFW, pers. commun.; Jones and Jones 1983). Both osprey and eagle use the reservoir as a foraging area and feed on injured fish at the dam. No bald eagle nests have been located on the project site (Isaacs and Anthony 1983); however, one potential bald eagle nesting site near Dexter Lake has been designated in the Pacific States bald eagle recovery plan (Pacific States Bald Eagle Recovery Team 1982). Eleven bald eagles were observed at Dexter and Lookout Point reservoirs during the 1983 mid-winter bald eagle survey (W. Haight, ODFW, pers. commun.).

ODFW publishes wildlife production inventories, herd composition, trend counts and harvest data in the Wildlife Division annual report. These data are available by region, county, or wildlife management unit. The information is not specific to the project site.

A list of the species present in the vicinity of Dexter Lake and the estimated density for some of those species was provided in the master plan (MMGOA 1975). Species present included black-tailed deer, mountain quail, blue and ruffed grouse, 10 species of waterfowl, and 14 raptor species.

Ring-necked pheasants were released in the area by ODFW in the mid-seventies (D. Carleson; R. Jubber, ODFW, pers. commun.). Elk may also be present in the area (MMGOA 1975). A population of pond turtles was found below Dexter Dam (MMGOA 1975). Shrubs and grassland along the

northeast side of the lake support numerous songbirds. Double crested cormorants have been sighted in the small riparian area at the east end of the lake (Jones and Jones 1983).

The shoreline primarily consists of gradual slopes, without many bays or coves. According to the Dexter Lake master plan (MMGOA 1975), "No other locality near Eugene-Springfield is known to offer comparable vegetative diversity." Vegetation types represented include: oak forest, Douglas fir-western red cedar forest, Douglas fir-incense cedar forest, riparian and aquatic vegetation, and "black cottonwood streamside alluvial flat forest." A description of the plant communities and a list of the plant species present in the area are provided in the Dexter Lake master plan (MMGOA 1975). Sensitive lands, soils and plant communities have been mapped by Jones and Jones (1983) for the draft resource use plan.

Land use downstream from the Dexter Project is mainly residential and agricultural. Lookout Point Reservoir is directly upstream from the project. The Willamette National Forest is located south and east of the Dexter Project approximately 4 miles away. There are facilities for picnicking, fishing, boating, and swimming in the project area. Visitor attendance at Dexter Lake was 190,100 in 1982 (Jones and Jones 1983), with sightseeing and boating the most popular activities.

Construction of the road on the north side of the river below Dexter Dam was mentioned as a concern for wildlife in the master plan (MMGOA 1975). Highway 58 and the Southern Pacific railroad track "influence animal patterns." It was predicted that roads on both sides of the river "will present barriers to animal access" (MMGOA 1975). The problems of noise from road traffic, railroad and boat use were also considered to be a problem for wildlife. According to the master plan "most of the wildlife habitat is marginal." At the time the master plan was prepared (1975), 45 acres of "wildlife habitat" were leased to the Lowell School District and 45 more acres were under consideration for lease. The school was constructing nature trails and conducting small environmental studies.

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

USFWS (1948) recommended mitigation measures for the Willamette Valley Project as a whole, including: a study of the effects of the project on upland game and fur-bearers, with a view to recommending feasible management practices beneficial to these animals; consideration of establishing a Federal wildlife refuge at Fern Ridge; and land acquisition and development for waterfowl. OSGC (1948) proposed specific mitigation measures for the Willamette Valley Project which included increased law enforcement, feeding sites, marsh development, and furbearer research and management.

According to the USACE (1980b) EIS on the Willamette Reservoir System, "No mitigation was recommended by state or federal wildlife agencies for habitat lost to Corps reservoirs when the reservoirs were constructed."

The 1955 USACE master plan stated "no wildlife development is planned." Limited mitigation measuresare recommended by OSGC and USFWS for the Lookout Point Project, which at the time included Dexter. Both agencies recommended further studies of areas suitable for wildlife habitat development (USACE 1955a). OSGC stated "limited food plantings for waterfowl may be possible depending on how operations develop". It was stated that OSGC was conducting studies at existing and proposed Willamette Basin projects (USACE 1955a).

The Dexter Lake master plan (MMGOA 1975) stated that the aesthetic value of the land was most important because the limited land area of the project resulted in a small amount of available wildlife habitat. It was further stated that little management would be required for wildlife habitat as long as visitor overuse was not a problem. Forest management objectives included the preservation of snags if they were not removed fsr aesthetic or safety reasons.

USACE, Portland District, had a "Master plan for resource use of the Upper Willamette Valley Project" prepared by Zones and Jones (1983). The report is in the draft stage. Wildlife use at Dexter Reservoir is limited by rural/residential development and major roadways, but the report lists a few possible projects. Dexter Island and Dexter Park are designated natural areas by the Governor's Natural Area Preserves Advisory Committee, for protection of riparian habitat and a great blue heron rookery. The south shore has potential for management of nesting raptors and preservation of old growth timber above the backwater. A small area of cattails on the north shore and riparian habitat at each end of the lake are recommended for preservation, and the shrub grassland on the north side of the lake has potential for management of small game and nongame species.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

Not applicable to this project.

(2) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife fish and game..." The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with USFWS and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Federal development projects were required to contain adequate provision for "conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon," consistent with primary project purposes. This act was named FWCA on 12 August 1958, at which time an amendment was added stating that "wildlife conservation shall receive equal consideration and be coordinated with other features of dater-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on

impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The Dexter Project was not required to comply with the 1958 amendment because it was completed and in full operation by 1955. The 1948 publications by USFWS and OSGC were prepared to meet the requirements of the 1938 Act and the 1946 amendment.

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that federal agencies consult with the Department of the Interior to ensure that federal actions would not jeopardize any threatened or endangered species. Since there have been no additions or major changes to the Dexter Project, no impact assessments or mitigation measures have been mandated during the operational history of the dam. An environmental impact statement was published by USACE in 1980 on "Operations and Maintenance of the Willamette Reservoir System" (USACE 1980b) under authority of Public Law 91-190 (NEPA of 1969).

(3) MOU's or other agreements

A cooperative agreement between USACE and USFS dated 13 February 1969 allowed the Lowell Ranger District to enter into a timber sale to salvage dead, down and high risk trees (USACE 1983).

Two park areas on project lands were leased by Lane County in 1958. In 1961, USACE constructed recreational facilities at Dexter Lake. Lane County and USACE currently have a joint agreement on operations of recreational facilities.

C. Mitigation Implemented

No documentation was found of mitigation, enhancement or protection measures implemented by USACE at the Dexter Project to offset impacts to wildlife resulting from construction or operation of the project. No documentation was found of the upland game and furbearer studies, land acquisition and development, marsh development, or feeding site development measures at Dexter Dam and Reservoir mentioned in Section V. A. No mitigation procedures are currently in progress at the project site (K. Pipes, USACE; D. Cleary, ODFW; D. Skeesick, USFS, pers. commun.).

Although not as part of a mitigation program, ring-necked pheasants were released in the area in the mid-seventies by ODFW (D. Carleson; R. Jubber, ODFW, pers. cornmun.).

VI. CURRENT STUDIES AND PLANNING

At the present time, no plans have been prepared for wildlife mitigation at the Dexter Dam and Reservoir Project. The draft master plan (Jones and Jones 1983) contained recommendations for wildlife mitigation at Dexter.

Studies and planning being conducted in the Willamette Valley and State of Oregon could eventually affect management in the Dexter area. USFS is currently conducting trial plantings at Blue River, Lookout Point and Hills Creek reservoirs to determine which plant species will grow under fluctuating water conditions. Use of the plants by wildlife is also being monitored (Skeesick 1983). ODFW is developing several management plans including big game plans for the McKenzie and Indigo Wildlife Management Units, a statewide nongame plan, and a cooperative waterfowl management plan for the Willamette Valley.

VII. REFERENCES CITED

Beckham, S. D., and K. A. Toepel. 1982. Historic use of six reservoir areas in the upper Willamette Valley, Lane County, Oregon. Heritage Research Associates Report No. 8 to Portland District, USACE. 153 pp.

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Isaacs, F. B., and R. G. Anthony. 1983. Bald eagle nest locations and history of use in Oregon through 1983. Unpubl. rep. Oregon Coop. Wildl. Res. Unit, Dep. Fish and Wildl., Oregon State Univ., Corvallis. 11 pp.

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U.S. Army Corps of Engineers, Portland District. 1955a. The master Plan, reservoir management and public use development, Lookout Point Project, Middle Fork Willamette River, Oregon. 60 pp + append.

U.S. Army Corps of Engineers, Portland District. 1955b. Pages 1526-1528 in Annual report of the Chief of Engineers, Report on civil works activities FY 1955. U.S. Gov. Printing Office, Wash., D.C.

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U.S. Fish and Wildlife Service. 1948. Willamette Valley Project, Oregon. Preliminary evaluation report on fish and wildlife resources. U.S. Dep. Inter., Fish and Wildl. Serv., Region I. 70 PP.

Willamette Basin Task Force - Pacific Northwest River Basins Commission. 1969. The Willamette Basin comprehensive study of water and related land resources. Appendix 3. Paging various.

A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Karen Bedrossian
Dan Carleson
Jim Noyes
Mary Patter

U. S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

G. Dorsey
R. Duncan
K. Dzimbal
J. Holmes
L. Klenke
K. Pipes
R. Willis

(2) Smmary of Project Operator Contacts

Date	Individual	Summary
27 June 1983	R. Willis Portland Distr.	Meeting. Informal discussion.
June 1983	P. Peloquin N. Pacific Div.	Phone. R. Giger provided information on project, requested contacts.
01 July 1983	R. Duncan P. Peloquin	R. Giger sent letter to USACE providing information and requesting contacts.
20 July 1983	G. Dorsey Portland Distr,	Phone. Set up meeting.
21 July 1983	G. Dorsey	Initial contact and coordination meeting.
26 July 1983		Operator contact meeting arranged by R. Giger. P. Peloquin represented USACE in Spokane.
01 August 1983	J. Holmes Lookout Point Office	Phone. Discussion on mitigation.
01 August 1983	R. Willis	Phone. Discussion on project and reports.
01 August 1983	G. Dorsey	Meeting. Discussion of projects and obtained information.
05 August 1983	K. Pipes Lookout Point Office	Phone. Discussion of projects.
08 August 1983	G. Dorsey	Meeting. Discussion of projects and obtained information.

30 August 1983	K. Pipes	Phone. Discussion of projects.
14 Sept. 1983	G. Dorsey	Phone. Obtained information.
13 Oct. 1983	G. Dorsey	Phone. Discussion of reports.
14 Oct. 1983	P. Peloquin K. Dzimbal	Meeting. Wildlife mitigation at Willamette Valley Projects.
20 Oct. 1983	K. Dzimbal	Meeting. Discussion of reports and projects.
92 Dec. 1983	G. Dorsey	Phone. Discussion of reports, reinitiation of contact and coordination.
09 Dec. 1983	G. Dorsey K. Dzimbal	Meeting. Reinitiation of contact and coordination. Obtained information on MOU'S and MOA's.
13 Dec. 1983	G. Dorsey L. Klenke	Meeting. Obtained information.
15 Dec. 1983	G. Dorsey L. Klenke	Meeting. Obtained information and maps on projects.
07 Feb. 1984	L. Klenke	Phone. Obtained information.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

C. Bruce
R. Carleson
D. Cleary
J. Greer
W. Haight
R. Jubber

U. S. Forest Service

W. Dugas
E. Harshman
P. Howard
K. Johnson
D. Skeesick

Other

S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 7 FEBRUARY 1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (USFWS and USFS)

(3) Tribes

No tribes are involved with the actions taken at the Hills Creek Project.

(4) Facility Operator (USACE)

BPA requested comments on the 7 February 1984 Hills Creek Project draft report by 9 April 1984. USACE had not submitted their comments by 17 August 1984 when the final report was typed, therefore, USACE comments could not be incorporated into the report.

ODFW Comments:

Department of Fish and Wildlife
506 SW. MILL STREET, P.O. BOX 3503. PORTLAND. OREGON 97208

March 26. 1984

Peter Johnson, kdminirtrator
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

Dear Mr. Johnson:

The Oregon Oepartmcnt of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Dexter Dam Uildlife Mitigation Status Report and our attached comments on that report indicate, comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency. Knowledge of wildlife resources and legal mandates have changed since the Willamette Valley projects were constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Fish and Wildlife Coordination Act now requires wildlife mitigation, and the Department of Fish and Wildlife has a policy to request mitigation for losses of animal populations and habitat. The Willamette Valley projects have high priority due to the high value of wildlife resources involved.

In recognition of our increased responsibilities to address a broad range of concerns, I strongly urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we must proceed with a mitigation plan based on a comprehensive assessment of wildlife impacts at the Dexter Dam Project. The Department is prepared to take the lead in this endeavor using: 1) the expertise of biologists from various agencies; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the Dexter Dam Project.

Sincerely,

John R. Donaldson, PhD
Director

JRD/RDC:sjw

Explanations or Modifications:

No explanations or report modifications necessary.

ODFW Comments(cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Dexter Dam and Reservoir
March 26, 1984

These comments respond to a request from James R. Meyer, Bonneville Power Administration, dated 2 March 1984to review the Mitigation Status Report for Dexter Dam and Reservoir.

Oregon Revised Statute 436.012, WildlIfe Policy says in part "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) TO maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner thdt will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012. the Department has a policy to request mitigation when losses to animal populations and habitat result from project construction and operation. These policies are consistent with the Power Act dnd Wildlife Program purpose "to protect, mitigate. dnd enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries...." This goal has yet to be achieved at the Dexter Dam Project.

The Dexter Dam Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from the construction of the dam was not comprehensive. This is evident by the lack of information avdildble regarding the impact of road construction and railroad relocation, the types and amounts of habitat inunddted, and the nongame species affected by the project. Population estimates were sade for only deer and grouse. The significance of the inundated habitat to wildlife has not been fully explored, Even though impact assessment has not been adequate, it is obvious thdt substantial impacts occurred to wildlife as a result of the Dexter Dam Project considering acreage of habitat inundated. The status report indicates no substantial mitigation measures have been Implemented to offset impacts to wildlife resulting from the project.

In evaluating the effects of the Willdmette Valley Projects, we should not overlook the cumulative effects of the entire Willdmette Valley Reservoir System. Although consideration of the overall system may be beyond the bounds of this portton of the NPPC wildlife program the impact on wildlife cannot be ignored. The development of the former flood plain could not have been possible without the reservoir system. Extensive revetment and riprap work has been done on the Willamette River, effectively eliminating riparian habitat and cutting off oxbows and side channels. Wetlands have been drained and other productive wildlife habitats have been lost to development.

Explanations or Modifications (cont.):

No explanations of report modifications necessary.

ODFW Comments (cont.):

The Dexter Project should be considered in context with the other dams and reservoirs in the system and their cumulative impact on wildlife taken into account.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the hydroelectric generating facilities at the Dexter Project, it is necessary to determine what impacts occurred. Upon the approval of and funding by the Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Dexter Dam Project and to prepare a net impacts statement. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with appropriate agencies involved in the Dexter Dam Project, is of course, an integral part of both of these processes. We believe that a workable net impacts statement and mitigation plan can be developed based on existing information, and the expertise of biologists from the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures

The level of understanding of our wildlife resources has greatly improved since the time of construction of the Dexter Dam Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife wants to see that opportunity realized to the fullest degree possible in a timely, effective, and cost-effective manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

March 28, 1984

Mr. Peter Johnson, Administrator
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Johnson:

As requested in Mr. Meyer's letter of March 2, 1984, we have reviewed the Wildlife Mitigation Status Report for Dexter Dam and Reservoir. The following comments are being provided for inclusion in the final report.

General Comments

We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for Dexter Dam and Reservoir.

Based on the report's content, it is evident that the construction and operation of the Dexter Project has resulted in substantial adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of Dexter on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate the adverse wildlife impacts attributable to the Dexter Project.

The Service has the expertise and would like to participate in both the impact evaluation and mitigation plan development.

Specific Comments

A comprehensive evaluation of Dexter's impact on wildlife resources should be conducted by a team of qualified biologists composed of representatives from appropriate state and federal wildlife resource agencies. These include the Oregon Department of Fish and Wildlife, Army Corps of Engineers, U.S. Forest Service, and the Fish and Wildlife Service. We

Explanations or Modifications:

No explanations or report modifications necessary.

USFWS Comments (cont.):

suggest the evaluation be based on habitat; supported by population data when available. We believe that such an evaluation could be accomplished with a minimum of new data collection by: 1) analyzing the existing data referenced in the status report such as pre and post construction photographs; and 2) consultation with professional wildlife biologists familiar with the area's wildlife resources as they existed prior to project construction. The evaluation's results should be presented in an impact assessment report.

Utilizing the results from the aforementioned impact statement, we believe that the same team of biologists, with assistance from their agency's respective habitat specialists, should develop a mitigation plan. The plan, if implemented, would fully compensate the adverse wildlife impacts identified.

In addition to assessing the direct impacts, we strongly believe the cumulative effects of this and the other Willamette Valley Reservoirs should be evaluated. The extensive development that has occurred along the Willamette River's flood plain has significantly reduced a variety of wildlife habitats and related resources. That development and resultant wildlife losses would have been considerably less without the construction and operation of Dexter and the other major Willamette Basin projects. Although this level of impact evaluation may go beyond the intent of Section 1004 measures, the impacts are partially attributable to hydropower development and should be addressed by the Power Planning Council.

In conclusion, we believe no single agency or user group is responsible for the adverse wildlife impacts which have resulted from the development and operation of Dexter Dam and Reservoir. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, rules, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Dexter Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife program recognize this and together have given us an opportunity to correct our past mistakes. The Service is eager to move toward that end.

Sincerely yours,

Richard J. Myshak

Richard J. Myshak
Regional Director

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFS Comments:

United States Department of Agriculture
Forest Service
Willamette National Forest
211 East Seventh Avenue
P.O. Box 10607
Eugene, OR 07440

2630
April 20, 1984

Mr. Jim Meyer
Bonneville Power Administration
Box 12999
Portland, OR 97212

Dear Mr. Meyer:

Our review of the five Wildlife Mitigation Status Reports prepared by the Oregon Department of Fish and Wildlife indicates, for the most part, that the reviews are factual and complete. Our comments are meant to clarify the reports, rather than challenge the contents.

Under category IV B (2) Losses: Conspicuous by their absence are references to cougar, bobcat, dnd wolverine. As a minimun, the status report should address each species listed as Threatened or Endangered by the Federal Government or Threatened by the Oregon Department of Fish and Wildlife.

Under category III D (2), the narratives indicate the USDA Forest Service manages 11,375 acres of project lands above the pool areas. We cannot verif y this acreage, but assume your sources are correct. However, for clarification, only 3,679 acres are owned by the U.S. Army Corps of Engineers. The remainder are, and always have been National Forest lands.

The "mutual agreement" statements In category V B (3) for Hills Creek and Cougar Reservoirs only apply to U.S. Army Corps of Engineers lands managed by USDA Forest Service (Cougar = 80 acres and Hills Creek = 265 acres) and to National Forest lands necessary for the operations of the project facilities. The rest of the 'project lands" are National Forest lands and are managed without U.S. Army Corps of Engineers involvement.

For continuity of information, you may wish to modify the Detroit Reservoir narrative category V B (3) to include the information thdt USDA Forest Service manages 1,839 acres of land above pool level that is owned by U.S. Army Corps of Engineers.

Under Category V C, MITIGATION IMPLEMENTED: Please delete all references to plantings recently completed by USDA Forest Service. Those plantings are part of a project whose entire thrust is to develop technology--not to mitigate for the project. We helieve the topic should he included under Category VI, CURRENT STUDIES.

Explanations or Modifications:

Information was limited regarding project impact on wildlife particularly nongdme species. See Sections IV.B.(2) and IV.B.(4). When informatlon was available on these species, it was provided in the status report.

Acreages were provided by USACE.

See Hills Creek and Cougar status report appendices.

See Detroit status report.

No modifications necessary. See Section VI.

USFS Comments (cont.):

2

Project specific comments are as follows:

Detroit: Page 2. Item (2), lines 6 and 7: Delete 'and Big Cliff Reservoir (141 acres)."

Page 9, Item VI, paragraph 2, lines 5 and 6: Delete H. Legdard USFS, pers. commun.). Replace with (Skeesick, 1983).

Page 10, ddd the following reference: Skeesick, D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. and Appendix.

Hills Creek: Page 6, Item (4), paragraph 1: Replace entire paragraph with: two spotted owl management areas (SOMA's) are located within 1 mile of the east side of the reservoir.

Page 9, Item VII A, paragraph 1, line 2: Delete USACE, line 9: delete (H. Legdrd. USFS, pers. commun.). Replace with (Skeesick, 1983).

Page 11, add the following reference: Skeesick, D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Lookout Point: Page 3, Item (2), paragraph 2, line 8: mid-1980's is wrong time period.

Page 5, paragraph 3, lines 6-8: Sentence should be expanded to include the fact that elk forage on available vegetation exposed during drawdown.

Page 6, Item (4), paragraph 2, line 4: Statement is incorrect: An active bald eagle (Federal Threatened Species) nest exists midway along the reservoir (USFS 198I). Two Spotted Owl Management Areas (SOMA's) are located within a mile of the reservoir.

Page 9, Item C. lines 6-10. Aerial seeding was not done as mitigation for the project. It was accomplished to improve production on USDA Forest Service lands.

Page 11 ddd the following references: Skeesick; D.C., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Explanations or Modifications (cont.):

USFS Comments (cont.):

3

USDA Forest Service, 1981. Environmental Assessment Report Crale Creek Bald Eagle Management Area. Willamette National Forest, Lowell Ranger District, Lowell, Oregon. 51 pp. plus appendix.

Cougar: Page 10, Item VII A, paragraph 2, line 4: Delete USACE.

Line 6: Include the following reference: (Skeesick, 1983).

Page 11, add the following references: Skccslck, D.C.. 1983. Development of Technology and Methodology for introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Any questions regarding suggested changes to the status reviews may be directed to Delbert Skeesick (FTS 425-6699).

Thank you for the opportunity to review and comment on the wildlife mitigation status reports.

Sincerely,

for MICHAEL A. KERRICK
Forest Supervisor

cc: Horn, RO
Skeesick, SO

WPOO:M26A40.F7

Explanations or Modifications (cont.):

Wildlife Mitigation Status Report

HILLS CREEK DAM and RESERVOIR PROJECT

Prepared by:

K. L. Bedrossian
R. D. Carleson
J. H. Noyes
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Hills Creek Dam and Reservoir Project

II. PROJECT OPERATOR

U.S. Army Corps of Engineers (USACE)

III. PROJECT DESCRIPTION

A. Location and Size

Hills Creek Dam and Reservoir are located in Lane County, Oregon, approximately 45 miles southeast of Eugene, on the Middle Fork of the Willamette River at river mile 47.8 (USACE 1982). The project is located within the Willamette National Forest. The main access route is State Highway 58.

The project structure is an earth-and-gravel-fill dam about 2,150 feet long at the crest and 338 feet above the foundation (USACE 1982). The powerhouse contains two 15,000 kilowatt generators. At full pool level the reservoir surface area is approximately 2,710 acres, 8.5 miles long, with a maximun width of approximately 0.75 mile (USACE 1982; U.S. Forest Service [USFS] 1983a).

B. Authorized Purposes

The primary purpose of the project was flood control. Other authorized purposes included power generation, irrigation, navigation, pollution abatement, domestic water supply, and "public use" (USACE and USFS 1963).

C. Brief History

The Hills Creek Project was authorized by the Flood Control Act approved 17 May 1950. Construction of the project was initiated in 1956. Flood control began in 1961 and the 2 power generators were in operation in 1962. The project was considered complete as of June 1963 except for miscellaneous improvements (USACE 1963).

D. Other Pertinent Data

(1) Water level fluctuation and timing

Hills Creek and Lookout Point are operated as a unit for flood control and power generation (USACE 1962). The flood control season is from 1 December to 31 January, followed by conservation storage filling from 1 February to 14 May and conservation holding and release from 15 May to 30 November (USACE 1980b). The maximun pool elevation of Hills Creek Reservoir is 1,543 feet; minimum power pool elevation is 1,414 feet. Drawdown is 129 feet (USACE 1980a).

(2) Land ownership

The total anount of land acquired for the project was approximately 5,663 acres (i. Klenke, USACE, pers. commun.). USACE regulates the water controlled by the dam and is responsible for 204 acres of land adjacent to the reservoir that are necessary for operational purposes (L. Klenke, USACE, pers. commun.). USFS manages activities on the water surface of Hills Creek Reservoir (2,710 acres) and administers 2,749 acres of project land contiguous to the reservoir within the National Forest boundaries (L. Klenke, USACE, pers. commun.). Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the project area, which is located in ODFW's Indigo Wildlife Management Unit. USFS and USACE are responsible for habitat management (USACE and USFS 1968). The project is located within the USFS Rigdon Ranger District.

(3) Indian rights

No tribes are involved with the actions taken at the Hills Creek Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Information on pre-construction conditions was obtained from written reports, project files, and conversations with appropriate individuals. pre-construction aerial photos are available from USACE and the University of Oregon Map Library. Three reports provided information on conditions prior to construction and predicted impacts to a limited number of wildlife species. Big game, upland game, waterfowl, and furbearers were considered. Oregon State Game Commission (OSGC) and Fish Commission of Oregon (FCO) published a report in 1948 entitled "Fish and wildlife problems arising from the Willamette Valley Project." The report provided an evaluation of "the benefits and losses . ..to various game and fur animal species" and presented "recommendations concerning methods of mitigating losses" as a result of the Willamette Valley Project. Potential impacts were addressed briefly by watershed. U.S. Fish and Wildlife Service (USFWS) in 1948 published a "preliminary evaluation report on fish and wildlife resources," in which the effects of the entire Willamette Valley Project on wildlife were considered. In 1958 USFWS published "A detailed report of fish and wildlife resources affected by Hills Creek Reservoir Project." This report provided a small amount of general information on big game, upland game, furbearers, and waterfowl during the pre-construction period. Also included were predicted impacts of construction and fluctuating water levels on these species. No quantitative assessments were conducted. The following information is based on these reports and conversations with R. Jubber, the ODFW Lane District wildlife biologist from 1956 to 1981. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The project site is located in the Western Hemlock Zone described by Franklin and Dyrness (1973). The Middle Fork basin is "rugged and largely covered with a heavy stand of timber" (USACE and USFS 1963). Prior to construction, the reservoir site consisted of timber stands of Douglas fir, cedar and hemlock. The coniferous stands were intermixed with deciduous trees (cottonwood and big-leaf maple) on the lower slopes. Most of the area had a dense understory of willow, vine maple, alder, dogwood, rhododendron, salal, fern, blackberry, and various forbs and grasses (USFWS 1958).

USFWS (1958) identified project land as: 1,250 acres of Federal land, most of which were forested; and 1,586 acres of private land of which approximately 1,300 acres were forested, 26 acres were cultivated, and 260 acres were untiliable. Seven summer homesites or rental units, 3 small farms, and a logging campsite were located within the impoundment site (USFWS 1958).

The principal big game species in the reservoir area was black-tailed deer (USFWS 1958; USACE and USFS 1963, 1968). According to USFWS (1958), deer numbers were high and were increasing as a result of logging in the area. OSGC (1948) estimated 5 deer per square mile along the Middle Fork of the Willamette River in 1948. This 1948 estimate for the Middle Fork was probably very low for the Hills Creek Reservoir site when construction began in the mid-1950's (R. Jubber, ODFW, pers. commun.). Forty to 50 deer per square mile is a more accurate estimate (R. Jubber, ODFW, pers. commun.). Deer harvest was high and hunting pressure was above average for the Willamette National Forest (USFWS 1958). Elk were not mentioned in the USFWS 1958 report or the USACE and USFS report of 1963. The 1968 USACE and USFS report stated "small numbers of Roosevelt elk utilized the area as winter range." All three reports indicated that black bear were present in the impoundment area in low numbers.

Blue and ruffed grouse populations were large (USFWS 1958). OSGC (1948) estimated 4 grouse per square mile along the Middle Fork of the Willamette River. That estimate was probably very low for the Hills Creek area during the 1950's and 1960's (R. Jubber, ODFW, pers. commun.). Mountain quail, band-tailed pigeon, mourning dove, and brush rabbit were present in fewer numbers (USFWS 1958).

Several species of furbearers (beaver, mink, otter) were "fairly plentiful" in the project area (USFWS 1958). Raccoon and skunk also occurred on the reservoir site. "There was virtually no waterfowl utilization of the reservoir site" (USACE and USFS 1963, 1968). Nongame species were not mentioned in the literature on pre-construction conditions. This exclusion probably reflects the historical emphasis of wildlife management on game species only. OOFW was not given legal jurisdiction over nongame species until 1971.

B. Post-Construction Period

(1 Available information

Reports providing information on wildlife after construction of Hills Creek Dam and Reservoir were not directed toward wildlife impact assessments. In 1963 USACE and USFS published a joint master plan on reservoir management and public use development at Hills Creek, which emphasized recreation. One paragraph considered wildlife impacts. Species of concern were big game, furbearers, upland game, and waterfowl. USACE and USFS prepared another plan on reservoir management and public use development in 1968. Information on wildlife impacts was limited to 1 paragraph also. USACE (1980b) pub1 ished "An environmental impact statement on operations and maintenance of the Willamette Reservoir System'. Cumul ative impacts of operation of the Willamette Reservoir System were briefly discussed Post-construction aerial photos are available from USACE, USFS, and the University of Oregon Map Library. The following information is based on the literature previously mentioned and conversations with individuals knowledgeable of the Hills Creek area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Hills Creek Reservoir inundated 2,710 acres. Habitat for big game, upland game, furbearers and nongame animals in the impoundment area was eliminated or extensively altered. Use of the impoundment area by black-tailed deer, elk and black bear was eliminated (USACE and USFS 1968).

Habitat lost within the project area included riparian habitat and big gams winter range. The USFWS report (1958) and the USACE and USFS report (1963) stated the loss of big game habitat would be relatively minor since the reservoir site did not comprise essential big game range. However, the USACE and USFS 1968 report stated "the loss of this area is particularly significant because it was winter range for both black-tailed deer and Roosevelt elk." It is currently estimated that there are 40 deer per square mile in the area surrounding the project site (J. Greer, ODFW, pers. commun.).

Due to logging in the Hills Creek area, elk use has increased since the project was constructed. There have been no transplants of elk into the Hills Creek area by ODFW (R. Jubber, ODFW, pers. commun.). A herd of elk is often seen foraging in the river bottom area at the upper end of Hills Creek Reservoir (R. Jubber, ODFW, pers. commun.). According to a USFS report (1983a), elk "feed extensively on existing vegetation" near the head of Hills Creek Reservoir. A herd of elk winters near the Packard Creek Camp Ground on the west side of the reservoir (J. Greer, ODFW, pers. commun.). Elk may be wintering at this site because adjacent private lands have been extensively logged and lack cover (J. Greer, ODFW, pers. commun.). A herd of elk on Bald Butte moves down to the edge of the reservoir during the hunting season (R. Jubber, ODFW,

pers. commun.). If the reservoir area had not been inundated it probably would be used at winter range by both Roosevelt elk and black-tailed deer (J. Greer, ODFW; R. Jubber, ODFW, pers. commun.). Big game movement and possibly migration have been altered as a result of the project.

A decrease in "upland game values" in the watershed as a result of the project was predicted (USFWS 1958; USACE and USFS 1963, 1968). "Some marginal use of the storage pool by blue and ruffed grouse, mourning doves, and mountain quail may occur, but this utilization will be low" (USFWS 1958). A current estimate for blue and ruffed grouse in the Hills Creek area is 20 per square mile (J. Greer, ODFW, pers. commun.). Mountain quail densities are estimated to be 30 per square mile (J. Greer, ODFW, pers. commun.). Comparable upland game densities probably would have existed within the project area.

Stream habitat for furbearers within the reservoir site was eliminated and movement up and down the stream was blocked. Mink and raccoon use the reservoir for foraging, but as predicted by USFWS (1958), furbearer use is limited by the fluctuating water levels (J. Greer, ODFW; R. Jubber, ODFW, pers. commun.).

Hills Creek Reservoir is of "little value to waterfowl" (USACE and USFS 1963, 1968). The reservoir is "deep and narrow with occasional well-defined ravines on either shore. The shoreline topography is steep to precipitous, with slopes generally exceeding 20 to 30%" (USACE and USFS 1963). As predicted by USFWS (1958), the steep slopes and fluctuating water levels have prevented the establishment of marginal plants and aquatic vegetation and thus no waterfowl nesting or feeding habitat has developed. In addition, roads provide access to nearly all of the shoreline and "rapid improvement of the highways will gradually enlarge the zone of influence of the reservoir" (USACE and USFS 1963).

Information regarding the effects of construction activities on wildlife was limited to potential illegal hunting by construction workers (OSGC and FCO 1948). Information on the impact of road construction as a result of the project was not available. information was not available (without conducting a more detailed study) on specific wildlife habitat types and the amount of each habitat type affected by the project. No record of nongame species affected by the project was found. The number of game animals lost was not provided (density estimates for the Middle Fork of the Willamette River were provided by OSGC in 1948, eight years prior to initiation of construction). An evaluation of the significance of the loss of habitat for wildlife in quantitative or ecological terms was not available. It was not determined if the reservoir is a barrier to wildlife migration.

Cumulative impacts as a result of the Willamette Reservoir System were predicted by USFWS and by OSGC in 1948 and were assessed by USACE (1980b) in an environmental impact statement. The most significant cumulative impact is probably the loss of wildlife habitat because of increased human development on the floodplains of the Willamette River. Human development was not possible prior to construction of the Willamette Reservoir System because of periodic flooding. The increased

development has reduced wildlife habitat along the river from the dam site to Portland. Another cumulative impact is the reduction of downstream wetland habitat previously created by seasonal flooding. Upland habitat, winter range, riparian habitat, and wetland habitat have all been reduced as a result of the Willamette Reservoir System.

(3) Benefits

Waterfowl use of the reservoir is limited (J. Greer, ODFW; R. Jubber, ODFW, pers. commun.), presumably due to lack of suitable plant foods (USFS 1983a). Migrating waterfowl may use the reservoir for resting, although "adequate resting area is presently furnished migratory and wintering birds at Lookout Point and Dexter Reservoirs which are considerably nearer duck and goose feeding grounds in the Willamette Valley" (USFWS 1958). Mergansers, buffleheads, scaup, goldeneyes, white-fronted geese and Canada geese have been observed on the reservoir (J. Greer, ODFW, pers. commun.). ODFW considers Hills Creek Reservoir to have low potential for waterfowl use due to the seasonal timing of drawdowi and filling periods (Denney 1982).

(4) Additional information

According to W. Dugas (USFS, pers. commun.) both bald eagles and ospreys probably benefited by construction of the reservoir. The effect dams have on bald eagle populations is not clear. Eagles may have benefited by construction of reservoirs if a greater year-round fish prey base occurred as a result (W. Haight, ODFW, pers. commun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs.

One active and 1 alternate bald eagle nest are located near Hills Creek Reservoir (Isaacs and Anthony 1983). Hills Creek Reservoir was identified by the Pacific States Bald Eagle Recovery Team (1982) as a "key area," defined as an area currently supporting a breeding and/or wintering population of eagles and thus possessing the necessary habitat features. The team also documented 3 potential eagle territories within the area. One adult and 5 immature eagles were seen in the Hills Creek area during the 1982 midwinter bald eagle survey (USACE bald eagle files); three adult eagles were observed during the 1983 count. The area currently supports a wintering population of 10 bald eagles (Pacific States Bald Eagle Recovery Team 1982).

Bald eagles and ospreys use Hills Creek Reservoir as a foraging area (USFS 1983a). Four osprey nests (3 active, 1 inactive) have been identified along the reservoir shoreline (B. Ferry, ODFW, pers. commun.).

Two spotted owl management areas (SOMA's) are located within 1 mile of the east side of the reservoir (USFS comment on 7 February Draft Report).

Production, trend count, and harvest data are available from ODFW for big game in the Indigo Wildlife Management Unit and for upland game in Lane County. Harvest data are available for furbearers in Lane County.

Available big game data for the vicinity of Hills Creek Reservoir include deer trend counts for the Middle Fork of the Willamette River drainage (including the area above and below the project site), and herd composition of deer and elk on the slopes adjacent to the reservoir (J. Greer, ODFW, pers. commun.).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

USFWS (1948) recommended mitigation measures for the Willamette Valley Project as a whole, including: a study of the effects of the project on upland game and furbearers, with a view to recommending feasible management practices beneficial to these animals; consideration of establishing a Federal wildlife refuge at Fern Ridge; and land acquisition and development for waterfowl. OSGC (1948) proposed specific mitigation measures for the Willamette Valley Project including increased law enforcement, feeding sites, marsh development, and furbearer research and management.

No project specific recommendations for wildlife mitigation were made by USFWS or OSGC in the report on wildlife resources at Hills Creek (USFWS 1958). The only recommendation made regarding wildlife was "that Federal lands and project waters in the project area be open to free use for hunting." No mitigation for wildlife at Hills Creek Reservoir was requested during the design and planning stage (USACE 1980b).

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

Not applicable to this project.

(2) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife, fish and game....*' The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with USFWS and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Federal development projects were required to contain adequate provision for "conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon," consistent with primary project purposes. This Act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The Hills Creek Project was required to comply with FWCA, including the 1958 amendment. Although the 1958 amendment was enacted after initiation of construction of Hills Creek Dam and Reservoir, the amendment was applicable to projects not "considered to be substantially completed" ("sixty percent or more of the estimated construction cost has been obligated for expenditure"). Hills Creek was not 60% complete at that time (USACE 1958, 1959). The 1948 publications by USFWS and OSGC and the USFWS 1958 report were prepared to meet the requirements of FWCA.

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that federal agencies consult with the Department of the Interior to ensure that federal actions not jeopardize any threatened or endangered species. Since there have been no additions or major changes to the Hills Creek Project, no impact assessments or mitigation measures have been mandated during the operational history of the dam. An environmental impact statement was published by USACE (1980b) on "Operations and maintenance of the Willamette Reservoir System" under authority of Public Law 91-190 (NEPA of 1969).

(3) MOU's or other agreements

A Memorandum of Agreement (MOA) between the Secretaries of the Army and Agriculture dated 13 August 1964 covers the "management of land and water resources at water development projects of the Corps of Engineers located within or partly within" the National Forest System (The Perron Partnership, P.C. 1974, Appendix H). This MOA superseded an MOA dated 16 December 1946. Portions of the 1964 MOA affecting wildlife mitigation include:

a) USACE and USFS "will cooperatively plan the development, use and management of water resource projects as they relate to land resources . . ..This planning will be pointed toward achieving the maximum public benefits from each project and will delineate the procurement of necessary lands to assure meeting all foreseeable public needs for recreation, wildlife, and other use compatible with the primary purposes of the water storage facility."

b) "Water resource projects will be planned and operated to provide the greatest feasible public use for recreation, wildlife and fish propagation, conservation of scenic and esthetic values, and the harmonious use of timber and other commodities consistent with the other water control and use purposes."

c) "In its construction activities, the Department of the Army will take all responsible precautions to prevent and suppress forest fires on and prevent any unnecessary damage to lands and resources associated with the project construction and to this end will collaborate with the Department of Agriculture in formulation of fire prevention and control plans and programs, location of access roads and relocation of transportation facilities, land clearing standards, and other matters essential to the protection of resources and conservation of the scenic

and esthetic aspects of the reservoir environment." (The Perron Partnership, P.C. 1974, Appendix H).

At the present time, USFS management of 265 acres of USACE Hills Creek Project lands, and management of National Forest lands necessary for project operation is through mutual agreement between USACE and USFS. A formal MOU between USFS and USACE has been submitted and is pending review and approval by higher authorities in Washington, D.C. (D. Webster, USACE, pers. commun.). A Memorandum of Understanding (MOU) between USACE and USFS dated 24 August 1956 and 7 supplemental MOU's dealt primarily with roads, trails, and service facilities at Hills Creek Reservoir.

C. Mitigation Implemented

No documentation was found of mitigation, enhancement, or protection measures implemented by USACE at the Hills Creek Project to offset impacts to wildlife resulting from construction or operation of the project.

Although not as part of a mitigation program, USFS, ODFW, and USACE have conducted programs to benefit wildlife at the Hills Creek Project. In 1983, ODFW and USFS planted and fertilized 100 acres of annual rye grass at the upper end of the reservoir to provide winter forage for elk (D. Cleary, ODFW, pers. commun.). USACE, in 1983, conducted brush cuttings on approximately 10 acres of USACE-managed land immediately downstream from the dam. The purpose was to stimulate big game browse production. Winter use of the area by elk has been observed by USACE personnel (B. Ferry, ODFW, pers. commun.)

VI. CURRENT STUDIES AND PLANNING

Several projects are planned to improve habitat for wildlife in the Hills Creek area. USFS is planning to continue studies at Hills Creek Reservoir to determine which plant species will survive under fluctuating water levels (Skeesick 1983). Although the initial goals of the studies were to increase ban stability, decrease slope ravel and decrease turbidity, the establishment of bank vegetation is expected to benefit wildlife (USFS 1983a). The additional cover and food available to fish could increase fish populations and benefit eagles and ospreys. In addition, the increase in forage availability could benefit big game, particularly during winter. At Hills Creek, a 6-acre trial planting of cypress, willow, and sedge is being monitored for survival and wildlife utilization (Skeesick 1983). ODFW and USACE are currently evaluating the forage seeding program mentioned in Section V. C. to improve big game habitat on USACE-managed lands near the dam (B. Ferry, ODFW, pers. commun.; K. Pipes, USACE, per-s. commun.). A bald eagle management plan for the reservoir area discusses plans for protecting all habitat types used by bald eagles (USFS 1983b). USFS has established guidelines for protection of spotted owl management areas in the Willamette National Forest (K. Kestner, USFS, pers. commun.).

Other studies and planning being conducted in the Willamette Valley and State of Oregon could eventually affect wildlife/habitat management in

the Hills Creek area. USFS is conducting studies of spotted owl and old growth forest management. ODFW is developing several management plans including a big game plan for the Indigo Wildlife Management Unit, a statewide nongame plan, and a cooperative waterfowl management plan for the Willamette Valley. A radio tagging study designed to provide information on migration routes and winter range of elk in the Cascade Range has been initiated by ODFW. This information could document use of the project area by elk and indicate the most suitable locations for mitigation, enhancement or protection (D. Cleary, ODFW, pers. commun.).

VII. REFERENCES CITED

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Karen Bedrossian
Dan Carleson
Jim Noyes
Mary Potter

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

G. Dorsey
K. Dzimbal
L. Klenke
K. Pipes
D. Webster
R. Willis
C. Zarnekee

(2) Summary of Project Operator Contacts

Date	Individual	Summary
27 June 1983	R. Willis	Meeting. Discussed project and sources of information.
June 1983	P. Peloquin North Pac.Div.	Phone. R. Giger provided information on project, requested contacts.
1 July 1983	R. Duncan P. Peloquin	R. Giger sent letter to USACE providing information and requesting contacts.
20 July 1983	G. Dorsey	Phone. Requested general information. Set up meeting.
21 July 1983	G. Dorsey	Meeting. Discussed project and obtained documents.
26 July 1983		Operator contact meeting arranged by R. Giger. P. Peloquin represented USACE in Spokane.
1 August 1983	R. Willis	Phone. Discussed mitigation at Hills Creek.
5 August 1983	K. Pipes	Phone. Discussed mitigation plans for Hills Creek.
8 August 1983	G. Dorsey	Meeting. Obtained information.
30 August 1983	K. Pipes	Phone. Requested report and discussed mitigation plans.
14 September 1983	G. Dorsey	Phone. Discussed MOUs.
15 September 1983	G. Dorsey	Phone. Obtained information on persons to contact about project.

20 September 1983	L. Klenke G. Dorsey	Meeting. Obtained information.
14 October 1983	P. Peloquin K. Dzimbal	Meeting. Wildlife mitigation at Willamette Valley Projects.
20 October 1983	K. Dzimbal	Meeting. Discussion of reports and projects. Requested information on EIS.
2 December 1983	G. Dorsey	Phone. Discussed progress of reports, reinitiation of contact and coordination.
9 December 1983	G. Dorsey K. Dzimbal	Meeting. Reinitiated contact and coordination. Obtained information on MOU's and MOA's.
13 December 1983	G. Dorsey	Meeting. Obtained information on MOU's.
18 January 1984	G. Dorsey	Phone. Requested information on mitigation at Hills Creek.
2 February 1984	D. Webster	Phone. Obtained information on MOU's.

(3) Other individuals Contacted

Oregon Department of Fish and Wildlife

C. Bruce
R. Carleson
D. Cleary
B. Ferry
J. Greer
R. Jubber

U.S. Fish and Wildlife Service

C. Craig
D. Lenhart

U.S. Forest Service

W. Dugas
E. Harshman
P. Howard
K. Kestner
H. Legard
D. Skeesick
J. Vanderheydon

Other

S. Trevitt Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 7 FEBRUARY 1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (USFWS and USFS)

(3) Tribes

No tribes are involved with the actions taken at the Hills Creek Project.

(4) Facility Operator (USACE)

BPA requested comments on the 7 February 1984 Hills Creek Project draft report by 9 April 1984. USACE had not submitted their comments by 17 August 1984 when the final report was typed, therefore, USACE comments could not be incorporated into the report.

ODFW Comments:

Department of Fish and Wildlife
506 S.W. MILL STREET, P O. BOX 3503. PORTLAND. OREGON 97208

April 2, 1904

APR 09 1984

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Dear Mr. Palensky:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset Impacts resulting from hydroelectric development.

As the Hills Creek Wildlife Mitigation Status Report and our attached comments on that report indicate, comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency. Knowledge of wildlife resources and legal mandates hdve changed since the Willamette Valley projects were constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of animal populations and habitat. The Willamette Valley projects have high priority due to the high value of wildlife resources involved.

In recognition of our Increased responsibilities to address d broad range of concerns, I strongly urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council, In particular, we must proceed with dmitigation plan based on d comprehensive assessment of wildlife impacts dt the Hills Creek Project. The Department is prepared to tdke the lead ln this endeavor using: 1) the expertise of biologists from various agencies 2) existing ddtd where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish dnd Wildlife Program has been the mitigation status report. We must now tdke the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the Hills Creek Project.

Sincerely,

John R. Donaldson, PhD
Director

JRD:aj
Encl.

Explanations or Modifications:

No explanations or report modificatlons necessary.

ODFW Comments (cont.):

Oregon Department of fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Hills Creek Dan and Reservoir
April 2, 1984

These comments respond to a request from James R. Meyer, Bonneville Power Administration, dated 13 March 1984 to review the Mitigation Status Report for Hills Creek Dam and Reservoir.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to animal populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries...." This goal has yet to be achieved at the Hills Creek Project.

The Hills Creek Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from the construction of the dam was not comprehensive. This is evident by the lack of informatIon available regarding the impact of road construction, the types and amounts of habitat inundated, and the nongame species affected by the project. No project specific populations estimates were made. The significance of the Inundated hdbitdt to wildlife has not been fully explored. Even though impact assessment has not been adequate, it is obvious that Substantial impacts occurred to wildlife as a result of the Hills Creek Project, considering acreage of habitat inundated (which included riparian habitat and big game winter range). The status report indicates no substantial mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In evaluating the effects of the Willamette Valley Projects, we should not overlook the cumulative effects of the entire Willamette Valley Reservoir System. Although consideration of the overall system may be beyond the bounds of this portion of the NPPC wildlife program, the impact on wildlife cannot be ignored. The development of the former flood plain could not hdve been possible without the reservoir system. Extensive revetment and riprap work has been done on the Willamette River, effectively eliminating riparian habitat and cutting off oxbows and side channels. Wetlands have been drained and other productive wildlife habitats have been lost to development.

Explanations or Modifications (cont,):

Ko explanations or report modifications necessary

ODFW Comments (cont.):

The Hills Creek Project should be considered in context with the other dams and reservoirs In the system and their cumulative impact on wildlife taken into account.

In order to "protect, mitigate and enhance" wildlife resources affected by the development and operation of the hydroelectric generating facilities at the Hills Creek Project, It Is necessary to determine what impacts occurred. Upon the approval of and funding by the Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of Impacts to wildlife resources resulting from the Hills Creek Project and to prepare a net impacts statement. The Department is also ready to take the lead In developing mitigation plans. Consultation and coordination with appropriate agencies Involved In the Hills Creek Project, is of course, an integral part of both of these processes. We believe that a workable net impacts statement and mitigation plan can be developed based on existing information and the expertise of biologists from the various agencies who are familiar with the project area and approprlate wildlife habitat and species. Extensive, detailed studies will only delay implementatlon of mitigation measures.

The level of understanding of our wildlife resources has greatly improved since the time of construction of the Hills Creek Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development dnd operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife wants to see that opportun(ty realized to the fullest degree possible in a timely, effective, and cost-effective manner.

Explanations or Modifications (cont.):

No explanations or modifications necessary.

USFWS Comments:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

LLOYD 500 BUILDING, SUITE 1692
500 N.E. MULTNOMAH STREET
PORTLAND, OREGON 97232

APR 12 1984

APR 17 1984

045

April 9, 1984

Mr. Peter Johnson, Administrator
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Johnson:

As requested in Mr. Meyer's letter of March 13, 1984, we have reviewed the Wildlife Mitigation Status Report for Hills Creek Dam and Reservoir. The following comments are being provided for inclusion in the final report.

Ge nel Comments

We believe the report is well written and adequately descr bes the status of past, present, and proposed wildlife m tigation for the Hills Creek Project.

Based on the report's content, it is evident that the construction and operation of the project has resulted in substantial adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Hills Creek Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate the adverse wildlife impacts attributable to the Hills Creek Project.

The Service has the necessary expertise and would like to participate in both the impact evaluation and mitigation plan development tasks.

Specific Comments

A comprehensive evaluation of Hills Creek Project's impact on wildlife resources should be conducted by a team of qualified biologists composed of representatives from appropriate state and federal resource and development agencies. These include the Oregon Department of Fish and Wildlife, Army Corps of Engineers, U.S. Forest Service, and Fish and Wildlife Service. We

Explanations or Modifications:

No explanations or report modifications necessary

USFWS Comments (cont.):

suggest the evaluation be habitat based and supported by population data when available. We believe that such an evaluation could be accomplished with a minimum of new data collection by: 1) analyzing the existing data referenced in the status report such as pre- and post-construction photography; and 2) consultation with professional wildlife biologists familiar with the area's wildlife resources as they existed prior to project construction. The evaluation's results should be presented in an impact assessment report.

Utilizing the results from the aforementioned impact statement, we believe that the same team of biologists, with assistance from their agencys' respective habitat specialists, should develop a mitigation plan. The plan, if implemented, would be designed to fully compensate the adverse wildlife impacts identified.

In addition to assessing the direct impacts, we strongly believe the cumulative effects of this and the other Willamette Valley Reservoirs should be evaluated. The extensive development that has occurred along the Willamette River's flood plain has significantly reduced a variety of wildlife habitats and related resources. That development and resultant wildlife losses would have been considerably less without the construction and operation of Hills Creek and the other major Willamette Basin projects. Although this level of impact evaluation may go beyond the intent of Section 1004 measures, the impacts are partially attributable to hydropower development and should be addressed by the Power Planning Council.

In conclusion, we believe no single agency or user group is responsible for the adverse wildlife impacts which have resulted from the development and operation of Hills Creek Dam and Reservoir. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Hills Creek Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

Richard J. Myshak
Regional Director

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFS Comments:

United States Department of Agriculture

Forest Service

Willamette National Forest

211 East Seventh Avenue
P.O. Box 10607
Eugene, OR 97440

2630
April 20, 1984

Mr. Jim Meyer
Bonneville Power Administration
Box 12999
Portland, OR 97212

Dear Mr. Meyer:

Our review of the five Wildlife Mitigation Status Reports prepared by the Oregon Department of Fish and Wildlife Indicates, for the most part, that the reviews are factual and complete. Our comments are meant to clarify the reports, rather than challenge the contents.

Under category IV B (2) Losses: Conspicuous by their absence are references to cougar, bobcat, and wolverine. As a minimum, the status report should address each species listed as Threatened or Endangered by the Federal Government or Threatened by the Oregon Department of Fish and Wildlife.

Under category III D (2), the narratives indicate the USDA Forest Service manages 11,375 acres of project lands above the pool areas. We cannot verify this acreage, but assume your sources are correct. However, for clarification, only 3,679 acres are owned by the U.S. Army Corps of Engineers. The remainder are, and always have been National Forest lands.

The "mutual agreement" statements in category V B (3) for Hills Creek and Cougar Reservoirs only apply to U.S. Army Corps of Engineers lands managed by USDA Forest Service (Cougar = BO acres and Hills Creek - 265 acres) and to National Forest lands necessary for the operations of the project facilities. The rest of the "project lands" are National Forest lands and are managed without U.S. Army Corps of Engineers Involvement.

For continuity of information, you may wish to modify the Detroit Reservoir narrative category V B (3) to include the information that USOA Forest Service manages 1,839 acres of land above pool level that is owned by U.S. Army Corps of Engineers.

Under Category V C. MITIGATION IMPLEMENTED Please delete all references to plantings recently completed by USDA Forest Service. Those plantings are Part of a project whose entire thrust is to develop technology--not to mitigate for the project. We believe the topic should be included under Category VI, CURRENT STUDIES.

Explanations or Modifications:

Information was limited regarding project impacts on wildlife, particularly nongame species. See Sections IV.B.(2) and IV.B.(4). When information was available on these species, it was provided in the status report.

Acreages were provided by USACE.

Report modified as suggested. See Section V.B.(3). See Cougar status report appendix.

See Detroit status report.

Report modified as suggested. See Sections V.C. and VI.

USFS Comments (cont.):

2

Project specific comments are as follows:

Detroit: Page 2, Item (2), lines 6 and 7: Delete "and Big Cliff Reservoir (141 acres)."

Page 9, Item VI, paragraph 2, lines 5 and 6: Delete H. Legard USFS. pers. commun.). Replace with (Skeesick, 1983).

Page 10, add the following reference: Skeesick, D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene. Oregon. 39 pp. and Appendix.

Hills Creek: Page 6, Item (4). paragraph 1: Replace entire paragraph with: two spotted owl management areas (SOMA's) are located within 1 mile of the east side of the reservoir.

Page 9, Item VII A, paragraph 1, line 2: Delete USACE, line 9: delete (H. Legard, USFS, pers. commun.). Replace with (skeesick, 1983).

Page 11, add the following reference: Skeesick D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Lookout Point: Page 3, Item (2). paragraph 2, line 8: mid-1980's is wrong time period.

Page 5, paragraph 3, lines 6-8: Sentence should be expanded to include the fact that elk forage on available vegetation exposed during drawdown.

Page 6, Item (4), paragraph 2, line 4: Statement is incorrect: An active bald esgle (Federal Threatened Species) nest exists midway along the reservoir (USFS 1981). Two Spotted Owl Management Areas (SOMA's) are located within a mile of the reservoir.

Page 9, Item C. lines 6-10, Aerial seeding was not done as mitigation for the project. It was accomplished to improve production on USDA Forest Service lands.

Page 11 add the following references: Skeesick; D.G., 1983. Development of Technology dnd Methodology for Introduction of Terrestrial Vegetation In Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Explanations or Modifications (cont.):

Report modified as suggested. See Section lV.B.(4).

Report modified as suggested. See Section VI.

Report modified as suggested. See Section VII.

USFS Comments (cont.):

3

USDA Forest Service, 1981. Environmental Assessment Report Crale Creek Bald Eagle Management Area. Willamette National Forest, Lowell Ranger District, Lowell, Oregon. 51 pp. plus appendix.

Cougar: Page 10, Item VII A, paragraph 2, line 4: Delete USACE.

Line 6: Include the following reference: (Skeesick, 1983).

Page 11, add the following references: Skeesick, D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Any questions regarding su ggeted changes to the status reviws may be directed to Delbert Skeesi ck.FTS 425-6699).

Thank you for the opportun ty to review and comment on the will ife mitigation status reports.

Sincerely,

for MICHAEL A. KERRICK
Forest Supervisor

cc: Horn, RO
Skeesick, SO

WP00:M26A40.F7

Explanations or Modifications (cont.):

Wildlife Mitigation Status Report

GREEN PETER-FOSTER PROJECT

Prepared by:

M. S. Potter
K. L. Bedrossian
R. D. Carleson
J. H. Noyes

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Green Peter and Foster Dams and Reservoirs (Green Peter-Foster Project)

II. PROJECT OPERATOR

U.S. Army Corps of Engineers (USACE)

III. PROJECT DESCRIPTION

A. Location and Size

Green Peter and Foster reservoirs are located in Linn County, Oregon. Green Peter Dam is located on the Middle Santiam River at river mile 5.5 (USACE 1970). Foster reregulating dam is situated at the junction of the Middle and South Santiam rivers, near the town of Foster at river mile 38.5 of the South Santiam River (U.S. Fish and Wildlife Service [USFWS] 1963). Main access for both dams is U.S. Highway 20, which joins Interstate 5 at Albany. Highway 20 parallels the south shore of Foster Reservoir and is met by Quartzville Road 3 miles upstream from Foster. Quartzville Road parallels the north shore of Green Peter Reservoir. Foster Dam is 3.5 miles northeast of Sweet Home; Green Peter Dam is 10.5 miles northeast of Sweet Home.

The Green Peter structure is a concrete gravity dam approximately 1,400 feet long at the crest and 385 feet high from streambed to roadway (USACE 1982). The powerhouse contains 2 Francis generating units with a total rated capacity of 80,000 kilowatts. At full pool level the reservoir surface area is approximately 3,605 acres (K. Beck, USACE, pers. commun.), 10 miles long, with a maximum width of approximately 1 mile (USACE 1970).

Foster Dam is a gravel and quarried rockfill structure approximately 4,800 feet long and 146 feet high from foundation to crest (USACE 1982). The powerhouse contains 2 Kaplan generating units with a total rated capacity of 20,000 kilowat s. At full pool level the reservoir surface area is 1,195 acres (K. Beck, USACE, pers. commun.), 5 miles long, and has an average width of 0.75 mile (USACE 1967a, 1976).

B. Authorized Purposes

Green Peter and Foster dams were intended to "function as a unit in the coordinated system of reservoirs for multiple-purpose development of the water resources in Willamette River basin" (USACE 1961). The primary purpose of the unit was flood control. Other purposes included power generation, irrigation, navigation, domestic water supply, pollution abatement, and recreational use (USACE 1967a, 1970).

C. Brief History

The Green Peter Project was authorized by the Flood Control Act of 17 May 1950, in lieu of the Sweet Home Reservoir authorized by the 28 June 1938 Flood Control Act. Power facilities were authorized for

Green Peter by the Flood Control Act of 3 September 1954. Foster Dam was authorized by the Flood Control Act of 14 July 1960 to replace the White Bridge reregulating dam authorized by the 3 September 1954 Flood Control Act (USACE 1961).

Construction began during the spring of 1961. Green Peter Reservoir was placed in operation and maintenance status for flood control, and both power generators began functioning in June 1967. Flood control began at Foster at the same time. Power generators at Foster Dam were placed into operation during August and September of 1968. The Green Peter powerhouse and substructure were completed in November 1967. All major construction at the project was completed by the end of fiscal year 1969, with only minor construction still under way (USACE 1967b, 1968, 1969, 1970, 1982).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The Green Peter powerhouse is operated as a peaking plant. The flood control season is 1 December to 31 January, followed by conservation storage filling from 1 February to 10 May, and conservation holding and release from 11 May to 30 November (USACE 1980b). Maximum pool elevation is 1,015 feet, and minimum pool elevation is 887 feet (USACE 1980a). Yaximum annual drawdown at Green Peter is 88 feet (USACE 1981). Winter minimum flood control pool exposes approximately 1,650 acres of shoreline (Battelle 1976).

The Foster powerhouse is operated for base load power generation. The flood control season runs from 15 November to 31 January. Conservation storage filling coincides with Green Peter, while the conservation holding and release period is 11 May to 14 November (USACE 1980b). Maximum pool elevation at Foster is 641 feet, and minimum pool elevation is 609 feet (USACE 1980a). Daily fluctuations normally do not exceed 2 feet (USACE 1967a). Approximately 365 acres of shoreline are exposed at minimum flood control pool (Battelle 1976).

2. Land ownership

Total acreage of the Green Peter Project is approximately 6,337 acres (K. Beck, USACE, pers. commun.). The project encompasses 2,732 acres above maximum conservation pool (USACE 1981), of which 16 acres are necessary for project operations (K. Beck, USACE, pers. commun.). The Bureau of Land Management (BLM) has jurisdiction of the mineral and vegetation resources on BLM lands on the peninsula and Quartzville Creek arm of the reservoir (USACE 1970). U.S. Forest Service (USFS) does not own land adjacent to project lands, but USFS parcels are located near Green Peter Reservoir on Tally Creek.

The Foster Project totals approximately 2,111 acres, with 916 acres above maximum conservation pool (USACE 1981). Ninety-one acres are designated for project operations (K. Beck, USACE, pers. commun.) and controlled by USACE.

Lands adjacent to the Green Peter-Foster Project, other than BLM lands, are privately owned and either residential or managed for logging, agriculture or recreation (BLM 1979). The reservoirs are located within the Oregon Department of Fish and Wildlife's (ODFW) Santiam Wildlife Management Unit and the Salem Wildlife District of the Northwest Region. ODFW is responsible for management of wildlife within the State of Oregon (ODFW 1982) and serves in an advisory capacity to BLM regarding activities such as timber sales and other land management on BLM's Salem District lands adjacent to Green Peter Reservoir. USACE and BLM are responsible for management of the habitat on their lands.

(3) Indian rights

No tribes are involved with the actions taken at the Green Peter-Foster Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

information on pre-construction conditions was obtained from written reports, project files, and conversations with appropriate individuals. Pre-construction aerial photos are available from USACE and BLM. Four reports provided information on conditions prior to construction and predicted impacts to a limited number of wildlife species. Big game, upland game, waterfowl and furbearers were considered. Oregon State Game Commission (OSGC) and Fish Commission of Oregon (FCO) published a report in 1948 entitled "Fish and wildlife problems arising from the Willamette Valley Project." The report provided an evaluation of "the benefits and losses.. .to various game and fur animal species," as a result of the Willamette Valley Project Potential impacts were briefly addressed by watershed. USFWS published a report in 1948 entitled "Willamette Valley Project Oregon, preliminary evaluation report on fish and wildlife resources." The effects of the entire Willamette Valley Project on wildlife were considered. USFWS published "A detailed report on fish and wildlife resources affected by Green Peter Dan and Reservoir Project, Oregon" in 1961, and "A detailed report on fish and wildlife resources affected by Foster Dam and Reservoir Project, South Santiam River, Oregon" in 1963. These reports addressed pre-construction and construction conditions in the reservoir areas and effects of the projects on wildlife resources. Brief references to pre-construction conditions were found in OSGC periodicals and in the 1981 USACE Master plan for resource use.

The following information was based on previously mentioned reports and conversations with individuals knowledgeable of the area. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

Lands surrounding the project were generally steep and heavily timbered. Coniferous forest with a broadleaf understory characterized the Green Peter site. Douglas fir, western hemlock, western red cedar, vine maple, big-leaf maple, willows, red alder and Pacific dogwood were the principal species. Logged portions of the project area had regrown to a subclimax community of the previously mentioned broadleaf species and second-growth conifers, with a ground cover of salal, blackberry, bracken fern and fireweed (USFWS 1961). Vegetation of the upstream portion of the Foster Reservoir site was of a Douglas fir-maple type, with Pacific dogwood, red alder, western hemlock, and a variety of shrubs and grasses. The downstream portion of the impoundment area was of the same general vegetation type interspersed with tracts of agricultural land (USFWS 1963).

A complete inventory of cultural resources at the project site has not been done (USACE 1981). River bottomlands in the Foster Reservoir site were cultivated prior to construction of the dam. Residences were located upstream from the dam site on both sides of the Middle Santiam River adjacent to the state and county roads. Land adjacent to the project was forested, but cut during the last century and not regrown to marketable size by the time of construction (USACE 1976). A small settlement located upstream from Green Peter Creek at the confluence of Thistle Creek and Whitcomb Creek, known as Farrels Camp, consisted of several houses and a post office. Homes were in scattered locations along the Middle Santiam arm of Green Peter Reservoir.

Wildlife inhabiting the Foster project area included black-tailed deer, blue and ruffed grouse, beaver, mink, raccoon and various species of waterfowl. In addition to these species, black bear, mountain quail, band-tailed pigeon, snowshoe hare, and brush rabbit inhabited the Green Peter project area (USFWS 1961, 1963). In 1948, OSGC estimated densities of 5 deer per square mile and 3 grouse per square mile in the South Santiam River drainage (OSGC and FCO 1948). Density estimates were not available for other wildlife species.

Hunting and trapping within the Foster impoundment site were "of little consequence." A few black-tailed deer used the reservoir site as winter range during severe winters. "Small populations" of beaver, mink and raccoon were present, and "small numbers" of waterfowl used the area. Black bear entered the area, but were not common (USFWS 1963).

Black-tailed deer were "plentiful throughout the year" in the Green Peter project area. Their abundance increased during years of heavy snowfall as a result of migration from the cut-over slopes at higher elevations (USFWS 1961). Black-tailed deer and elk populations were steadily increasing in the state, aided by a series of mild winters over the previous decade (McKean 1963). Hunter utilization of the general area near Green Peter was quite high, although hunting success was low due to the dense cover (USFWS 1961). No data specific to the Green Peter Reservoir- are available, but the deer harvest is believed to have been "moderate" (USFWS 1961). Black bear were common in the watershed, but seldom hunted. Grouse and quail were "abundant" in the project

area, but harvest was light and utilization was generally limited to local residents (USFWS 1961). The fur animal harvest within the Green Peter project area was limited, with only a "few" beaver and mink and an "occasional" river otter taken. Raccoons were "numerous", but the harvest was small due to low pelt values (USFWS 1961). Waterfowl utilization of the area was light and little harvest occurred (USFWS 1961).

Clearing of the project site began in 1961, and by 1963, 2,401 acres within the reservoir area had been cleared (USACE 1963). ODFW spotlight routes were established in 1965 along the north and south bank roads at Green Peter immediately adjacent to the reservoir and extending up the Middle Santiam River and Quartzville Creek for some distance. Counts conducted in the spring of 1965, 1966 and 1967 resulted in 5, 6.2 and 5.7 deer per mile, respectively (H. Sturgis, ODFW, pers. commun.). This was considered to represent a very good deer population. Elk were rarely seen on project lands prior to construction (N. Ten Eyck, ODFW, pers. commun.). Elk sign was observed above the project on the Middle Santiam River. ODFW records indicate elk sightings on the Middle Santiam River near the confluence of Quartzville Creek in 1965 (N. Ten Eyck, ODFW, pers. commun.). ODFW personnel conducting chemical treatment of the reservoir site in the Middle Santiam-Bear Creek area before inundation encountered large, well established elk trails serving as migration routes to winter range (N. TenEyck, ODFW, pers. commun.).

No historical wildlife population data specific to the reservoir area are available. Nongame species were not mentioned with regard to pre-construction conditions, probably reflecting the past emphasis on game species management. ODFW was not given legal jurisdiction over nongame species until 1971.

B. Post-Construction Period

(1) Available information

Reports providing information on wildlife after construction of Foster and Green Peter dams and reservoirs were not directed specifically toward wildlife impacts, with the exception of the Battelle (1976) environmental assessment. The master plans for "reservoir management and public use development" at Foster and "design memorandum 7B, public use plan" for Green Peter Reservoir were published by USACE in 1967 and 1970, respectively. These reports were directed toward recreational resource potential at the sites, with plans for development and management of the recreational resource. Post-construction conditions were described, and wildlife was briefly addressed with regard to hunting opportunity. The Willamette Basin Task Force of the Pacific Northwest River Basins Commission published in 1969 "The Willamette Basin comprehensive study of water and related land resources." The task force addressed preferred habitats and general distribution of big and small game, waterfowl, furbearers, and selected nongame species in the Willamette Basin. Potential methods for increasing hunting opportunities in the Basin, and recommendations for uses of water and related land resources were presented. In 1976, Battelle Northwest published for USACE an "Environmental assessment report, Green Peter and

Foster lakes, operation and maintenance." This report analyzed effects of project operations on hydrology, water quality, aquatic life, and vegetation. Wildlife use of various vegetation types and impacts to wildlife as a result of vegetation changes were addressed. Effects of changes in operation and maintenance of the project on wildlife were discussed, and wildlife management opportunities were briefly mentioned. USACE updated and published the Foster Lake master plan in 1976, and in 1981 USACE published a "Master plan for resource use, mid-Willamette Valley Projects, Foster-Green Peter-Big Cliff, resource use objectives." Both of these publications were primarily directed toward recreation. The reports included geological, soil, topographical, vegetation, water use and wildlife use inventory maps for Green Peter and Foster Reservoir. Land use allocations at the projects were presented, Including low density recreation, natural areas and forest reserve designations which may be of benefit to wildlife. Post-construction aerial photos are available from USACE and BLM.

The following information is based on the literature previously mentioned and conversations with individuals knowledgeable of the Green Peter-Foster area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Foster Reservoir inundated approximately 1,195 acres including 5 miles of river; Green Peter Reservoir inundated approximately 3,605 acres, including approximately 7.5 miles of the Middle Santiam and 6.5 miles of Quartzville Creek plus the lower reaches of several small tributaries (USACE 1967a, 1970, 1982; USFWS 1961). "Valuable wildlife habitat" on the bottomlands adjacent to the Middle Santiam River (USFWS 1961) and agricultural lands were inundated.

Information regarding the effects of construction activities on wildlife was limited to potential illegal hunting by construction workers (OSGC and FCO 1948). Information on the impacts of road construction as a result of the project was not available. Information was not available (without conducting a more detailed study) on specific habitat types and the amount of each habitat type affected by the project. Documentation of nongame species affected by the project was not found. The number of game animals affected by the project was not provided (density estimates for deer and grouse in the South Santiam watershed were provided by OSGC in 1948, 13 years prior to construction). The ecological significance of the alteration of habitat for wildlife was not evaluated.

Green Peter and Foster reservoirs inundated considerable deer habitat (USFWS 1961, 1963; J. Pesek, H. Sturgis, ODFW, pers. commun.). Upland game and furbearer populations were reduced or eliminated. Bank denning species have been eliminated in areas affected by changing water levels. Reservoir fluctuations preclude establishment of marginal or aquatic vegetation in sufficient abundance to be of value to wildlife (USFWS 1961, 1963). These changes in water levels make the reservoirs of little value to nesting waterfowl; however, they are used as resting areas (USFWS 1961, 1963). A mineral spring extensively used by

band-tailed pigeons, located on the south side of Green Peter Reservoir near Tally Creek was inundated (N. TenEyck, H. Sturgis, ODFW, pers. commun.).

Spring deer trend counts conducted adjacent to Green Peter Reservoir indicated 3.5 deer per mile in 1968, the year following inundation. This compares with an average of 5.8 deer per mile the three previous years. The river bottom at the Green Peter site was the main wintering range for black-tailed deer on the Middle Fork of the Santiam River (Schneider 1969). According to USFWS (1961), the site provided up to 40% of critical winter range during severe winters. Deer used the Green Peter site annually and the site was considered a key "survival" winter range during severe winters (H. Sturgis, ODFW, pers. commun.). Inundation of the reservoir created a physical barrier, restricting wildlife movement between feeding and bedding areas (Battelle 1976). Two severe winter storms during 1968-1969 had considerable impact. Deer accustomed to using the river bottomland were forced down from higher elevations because of snow and drowned when they broke through the ice covering the reservoir (H. Sturgis, J. Pesek, ODFW, pers. commun.). ODFW files indicate a relatively large number of deer adjacent to the project during the winter of 1968-69. Approximately 131 deer were observed along 15 miles of road between Green Peter Dam and Canal Creek during daylight hours. Condition of the animals was fair to poor (H. Sturgis, ODFW, pers. commun.). One hundred to 150 deer were attracted to a feeding station in the Quartzville area where little natural forage was available. Although no intensive work was done to determine winter losses, roadside observations indicated 22 dead deer along 10 miles of road at Quartzville Creek. A check of the Green Peter Reservoir shoreline revealed 18 deer carcasses in the lake and 7 more adjacent to the waterline (ODFW files). The total loss of deer in the reservoir area was suspected to be much greater than observed (H. Sturgis, ODFW, pers. commun.). The combined impact of the severe winter and the loss of critical winter range was not known. Conditions were critical enough at the Green Peter Reservoir location to make it one of a few areas of special concern to the Game Commissioners (Shay 1969).

Cumulative impacts as a result of the Willamette Reservoir System were predicted by USFWS and by OSGC in 1948 and were assessed by USACE (1980b) in an environmental impact statement. The most significant cumulative impact is probably the loss of wildlife habitat resulting from increased human development on the floodplains of the Willamette. Human development was not possible prior to construction of the Willamette Reservoir System because of periodic flooding. Increased development has affected wildlife habitat along the river from the dam site to Pcrtland. Waterfowl and other wildlife species were further affected by the loss of overflow and standing waters previously created by seasonal floods. Upland habitat, winter range, riparian habitat, and wetland habitat have all been reduced as a result of the Willamette Reservoir System.

(3) Benefits

Few waterfowl are observed on the project area during breeding season. Common merganser, wood duck and mallard are the most common species breeding at Green Peter-Foster (USACE 1981). Shorebirds also use the reservoirs for nesting and brood rearing. Waterfowl, gull, and shorebird use increases during late fall through early spring when the mudflats and open grass areas are used for feeding and the open water for resting (USACE 1981). A total of 50 birds for both reservoirs is considered normal waterfowl use (M. Wolfer, ODFW, pers. commun.). Mergansers are the most common species. Coot, mallard, wood duck and bufflehead have also been observed at the reservoirs (H. Sturgis, N. TenEyck, M. Wolfer, ODFW, pers. commun.). Wetlands at the Old Fish Hatchery at Foster Reservoir and near Sunnyside Park are used by mallards and wood ducks. Two wood duck nests are located at the Sunnyside Park location. A pond paralleling the road at Lewis Creek Park is used by mallards, and 2 flocks of 50 to 60 birds each were seen in January 1984 (J. Sandberg, USACE, pers. commun.). Although the Green Peter-Foster Project receives some waterfowl use, fluctuating water levels result in little potential for the reservoirs as part of ODFW's Willamette Valley waterfowl dispersal plan (Denney 1982).

(4) Additional information

Lands adjoining Green Peter Reservoir are generally steep with isolated, small areas of moderate slope. In the region of the reservoir, the Middle Santiam River flows through a narrow canyon bounded by high, timbered hills. Vegetation at the proje t consists of Douglas fir, cedar, hemlock, maple, alder, dogwood, oak, Oregon grape, salal, vine maple and huckleberry (USACE 1970).

ODFW publishes wildlife production inventories, herd composition, trend counts, and harvest data in the Wildlife Division annual report. These data are available by region, county, or wildlife management unit. The information is not specific to the project site.

As previously mentioned in section B (l), the 1976 Foster Lake master plan and 1981 Mid-Willamette Valley projects master plan contained inventory maps for geographical, soil, topographical, vegetation, water use and wildlife use characteristics. The 1976 environmental assessment report provided species checklists for birds, amphibians and reptiles, and endangered species, as well as ODFW's estimated densities for big game. Small game density estimates for the report were based on expected populations in suitable habitat. BLM planning documents provide deer and elk densities for their planning units and wildlife habitat areas, as well as estimated populations of mammals, birds, amphibians and reptiles (W. Logan, BLM, pers. commun.).

Population estimates and acreages of habitat types were made for the state in 1980 by ODFW on a county basis. These broad based estimates indicated there were 15.8 deer and 0.53 elk per square mile of habitat within Linn County. There is a year-round population of deer at Green Peter Reservoir. ODFW conducts a trend route along the south side of the reservoir within C.25 mile of the lake. Over the last 3 years, 21

to 33 deer (1.3 to 2.1 per mile) have been counted on the Green Peter route (M. Wolfer, ODFW, pers. commun.). Deer sign has been seen on Neuhaus Peninsula at Foster Reservoir (J. Sandberg, USACE, pers. commun.). The deer population in the Foster Project area appears to be declining as adjacent clear cuts grow back and available forage is reduced (M. Wolfer, ODFW, pers. commun.). Elk routinely winter at Green Feter (N. TenEyck, ODFW, pers. commun.), a site becoming increasingly more important as a source of winter cover and forage due to massive clearcuts above the reservoir. Approximately 25 elk were observed 10 years ago foraging on sedge plantings on the mud flats at the upper reaches of the Middle Santiam River arm of the reservoir (M. Wolfer, ODFW, pers. commun.). Elk moved onto clearcuts above the reservoir as logging began and forage became available on cleared land, and made less use of the mudflats (0. Cleary, DDFW, pers. commun.). Most recently, approximately 10 elk have been seen regularly on the flats since ryegrass was seeded during October 1983. As many as 30 elk have been sighted within 1 mile of Green Peter Reservoir, and 50 elk have been counted along the first 5 miles of the Middle Santiam River (M. Wolfer, ODFW, pers. commun.). The project site is considered "unique" and valuable habitat for big game and is classified "critical winter range" for county planning purposes (N. TenEyck, ODFW, pers. commun.). It is anticipated that elk use of the seeded flats at Green Peter will increase as the extensive clearcuts on private land above the reservoir funnel the animals toward the available cover adjacent to the project (W. Logan, BLM, pers. commun.).

No bald eagle nest sites have been identified in Linn County (Isaacs and Anthony 1983). The effect dams have on bald eagle populations is not clear. Eagles may have benefitted by construction of reservoirs if a greater year-round fish prey base occurred as a result (W. Haight, ODFW, pers. commun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs.

Bald eagles are seen frequently in the winter on or within a 1 mile radius of Green Peter Reservoir (J. Sandberg, USACE, pers. commun.). Mid-winter bald eagle surveys indicated use of the Green Peter-Foster project by l-2 adults and 1-2 juveniles. Two juvenile bald eagles were counted near the South Santiam Hatchery in 1983 (W. Haight, ODFW, pers. commun.). USACE 1983 records indicated sightings of 1 juvenile at Green Peter, 1-2 adults and 1 juvenile at Foster, and 1 adult and 1 juvenile bald eagle on the Middle Santiam River. Personal observations exceed the survey figures. USACE personnel at the project have seen as many as 13 bald eagles on the Middle Santiam branch of Foster Reservoir between Green Peter Dam and Sunnyside Park (J. Sandberg, USACE, pers. commun.). Nine to 10 bald eagles have been sighted between Green Peter Dam and Foster Reservoir by OOFW employees (C. Bruce, ODFW. pers. commun.). Up to 5 bald eagles have been observed at Green Peter Reservoir (W. Logan, BLM, pers. commun.). There are 5 snags on Neuhaus Peninsula at Foster Reservoir used as perches by eagles, ospreys, and herons. Bald eagles also roost in decadent maple trees within old growth groves overlooking Green Peter Reservoir, and the birds have been seen in cottonwood trees immediately below Foster Dam (W. Logan, BLM, pers. commun.). Bald eagles appear to use USACE lands at Green Peter Reservoir because of the

property's isolated nature and limited accessibility to humans (J. Sandberg, USACE, pers. commun.).

One eagle classed as "other" was counted during the 1982 mid-winter bald eagle survey. It was most likely a golden eagle (W. Haight, ODFW, pers. commun.). Juvenile golden eagles have been sighted at Green Peter-Foster during the late fall, with as many as 3 observed at one time (W. Logan, BLM, pers. commun.). The golden eagle nest location is unknown, but thought to be perhaps 6-7 miles north of Green Peter (W. Logan, BLM, pers. commun.). A second golden eagle is suspected to be nesting 3-4 miles east of the reservoir between the Middle Santiam River and Quartzville Creek (M. Wolfer, ODFW, pers. commun.). USFS employees observed a golden eagle picking up branches around Green Peter Reservoir during August and September, and ODFW personnel sighted an adult golden eagle at Green Peter in September 1983 (M. Wolfer, ODFW, pers. commun.).

Two active osprey nests have been located on the peninsula between the Middle Santiam River and Quartzville Creek arms of Green Peter Reservoir (J. Sandberg, USACE; W. Logan, BLM; C. Bruce, ODFW, pers. commun.). One of those nests is on BLM property, the second is believed to be on Weyerhaeuser land adjacent to a unit of BLM land (W. Logan, BLM; C. Bruce, ODFW, pers. commun.). An additional osprey nest, which is inactive, is also located on the peninsula on private land (W. Logan, BLM pers. commun.). Murky water conditions and limited numbers of fish at Green Peter Reservoir may preclude foraging and nesting by more birds (C. Bruce, ODFW; W. Logan, BLM, pers. commun.). Five osprey nest sites, two of which were active in 1983, have been located within 0.5 mile of Foster Reservoir (C. Bruce, ODFW, pers. commun.).

No site specific estimates exist for other wildlife species. Grouse and mountain quail are present at the Green Peter-Foster area. Mountain quail can be found on the hill to the west of Green Peter Dam and along the rocky area between the head of Foster Reservoir and Green Peter Dam (M. Wolfer, ODFW, pers. commun.). California quail and ring-necked pheasant can be found southwest of Foster Dam on USACE project lands (J. Sandberg, USACE, pers. commun.). Heron rookeries are located between Green Peter Dam and Foster Reservoir (W. Logan, BLM, pers. commun.). Bear tracks have been seen on Neuhaus Peninsula at Foster Reservoir. Beaver and muskrat can be found on the Old Fish Hatchery wetlands. A beaver lodge is located at a pond on USACE project lands at Sunnyside Park. Five or 6 animals are associated with the lodge and 3 beaver dams have been built at the location (J. Sandberg, USACE, pers. commun.). Mink and raccoon may be found at both reservoirs, and an occasional otter occurs in the headwaters of Green Peter Reservoir (M. Wolfer, ODFW, pers. commun.).

The Lower Whitcomb Creek spotted owl management area (SOMA) is located approximately 1.5 miles upstream from Green Peter Reservoir on BLM land. One thousand acres of BLM land have been reserved as part of the SOMA (C. Bruce, ODFW; W. Logan, BLM, pers. commun.).

Residential development is extensive along the south shore of Foster Reservoir and downstream from the dam. Mixed industrial, commercial and

residential development is located upstream and adjacent to the north dam abutment, with the remaining lands in small forest or commercial forest tracts (USACE 1981). Green Peter Reservoir has a more primitive or natural character than Foster. Non-recreation project lands are "chiefly steep narrow strips that have value as buffer areas and wildlife habitat" (USACE i981). Old growth vegetation adjacent to the project site is used by wildlife for roosting or as a travel corridor (W. Logan, BLM, pers. commun.). In many places, USACE lands do not extend beyond the high water level. BLM has reserved a 0.25 mile buffer zone on each side of the upper Quartzville arm of Green Peter Reservoir.

Public visitation for 1978 was 97,200 at Green Peter Reservoir and 364,300 at Foster. Peak visitation was between May and September, and over 20% occurred during July (USACE 1981). Access to non-designated recreation sites on project lands via pre-project roads has had an "adverse effect" on vegetation growth in many areas and has resulted in environmental degradation (USACE 1976). The mudflat at Neuhaus peninsula is used by off-road vehicles when Foster Reservoir is drawn down (USACE 1981). "The general impact of recreational activities in the vicinity of Green Peter and Foster Lakes is a change and reduction in the plant and animal species composition" (Battelle 1976).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

USFWS (1948) recommended mitigation measures for the Willamette Valley Project as a whole, including: a study of the effects of the project on upland game and furbearers, with a view to recommending feasible management practices beneficial to these animals; consideration of establishing a federal wildlife refuge at Fern Ridge; and land acquisition and development for waterfowl. OSGC (1948) proposed specific mitigation measures for the Willamette Valley Project which included feeding sites, marsh development, and furbearer research and management.

According to the USACE (1980b) EIS on the Willamette Reservoir System, "No mitigation was recommended by state or federal wildife agencies for habitat lost to Corps reservoirs when the reservoirs were constructed." The 1958 USACE preliminary master plan for Green Peter Reservoir indicated "No special provisions are contemplated for wildlife purposes." USFWS recommended in its reports on fish and wildlife resources affected by Green Peter Dam and Reservoir (1961) and Foster Dam and Reservoir (1963) the development of a reservoir zoning plan to ensure certain areas or periods be available for fishing, hunting and "other wildlife purposes." In the USACE Green Peter master plan (1970), OSGC's letter of 9 November 1965 indicated "Wildlife effects should be quite minor..." and further, "... the Green Peter project is not in a critical habitat area and by itself will have little effect on wildlife numbers and associated hunting opportunities." The association with hunting opportunity relates exclusively to game species, expressing the management interests and statutory authority of OSGC at that time. OSGC emphasis was on hunting opportunities and game production during this

period (McKean 1963). Within a few years following the official comment. OSGC employees had a much different assessment of the project site (Scnneider 1969) and its importance to wildlife. This example reflects the changes in wildlife management philosophy during this transition period when the state and the nation were experiencing a heightened awareness of nonhunted wildlife (Shay 1968) and the interrelationships of all wildlife species with their habitat. The USACE master plan for Foster Reservoir (1967a) and design memorandum for Green Peter Lake (1970) reported no lands were allocated specifically for fish and wildlife use, but fish and wildlife agencies "will be expected to manage the fish and game resources of the project and adjoining lands." The cooperation of USACE personnel was anticipated, as was the use of project lands for fish planting, game releases, and related activities (USACE 1967a, 1970).

Recommendations for wildlife protection were made in the mid-1970's. The USACE (1976) Foster Lake master plan took into consideration wildlife use of project lands. Constraints on development at the site were suggested to protect and buffer forested wetlands, limit access to natural openings, restrict motor-boat access and impose speed limits, lower automobile speed limits in key areas, and limit development requiring canopy disruption. In addition, the 1976 master plan indicated Foster Lake offered "excellent wildlife recreation potential within the park wildlife management concept." This form of management included the recommendation to manage Neuhaus Peninsula as a natural area, with the selection of grass-legume and tree-shrub species to be oriented toward wildlife needs. Wildlife was considered primarily for public observation. The 1976 Environmental assessment report for Green Peter and Foster Lakes written by Battelle Northwest for USACE recommended the protection of existing raptor nest sites, preservation of snags and areas of old-growth, and installation of artificial nests. The report also recommended planting sedge and grasses on the Green Peter Lake drawdown areas for elk winter forage, and recommended maintenance of a winter range free of brush and fir trees to increase grass and forb production. The USACE master plan for resource use, mid-Willamette Valley projects (1981) addressed the development of the zoning plans suggested in the USFWS (1961, 1963) reports. The master plan designates boat-in, intensive use, low intensity use, natural area, wildlife management, and reserve forest sites associated with project lands at Foster and Green Peter reservoirs. Approximately 155 acres at Foster and 750 acres at Green Peter are recommended for wildlife management. Proposed natural areas encompass 284 acres at Foster and 1,574 at Green Peter, with 94 acres forest reserve at Green Peter and 127 acres of low intensity recreational use at Foster. The master plan lists the following species as being of special consideration: deer, elk, band-tailed pigeon, pileated woodpecker, osprey, and great blue heron. Project sites to be managed for these species are designated in the master plan. Habitat preservation or enhancement directed toward the wildlife species of interest were recommended for the projects and included planting elk browse on the Green Peter mud flats, installation of artificial nest boxes and perches, maintenance of timber stands as buffers, and improvement of tree and vegetative cover. All these activities must take into consideration visual and aesthetic qualities at the reservoirs, but the master plan indicated habitat improvements

for wildlife may result from or be accomplished in conjunction with other vegetation management programs.

More specific wiidiife mitigation proposals included both on and offsite projects. It was recommended that USACE plantings for upland birds at Foster Dam be continued (J. Sandberg, USACE, pers. commun.). The coordinated efforts to seed the Green Peter mud flats was also recommended for continuation (J. Sandberg, USACE; D. Cleary, M. Wolfer, N. TenEyck, ODFW, pers. commun.). Because the majority of project lands are at or below full pool level, there is an extremely limited land base with which to work. Continued patrol of USACE lands to enforce hunting, fishing and trespass restrictions were recommended to keep the vegetation undisturbed and prevent wildlife from being harassed (J. Sandberg, USACE, pers. commun.). Although no bald eagles nest at the Green Peter-Foster Project, the potential for nesting has been identified in the Pacific States Bald Eagle Recovery Plan. Artificial nest structures placed on project lands might increase the osprey population (C. Bruce, ODFW, pers. commun.).

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

Not applicable to this project.

(2) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife, fish and game..." The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with USFWS and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Federal development projects were required to contain adequate provision for "conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon," consistent with primary project purposes. This Act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The 1948 publications by USFWS and OSGC were prepared to meet the requirements of the 1938 Act and 1946 Amendment. The 1961 USFWS report on Green Peter Dam and Reservoir, and the 1963 USFWS report on Foster Dam and Reservoir were prepared in compliance with the 1958 Amendment.

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring federal agencies to consult with the Department of the Interior to ensure that federal actions would not jeopardize any threatened or endangered species.

Battelle Northwest published for USACE in 1976 an environmental assessment report on the operation and maintenance of Green Peter and Foster lakes. An environmental impact statement was published by USACE in 1980 on "Operations and maintenance of the Willamette Reservoir System" (USACE 1980b) under authority of Public Law 91-190 (NEPA of 1969).

(3) MOU's or other agreements

A Memorandum of Understanding between USACE and BLM for recreational development on the Green Peter Reservoir peninsula was drafted but never signed (Battelle 1976; K. Beck, USACE, pers. commun.).

C. Mitigation Implemented

No documentation was found of the upland game and furbearer studies, land acquisition and development, marsh development, or feeding site development measures at the Green Peter-Foster project as mentioned in Section V (A). Both USACE and BLM have developed land use allocations for project or adjacent lands as recommended in Section V (A).

In October 1974, an experimental program was begun on the mudflats at Green Peter Reservoir to enhance forage for deer and elk and stabilize soil erosion. The program was developed by USACE with technical assistance from the Soil Conservation Service (SCS) in cooperation with Linn-Lane Soil and Water Conservation District and the Oregon Wildlife Commission (Freeland 1975). Canada bluegrass, bentgrass, and slough sedge were growing on the mudflats after drawdown. The existing vegetation was fertilized to study the effects of different applications of fertilizer on the palatability of forage. The fertilization and planting program was continued in 1975 (Swanson 1975). Results of the program indicated deer and elk preferred the fertilized plots, and palatability was improved by using a complete fertilizer. It was concluded that maximum use of the mudflats would mitigate some of the loss of natural wintering range inundated by the dam (Freeland 1975). Annual application of fertilizer was recommended, as well as shoreline plantings of slough sedge for erosion and forage purposes (Swanson 1975). Expansion of the fertilization program was viewed as a means to provide elk with more forage on their wintering range without extensively increasing the area they needed to use (Freeland 1975). From the 60 to 80 acres of trial plantings, a sedge was found which could survive up to 40 feet of submersion and provide forage after the reservoir was drawn down in the fall (D. Cleary, ODFW, pers. commun.). The sedge had to be planted by hand, a procedure too expensive and time consuming to be continued beyond the experimental period. SCS and USFS are involved with development of a reliable seed source of the sedge. In the meantime, ODFW has conducted periodic fertilization of the mud flats since the 1974-76 trial plantings (D. Cleary, ODFW, pers. commun.).

ODFW seeded and fertilized 20 acres of ryegrass on the Green Peter mudflats during October 1983 in cooperation with USACE. Fertilizer was provided by ODFW, USACE provided the seed, and local sportsmen volunteered their efforts.

USACE planted 1,500 multiflora rose over a 20 acre area southwest of Foster Dam approximately three or four years ago. Eight acres of uncut grass have been reserved as a wild area. Groupings of crabapple trees have also been planted on the area, and rock islands were created. Quail and pheasant are using the acreage planted for bird use. Wood duck nest boxes have been placed around both reservoirs by USACE, USFS and volunteers. Since the locations of these boxes are not documented, their use has not been monitored.

VI. CURRENT STUDIES AND PLANNING

Continued production of elk forage on the mudflats at Green Peter Reservoir is intended (J. Sandberg, USACE; D. Cleary, ODFW, pers. commun.).

The transplanting of cottonwood and perhaps the addition of Russian olive are planned by USACE for the wildlife area southwest of Foster Dam (J. Sandberg, USACE, pers. commun.).

A radio tagging study of Cascade Range elk has been initiated by ODFW. The study should provide information on elk migration routes and winter ranges. This information could document reservoir use by elk and indicate the most suitable locations for mitigation (D. Cleary, ODFW, pers. commun.). One cow elk was located and radio-collared 1 mile north of the Green Peter mudflats. The animal is presumed to be one of 7-8 elk frequenting the mudflats (M. Wolfer, ODFW, pers. commun.).

BLM developed land use allocations for its property at Green Peter Reservoir, and an environmental impact statement was published in 1983. Approximately 7,260 acres on the peninsula were designated potential recreation lands. Potential trail locations included the Green Peter peninsula and Quartzville Creek-Crabtree Mountain (BLM 1983). Adjacent units are allocated for 100-year rotation. The Quartzville Creek corridor is designated fragile and/or 100-year rotation, with units on the upper portions labeled older forest. Specific criteria have been established for timber cuts within the 100-year rotation classification, and older-forest units will not be harvested within this decade (W. Logan, BLM, pers. commun.).

The Pacific States Bald Eagle Recovery Team (1982) addressed statewide management of the bald eagle population and indicated potential nesting areas existed at both Green Peter and Foster reservoirs. Other studies and planning being conducted in the Willamette Valley and State of Oregon could eventually affect management in the Green Peter-Foster project area. USFS is studying the spotted owl and old growth forest management, and is currently conducting studies at Blue River, Lookout Point, and Hills Creek reservoirs to determine which plant species will survive under fluctuating water conditions (Skeesick 1983). ODFW is developing several wildlife management plans including management objectives for big game in the Santiam Wildlife Management Unit, a statewide nongame plan, and a cooperative waterfowl management plan for the Willamette Valley.

ODFW's Santiam wildlife management unit has the potential for a growing elk herd, but suitable winter range is in smaller supply than the abundant summer ranges (D. Cleary, ODFW, pers. commun.). In addition to the seeded mud flats at Green Peter Reservoir, the peninsula between the middle Santiam River and Quartzville Creek could provide winter forage as well as summer recreation on BLM property with properly designed clearcuts (W. Logan, BLM, pers. commun.). This proposal would require construction of a road which could conflict with other wildlife management plans or goals on the peninsula. The road would be necessary to provide access to recreationists and for required maintenance of the pasture areas. Privately owned land on the north side of Green Peter Reservoir provides suitable winter range situated at an usually snow-free elevation with a south-facing aspect. Logged 15 to 20 years ago, this slope has been producing forage and could provide continued winter forage if managed in a permanently open condition (H. Sturgis, ODFW, pers. commun.). Since the river bottomlands have been inIdated and the project land base is limited, off-site land acquisition or exchange of big game winter range was mentioned for the Green Peter-Foster Project (D. Cleary, M. Wolfer, ODFW, pers. commun.). Creation of a wildlife management area could provide winter feed for the potential increase in the elk herd.

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Mary Potter
Karen Bedrossian
Dan Carleson
Jim Noyes

U. S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

K. Beck
G. Dorsey
K. Dzimbal
J. Sandberg
C. Zarnekee

(2) Summary of Project Operator Contacts

Date	Individual	Summary
27 June 1983	R. Willis Portland Distr.	Meeting. Informal discussion.
June 1983	P. Peloquin N. Pacific Div.	Phone. R. Giger provided information on project, requested contacts.
01 July 1983	R. Duncan P. Peloquin	R. Giger sent letter to USACE providing information and requesting contacts.
20 July 1983	G. Dorsey Portland Distr.	Phone. Set up meeting.
21 July 1983	G. Dorsey	Initial contact and coordination meeting.
26 July 1983		Operator contact meeting arranged by R. Giger. P. Peloquin represented USACE in Spokane.
01 August 1983	G. Dorsey	Meeting. Discussion of projects and obtained information.
08 August 1983	G. Dorsey	Meeting. Discussion of projects and obtained information.
14 Sept. 1983	G. Dorsey	Phone. Obtained information.
13 Oct. 1983	G. Dorsey	Phone. Discussion of reports.
14 Oct. 1983	P. Peloquin K. Dzimbal	Meeting. Wildlife mitigation at Willamette Valley Projects.
20 Oct. 1983	K. Dzimbal	Meeting. Discussion of reports and projects.

02 Dec. 1983	G. Dorsey	Phone. Discussion of reports, reinitiation of contact and coordination.
09 Dec. 1983	G. Dorsey K. Dzimbal	Meeting. Reinitiation of contact and coordination. Obtained information on MOU's and MOA's.
25 Jan. 1984	R. Duncan P. Peloquin	Letter. Reinitation of contact and coordination.
02 Feb. 1984	J. Sandberg Foster	Phone. Obtained information.
07 Feb. 1984	K. Beck	Phone. Obtained information.
07 Feb. 1984	C. Zarnekee	Meeting. Obtained information.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

C. Bruce
D. Cleary
W. Haight
F. Newton
H. Sturgis
N. Ten Eyck
M. Wolfer

Bureau of Land Management

W. Logan

APPENDIX C

COMMENTS ON 4 APRIL 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS, USFS, and BLM)

BPA requested comments on the 4 April 1984 Green Peter-Foster Project draft report by 14 May 1984. USFS and BLM had not submitted their comments by 17 August when the final report was typed, therefore USFS and BLM comments could not be incorporated into the report.

(3) Tribes

No tribes are involved with the actions taken at the Green Peter-FosterProject.

(4) Facility Operator (USACE)

BPA requested comments on the 4 April 1984 Green Peter-Foster Project draft report by 14 May 1984. USACE had not submitted their comments by 17 August 1984 when the final report was typed, therefore USACE comments could not be incorporated into the report.

ODFW Comments:

Department of Fish and Wildlife
506 S W MILL STREET, P O BOX 3503, PORTLAND, OREGON 97208

May 2, 1984

Mr. John R,Palensky, Director
Division of Fish dnd Wildlife
BonnevlIle Power Adminsistration
P.O. Box 3621
Portland, OR 97208

Dear Mr. Palensky:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Green Peter/Foster Wildlife Mitigation Status Report and our attached comments on that report indicate, comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency. Knowledge of wildlife resources and legal mandates have changed since the Willamette Valley projects were constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of animal populations and habitat. The Willamette Valley projects have high priority due to the high value of wildlife resources involved.

In recognition of our increased responsibilities to address a broad range of concerns, I strongly urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we must proceed with a mitigation plan based on a comprehenslve assessment of wildlife impacts at the Green Peter/Foster Project. The Department is prepared to take the lead in this endeavor using: 1) the expertise of biologists from various agencies; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Douncil's Fish and Wildlife Program has been the mitigation status report. We must now take the succeedinq steps leading to full compensation for wildlife and wildlife hsbitst impacts at the Green Peter/Foster Project.

Sincerely,

John R. Donaldson, PhD
Director

JRD:cp
Encl.

Explanations or Modifications:

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Deparment of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Green Peter/Foster Dams and Reservoirs
May 2, 1984

These comments respond to a request from James R. Meyer, Bonneville Power Administration, dated 23 April 1984 to review the Mitigation Status Report for Green Peter/Foster Dams and Reservoirs.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a mdnner thdt will enhance the production and public enjoyment of wildllfe."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to animal populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries...." This goal has yet to be achieved at the Green Peter/Foster Project,

The Green Peter/Foster Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from the construction of the dun was not comprehensive. This is evident by the lack of information available regarding the impact of road construction, the types and amounts of habitat inundated, and the nongame species affected by the project. No project specific population estimates were made. The significance of the inundated habitat to wildlife has not been fully explored. Even though impact assessment has not been adequate, it is obvious that substantial impacts occurred to wildlife as a result of the Green Peter/Foster Project, considering acreage of habitat inundated (which included riparian habitat and big game winter range). The status report indicates no substantial mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In evaluating the effects of the Willamette Valley Projects, we should not overlook the cumulative effects of the entire Willamette Valley Reservoir System. Although consideration of the overall system may be beyond the bounds of this portion of the NPPC wildlife program, the impact on wildlife cannot be ignored. The development of the former flood plain could not have been possible without the reservoir system. Extensive revetment dnd riprap work has been done on the Willamette River, effectively eliminating riparian habitat dnd Cutting off oxbows and side channels. Wetlands have been drained and other productive wildlife habitats have been lost to development.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

The Green Peter/Foster Project should be considered in context with the other dams and reservoirs In the system and their cumulative impact on wildlife taken into account.

In order to "protect, mitigate. and enhance" wildllfe resources affected by the development and operation of the hydroelectric generating facilities at the Green Peter/Foster Project, it is necessary to determine what impacts occurred. Upon the approval of and funding by the Council and Bonneville Power Administration the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Green Peter/Foster Project and to prepare d net Impacts statement. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination wlth appropriate agencies involved In the Green Peter/Foster Project, is of course, an integral part of both of these processes. We believe that a workable net impacts statement and mitigation plan can be developed based on existing information and the expertise of biologists from the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has greatly improved since the time of construction of the Green Peter/Foster Project. We have broader concerns and are more dware of w i l d l i f e relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildife resources affected by the development and operation of hydroelectric power In the Columbia River Basin. The Oregon Department of Fish and Wildlife wants to see that opportunity realized to the fullest degree possible in a timely, effective, and cost-effective manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

United S ates Departme nt the Interior

FISH AND WILDLIFE S RVICE

May 16, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr ensky:

As requested in Mr. Meyer's letter of April 23, 1984, we have reviewed the Wildlife Mitigation Status Report for the Green Peter-Fo ter Project (the Project). The following comments are being provided for inclusion in the final report.

General Comments

We believe the report is well written nd adequately descr bes the of past, present, and proposed wildli mitigation for the Pro ect

Based on the report's content, it is evident that the construction and operation of the Project has resulted in substantial adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate the adverse wildlife impacts attributable to the Project.

The Serv ce has the necessary expertise and would like to participate in both the impact eva uation and mitigation plan development tasks.

Specific Comments

A comprehensi + aluation of the Project's impact on wildlife resources should be con d by a team of qualified biologists composed of representativ om appropriate state and federal resource and development agencies. Th nclude the Oregon Department of Fish and Wildlife, Army

Explanations or Modifications:

No explanations or report modifications necessary.

USFWS Comments (cont.):

Corps of Engineers, U.S. Forest Service, Bureau of Land Management, and Fish and Wildlife Service. The evaluation should include an analysis of any actions which have been implemented to mitigate the Project's adverse impacts on wildlife. We suggest the evaluation be habitat based and supported by population data when available. We believe that such an evaluation could be accomplished with a minimum of new data collection by: 1) analyzing the existing data referenced in the status report such as pre- and post-construction photography; and 2) consultation with professional wildlife biologists familiar with the area's wildlife resources as they existed prior to project construction. The evaluation's results should be presented in an impact assessment report.

Utilizing the results from the aforementioned impact statement, we believe that the same team of biologists, with assistance from their agencys' respective habitat specialists, should develop a mitigation plan. The plan, if implemented, would be designed to fully compensate the adverse wildlife impacts identified.

In addition to assessing the direct impacts, we strongly believe the cumulative effects of this and the other Willamette Valley Reservoirs should be evaluated. The extensive development that has occurred along the Willamette River's flood plain has significantly reduced a variety of wildlife habitats and related resources. That development and resultant wildlife losses would have been considerably less without the construction and operation of this Project and the other major Willamette Basin projects. Although this level of impact evaluation may go beyond the intent of Section 1004 measures, the impacts are partially attributable to hydropower development and should be addressed by the Power Planning Council.

In conclusion, we believe no single agency or user group is responsible for the adverse wildlife impacts which have resulted from the development and operation of the Green Peter-Foster Project. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Green Peter-Foster Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

J.W. Teeter

Joseph R. Blum
Assistant Regional Director
for Habitat Resources

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

Wildlife Mitigation Status Report

DETROIT PROJECT

Prepared by:

J. H. Noyes
K. L. Bedrossian
R. D. Carleson
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Detroit Project (Detroit and Big Cliff Dam and Reservoir)

II. PROJECT OPERATOR

U.S. Army Corps of Engineers (USACE)

III. PROJECT DESCRIPTION

A. Location and Size

The Detroit Project is located on the boundary between Marion and Linn counties, Oregon, approximately 35 miles southeast of Salem. Detroit Dam lies at river mile 48.5 on the North Santiam River; Big Cliff Dam is located about 3 miles downstream (USACE 1982). The project is located within the Willamette National Forest and is accessed by State Yighway 22.

Detroit Dam is a concrete-gravity structure approximately 1,522 feet long at the crest and 454 feet above the foundation (USACE 1982). Power is generated by two 50,000 kilowatt generators. At full pool level the reservoir surface area is approximately 3,580 acres, 10 miles long, with a maximum width of 1.4 miles (USACE 1953a, 1953b).

Big Cliff Dam is a concrete-gravity dam, with a total length of 295 feet and maximum height of 172 feet (USACE 1953a). The powerhouse contains one 18,000 kilowatt generator. The reservoir surface at full pool level is 2.8 miles long and covers an area of approximately 141 acres (USACE 1953a).

B. Authorized Purposes

The primary purpose of the Detroit project was flood control. Other authorized purposes included power generation, irrigation, navigation, pollution abatement, and domestic water supply (USACE 1982).

C. Brief History

Construction of Detroit Dam was authorized by the Flood Control Act approved 28 June 1938. Flood Control Acts of 1944 and 1946 authorized project modifications to provide recreational facilities. Installation of power generation facilities, including construction of Big Cliff reregulating dam, was authorized by the Flood Control Act of June 1948 (USACE 1954).

Project construction was initiated in 1947. The power generators at Detroit and Big Cliff were in operation in 1953 and 1954, respectively. Reregulation at Big Cliff Dam began in 1953 (USACE 1982). The Detroit Project was considered complete, with the exception of minor modifications and improvements, in 1954 (USACE 1954).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The flood control season at the Detroit Project is from 1 December to 31 January, followed by conservation storage filling from 1 February to 5 May, and conservation holding and release from 6 May to 30 November (USACE 1982). The maximum pool elevation of Detroit Reservoir is 1,574 feet; minimum power pool elevation is 1,425 feet.

Pool elevation at Big Cliff Reservoir is 1,210 feet at maximum pool and 1,182 feet at minimum power pool (USACE 1980a). The small capacity of Big Cliff Reservoir (4,740 acre-feet) results in large daily fluctuations (as much as 24 feet in a 6 hour period) when Detroit Dam is releasing peak power flows (USACE 1981a).

(2) Land ownership

The total amount of land acquired for the Detroit Project was approximately 7,273 acres (K. Beck, USACE, pers. commun.). USACE regulates the water controlled by the dams and is responsible for 478 acres of land adjacent to the reservoirs that are necessary for operational purposes (K. Beck, USACE, pers. commun.). U.S. Forest Service (USFS) manages activities on the water surface of Detroit Reservoir (3,580 acres) and administers 2,846 acres of project land contiguous to the reservoirs within National Forest boundaries (K. Beck, USACE pers. commun.). Most of the lands surrounding the Big Cliff Project are privately owned, primarily Boise-Cascade Corp., and managed as commercial forest lands (J. Rawstern, Linn Co., pers. commun.). USACE 1981 b) . Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the project area, located in ODFW's Santiam Wildlife Management Unit. USFS and USACE are responsible for habitat management (USACE 1953a). The project is located within the USFS Detroit Ranger District.

(3) Indian rights

No tribes are involved with the actions taken at the Detroit Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Information on pre-construction project conditions was obtained from written reports, project files, and conversations with appropriate individuals. Pre-construction aerial photos are available from USACE and the University of Oregon Map Library.

Two reports provided information on conditions prior to construction and predicted impacts to a limited number of wildlife species. Big game upland game, waterfowl, and furbearers were considered. Oregon State

Game Commission (OSGC) and Fish Commission of Oregon (FCO) published a report in 1948 entitled "Fish and wildlife problems arising from the Willamette Valley Project." The report provided an evaluation of "the benefits and losses... to various game and fur animal species" and presented "recomnendations concerning methods of mitigating losses" as a result of the Willamette Valley Project. Potential impacts were addressed briefly by watershed. U.S. Fish and Wildlife Service (USFWS) in 1948 published "Willamette Valley Project Oregon, preliminary evaluation report on fish and wildlife resources", in which the effects of the entire Willamette Valley Project on wildlife were considered. No quantitative assessments of impacts on wildlife were conducted. The following information is based on these reports and conversations with F. Ives, the ODFW wildlife biologist for the North Santiam area from 1949 to 1968. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The project site is located within the Western Hemlock Zone described by Franklin and Dyrness (1973). The North Santiam River Basin is "typically rough, mountainous, forest land which once supported dense stands of virgin coniferous timber" (USACE 1953a). Prior to construction, the impoundment areas contained "fair to dense" stands of Douglas fir, western hemlock, and western red cedar of varying age classes (USACE 1953a). Deciduous trees (dogwood, big-leaf maple, and redalder) occurred throughout the area, particularly along water courses. The understory was primarily vine maple, ceanothus, elderberry, rhododendron, Oregon grape, and salal (IJSACE 1953a).

OSGC in 1948 estimated 5 deer per square mile along the North Santiam River. That estimate was probably much lower than actual densities due to the inadequacy of estimation procedures used during 1948 (J. Heintz, ODFW, pers. commun.). Winter populations of deer at the project site may have been as high as 40-50 deer per square mile during that time (F. Ives, retired ODFW, pers. commun.).

Blue and ruffed grouse were the primary upland game birds in the project vicinity (USACE 1953a). Estimated density of grouse along the North Santiam River was 3 grouse per square mile (OSGC and FCO 1948). That estimate was probably very low for the Detroit area during the late 1940's (J. Heintz, ODFW, pers. commun.).

Furbearing species common to the area included muskrat, otter, beaver, mink, and marten (USACE 1953a; OSGC 1951). Raccoon and skunk also occurred on the project site. The Detroit area had little attraction for migratory waterfowl (USACE 1953a). "An occasional mallard or merganser duck were found in the area" (OSGC 1951). Nongame species were not mentioned in the literature on pre-construction conditions. This exclusion probably reflects the historical emphasis of wildlife management on game species only. DDFW was not given legal jurisdiction over nongame species until 1971.

B. Post-Construction Period

(1) Available information

Reports providing information on wildlife after construction of the Detroit Project were not directed toward wildlife impact assessments. USACE (1953a) published a master plan on reservoir management. and public use development at Detroit, which emphasized recreation. Impacts of the impoundment on deer, grouse, furbearers, and waterfowl were briefly considered. USACE published "An environmental impact statement on operations and maintenance of the Willamette Reservoir System" in 1980. Cumulative impacts of operation of the Willamette Reservoir System were briefly discussed. Post-construction aerial photos are available from USACE, USFS, and the University of Oregon Map Library. The following information is based on the literature previously mentioned and conversations with individuals knowledgeable of the Detroit area. Additional or more detailed information was not available without conduct ing additional research beyond the scope of this review.

(2) Losses

Detroit and Big Cliff reservoirs inundated 3,740 acres. Habitat for big game, upland game, furbearers, and nongame animals in the impoundment area was eliminated or extensively altered. Habitat lost within the project area included riparian habitat and big game winter range. The reservoir sites were utilized as big yame winter range prior to dam construction (F. Ives, retired ODFW, pers. commun.). Due to the steep, rocky terrain of the North Santiam River canyon at the Big Cliff area, potential big game winter range at Big Cliff was not as prevalent as at Detroit (D. Cleary, ODFW, pers. comnun.). Local residents recall high deer mortality at Detroit the winter following flooding (R. Shull, USFS, pers. commun.). perhaps indicating its importance as winter range. Estimates of winter deer density in the Detroit area may range as high as 60-80 deer per square mile (J. Heintz, ODFW, pers. commun.). Elk were observed wintering along the south shore of Detroit Reservoir during the 1982-83 season (R. Shull, USFS, pers. commun.). Rough estimates of elk herd size and acreages of winter range indicate a winter elk density of approximately 10-20 elk per square mile (J. Heintz, ODFW, pers. commun.). If the reservoir areas had not been inundated, it is likely they would be used as winter range by both Roosevelt elk and black-tailed deer (J. Heintz, ODFW, pers. commun.). Big game movement and possibly migration have been altered as a result of the project.

Current estimates for upland game birds in the Detroit area are approximately 10 per square mile for blue and ruffed grouse, and 20 per square mile for mountain quail (J. Heintz, ODFW, pers. commun.). Comparable upland yame densities probably would have existed within the project area.

Stream habitat for furbearers within the impoundment area was eliminated (USACE 1953a). Present conditions for furbearers are not favorable due to pool fluctuations (USACE 1953a).

Nongame bird species adversely affected by reservoir construction probably included dippers and passerines which use riparian habitat (e.g.. orioles, grosbeaks, warblers) (W. Haight, ODFW, pers. commun.).

Information regardiny the effects of construction activities on wildlife was limited to potential illegal hunting by construction workers (OSGC and FCO 1948). Information on the impact of road construction as a result of the project was not available. Information was not available(without conducting a more detailed study) on specific wildlife habitat types and the amount of each habitat type affected by the project. Documentation of nongame species affected by the project was not found. Estimates of the number of game animals lost were limited to deer and grouse. USACE (1953a) estimated "habitat for about 30 deer and 18 grouse will be destroyed by the impoundments." Those numbers were probably inaccurate because they were based on density estimates that were probably too low (J. Heintz, ODFW, pers. commun.). The ecological significance of the loss of wildlife habitat was not evaluated.

Cumulative impacts as a result of the Willamette Reservoir System were predicted by USFWS and by OSGC in 1948 and were assessed by USACE (1980b) in an environmental impact statement. The most significant cumulative impact is probably the loss of wildlife habitat because of increased human development on the floodplains of the Willamette River. Human development was not possible prior to construction of the Willamette Reservoir System because of periodic flooding. The increased development has reduced wildlife habitat along the river from the project site to Portland. Another cumulative impact is the reduction of downstream wetland habitat previously created by seasonal flooding. Upland habitat, winter range, riparian habitat, and wetland habitat have all been reduced as a result of the Willamette Reservoir System.

(3) Benefits

Waterfowl use of the reservoirs is limited (J. Heintz, ODFW, pers. commun.). Canada geese and mallards utilize sedges and "other vegetation" in "The Flats" area on the north shore of Detroit Reservoir during the winter (D. Roberts, USFS, pers. commun.). Hooded and common mergansers, buffleheads, goldeneyes, and scaup have been observed on the reservoir (J. Heintz, ODFW, pers. commun.). ODFW considers Detroit Reservoir to have low potential for waterfowl use due to the seasonal timing of drawdown and filling periods (Denney 1982).

OSGC (1948) stated that the impoundments would not benefit waterfowl because forage plants used by resident birds would be completely eliminated in reservoir areas. USACE (1953a) indicated waterfowl use would be minimal at Detroit Reservoir because of its isolated location from major flyways and the general lack of food. Also, any benefits of induced nesting resulting from the water impoundments might be negated by nest losses due to flooding or desiccation of the nest sites. Steep slopes and fluctuating water levels prevent natural establishment of marginal plants and aquatic vegetation and inhibit development of nesting or feeding habitat (USFWS 1958).

Other avian species which may occasionally be attracted to the impounded areas include loons, grebes, gulls, terns, herons, and shorebirds (W. Haight, ODFW, pers. commun.).

(4) Additional information

The overall effect darns have on bald eagle populations is not clear. Bald eagles and ospreys may have benefited by construction of the reservoirs, if a yreater year-round fish prey base occurred as a result (W. Haight, ODFW, pers. comnun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs.

3ald eagles and ospreys use Detroit Reservoir as a foraging area (USFS 1983). Eight osprey nests (7 active, 1 inactive) have been identified along the reservoir shoreline (C. Bruce, ODFW, pers. commun.).

No active bald eagle nests have been located near Detroit or Big Cliff Reservoir (C. Bruce, ODFW, pers. commun.). The Pacific States Bald Eagle Recovery Team (1932) identified Detroit Reservoir as a potential bald eagle nesting area. Two adult eagles and 1 immature eagle were seen in the Detroit Reservoir area during the 1982 mid-winter bald eagle survey (USACE bald eagle files); two adult eagles were observed during the 1933 and 1984 counts. As many as 10 eagles may utilize the area around Big Cliff Lake during winter (J. Fertig, USFS, pers. comnun.).

Two spotted owl management areas (SOMA's) are located near Detroit Reservoir (J. Fertig, USFS, pers. commun.). One SOMA is located near the Breitenbush Arm on the north side of the reservoir; the other SOMA occurs approximately 1 mile east of the reservoir. Potential peregrine falcon nest sites were identified by ODFW at Blowout Cliff, less than 1 mile from the south shore of Detroit Reservoir (C. Bruce, ODFW, pers. commun.).

Production trend count, and harvest data are available from ODFW for big yame in the Santiam Wildlife Management Unit and for upland game in 'inn and Marion counties. Harvest data are available for furbearers in Linn and Marion counties. This information is not specific to the project site. Deer trend count data are available from a survey route near Mill City, approximately 12 miles downstream from Big Cliff Dam (J. Heintz, ODFW, pers. commun.). A list of wildlife species and habitats utilized in the Willamette National Forest was prepared by USFS (E. Harshman, USFS, pers. commun.).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

USFWS (1948) recommended mitigation measures for the Willamette Valley Project as a whole, including: a study of the effects of the project on upland game and furbearers, with a view to recommending feasible

management practices beneficial to these animals; consideration of establishing a Federal wildlife refuge at Fern Ridge; and land acquisition and development for waterfowl. OSGC (1948) proposed specific mitigation measures for the Willamette Valley Project including increased law enforcement, feeding sites, marsh development, and furbearer research and management.

According to the USACE (1980b) EIS on the Willamette Reservoir System, "No mitigation was recommended by state or federal wildlife agencies for habitat lost to Corps reservoirs when the reservoirs were constructed." Although no specific mitigation for wildlife was requested at the time of construction of the Detroit Project, OSGC (1951) stated "since future conditions are impossible to predict precisely, the master recreational plan should be sufficiently flexible to allow for modifications that may prove to be desirable in the future."

USACE (1981a) identified a 59-acre area on the south side of Big Cliff Reservoir as potential deer and elk wintering habitat and recommended enhancement procedures. The area is a "relatively flat bench... covered with a thick stand of young hardwood trees." Suggested habitat improvements included "selective removal or clearing of small areas of hardwoods and revegetation with suitable browse plants and grasses." At the present time, no plans have been proposed for wildlife mitigation to directly offset impacts to wildlife as a result of the Detroit Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

Not applicable to this project.

(2) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife, fish and game...." The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with USFWS and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Federal development projects were required to contain adequate provision for "conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon," consistent with primary project purposes. This Act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The Detroit Project was not required to comply with the 1958 amendment to FWCA since Detroit was completed and in full operation by 1954. The 1945 publications by USFWS and the OSGC were prepared to meet the requirements of the 1932 Act and 1946 amendment.

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that federal agencies consult with the Department of the Interior to ensure that federal actions not jeopardize any threatened or endangered species. Since there have been no additions or major changes to the Detroit Project, no impact assessments or mitigation measures have been mandated during the operational history of the dam. An environmental impact statement was published by USACE (1980b) on "Operations and maintenance of the Willamette Reservoir System" under authority of Public Law 91-190 (NEPA of 1969).

(3) MOU's or other agreements

A Memorandum of Understanding (MOU) between USFS and USACE dated 10 November 1954 provides for USFS management of USACE land at the Detroit Project (D. Webster, USACE, pers. commun.). USFS manages 1,539 acres of USACE land above pool level within the National Forest (USFS comments to 14 March 1984 draft report).

A Memorandum of Agreement (MOA) between the Secretaries of the Army and Agriculture dated 13 August 1964 covers the "management of land and water resources at water development projects of the Corps of Engineers located within or partly within" the National Forest System (The Perron Partnership, P.C., 1974, Appendix H.) This MOA superseded an MOA dated 16 December 1946. Portions of the 1964 MOA affecting wildlife mitigation include:

a) USACE and USFS "will cooperatively plan the development, use and management of water resource projects as they relate to land resources . . ..This planning will be pointed toward achieving the maximum public benefits from each project and will delineate the procurement of necessary lands to assure meeting all foreseeable public needs for recreation, wildlife, and other use compatible with the primary purposes of the water storage facility."

b) "Water resource projects will be planned and operated to provide the greatest feasible public use for recreation, wildlife and fish propagation, conservation of scenic and esthetic values, and the harmonious use of timber and other commodities consistent with the other water control and use purposes."

c) 'In its construction activities, the Department of the Army will take all responsible precautions to prevent and suppress forest fires on and prevent any unnecessary damage to lands and resources associated with the project construction and to this end will collaborate with the Department of Agriculture in formulation of fire prevention and control

plans and programs, location of access roads and relocation of transportation facilities, land clearing standards, and other matters essential to the protection of resources and conservation of the scenic and esthetic aspects of the reservoir environment." (The Perron Partnershop, P.C., 1974, Appendix H).

C. Mitigation Implemented

No documentation was found of mitigation, enhancement, or protection measures implemented by USACE at the Detroit Project to offset impacts to wildlife resulting from construction or operatoin of the project (0. Webster, K. Dzimbal, USACE; D. Skeesick, E. Harshman, USFS; D. Cleary, J. Heintz, ODFW, pers. commun.). Although not as part of a wildlife mitigation program, plantings conducted by USFS in 1983 for soil stabilization may have benefited wildlife. Sedge was planted on 0.5 acre of the north arm of Detroit Reservoir and willows were planted on 11.5 acre of tne south ar:n (D. Skeesick, USFS, pers. commun.).

VI. CURRENT STUDIES AND PLANNING

No studies or planning are currently being conducted for wildlife mitigation specifically at the Detroit Project (K. Dzimbal, USACE; E. Harshman, USFS; J. Heintz, ODFW, pers. commun.).

Several commercial thinning timber sales are planned for the area adjacent to Detroit Lake (J. Fertig, USFS, pers. commun.). Wildlife projects associated with these sales consist of road closures in big game winter range, seeding and fertilizing skid trails, protecting potential eagle and osprey nest trees, logging activity restrictions around active osprey nests, and protection of big game thermal cover in winter range (J. Fertig, USFS, pers. commun.).

Studies and planning being conducted in the Willamette Valley and State of Oregon could eventually affect wildlife/habitat management in the Detroit area. USFS is currently conducting trial plantings at Blue River, Lookout Point, and Hills Creek Reservoir to determine plant species that will survive under fluctuating water levels (Skeesick 1983). Although tile initial goals of the studies were to increase bank stability, decrease slope ravel and decrease turbidity, the establishment of bank vegetation is expected to benefit wildlife also (USFS 1983). The additional cover and food available to fish could increase fish populations and benefit eagles and ospreys. In addition, the increase in forage availability could benefit big game, particularly during winter. Use of the plants by wildlife is being monitored (D. Skeesick, USFS, pers. commun.).

A radio tagging study designed to provide information on elk migration routes and winter ranges of elk in the Cascade Range has been initiated by ODFW. This information could document use of the project area by elk and indicate the most suitable locations for mitigation, enhancement or protection (D. CLeary, ODFW, pers. commun.). USFS is conducting studies

of spotted owl and old growth forest management. USFS has established guidelines for protection of spotted owl management areas in the Willamette National Forest (K. Kestner, USFS, pers. commun.). ODFW is developing several management plans, including a big game plan for the Santiam Wildlife Management Unit, a statewide nongame plan, and a cooperative waterfowl management plan for the Willamette Valley.

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Jim Noyes
Karen Bedrossian
Dan Carleson
Mary Potter

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

K. Beck
G. Dorsey
K. Dzimbal
D. Webster
C. Zarnekee

(2) Summary of Project Operator Contacts

Date	Individual	Summary
27 June 1983	R. Willis	Meeting. Discussed project and sources of information.
June 1983	P. Peloquin North Pac. Div.	Phone. R. Giger provided information on project, requested contacts.
1 July I983	R. Duncan P. Peloquin	R. Giger sent letter to USACE providing information and requesting contacts.
20 July 1983	G. Dorsey	Phone. Requested general information. Set up meeting.
21 July 1983	G. Dorsey	Meeting. Discussed project and obtained documents.
26 July 1983		Operator contact meeting arranged by R. Giger. P. Peloquin represented USACE in Spokane.
20 October 1983	K. Dzimbal	Meeting. Discussion of reports and projects. Requested information on EIS.
2 December 1983	G. Dorsey	Phone. Discussed progress of reports, reinitiation of contact and coordination.

9 December 1983	G. Dorsey K. Dzimbal	Fleeting. Reinitiated contact and coordination. Obtained information on MOU's and MOA's.
27 January 1984	C. Zarnekee	Phone. Requested information on EIS, master plans.
27 January 1984	K. Beck	Phone. Requested information on land ownership, acreages.
27 January 1984	K. Dzimbal	Phone. Requested information.
31 January 1934	K. Beck	Meeting. Discussed development plans.
2 February 1984	D. Webs ter	Phone. Requested information on mitigation, obtained information on MOU'S.
3 February 1984	C. Zarnekee	Meeting. Discussed procedures for obtaining information.
13 February 1984	K. Beck	Phone. Requested information on land ownership at Big Cliff.
13 February 1934	K. Dzimbal	Phone. Obtained information.
13 February 1984	C. Zarnekee	Phone. Obtained information.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

C. Bruce
D. Cleary
W. Haight
J. Heintz

U.S. Forest Service
J. Fertig
E. Harshman
K. Kestner
H. Legard
D. Roberts
R. Shull
D. Skeesick

Other

F. Ives, retired, Oregon Department of Fish and Wildlife
J. Rawstern, Linn County Assessor's Office
S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 14 MARCH 1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (USFWS and USFS)

(3) Tribes

No tribes are involved with the actions taken at the Detroit Project.

(4) Facility Operator (USACE)

BPA requested comments on the 14 March 1984 Detroit Project draft report by 16 April 1984. USACE had not submitted their comments by 17 August 1984 when the final report was typed, therefore USACE comments could not be incorporated into the report.

ODFW Comments:

Department of Fish and Wildlife
506 S W MILL STREET, P O BOX 3503, PORTLAND, OREGON 97208

April 2, 1984

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

APR 04 1984

Dear Mr. Palensky:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Detroit/Big Cliff Wildlife Mitigation Status Report and our attached comments on that report indicate, comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency. Knowledge of wildlife resources and legal mandates have changed since the Willamette Valley projects were constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Fish and Wildlife Coordination Act now requires wildlife mitigation, and the Department of Fish and Wildlife has a policy to request mitigation for losses of animal populations and habitat. The Willamette Valley projects have high priority due to the high value of wildlife resources involved.

In recognition of our increased responsibilities to address a broad range of concerns, I strongly urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, We must proceed with a mitigation plan based on a comprehensive assessment of wildlife impacts at the Detroit/Big Cliff Project. The Department is prepared to take the lead in this endeavor using: 1) the expertise of biologists from various agencies; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildllfe habitat impacts at the Detroit/Big Cliff Project.

Sincerely,

John R. Donaldson, PhD
Director

JRD:aj
Encl.

Explanations or Modifications:

No explantions or modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Detroit/Big Cliff Dam and Reservoir
April 2, 1984

These comments respond to a request from James R. Meyer, Bonneville Power Administration dated 20 March 1984 to review the Mitigation Status Report for Detroit/Big Cliff Dam and Reservoir.

Oregon Revised Statute 496.012. Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recredtional and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the productlon and public enjoyment of wildife."

In accordance with ORS 496.012, the Department has a policy to request mitgation when losses to animal populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries...." This goal has yet to be achieved at the Detroit/Big Cliff Project,

The Detroit/Big Cliff Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from the construction of the dam was not comprehensive. This is evident by the lack of information available regarding the impact of road construction the types and amounts of habitat inundated, and the nongame species affected by the project. Population estimates were made for only deer and grouse. The significance of the inundated habitat to wildlife had not been fully explored. Even though impact assessment has not been adequate, it is obvious that substantial impacts occurred to wildlife as a result of the Detroit/Big Cliff Project, considering acreage of habitat inundated [which included riparian habitat and big game winter range). The status report indicates no substantial mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In evaluating the effects of the Willamette Valley Projects, we should not overlook the cumulative effects of the entire Willamette Valley Reservoir system. Although consideration of the overall system may be beyond the bounds of this portion of the NPPC wildlife program, the impact on wildlife cannot be Ignored. The development of the former flood plain could not have been possible without the reservoir system. Extensive revetment and riprap work has been done on the Willamette River, effectively eliminating riparian habitat and cutting off oxbows and side channels. Wetlands have been drained and other productive wildlife habitats have been lost to development.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

The Detroit/Big Cliff Project should be considered in context with the other dams and reservoirs in the system and their cumulative impact on wildlife taken into account.

In order to "protect, mitigate, and enhance wildlife resources affected by the development and operation of the hydroelectric generating facilities at the Detroit/Big Cliff Project, it is necessary to determine what impacts occurred. Upon the approval of and funding by the Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Detroit/Big Cliff Project and to prepared a net impacts statement. The Department is also ready to take the lead in developing mitigation plans. Consultation and Coordination with appropriate agencies involved in the Detroit/Big Cliff Project, is of course, an integral part of both of these processes. We believe that a workable net impacts statement and mitigation plan can be developed based on existing information, and the expertise of biologists from the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has greatly improved since the time of construction of the Detroit/Big Cliff Project. We have broader concerns and are more aware of wildlife/habitat relationships, The Northwest Power Planning Act and the Power Council's Fish and Wildlife program hdve provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbid River Basin. The Oregon Department of Fish and Wildlife wants to see that opportunity realized to the fullest degree possible in a timely, effective, and cost-effective manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

LLOYD 500 BUILDING SUITE 1692
500 N.E. MULTNOMAH STREET
PORTLAND, OREGON 97232

APR 20 1984

April 16, 1984

Mr. Peter Johnson, Administrator
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Johnson:

As requested in Mr. Meyer's letter of March 20, 1984, we have reviewed the Wildlife Mitigation Status Report for the Detroit Project. The following comments are being provided for inclusion in the final report.

General Comments

we believe the report Is well written and adequately describer the status of past, present, and proposed wildlife mitigation for the Detroit Project.

Based on the report's content, It is evident that the construction and operation Of the Detroit Project has resulted in substantial adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the Impacts Of the Detroit Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate the adverse wildlife impacts attributable to the project.

The Service has the expertise and would like to participate in both the impact evaluation and mitigation plan development.

Specific Comments

A comprehensive evaluation Of Detroit's impact on wildlife resources should be conducted by a team Of qualified biologists composed Of representatives from appropriate state and federal resource agencies. These Include the Oregon Department Of Fish and Wildlife, Army Corps of Engineers, U.S. Forest Service, and the Fish and wildlife Service. We suggest the evaluation be based on habitat; supported by population data when available. We

Explanations or Modifications:

No explanations or report modifications necessary.

USFWS Comments (cont.):

believe that such an evaluation could be accomplished with a minimum of new data collection by: 1) analyzing the existing data referenced in the status report such as pre and post construction photographs; and 2) consultation with professional wildlife biologists familiar with the area's wildlife resources as they existed prior to project construction. The evaluation's results should be presented in an impact assessment report.

Utilizing the results from the aforementioned impact statement, we believe that the same team of biologists, with assistance from their agency's respective habitat specialists, should develop a mitigation plan. The plan, if implemented, would fully compensate the adverse wildlife impacts identified.

In addition to assessing the direct impacts, we strongly believe the cumulative effects of this and the other Willamette Valley reservoirs should be evaluated. The extensive development that has occurred along the Willamette River's flood plain has significantly reduced a variety of wildlife habitats and related resources. That development and resultant wildlife losses would have been considerably less without the construction and operation of Detroit and the other major Willamette Basin projects. Although this level of impact evaluation may go beyond the intent of Section 1004 measures, the impacts are partially attributable to hydropower development and should be addressed by the Power Planning Council.

In conclusion, we believe no single agency or user group is responsible for the adverse wildlife impacts which have resulted from the development and operation of the Detroit Project. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, rules, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Detroit Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife Program recognize this and together have given us an opportunity to correct our past mistakes. The Service is eager to move toward that end.

Sincerely yours,

Wally Steucke

Wally Steucke

for Richard J. Myshak
Regional Director

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFS Comments:

United States Department of Agriculture — Forest Service — Willamette National Forest

211 East Seventh Avenue
P.O. Box 10607
Eugene, OR 07440

2630
April 20, 1984

Mr. Jim Meyer
Bonneville Power Administration
Box 12999
Portland, OR 97212

Dear Mr. Meyer:

Our review of the five Wildlife Mitigation Status Reports prepared by the Oregon Department of Fish and Wildlife indicates, for the most part, that the reviews are factual and complete. Our comments are meant to clarify the reports, rather than challenge the contents.

Under category IV B (2) Losses: Conspicuous by their absence are references to cougar, bobcat, and wolverine. As a minimun, the status report should address each species listed as Threatened or Endangered by the Federal Government or Threatened by the Oregon Department of Fish and Wildlife.

Under category III D (2), the narratives indicate the USDA Forest Service manages 11,375 acres of project lands above the pool areas. We cannot verify this acreage, but assume your sources are correct. However, for clarification, only 3,679 acres are owned by the U.S. Army Corps of Engineers. The remainder are, and always have been National Forest lands.

The "mutual agreement" statements in category V B (3) for Hills Creek and Cougar Reservoirs only apply to U.S. Army Corps of Engineers lands managed by USDA Forest Service (Cougar = 80 acres and Hills Creek = 265 acres) dnd to National Forest lands necessary for the operations of the project facil ities. The rest of the 'project lands" are National Forest lands and are managed without U.S. Army Corps of Engineers involvement.

For continuity of information, you may wish to modify the Detroit Reservoir narrative category V B (3) to include the information that USDA Forest Service msna es 1,839 acres of land above pool level that is owned by U.S. Any Corps of Engineers.

Under Category V C, MITIGATION IMPLEMENTED: Please delete all references to plantings recently completed by USDA Forest Service. Those plantings are part of a project whose entire thrust is to develop technology--not to mitigate for the project. We believe the topic should be included under Category VI, CURRENT STUDIES.

Explanations or Modifications:

Information was limited regarding project impacts on wildlife particularly nongame species. See Sections IV.B.(2) and IV.B.(4). When information was available on these species, it was provided in the status report.

Acreages were provided by USACE.

See Hills Creek and Cougar status report appendices.

Report modified as suggested. See Section V.B.(3).

Report modified as suggested. See Sections V.C. and VI.

USFS Comments (cont.):

2

Project specific comments are as follows:

Detroit: Page 2, Item (2) lines 6 and 7: Delete "and Big Cliff Reservoir (141 acres)."

Page 9, Item VI, paragraph 2, lines 5 and 6: Delete H. Legard USFS, pers. commun.). Replace with (Skeesick, 1983).

Page 10, add the following reference: Skeesick. D.g. 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene. Oregon. 39 pp. and Appendix.

Hills Creek: Page 6, Item (4), paragraph 1:Replace entire paragraph with: two spotted owl management areas (SOMA's) are located within 1 mile of the east side of the reservoir.

Page 9, Item VII A, paragraph 1, line 2: Delete USACE, line 9: delete (H. Legard, USFS, pers. commun.). Replace with (Skeesick, 1983).

Page 11, add the following reference: Skeesick, D.G.. 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Lookout Point: Page 3, Item (2) paragraph 2, line 8: mid-1980's is wrong time period.

Page 5, paragraph 3, lines 6-8: Sentence should be expanded to include the fact that elk forage on available vegetation exposed during drawdown.

Page 6, Item (4), paragraph 2, line 4: Statement is incorrect: An active bald eagle (Federal Threatened Species) nest exists midway along the reservoir (USFS 19811. Two Spotted Owl Management Areas (SOMA's) are located within a mile of the reservoir.

Page 9, Item C, lines 6-10, Aerial seeding was not done as mitigation for the project. It was accomplished to improve production on USDA Forest Service lands.

Page 11 add the following references: Skeesick, D.G. 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Explanations or Modifications (cont.:

Report modified as suggested. See Section III.D.(2).

Report modified as suggested. See Section VI.

Report modified as suggested. See Section VII.

USFS Comments (cont.):

3

USDA Forest Service, 1981. Environmental Assessment Report Crale Creek Bald Eagle Management Area. Willamette National Forest, Lowell Ranger District, Lowell, Oregon. 51 pp. plus appendix.

Page 10, Item VII A, paragraph 2, line 4: Delete USACE.

Line 6: Include the following reference. Skeesick, 1983)

Page 11, add the following references: Skeesick, D.G., 1983. Development of Technology and Methodology for Introduction of Terrestrial Vegetation in Reservoir Drawdown Zones. USDA Forest Service, Willamette National Forest, Eugene, Oregon. 39 pp. plus Appendix.

Any questions regarding suggested changes to the status reviews may be directed to Delbert Skeesick (FTS 425-6699).

Thank you for the opportunity to review and comment on the wildlife mitigation status reports.

Sincerely,

for MICHAEL A. KERRICK
Forest Supervisor

cc: Horn, RO
Skees ck, SO

WP00:M26A40-F7

Explanations or Modifications (cont.):

Wildlife Mitigation Status Report

ROUND BUTTE DAM AND RESERVOIR PROJECT

Prepared by:

J. H. Noyes
K. L. Bedrossian
R. D. Carleson
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79433BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Round Butte Dam and Reservoir

II. PROJECT OPERATOR

Portland General Electric Company (PGE)

III. PROJECT DESCRIPTION

A. Location and Size

Round Butte Dam and Reservoir are located in Jefferson County, Oregon approximately 6 miles southwest of Madras. Access to the Round Butte Project is provided by a main access road off U.S. Highway 97. The dam is on the Deschutes River (river mile 112) about 0.5 mile downstream from the confluence with the Metolius River, a major tributary. The Deschutes and Metolius Rivers originate on the east slopes of the Cascade Mountains. The Crooked River, another major tributary, originates on the central Oregon plateau (Bechtel undated).

Round Butte Dam is a rockfill dam with an earth core. Crest length of the dam is 1,320 feet and the height of the dam is 440 feet above foundation bedrock (Bechtel undated). Power is generated by 3 Francis turbines with an estimated maximum generating capability of 315,000 kilowatts.

Round Butte Reservoir is comprised of 3 conjoined lakes, collectively referred to as Lake Billy Chinook, and encompasses about 3,600 acres of surface area at full pool level. When at maximum elevation, the 3 arms of Lake Billy Chinook extend up the Metolius, Deschutes, and Crooked Rivers a distance of 11, 8, and 6 miles, respectively (Hodge undated). The width of the reservoir varies from a few hundred feet in several places to approximately 0.75 mile (Hodge undated).

B. Authorized Purposes

The purpose of the Round Butte Project was power generation (Hydroelectric Commission of Oregon [HCO] 1961).

C. Brief History

Federal lands along the Deschutes River, which were recognized as being valuable for power development, were withdrawn starting in 1908 under the 17 June 1902 Reclamation Act (Greisser 1982). This act authorized withdrawal of certain federal lands from public entry for power use (Greisser 1982). Lands along the Deschutes and Metolius Rivers in the Warm Springs Indian Reservation were withdrawn in 1910 and 1913. PGE applied for a Federal Power Commission (FPC) license and a State Hydroelectric Commission license in March 1959 and February 1960, respectively (Bechtel undated). An FPC license was issued 12 September 1960 as an amendment to the Pelton license (FPC Project No. 2030); a State of Oregon license (Project No. 217) was issued 10 March 1961 (Greisser 1982).

Construction of Round Butte Dam began in March 1961 and commercial operation of the first turbine unit began in October 1964. By November 1964, all 3 units were in commercial operation (Greisser 1982).

D. Other Pertinent Data

(1) Water level fluctuation and timing

Between the maximum pool elevation of Lake Billy Chinook (1,945 feet) and the minimum elevation of 1,860 feet, storage volume of about 280,000 acre-feet is provided. Lake Billy Chinook has a maximum depth of 415 feet and an average depth of approximately 200 feet (Bechtel undated).

The U. S. Geological Survey (USGS) maintains records of daily water level fluctuations at Lake Billy Chinook (R. Lee, PGE, pers. commun.). Pool fluctuation from 15 June to 15 September may not exceed 1 foot (R. Lee, PGE, pers. commun.). The greatest drawdown (approximately 5-10 feet) occurs during winter, usually in January (R. Lee, PGE, pers. commun.). Fluctuations at other times of the year are dependent on river input.

(2) Land ownership

The total amount of land encompassed by the Round Butte Project was approximately 4,849 acres (B. May, PGE, pers. commun.). Of this total, ownership is as follows: Bureau of Land Management (BLM), 2,062 acres; Confederated Tribes of the Warm Springs Reservation (Tribes), 924 acres; U.S. Forest Service (USFS), 491 acres; PGE, 433 acres; State of Oregon, 87 acres; private, 852 acres (B. May, PGE, pers. commun.).

PGE regulates the water controlled by Round Butte Dam and manages activities on the water surface of Lake Billy Chinook (R. Lee, PGE, pers. commun.). With the exception of land owned by the Tribes, Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the project area. Habitat management on the various parcels of land within the project area is administered by the respective landowners, unless management practices interfere with the operation of the dam for power generation purposes (R. Lee, PGE, pers. commun.). Round Butte Dam and the Crooked River arm of Lake Billy Chinook lie on the west edge of ODFW's Grizzly Wildlife Management Unit; the Deschutes and Metolius River arms of the reservoir are located within ODFW's Metolius Wildlife Management Unit.

(3) Indian rights

The Warm Springs Reservation of Oregon was established by a treaty in 1855, with the east boundary of the reservation being the center of the Deschutes River (The Confederated Tribes of the Warm Springs Reservation of Oregon 1979). The Tribes own the land adjacent to the Round Butte Project along the west side of the dam and reservoir and north of the Metolius Arm of Lake Billy Chinook. The Tribes control the use of the surface of the waters contiguous to the reservation and prohibit public recreational access to the reservation from project waters (T. Luther, Tribes, pers. commun.). The Tribes permitted deer hunting on the

reservation on a year-round basis prior to 1984, but were required to comply with federal waterfowl hunting regulations. Recommendations for restricted seasons for big game hunting have been submitted and probably will become effective in 1984 (T. Luther, Tribes, pers. commun.). Very few tribal members hunt waterfowl in the area, especially along Round Butte Reservoir (T. Luther, Tribes, pers. commun.).

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Information on pre-construction project conditions was scarce. Information was obtained from written reports, project files, and conversations with appropriate individuals. Aerial photos of pre-construction conditions are available from PGE and the University of Oregon Map Library.

Two reports provided information on pre-construction conditions. A report by Hodge (undated), a consulting geologist, contained a list of predicted losses and gains due to inundation but dealt almost exclusively with fishing, trail and road access, and geological formations. Hodge (undated) predicted impacts to wildlife in only the most general terms. A thesis on the establishment of pheasants in the Madras area, bounded by the Crooked and Deschutes Rivers, contained a list of mammals, migratory birds, upland game, raptors and other avian species that occurred in the area (Madden 1953). A report by U.S. Bureau of Reclamation (USBR) (1981) provided information on recent conditions within the Deschutes Basin and was used to infer pre-construction conditions.

No quantitative assessments of predicted impacts on wildlife were found in the literature on pre-construction conditions. The following information is based on the reports mentioned above and on conversations with ODFW wildlife biologists familiar with the area. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The project site is located within the Western Juniper Zone described by Franklin and Dyrness (1973). Based on the vegetation present in riparian zones of other streams in the area, typical species occurring in the riparian zone prior to reservoir construction probably included alder, black hawthorn, snowberry and various species of willow (USBR 1981). From the junction with the Metolius and Crooked Rivers, the Deschutes River descended through a steep-sided, narrow, basalt-rimmed canyon (State of Oregon 1981). Due to the porous nature of the geologic formations, the Deschutes River had a very uniform flow and no major floods are known to have occurred (FPC 1951).

Resident herds of mule deer were found along the edge of the rimrocks and extended onto the adjacent range lands (Madden 1953). Speculation on the density of the mule deer population within the project area prior to construction provided estimates of approximately 5 deer per square mile during the summer and 25 deer per square mile during the winter months (N. Behrens, ODFW, pers. commun.). Very few elk were present at the project site during the pre-construction period (E. Madden, PGE; (N. Behrens, ODFW; T. Luther, Tribes, pers. commun.).

The major upland game bird in the canyon was chukar partridge. California quail and ring-necked pheasant occurred in the upland areas. Gray partridge, mourning dove, and ruffed grouse were present along the river bottom and adjacent rims (N. Behrens, ODFW, pers. commun.).

Based upon the furbearing species presently occurring upstream and downstream from the reservoir, aquatic furbearers existing at the project site prior to inundation probably included beaver, river otter, mink, and muskrat. Terrestrial furbearing species included bobcat, coyote, weasel, marten, and raccoon (USBR 1981; N. Behrens, ODFW, pers. commun.). Black bear and cougar were seen in the Madras area after 1946 (Madden 1953) and probably occurred at the project site. Waterfowl utilized the river near the project site prior to inundation, in fewer numbers than currently use the area (E. Madden, PGE; N. Behrens, ODFW; H. Scott, ODFW, pers. commun.). The only mention of nongame species in the scant literature available on pre-construction conditions indicated prairie falcons nested on the canyon rims, and "limited numbers" of bald and golden eagles were present in the Madras area (Madden 1953). The limited reference to nongame species probably reflects the historical emphasis of wildlife management on game species only. ODFW was not given legal jurisdiction over nongame species until 1971.

B. Post-Construction Period

(1) Available information

None of the information addressing wildlife resources after construction of the Round Butte Project was directed toward wildlife impact assessments. The State of Oregon (1981) published a master plan for the Cove Palisades State Park at the south end of Lake Billy Chinook. Although the report contained a species occurrence list and delineated several critical wildlife habitat areas, the purpose of the plan was to provide information on "the major resource attractions and recreation development opportunities" at the park. The USBR (1981) report provided general information on habitat conditions within the Deschutes Basin. Post-construction aerial photos are available from PGE and the University of Oregon Map Library. The following information is based primarily on conversations with individuals knowledgeable of the Round Butte area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Round Butte Reservoir (Lake Billy Chinook) inundated between 3,600 and 4,000 acres (Bechtel undated; Hodge undated). Habitat lost within the

project area includedriparian habitat and big game winter range. The reservoir site was used by mule deer as winter range prior to dam construction (N. Behrens, ODFW; T. Luther, Tribes, pers. commun.). Members of the Tribes recall collecting their winter's supply of venison during the fall months from the area currently inundated by Lake Billy Chinook (T. Luther, Tribes, pers. commun.). Although few elk utilized the area prior to inundation, elk presently winter along the Metolius Arm of the reservoir,especially during severe winters (N. Behrens, ODFW; T. Luther, Tribes, pers. commun.). If the reservoir area had not been inundated, it is likely it would be used as winter range during severe winters by both elk and mule deer (N. Behrens, ODFW, pers. commun.). Big game movement and migration have been altered as a result of the project (N. Behrens, ODFW, pers. commun.).

Information regarding the effects of project construction or operation on wildlife was not available. Construction of the Round Butte Project required "extensive" relocation of existing roads, and new road and bridge construction; approximately 9.5 miles of access road to the damsite was constructed (Bechtel undated). Due to the inundation of Cove Palisades State Park, roads into the park, and various U.S. Forest Services roads, about 7.5 miles of new roads and 2 large suspension bridges across Lake Billy Chinook were constructed to provide access to the relocated state park (Bechtel undated).

Specific wildlife habitat types and the amount of each habitat type affected by the project was not known (without conducting a more detailed study). The number of game and nongame animals affected by the project was not provided. The ecological significance of the loss of wildlife habitat was not evaluated.

Waterfowl nest on small islands and hummocks upstream from Round Butte reservoir (N. Behrens, ODFW, pers. commun.). Reservoir construction probably resulted in a loss of nesting habitat on islands within the project site.

Stream habitat for furbearers within the impoundment area was eliminated. Nongame bird species adversely affected by reservoir construction probably included dippers and passerines which use riparian habitat (e.g. grosbeaks, warblers) (W. Haight, ODFW, pers. commun.).

Riparian habitat is limited in the area around Round Butte Dam; therefore, losses of riparian habitat as a result of the project are important (N. Behrens, ODFW, pers. commun.). "Riparian zones are frequently used as migration corridors, and riparian habitat often provides critical winter habitat in many areas, affording both food and cover" (USBR 1981). The loss of cover and food supply resulting from degradation of riparian zones "is most conspicuous for big game and furbearers but also applies to birds, small mammals, and to predators which depend on these species. The degradation of riparian zones has also resulted in increased stress for many wildlife species dependent upon these areas for security and thermal cover." (USBR 1981).

(3) Benefits

Hodge (undated) concluded "the lake will beneficially alter the . . . plant and animal life, . . .". Hodge (undated) also stated the improved climate and ground water would result in the upper canyon slopes becoming valuable grazing grounds for much of the year. Hodge, was a consulting geologist, however, and no studies were conducted to gather data as a basis for that assessment. Also, the grazing improvements he mentioned appeared to be directed toward domestic livestock.

Migrating waterfowl probably benefitted by construction of Round Butte Reservoir (N. Behrens, ODFW, pers. commun.), although waterfowl use is much higher at the reservoir behind the Pelton Reregulating Dam several miles downstream. As indicated by winter and summer waterfowl surveys, Round Butte Reservoir provides a migratory resting area for ducks and geese but does not possess adequate nesting habitat. Since the inception of ODFW breeding pair and brood surveys in 1976, 4 ducks, no geese, and no duck or goose broods have been observed at the reservoir by ODFW personnel. A goose brood was observed on the Metolius Arm of the reservoir in 1983. The survey routes, however, do not include some of the better habitat located on the upper arms of the Crooked and Deschutes rivers (H. Scott, ODFW, pers. commun.).

(4) Additional information

Bald eagles and ospreys use the upper arms of the reservoir and the tailrace below the dam for foraging (J. Loomis, ODFW; T. Luther, Tribes, pers. commun.). During winter 1982-83 as many as 17 bald eagles were seen at the Round Butte Hatchery below the dam. Two immature bald eagles were seen for a short time during winter 1983-84 and 2 adult eagles remained in the area all winter (J. Loomis, ODFW, pers. commun.). As many as 40 migrating bald eagles were observed feeding on kokanee salmon in the Metolius Arm of Lake Billy Chinook during the fall (T. Luther, Tribes, pers. commun.). A pair of bald eagles have nested in the vicinity of the Metolius Arm during the past several years and a nest site location has been identified (N. Behrens, ODFW, pers. commun.). The Crooked River was designated a potential bald eagle nesting area by the Pacific States Bald Eagle Recovery Team (1982).

The overall effect dams have on bald eagle populations is not clear. Eagles may have benefited by construction of reservoirs if a greater year-round fish prey base occurred as a result (W. Haight, ODFW, pers. commun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs.

Ospreys use the Round Butte area during spring and a pair has nested successfully downstream at Pelton Reregulating Dam each year since 1981 (D. Ratliff, PGE, pers. commun.). In 1971 prairie falcons were observed foraging in several of the habitat types adjacent to the project site (ODFW files). Several golden eagle nests and 1 prairie falcon nest (probably active) occur within the boundaries of Cove Palisades State Park (N. Behrens, C. Bruce, ODFW, pers. commun.). Hunting is prohibited within the park to protect public safety and allow refuge for wildlife (State of Oregon 1981).

Round Butte lies within the Central Cascades Peregrine Falcon Management Unit established by the Pacific Coast American Peregrine Falcon Recovery Team (1982). The American peregrine falcon is classified as endangered in Oregon by ODFW and U.S. Fish and Wildlife Service (USFWS). As part of the statewide minimum population objective of 30 pairs necessary to reclassify the species to a threatened status, 2 pairs of peregrine falcons are needed within this unit (C. Bruce, ODFW, pers. commun.). Informal historical records indicate peregrine falcons nested in the lower Crooked River or Deschutes River Canyons near Lake Billy Chinook. These canyons and the cliffs around the reservoir are presently considered good potential nesting and wintering habitat (C. Bruce, ODFW, pers. commun.).

Other avian species which occasionally may be attracted to the impounded area include loons, grebes, gulls, terns, herons, and shorebirds (W. Haight, ODFW, pers. commun.). "Hundreds" of common mergansers and "a few" hooded mergansers forage in the tailrace downstream from Round Butte Dam (J. Loomis, ODFW, pers. commun.).

The area of reservoir influence has increased beyond the project area due to developments within the vicinity of the reservoir (N. Behrens, ODFW; T. Luther, Tribes, pers. commun.). The Three Rivers subdivision near Grandview and the associated recreational developments (marina, reservoir access) began after reservoir construction, prior to 1970. The development area was initially zoned agricultural, but in 1981 was changed to rural residential due to the amount of development that had already occurred (J. Boers, Jefferson Co. Planning Dept., pers. commun.). The development lies within the Metolius deer herd winter range (N. Behrens, ODFW, pers. commun.).

Wildlife population and habitat estimates are available from ODFW for game mammals, furbearing mammals, upland game birds and waterfowl in Jefferson County. Estimates of relative population levels of nongame wildlife are also available for Jefferson County. Production, trend count, and harvest data for big game in the Metolius and Grizzly Wildlife Management Units and for upland game in Jefferson County are available from ODFW in the Wildlife Division annual reports. Harvest data are available for furbearers in Jefferson County. This information is not specific to the project site. ODFW has conducted waterfowl trend counts in Jefferson County since the mid-1960's; separate counts at Round Butte Reservoir were initiated in 1976 (H. Scott, ODFW, pers. commun.). Available data include summer brood surveys, and summer and winter population counts.

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

At the present time, no plans have been proposed for wildlife mitigation to directly offset impacts to wildlife as a result of the Round Butte Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

FPC had the authority to grant licenses to hydroelectric projects meeting the requirements of the Federal Water Power Act whenever a substantial portion of the project land was owned or controlled by the United States, as was the case at Round Butte.

Section 10(a) of the Federal Water Power Act required as a license condition that the project in the judgement of FPC "will be best adapted to a comprehensive plan.. .for the improvement and utilization of water-power development, and for other beneficial public uses, including recreational purposes' (PGE files).

As a condition of the FPC license (Article 27), "The Licensee...shall comply with such reasonable modification of project structures and operation in the interest of fish and wildlife resources, provided that such modification shall be reasonably consistent with the primary purpose of the project..."

In permitting construction of Round Butte Dam, the FPC and Oregon Water Resources Board determined that among the river conditions to be maintained downstream from Round Butte and Pelton dams, no appropriations of water were to be permitted for other than domestic, livestock, recreation, and fish and wildlife uses (Aney 1965).

(2) Oregon Water Resources Department requirements

The Hydroelectric Commission of Oregon (HCO) was responsible for licensing hydroelectric projects in Oregon until 1961 when legislative action disbanded the HCO and assigned the functions to the Water Resources Board (WRB) and the State Engineer's Office (SEO). In 1975 the WRB and SEO were combined into the Water Resources Department and the newly formed Water Policy Review Board undertook responsibility for fish and wildlife concerns (D. Buell, Water Resources Dept., pers. commun.). The requirements that applied to the Round Butte Project at the time of construction were those in the Hydroelectric Act (ORS 543.225) passed 26 February 1931. This act did not include any mention of wildlife specifically, but did state that "... fish, scenic, esthetic, recreational, park, highway or other beneficial use" were grounds for protest actions against a license application.

The HCO license for Project No. 217 states the licensee shall allow "reasonable access to the project area by the general public for recreational purposes..."

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife, fish and game..." The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with USFWS and state

conservation agencies prior to project development "with a view to preventing loss of and damaqe to wildlife resources." Projects were required to containadequate provisions for "conservation, maintenance, and management of wildlife resources thereof, and its habitat thereon," consistent with primary project purposes. This act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition project modification, and/or project operations modification were to be based on impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The Round Butte Project was required to comply with FWCA, including the 1958 amendment as a condition of the licensing procedure (R. Lee, PGE, pers. commun.). The FPC was responsible for soliciting comments on the license application from state and federal agencies and determined whether or not the requirements of FWCA were met (J. Leach, Federal EnergyRregulatory Commission, pers. commun.).

The National Environmental Policy Act (NEPA) was passed in 1969. TheEndangered Species Act was passed in 1973, requiring that agencies consult with the Department of the Interior to ensure that actions not jeopardize any threatened or endangered species. Since there have been no additions or major changes to the Round Butte Project, no impact assessments or mitigation measures have been mandated during the operational history of the dam.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No wildlife mitigation, enhancement, or protection measures of which ODFW, Tribes, or PGE personnel were aware have been implemented at the Round Butte Project (N. Behrens, ODFW; T. Luther, Tribes; D. Clark, D. Ratliff, PGE, pers. commun.).

VI. CURRENT STUDIES AND PLANNING

No studies or planning are currently being conducted for wildlife mitigation specifically at the Round Butte Project (D. Clark, PGE; T. Luther, Tribes; N. Behrens, ODFW, pers. commun.).

Studies and planning being conducted elsewhere in the State of Oregon could eventually affect wildlife/habitat management in the Round Butte area. Trial plantings of vegetation in the drawdown zones of several reservoirs in the Willamette Valley have been conducted by USFS, U.S. Army Corps of Engineers (USACE), Soil Conservation Service, and ODFW. USFS plans to continue these studies (USFS 1983). Although the initial goals of the studies were to increase bank stability, decrease slope ravel and decrease turbidity, the establishment of bank vegetation

is expected to benefit wildlife also (USFS 1983). Due to the steep banks around much of Round Butte Reservoir, the wildlife benefits of plantings at the Round Butte site are limited. The increase in forage availability could benefit big game, particularly during winter.

In addition to vegetation plantings, other studies and population objectives may affect wildlife/habitat management in the Round Butte area. Objectives of a recovery plan for the American peregrine falcon provide for the establishment of 30 nesting pairs in Oregon. Further identification of falcon habitat and the establishment of goals for the management unit encompassing the project site could affect management procedures in the Round Butte area. Radio tagged wild turkeys released by ODFW in the Cascade Range have been observed within 6 miles of the reservoir and are currently wintering in the Grandview area southwest of Round Butte. The Fish and Wildlife Commission has adopted mule deer population objectives for the Metolius and Grizzly Wildlife Management Units, and Rocky Mountain elk population objectives for the Grizzly Unit. ODFW is developing a statewide nongame plan.

VI I. REFERENCES CITED

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State of Oregon, Parks and Recreation Division. 1981. The Cove Palisades State Park, master plan. Salem, Oreg. Paging various.

U.S. Bureau of Reclamation. 1981. Lower Deschutes River Basin Oregon, appraisal report. Boise, Idaho. Paging various.

U.S. Forest Service. 1983. Flood control reservoirs vegetative planting environmental assessment. Willamette National Forest, Eugene, Oreg. np.

A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Jim Noyes
Karen Bedrossian
Dan Carleson
Mary Potter

U. S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

D. Clark
R. Klein
R. Lee
E. Madden
B. May
D. Ratliff

(2) Summary of Project Operator Contacts

Date	Individual	Summary
19 January 1984	R. Sandvik	D. Carleson sent letter to PGE providing information and requesting contacts.
16 Feb 1984	D. Clark D. Cramer R. Klein E. Madden D. Ratliff	Meeting. Discussed project and procedures for gathering information.
24 Feb 1984	D. Ratliff	Phone. Discussed project and sources of information.
06 March 1984	D. Clark	Meeting. Discussed project and obtained information.
08 March 1984	D. Clark	Phone. Obtained information and requested further information.
12 March 1984	B. May	Phone. Discussed project land ownership.
13 March 1984	E. Madden	Phone. Discussed pre-construction project conditions.
13 March 1984	R. Lee	Meeting. Discussed licensing procedures.
14 March 1984	D. Clark	Phone. Requested information on mitigation.
14 March 1984	D. Ratliff	Phone. Discussed mitigation and enhancement.
19 March 1984	D. Ratliff	Phone. Arranged meeting for project tour.

Date	Individual	Summary
22 March 1984	D. Ratliff	Meeting. Observed the project area and discussed existing conditions.
26 March 1984	R. Lee	Meeting. Discussed water level fluctuation and land ownership.
30 March 1984	D. Clark	Meeting. ODFW submitted review draft to PGE for informal comments.
03 April 1984	D. Clark	Meeting. Discussed review draft and no problems were indicated.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

N. Behrens
C. Bruce
L. Fredd
M. Golden
W. Haight
J. Harper
R. Ingram
J. Loomis
F. Newton
D. Sanford
H. Scott
F. Young

U. S. Forest Service

b. Hopkins, Region 6
F. Russell, Crooked River National Grassland
E. Styskel, Deschutes National Forest
M. Tryon, Prineville Ranger District

U. S. Bureau of Land Management

W. Elmore, Prineville

Confederated Tribes of Warm Springs Reservation of Oregon

T. Luther

Other

J. Boers, Jefferson County Planning Dept.
D. Buell, Oregon Water Resources Department
G. Eicher, retired, Portland General Electric
E. Gunderson, Jefferson County Asessor's Office
J. Leach, Federal Energy Regulatory Commission
J. Shearer, Oregon Dept. of Transportation, Parks and Recreation Division
K. Soper, Nature Conservancy
S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 4 APRIL 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS, BLM, USFS)

BPA requested comments on the 4 April 1984 Round Butte Project draft report by 14 May 1984. USFS had not submitted their comments by 17 August 1984 when the final report was typed, therefore USFS comments could not be incorporated into the report.

(3) Tribes (Confederated Tribes of Warm Springs Reservation of Oregon)

BPA requested comments on the 4 April 1984 Round Butte project draft report by 14 May 1984. The Confederated Tribes of the Warm Springs Indian Reservation had not submitted their comments by 17 August 1984 when the final report was typed, therefore their comments could not be incorporated into the report.

(4) Facility Operator (PGE)

ODFW Comments

MAY 17 1984

Department of Fish and Wildlife
506 S.W. MILL STREET, P.O. BOX 3503. PORTLAND. OREGON 97208

May 15, 1984

Mr. John R. Palensky Director
Division of Fish And Wildlife
Bonneville Power Administration
P.O. Box 3621
Portlend, OR, 97208

Dear Mr. Palensky:

The Oregon Department of Fish And Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Round Butte Wildlife Mitigation Status Report And our attached comments on that report indicate comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not Accomplished. This is not intended to be an indictment of any Agency or Portland General Electric (PGE). Knowledge of wildlife resources and legal mandates have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Uildllfe has a policy to request mitigation for losses of wildlife populations and habitat. PGE's Deschutes projects are of particular interest to ODFW because of their size And location, and their probable effects on wildlife resources.

In recognition of our increased responsibilities to address a broad range of concerns, I strongly urge the participating parties to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we must proceed with a mitigation plan based on a comprehensive assessment of wildlife impacts at the Round Butte Project. The Department is prepared to take the lead in this endeavor using: 1) the expertise of biologists from the various agencies, PGE, and the Warm Springs Tribes; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the Round Butte Project.

Sincerely,

John R. Donaldson, PhD
Director

Explanations or Modifications:

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Round Butte Dam and Reservoir
8 May 1984

Oregon Department of Fish And Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration, dated 20 April 1984 to review the Mitigation Status Report for Round Butte Dam And Reservoir.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries , , ." This goal has yet to be achieved at the Round Butte Project.

The Round Butte Wildlife Mitigation Staus Report demonstrates assessment of the impacts to wildlife resulting from construction and operation of the dam was *not* comprehensive. This is evident by the lack of information available regarding the effects of construction activities, the impact of road construction, and the types and amounts of habitat inundated. Wildlife densities prior to inundation were not estimated and nongame species were not considered. The significance of the inundated habitat to wildlife has not been fully explored. Impacts from operation of the facility have not been assessed.

Even though impact assessment has not been adequate, it is obvious that substantial impacts occurred to wildlife as a result of the Round Butte Project, considering acreage of habitat inundated. Habitat lost included riparian habitat and big game winter range. These habitat types are important, particularly east of the Cascades where they occur in limited quantity and where winter weather can be severe. The status report indicates no mitigation measures have been Implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development And operation of the Round Butte Project, it is necessary to determine what impacts occurred. Upon the approval of and funding by the

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

Council and Bonneville Power Administration. The Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Round Butte Project and to prepare a net impacts statement. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with Portland General Electric (PGE), the Confederated Tribes of the Warm Springs Reservation of Oregon (the Tribes). and appropriate agencies involved in the Round Butte Project, is of course, an integral pdrt of both of these processes. We believe that a workable net impacts statement and mitigation plan can be developed based on existing information and the expertise of biologists from PGE, the Tribes, and the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has improved since the time of construction of the Round Butte Project. We hdve broader concerns and are more avare of wildlife/habitat relationships. The Northwest Power Planning Act dnd the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient mdnner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

United States Department of the Interior

FISH ASD WILDLIFE SERVICE
LLOYD 500 BUILDING SUITE 1692
500 N E MULTNOMAH STREET
PORTLAND OREGON 97232

May 17 1964

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. 0. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of April 20, 1984, we have reviewed the Wildlife Mitigation Status Report for Round Butte Dam and Reservoir (the Project). The following comments are being provided for inclusion in the final report.

General Comments

We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project.

Based on the report's content, it is evident that the construction and operation of the Project has resulted in substantial adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1)conduct a comprehensive evaluation of the impacts of the Project on wildlife impacts attributable to findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate the adverse wildlife impacts attributable to the Project.

The Service has the necessary expertise and would like to participate in both the impact evaluation and mitigation plan development tasks.

Specific Comments

a comprehensive evaluation of the Project's impact on wildlife resources shoud be conducted by a team of qualified biologists composed of representative from appropriate state and federal resource agencies and private development interests. These include the Oregon Department of Fish

Explanations or Modifications:

No explanations or report modifications necessary.

USFWS Comments (cont.):

and Wildlife, Confederated Tribes of Warm Springs Reservation of Oregon, U.S. Forest Service, Bureau of Land Management, Fish and Wildlife Service, and the Portland General Electric Company. We suggest the evaluation be habitat based and supported by population data when available. We believe that such an evaluation could be accomplished with a minimum of new data collection by: 1) analyzing the existing data referenced in the status report such as pre- and post-construction photography; and 2) consulting with professional wildlife biologists familiar with the area's wildlife resources as they existed prior to project construction. The evaluation's results should be presented in an impact assessment report.

Utilizing the results from the aforementioned impact statement, we believe that the same team of biologists, with assistance from their agencys' respective habitat specialists, should develop a mitigation plan. The plan, if implemented, would be designed to fully compensate the adverse wildlIfe impacts identified.

In conclusion, we believe no single user group is responsible for the adverse wildlife impacts which have resulted from the development and operation of the Round Butte Dam and Reservoir. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal lows, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Round Butte Project was being developed. However, both the Northwest Power Planning and Conservation Act and Council's Fish and Wildlife program recognoze this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

J.W. Teeter

Joseph R. Blum
Assistant Regional Director
Habitat Resources

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

BLM Comments:

MAY 14 1984

United States Department of the Interior
BUREAU OF LAND MANAGEMENT

IN REPLY REFER TO

District Office
P. O. Box 7
Prineville, OR 97754

8500

May 10, 1984

Mr. John Palensky
Director
Division of Fish and Wildlife
B.P.A.
P. O. Box 3621
Portland, OR 97208

ATTN: James Meyer

Dear Mr Palensky:

The Prineville District of the Bureau of Land Management has reviewed the mitigation reports for Round Butte and Pelton Dams. We have no comments. The reports are both good reviews of past and present situations relating to Wildlife resources in the area.

Sincerely yours,

Gerald E. Magnuson
District Manager

Explanations or Modifications:

No explanations or report modifications necessary.

PGE Comments:

Portland General Electric Company

MAY 11 1984

May 10, 1984
OEAS-229-84L
GOV REL 7 - BPA

John Palensky
Director of Fish 6 Wildlife
Ronncvillc Power Administration
P.O. Box 3621
Portland, OR 97208

Dear John:

PCE has reviewed the "Wildlife Mitigation Status Review" reports for the Pelton Round Butte Complex (FERC Project #2030 on the Deschutes River.

We appreciate the opportunity to comment on these reviews and as you can see from the reports we have worked closely with personnel from ODFW in their development.

We have one minor editorial comment. The report references Mr. J. Lewis which should be Mr. J. Loomis.

Sincerely.

Richard M. Sandvik
General Manager
Environmental & Analytical Servicer

RMS:slc

121 SW Salmon Street, Portland, Oregon 97204

Explanations or Modifications:

Report corrected. See Section IV.B.(4) and Appendix B.

Wildlife Mitigation Status Report

PELTON PROJECT

Prepared by:

J. H. Noyes
K. L. Bedrossian
R. D. Carleson
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Pelton Project (Pelton and Pelton Reregulating Dam and Reservoir)

II. PROJECT OPERATOR

Portland General Electric Company (PGE), Confederated Tribes of the Warm Springs Reservation of Oregon (Tribes)

III. PROJECT DESCRIPTION

A. Location and Size

Pelton Dam is located at river mile 103 on the Deschutes River, approximately 6 miles northwest of Madras, Oregon in Jefferson County. The reregulating dam is located about 2.4 miles downstream (Ebasco Servi ces, Inc. 1958) . Access to the project is provided by a 3-mile road connecting the project to U.S. Highway 26.

The Pelton Project is comprised of an arch dam and powerhouse with 3 turbine units, a reregulating dam and powerhouse with 1 turbine unit, and a fish ladder extending from downstream of the reregulating reservoir to upstream of the arch dam. Total length of the fish ladder is approximately 2.75 miles, with an open, unlined canal section of 0.5 mile (Ebasco Services, Inc. 1967).

Pelton Dan is a concrete arch dam, with crest length of 636 feet and height of 204 feet above bedrock (Ebasco Services, Inc. 1958). Power is generated by 3 Francis turbines with an estimated total generating capability of 120,000 kilowatts. Pelton Reservoir, commonly referred to as Lake Simtustus, is approximately 8 miles long and encompasses about 611 acres of surface area at normal pool level. Total length of shoreline at normal pool elevation (1,580 feet) is approximately 25 miles (Ebasco Services, Inc. 1958).

Pelton Reregulating Dam is a "rockfill with impervious central clay core" dam; the dam is 1,067 feet long at the crest and rises 88 feet above bedrock (Ebasco Services, Inc. 1958). Power generation facilities at the reregulating dam went into operation in 1983 and consist of 1 horizontal bulb-type generator rated at 15,000 kilowatts (Tribes 1979). The reservoir behind the reregulating dam is approximately 3 miles long and has a usable storage volume of about 3,270 acre-feet (Ebasco Services, Inc. 1958).

B. Authorized Purposes

The purpose of Pelton Dam was hydroelectric power generation (U.S. Fish and Wildlife Service [USFWS] 1961). The initial purpose of the Pelton Reregulating Dam was to maintain the natural flow of the Deschutes River downstream of the Pelton Project without fluctuations resulting from power plant operation (Ebasco Services, Inc. 1958). This regulation was entirely for the benefit of fishery interests and was not required for proper operation of the project for power. A 1955 agreement between the Tribes and PGE authorized power generation at the reregulating dam.

Restrictions on downstream water level fluctuations were the same as those in the original license.

C. Brief History

Federal lands along the Deschutes River which were recognized as being valuable for power development were withdrawn starting in 1908 under the 17 June 1902 Reclamation Act (Greisser 1982). This act authorized withdrawal of certain federal lands from public entry for power use (Greisser 1982). Lands along the Deschutes and Metolius Rivers in the Warm Springs Indian Reservation were withdrawn in 1910 and 1913.

Development of the Pelton Project was first attempted by the Columbia Valley Power Company, which obtained a license in 1924 (Greisser 1982). Preliminary work was completed, but the project was abandoned in the 1930's. Plans for the Pelton Project were revived in 1948 and in May 1949 the Northwest Power Supply Company, a corporation of 3 utility companies, filed a license application. A supplemental application filed June 1951 identified PGE as the sole license applicant. PGE was granted a Federal Power Commission (FPC) license (Project No. 2030) in December 1951, but it was opposed by the Oregon Fish and Game Commissions (Ebasco Services, Inc. 1967). This resulted in extended litigation. The Supreme Court affirmed FPC's right to issue a license to PGE on 6 June 1955. An Oregon license (Project No. 222) was issued by the State Engineer on 15 January 1962 (Greisser 1982).

An agreement between the Tribes and PGE on 22 December 1955 gave the Tribes the right to "install, operate and maintain...one or two hydroelectric generating units, in the reregulating dam..." (Tribes 1979). The design, construction, and operation of the generating units were subject to the approval of PGE.

Construction of the Pelton Project began in May 1956 and commercial operation of the first turbine unit began in December 1957. Commercial operation of turbine units 2 and 3 began in March 1958 and April 1958, respectively (Greisser 1982). Construction of power generation facilities at Pelton Reregulating Dam was completed in 1983.

D. Other Pertinent Data

(1) Water level fluctuation and timing

Pelton Dam is operated as a peaking plant, discharging to the reregulating reservoir (Ebasco Services, Inc. 1967). Normal operation of the hydroelectric plant results in a pool fluctuation in Lake Simtustus of approximately 7 feet, from the normal pool elevation of 1,580 feet to about 1,573 feet (Ebasco Services, Inc. 1958).

The forebay pool elevation at Pelton Reregulating Reservoir may change as much as 20 feet on a 24-hour cycle during normal operation (Tribes 1979). Maximum fluctuation at the reservoir is 27 feet (USFWS 1961); normal and minimun pool elevations are 1,435 feet and 1,408 feet, respectively (Ebasco Services, Inc. 1958).

(2) Land ownership

The total amount of land encompassed by the Pelton Project is approximately 1,406 acres (B. May, PGE, pers. commun.). Of this total, ownership is as follows: Tribes, 510 acres; U.S. Government (Bureau of Land Management, Forest Service), 467 acres; PGE, 227 acres; private, 202 acres (B. May, PGE, pers. commun.).

PGE regulates the water controlled by the Pelton Project and manages activities on the water surface of Lake Simtustus and Pelton Reregulating Reservoir (R. Lee, PGE, pers. commun.). With the exception of land owned by the Tribes, Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the project area. Habitat management on the various parcels of land within the project area is administered by the respective landowners, unless management practices interfere with the operation of the dam for power generation purposes (R. Lee, PGE, pers. commun.). The Pelton Project lies along the west edge of ODFW's Grizzly Wildlife Management Unit.

(3) Indian rights

The Warm Springs Reservation of Oregon was established by a treaty in 1855, which designated the center of the Deschutes River as the east boundary of the reservation (Tribes 1979). The entire west bank of the Pelton Project belongs to the Tribes, except for a few allotments at the reregulating dam and immediately upstream which are controlled by individual tribal members (Ebasco Services, Inc. 1958). PGE negotiated contracts with the Tribes and private owners to acquire easements and flowage rights over Tribal lands. The Tribes control the use of the surface of the waters contiguous to the reservation and prohibit public recreational access to the reservation from project waters (T. Luther, Tribes, pers. commun.). The Tribes permitted deer hunting on the reservation on a year-round basis prior to 1984, but were required to comply with federal waterfowl hunting regulations. Recommendations for restricted seasons for big game hunting have been submitted and probably will become effective in 1984 (T. Luther, Tribes, pers. commun.). Very few tribal members hunt waterfowl in the area (T. Luther, Tribes, pers. commun.).

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Information on pre-construction project conditions was scarce. Information was obtained from written reports, project files, and conversations with appropriate individuals. Aerial photos of pre-construction conditions are available from PGE and the University of Oregon Map Library.

No reports were found that provided information on pre-construction conditions specific to the project site. Reports by the State of Oregon (1981) and the U.S. Bureau of Reclamation (USBR) (1981) provided

information on recent conditions in the Deschutes area and were used to infer pre-construction conditions. In the recommended decision of FPC upon license application (1951), no mention was made as to affected wildlife. A thesis on the establishment of pheasants in the Madras area (Madden 1953), adjacent to the Deschutes River, contained a list of mammals, migratory birds, upland game, raptors and other avian species that occurred in the area. No quantitative assessments of predicted impacts to wildlife at the project site were found. The following information is based on reports addressing the general area and on conversations with ODFW wildlife biologists familiar with the area. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The project site is located within the Western Juniper Zone described by Franklin and Dyrness (1973). Based on the vegetation present in riparian zones of other streams in the area, typical species occurring in the riparian zone prior to reservoir construction probably included alder, black hawthorn, snowberry and various species of willow (USBR 1981). From the junction with the Metolius and Crooked Rivers, the Deschutes River descended through a steep-sided, narrow, basalt-rimmed canyon (State of Oregon 1981). Due to the porous nature of the geologic formations, the Deschutes River had a very uniform flow and no major floods are known to have occurred (FPC 1951).

Resident herds of mule deer were found along the edge of the rimrocks and extended onto the adjacent range lands (Madden 1953). Speculation on the density of the mule deer population within the project area prior to construction provided estimates of approximately 5 deer per square mile during the summer and 25 deer per square mile during the winter months (N. Behrens, ODFW, pers. commun.).

The major upland game bird in the canyon was chukar partridge. California quail and ring-necked pheasants occurred in the upland areas. Gray partridge, mourning doves, and ruffed grouse were present along the river bottom and adjacent rims (N. Behrens, ODFW, pers. commun.).

Based upon the furbearing species presently occurring upstream and downstream from the project site, aquatic furbearers existing at the project site prior to inundation probably included beaver, river otter, mink, and muskrat. Terrestrial furbearing species included bobcat, coyote, weasel, and raccoon (USBR 1981; N. Behrens, ODFW, pers. commun.). Black bear and cougar were seen in the Madras area after 1946 (Madden 1953) and probably occurred at the project site. Waterfowl utilized the river near the project site prior to inundation, in fewer numbers than currently use the area (E. Madden, PGE; N. Behrens, ODFW; H. Scott, ODFW, pers. commun.). The only mention of nongame species in the scant literature available on pre-construction conditions indicated prairie falcons nested on the canyon rims, and "limited numbers" of bald and golden eagles were present in the Madras area (Madden 1953). The limited reference to nongame species probably reflects the historical

emphasis of wildlife management on game species only. ODFW was not given legal jurisdiction over nongame species until 1971.

B. Post-Construction Period

(1) Available information

Most of the information addressing wildlife resources after construction of the Pelton Project did not include wildlife impact assessments. A follow-up report on the fish and wildlife resources affected by the project was published by USFWS in 1961. An application for a license amendment to authorize construction of a powerhouse at Pelton Reregulating Dan (Tribes 1979) included predicted effects on wildlife. The USBR (1981) report on the lower Deschutes River provided information on general habitat conditions. Post-construction aerial photos are available from PGE and the University of Oregon Map Library. The following information is based primarily on conversations with individuals knowledgeable of the Pelton area. Very little published information specific to the project site was found. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Habitat for upland game, furbearers, nongame animals, and big game within the impoundment areas was eliminated or extensively altered. The reservoir sites were used by mule deer as winter range prior to dam construction (N. Behrens, ODFW; T. Luther, Tribes, pers. commun.). If the reservoir areas had not been inundated, it is likely they would provide mule deer winter range during severe winters (N. Behrens, H. Scott, ODFW, pers. commun.). The fish ladder on the east side of the project has altered mule deer movement and migration, and "about 2" mule deer annually drown in the canal (D. Ratfliff, E. Madden, PGE, pers. commun.).

Information documenting the effects of project construction and operation on wildlife was not available. The Tribes (1979) predicted the primary effect of the Pelton Reregulating power facilities on wildlife would be caused by construction activity. The Tribes (1979) stated "During the period of construction, there could be a loss or displacement of a small but indeterminate number of the wildlife for a temporary period in the project and surrounding area of about 25 acres maximum." Paving of the existing access road was not expected to create changes sufficient to have a significant effect on wildlife in the project area. The installation of power facilities at the reregulating dam was only a small part of the entire Pelton Project. No information was found regarding effects of construction activities on wildlife when the dams were originally built.

Specific wildlife habitat types and the amount of each habitat type affected by the project were not known (without conducting a more detailed study). The number of game and nongame animals affected by the project was not provided. The ecological significance of the loss of wildlife habitat was not evaluated.

Waterfowl currently nest on small islands upstream and downstream from the Pelton Project (N. Behrens, H. Scott, ODFW, pers. commun.) and presunably nested within the project area. Construction of Pelton and Pelton Reregulating Reservoirs probably resulted in a loss of nesting habitat on islands within the project site. The Pelton Project inundated habitat used by California quail, chukar, and mule deer, but the loss was considered insignificant by USFWS (1961). Stream habitat for furbearers within the impoundment area was eliminated. Nongame bird species adversely affected by reservoir construction probably included dippers and passerines which use riparian habitat (e.g. grosbeaks, warblers) (W. Haight, ODFW, pers. commun.).

Riparian habitat is limited in the area around the Pelton Project; therefore, losses of riparian habitat as a result of the project are important (N. Behrens, ODFW, pers. commun.). "Riparian zones are frequently used as migration corridors, and riparian habitat often provides critical winter habitat in many areas, affording both food and cover" (USBR 1981). The loss of cover and food supply resulting from degradation of riparian zones "is most conspicuous for big game and furbearers but also applies to birds, small mammals, and to predators which depend on these species. The degradation of riparian zones has also resulted in increased stress for many wildlife species dependent upon these areas for security and thermal cover." (USBR 1981).

(3) Benefits

Migrating waterfowl probably benefited by construction of Lake Simtustus (H. Scott, ODFW, pers. commun.). As indicated by winter and summer waterfowl surveys (ODFW files), Lake Simtustus provides a migratory resting area for ducks, but does not possess adequate nesting and/or brood rearing habitat for ducks or geese. Since the inception of ODFW breeding pair and brood surveys in 1976, 8 ducks, no geese, and no duck or goose broods have been observed at Lake Simtustus by ODFW personnel. Annual winter counts of ducks at Lake Simtustus have ranged from 5-280 (average = 51); two geese were observed in 1984. Waterfowl use of the Pelton Reregulating Reservoir, however, is much higher than at Lake Simtustus and has probably increased substantially since project construction (H. Scott, ODFW; E. Madden, D. Ratliff, PGE, pers. commun.). Since 1976, annual winter counts of ducks at the reregulating reservoir have ranged from 136-2,774 (average = 1,144); winter counts of geese have ranged from 50-1,286 (average = 252). Duck and goose broods (less than 6 of each per year) utilize the reservoir and have been observed during most years (ODFW files).

(4) Additional information

Ospreys forage in the tailrace below Pelton Reregulating Dam and an active osprey nest is located on a power pole below the dam (D. Ratliff, PGE, pers. commun.). A pair of golden eagles has nested successfully for many years on a cliff along the east side of the reregulating reservoir (D. Ratliff, PGE, pers. commun.). A turkey vulture roost, used by about 100 birds, is located on the west side of the reservoir. In 1971, prairie falcons were observed foraging in several of the habitat types adjacent to the project site (ODFW files).

The overall effect dams have on bald eagle populations is not clear. Eagles may have benefited by construction of reservoirs, if a greater year-round fish prey base occurred as a result (W. Haight, ODFW, pers. commun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs.

The Pelton Project lies within the Central Cascades Peregrine Falcon Management Unit established by the Pacific Coast American Peregrine Falcon Recovery Team (1982). As part of the statewide minimum population objective of 30 pairs necessary to reclassify the species to a threatened status, 2 pairs of peregrine falcons are needed within this unit (C. Bruce, ODFW, pers. commun.). Informal historical records indicate peregrine falcons nested in the lower Crooked River or Deschutes River canyons. These canyons and the cliffs around the Pelton Project are presently considered as good potential nesting and wintering habitat (C. Bruce, ODFW, pers. commun.).

Other avian species which occasionally may be attracted to the impounded areas include loons, grebes, gulls, terns, herons, and shorebirds (W. Haight, ODFW, pers. commun.).

Wildlife population and habitat estimates are available from ODFW for game mammals, furbearing mammals, upland game birds and waterfowl in Jefferson County. Estimates of relative population levels of nongame wildlife are also available for Jefferson County. Production, trend count, and harvest data for big game in the Grizzly Wildlife Management Unit and for upland game in Jefferson County are available from ODFW in Wildlife Division annual reports. Harvest data are available for furbearers in Jefferson County. This information is not specific to the project site. ODFW has conducted waterfowl trend counts in Jefferson County since the mid-1960's; separate counts at Pelton and Pelton Reregulating Reservoirs were initiated in 1976 (H. Scott, ODFW, pers. commun.). Available data include summer brood surveys, and summer and winter population counts.

Public recreational facilities at Lake Simtustus consist of an 18-acre park about 1 mile upstream from the dam; picnicking, camping, boat launching and docking facilities are provided (PGE files).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

At the present time, no plans have been proposed for wildlife mitigation to directly offset impacts to wildlife as a result of the Pelton Project. No mitigation requested as a result of the Pelton Project was found, other than for fisheries. The only mention of wildlife consideration was in response to the proposed hydroelectric facilities at Pelton Reregulating Dam. John Donaldson (ODFW), in a letter dated 8 May 1979, stated "No substantial impacts to wildlife resources are expected from that project."

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

FPC had the authority to grant licenses to hydroelectric projects meeting the requirements of the Federal Water Power Act whenever a substantial portion of the project land was owned or controlled by the United States, as was the case at Pelton.

Section 10(a) of the Federal Water Power Act required as a license condition that the project in the judgement of FPC "will be best adapted to a comprehensive plan . . . for the improvement and utilization of waterpower development, and for other beneficial public uses, including recreational purposes" (PGE files).

The FPC and Oregon Water Resources Board determined that among the river conditions to be maintained downstream from the Pelton Project, no appropriations of water were to be permitted for other than domestic, livestock, recreation, and fish and wildlife uses (Aney 1965).

(2) Oregon Water Resources Department requirements

The Hydroelectric Commission of Oregon (HCO) was responsible for licensing hydroelectric projects in Oregon until 1961 when legislative action disbanded the HCO and assigned the functions to the Water Resources Board (WRB) and the State Engineer's Office (SEO). In 1975 the WRB and SEO were combined into the Water Resources Department and the newly formed Water Policy Review Board undertook responsibility for fish and wildlife concerns (D. Buell, Water Resources Dept., pers. commun.). The requirements that applied to the Pelton Project at the time of construction were those in the Hydroelectric Act (ORS 543.225) passed 26 February 1931. This act did not include any mention of wildlife specifically, but did state "... fish, scenic, esthetic, recreational, park, highway or other beneficial use" were grounds for protest actions against a license application.

The State Engineer of Oregon (1962) license for Project No. 222 states the project area "shall be open to the general public for recreational pruposes, except those closures necessary for public safety, and the safe and economical operation of the project."

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife, fish and game..." The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with USFWS and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Projects were required to contain adequate provisions for "conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon," consistent with primary project purposes. This act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife

conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The Pelton Project was required to comply with FWCA as a condition of the licensing procedure (R. Lee, PGE, pers. commun.). The Federal Power Commission was responsible for soliciting comments on the license application from state and federal agencies and determined whether or not the requirements of FWCA were met (J. Leach, Federal Energy Regulatory Commission, pers. commun.).

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that agencies consult with the Department of the Interior to ensure that actions not jeopardize any threatened or endangered species. Because hydroelectric facilities were added to the Pelton Reregulating Dam, impact assessments were included with the application for a license in 1979.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

ODFW erected 3 artificial nesting structures for geese along the east shoreline of Pelton Reregulating Reservoir in 1983. They were not used in 1983 or 1984 (D. Ratliff, PGE, pers. commun.). The only other wildlife mitigation, enhancement, or protection measure implemented at the Pelton Project of which ODFW, Tribes, or PGE personnel were aware was an attempt in 1982 to relocate an osprey nest (N. Behrens, ODFW: T. Luther, Tribes; D. Clark, D. Ratliff, PGE, pers. commun.). PGE erected a pole and nesting platform near an active osprey nest occurring on a live wire pole below Pelton Reregulating Dam, but it was not used by the ospreys. PGE insulated the wires on the original nesting pole to prevent electrocution (D. Ratliff, PGE, pers. commun.).

VI. CURRENT STUDIES AND PLANNIWG

No studies or planning are currently being conducted for wildlife mitigation specifically at the Pelton Project (N. Behrens, ODFW; T. Luther, Tribes; D. Clark, D. Ratliff, PGE, pers. commun.). If geese begin using the nesting structures mentioned above in V. C., ODFW may install additional structures (H. Scott, ODFW, pers. commun.).

Studies and planning being conducted elsewhere in the State of Oregon could eventually affect wildlife/habitat management in the Pelton area. Trial plantings of vegetation in the drawdown zones of several reservoirs in the Willamette Valley have been conducted by the U.S. Forest Service (USFS), U.S. Army Corps of Engineers (USACE), Soil Conservation Service (SCS), and ODFW. USFS plans to continue these

studies (USFS 1983). Although the initial goals of the studies were to increase bank stability, decrease slope ravel and decrease turbidity, the establishment of bank vegetation is expected to benefit wildlife also (USFS 1983). Due to the steep banks around much of Lake Simtustus, the wildlife benefits of plantings are probably limited. The banks of the reregulating reservoir, however, are less steep than those of Lake Simtustus except at the upper end. The increase in forage availability could benefit big game, particularly during winter.

In addition to vegetation plantings, other studies and population objectives may affect wildlife/habitat management in the Pelton area. Objectives of a recovery plan for the American peregrine falcon provide for the establishment of 30 nesting pairs in Oregon. Further identification of falcon habitat and the establishment of goals for the management unit encompassing the project site could affect management procedures in the Pelton area. The Fish and Wildlife Commission adopted mule deer and Rocky Mountain elk population objectives for the Grizzly Wildlife Management Unit. ODFW is developing a statewide nongame plan.

VII. REFERENCES CITED

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_____. 1967. Inspection of project works, Pelton development of the Pelton Hydroelectric Project, Federal Power Commission Licensed Project No. 2030, for Portland General Electric Company. Paging various.

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U.S. Forest Service. 1983. Flood control reservoirs vegetative planting environmental assessment. Willamette Natl. For., Eugene, Oreg. np.

A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Jim Noyes
Karen Bedrossian
Dan Carleson
Mary Potter

U. S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

D. Clark
R. Klein
R. Lee
E. Madden
B. May
D. Ratliff

(2) Summary of Project Operator Contacts

Date	Individual	Summary
19 January 1984	R. Sandvik	D. Carleson sent letter to PGE providing information and requesting contacts.
16 Feb 1984	D. Clark D. Cramer R. Klein E. Madden D. Ratliff	Meeting. Discussed project and procedures for gathering information.
24 Feb 1984	D. Ratliff	Phone. Discussed project and source of information.
06 March 1984	D. Clark	Meeting. Discussed project and obtained information.
08 March 1984	D. Clark	Phone. Obtained information and requested further information.
12 March 1984	B. May	Phone. Discussed project land ownership.
13 March 1984	E. Madden	Phone. Discussed pre-construction project conditions.
13 March 1984	R. Lee	Meeting. Discussed licensing procedures.
14 March 1984	D. Clark	Phone. Requested information on mitigation.
14 March 1984	D. Ratliff	Phone. Discussed mitigation and enhancement.

19 March 1984	D. Ratliff	Phone. Arranged meeting for project tour.
22 March 1984	D. Ratliff	Meeting. Observed the project area and discussed existing conditions.
26 March 1984	R. Lee	Meeting. Discussed water level fluctuation and land ownership.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

N. Behrens
C. Bruce
L. Fredd
M. Golden
W. Haight
J. Harper
R. Ingram
J. Loomis
F. Newton
D. Sanford
H. Scott
F. Young

U. S. Forest Service

B. Hopkins, Region 6
E. Styskel, Deschutes National Forest
M. Tryon, Prineville Ranger District

U. S. Bureau of Land Management

W. Elmore, Prineville

Confederated Tribes of Warm Springs Reservation of Oregon

T. Luther

Other

D. Buell, Oregon Water Resources Department
G. Eicher, retired, Portland General Electric
E. Gunderson, Jefferson County Asessor's Office
J. Leach, Federal Energy Regulatory Commission
K. Soper, Nature Conservancy
S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 17 APRIL 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS, BLM, USFS)

BPA requested comments on the 17 April 1984 Pelton Project draft report by 16 May 1984. USFS had not submitted their comments by 17 August 1984 when the final report was typed, therefore USFS comments could not be incorporated into the report.

(3) Tribes (Confederated Tribes of the Warm Springs Reservation of Oregon)

BPA requested comments on the 17 April 1984 Pelton Project draft report by 16 May 1984. Confederated Tribes of the Warm Springs Reservation had not submitted their comments by 17 August 1984 when the final report was typed, therefore their comments could not be incorporated into the report.

(4) Facility Operator (PGE, Tribes)

See (3) above.

ODFW COmments:

Explanations or Modifications:

MAY 27 1984

VICTOR ATIYEH
GOVERNOR

Department of Fish and Wildlife
506 S.W. MILL STREET. PO. BOX 3503. PORTLAND OREGON 97208

May 15, 1984

Mr. John R. Palcnsky. Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR. 97208

Dear Mr. Jaravensky:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Pelton Project Wildlife Mitigation Status Report and our attdched comments on that report indicate, comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency or Portland General Electric (PGE). Knowledge of wildlife resources and legal mandates have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has A policy to request mitigation for losses of wildlife populations and habitat. PGE's Deschutes projects are of particular interest to ODFW because of their size and location, and their probable effects on wildlife resources.

In recognition of our increased responsibilities to address abroad range Of concerns, I strongly urge the participating parties to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we must proceed with a mitigation plan based on a comprehensive assessment of wildlife impacts at the Pelton Project. The Department is prepared to take the lead in this endeavor using: 1) the expertise of biologists from the various agencies, PGE, and the Warm Springs Tribes; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the Pelton Project.

Sincerely,

John R. Donaldson, PhD
Director

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Pelton Project
8 May 1984

Oregon Department of Fish and Uildlife (OOFW) has prepared the following comments in response to the request from James R. Meyer. Bonneville Power Administration, dated 23 April 1984 to review the Mitigation Status Report for the Pelton Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain a11 species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . .v This goal has yet to be achieved at the Pelton Project.

The Pelton Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction and operation of the dams was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, the impact of road construction, and the types and amounts of habitat inundated. Wildlife densities prior to inundation were not estimated and nongame species were not considered. The signifigance of the inundated habitat to wildlife has not been fully explored. Impacts from operation of the facility have not been assessed.

Even though impact assessment has not been adequate, it is obvious that substantial impacts occurred to wildlife as a result of the Pelton Project, considering acreage of habitat inundated. Habitat lost included riparian habitat and big game winter range. These habitat types are Important, particularly east of the Cascades where they occur in limited quantity and where winter weather can be severe. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Pelton Project, it is necessary to determine what impacts occurred. Upon the approval of and funding by the

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

Council and Bonneville Power Administration. the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Pelton Project and to prepare a net impacts statement. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with Portland General Electric (PGE). the Confederated Tribes of the Warm Springs Reservation of Oregon (the Tribes), and appropriate agencies involved in the Pelton Project, is of course, an integral part of both of these processes. We believe that a workable net impacts statement and mitigation plan can be developed based on existing Information and the expertise of biologists from PGE. the Tribes, and the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has improved since the time of construction of the Pelton Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible In a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
LLOYD 500 BUILDING SUITE 1692
500 N.E. MULTNOMAH STREET
PORTLAND, OREGON 97232

May 17, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of April 23, 1984, we have reviewed the Wildlife Mitigation Status Report for the Pelton Project (the Project). The following comments are being provided for inclusion in the final report.

General Comments

We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project.

Based on the report's content, it is evident that the construction and operation of the Project has resulted in substantial adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate the adverse wildlife impacts attributable to the Project.

The Service has the necessary expertise and would like to participate in both the impact evaluation and mitigation plan development tasks.

Specific Comments

A comprehensive evaluation of the Project's impact on wildlife resources should be conducted by a team of qualified biologists composed of representatives from appropriate state and federal resource agencies and private development interests. These include the Oregon Department of Fish

Explanations or Modifications:

No explanations or report modifications necessary.

USFWS Comments (cont.):

and Wildlife, Confederated Tribes of Warm Springs Reservation of Oregon, U.S. Forest Service, Bureau of Land Management, Fish and Wildlife Service, and the Portland General Electric Company. We suggest the evaluation be habitat based and supported by population data when available. We believe that such an evaluation could be accomplished with a mlnlmum of new data collection by: 1) analyzing the existing data referenced in the status report such as pre- and post-construction photography: and 2) consulting with professional wildlife biologists familiar with the area's wildlife resources as they existed prior to project construction. The evaluation's results should be presented in an impact assessment report.

Utilizing the results from the aforementioned impact statement, we believe that the same team of biologists, with assistance from their agencys' respective habitat specialists, should develop a mitigation plan. The plan if implemented, would be designed to fully compensate the adverse wildlife impacts identified.

In conclusion, we believe no single user group is responsible for the adverse wildlife impacts which have resulted from the development and operation of the Pelton Project. The proposals outlined In this letter would be considered 'standard operating procedures' for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Pelton Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

Joseph R. Blum
Assistant Regional Director
for Habitat Resources

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

BLM Comments:

MAY 14 1984

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

District Office
P. O. Box 550
Prineville, OR 97754

IN REPLY REFER TO

8500

May 10, 1984

Mr. John Palensky
Director
Division of Fish and Wildlife
B.P.A.
P. O. Box 3621
Portland, OR 97208

ATTN: James Meyer

Dear Mr. Palensky:

The Prineville District of the Bureau of Land Management has reviewed the mitigation reports for Round Butte and Pelton Dams. We have no comments. The reports are both good reviews of past and present situations relating to Wildlife resources in the area.

Sincerely yours,

Gerald E. Magnuson
District Manager

Explanations or Modifications:

No explanations or report modifications necessary.

PGE Comments:

Explanations or Modifications:

Portland General Electric Company

MAY 11 1984

May 10, 1984
OEAS-229-84L
GOV REL 7 - BPA

John Palensky
Director of Fish & Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Dear John:

PCE has reviewed the "Wildlife Mitigation Status Review" report, for the Pelton Round Butte Complex (FERC Project #2030) on the Deschutes River.

We appreciate the opportunity to comment on these reviews and as you can see from the reports we have vorked closely with personnel from ODFW In their development.

We have one minor editorial comment. The report references Mr. J. Lewis which should be Mr. J. Loomis.

Report corrected. See Appendix B.

Sincerely,

Richard H. Sandvik
General Manager
Environmental & Analytical Servicer

RMS:slc

121 s w Salmon Street, Portland Oregon 97204

Wildlife Mitigation Status Report

NORTH FORK PROJECT

Prepared by:

J. H. Noyes
K. L. Bedrossian
R. D. Carleson
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

North Fork Project (North Fork, Faraday, River Mill Dams and Reservoirs)

II. PROJECT OPERATOR

Portland General Electric Company (PGE)

I I I. PROJECT DESCRIPTION

A. Location and Size

North Fork Dam is located at river mile 30 on the Clackamas River, approximately 5 miles southeast of Estacada, Oregon in Clackamas County (U.S. Fish and Wildlife Service [USFWS] 1961). State Highway 224 provides access to the project. The concrete arch dam is approximately 207 feet high, with crest length of 676 feet (Greisser 1982). Power is generated by 2 Francis turbines, with a maximum peak capability of 54,000 kilowatts. North Fork Reservoir is about 4 miles long, 0.25 mile wide at the widest point, and encompasses 350 acres of surface area at normal pool elevation (665 feet) (Hydroelectric Commission of Oregon [HCO] 1956). The reservoir has about 11 miles of shoreline (Federal Power Commission [FPC] 1973).

Faraday Diversion Dam (formerly Cazadero Dam) is a concrete gravity dam less than 2 miles downstream from North Fork Dam, and is approximately 455 feet long and 71 feet high (FPC 1965). A concrete-lined tunnel 23 feet in diameter and 2,500 feet long diverts water from behind the dam to a 3,300 foot-long canal leading to the forebay (Faraday Lake) of the Faraday powerhouse (FPC 1965; HCO 1956). The 2 reservoirs included within the Faraday Project consist of 95 acres of surface area (Water Resources Department [WRD] 1982). Total generating capacity of the 6 turbine units associated with the Faraday powerhouse is 42,000 kilowatts (FPC 1973, PGE files). A fish ladder 10 feet wide, 7 feet high, and 1.7 miles long extends from below Faraday Diversion Dam to North Fork Reservoir.

River Mill Dan is a concrete Ambursen slab and buttress dam at river mile 23.4. The project includes a dam 936 feet long and 85 feet high, and a powerhouse with 5 generating units and total capacity of 22,000 kilowatts (FPC 1973, PGE files). River Mill Reservoir (Estacada Lake) is 2.85 miles long and encompasses 110 acres of surf ace area at normal pool elevation (389 feet) (PGE files).

B. Authorized Purposes

The purpose of the North Fork Project is hydroelectric power generation (USFWS 1961, WRD 1982). North Fork Reservoir provides minor, incidental flood control benefits (FPC 1973). The North Fork, Faraday, and River Mill hydroelectric developments are operated hydraulically as a single project to achieve maximum utilization of the water power involved (FPC 1965).

C. Brief History

Property acquisition of North Fork Project lands began in 1902 at the Faraday site (Greisser 1982). Construction at Faraday began in 1902 and commercial operation of the 3 original generating units commenced February 1907. Since the original installations, 3 generating units have been added, the most recent in 1958 (FPC 1965). Modifications to the tunnel and canal from the diversion dam to the Faraday powerhouse forebay, which were required to handle the water discharged from peaking operations at North Fork Dam, were completed in 1958. The diversion dam was destroyed by a flood in January 1965 but was subsequently reconstructed (FPC 1965).

River Mill property acquisition started in 1908. Construction was initiated by a predecessor of PGE (Portland Railway, Light & Power Company) in June 1910 and was completed November 1911 (Greisser 1982). The original development contained 3 generating units with provision for 2 additional units; the final 2 units were installed in 1927 and 1952.

Initial investigations of the North Fork Dam site began in 1906. Preliminary foundation exploration, preparation, and minor construction was conducted sporadically until 1938, when the project was abandoned (Greisser 1982). In 1954, new studies were started. On 18 January 1957, FPC License No. 2195 was issued, effective 1 September 1956. The Hydroelectric Commission of Oregon granted a license for the North Fork Project (No. 202) and the Faraday Addition (No. 203) on 13 September 1957. Construction of the North Fork Project was completed November 1958 (USFWS 1961). PGE filed license amendment applications to include Faraday and River Mill developments within Project No. 2195 on 8 August 1963 and 3 December 1964, respectively (FPC 1965; Greisser 1982).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The Clackamas River is subject to "very great" fluctuations in stream flow, and abnormally high flows may be expected between 15 October and 30 June (Ebasco Services, Inc. 1959). The 3 developments of the North Fork Project operate as run-of-river plants with at-site pondage available for short term peaking (FPC 1973).

Operation of the North Fork Project is by a "combination daily and weekly peaking schedule" (USFWS 1961). Average drawdown of North Fork Reservoir is about 5 feet, but may reach a maximum of 19 feet when the river is at median flow (USFWS 1961). Very little drawdown occurs at Faraday Lake and River Mill Reservoir; near constant water levels are maintained for proper project operation (R. Lee, PGE, pers. commun.).

(2) Land ownership

Ownership of North Fork Project lands is: PGE, 260 acres; U.S. Government (Forest Service, Department of Interior O&C revested lands), 86 acres (PGE 1956). At the Faraday site, PGE owns 179 acres and has easements for 8 acres of private land (PGE 1964). PGE owns 157 acres

and controls 30 acres of private land by easements at the River Mill Project (PGE 1963). PGE regulates the water controlled by the North Fork Project and manages activities on the water surface of the reservoirs (R. Lee, PGE, pers. commun.). Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the project area, located in ODFW's Santiam Wildlife Management Unit. Habitat management on the land within the project area is administered by the respective landowners, unless management practices interfere with the operation of the project for power generation purposes (R. Lee, PGE, pers. commun.).

(3) Indian rights

No tribes are involved with the actions taken at the North Fork Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Information on pre-construction project conditions was scarce. Information was obtained from reports, project files, and conversations with appropriate individuals. Aerial photos of pre-construction conditions at the North Fork site are available from PGE and the University of Oregon Map Library. No photos are available for the Clackamas Basin prior to 1945 (S. Trevitt-Clark, Univ. of Oreg. Map Library, pers. commun.).

A follow-up report by USFWS (1961) provided information on fish and wildlife resources present at the North Fork site prior to construction. No information was available on pre-construction conditions at Faraday or River Mill. A water resources appraisal report by FPC (1973) and a report by Ebasco Services, Inc. (1959) provided limited information on recent conditions in the Clackamas Basin and were used to infer pre-construction conditions. A report by Greisser (1982) on the history of PGE dealt almost exclusively with project construction and technical information. No quantitative assessments of predicted impacts on wildlife were found. The following information is based on reports addressing the general area. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

Prior to 1922, when PGE constructed a wagon road into the area, the Clackamas River Basin east of Estacada was a 650 square mile area of timbered wilderness, with no roads and few trails (Greisser 1982). Nearly vertical cliffs of rock 50 feet high are common near the river in the North Fork area. The upper portions of the canyon walls have more gentle slopes because of weathering and landslides (Ebasco Services, Inc. 1959). The North Fork Project is located within the Western Hemlock Zone described by Franklin and Dyrness (1973).

The only mention of wildlife species occurring at the project sites was a USFWS (1961) report that listed black-tailed deer, blue grouse, mink, river otter, and beaver as inhabiting the North Fork Reservoir site prior to construction. Based on wildlife presently occurring in the Clackamas Basin (FPC 1973; G. Herb, ODFW, pers. commun.), other species existing in the project area prior to construction may have included black bear, bobcat, grey fox, coyote, beaver, raccoon, marten, squirrel, and rabbit. No mention of nongame species was found in the scant literature available on pre-construction conditions. The exclusion of reference to nongame species probably reflects the historical emphasis of wildlife management on game species only. ODFW was not given legal jurisdiction over nongame species until 1971.

B. Post-Construction Period

(1) Available information

Most of the information addressing wildlife resources after construction of the River Mill, Faraday, and North Fork Projects did not include wildlife impact assessments. A report by USFWS (1961) contained a general evaluation of the effects of the North Fork Project on wildlife. A water resources appraisal report by FPC (1973) contained a list of wildlife species occurring in the Clackamas Basin. An environmental impact statement on a timber management plan (U.S. Bureau of Land Management [BLM] 1983) included the amount, condition, and trend of wildlife habitat on BLM administered land in the Eastside Salem District. This area includes a small amount of land near North Fork Reservoir. In 1979 BLM published a unit resource analysis that included a list of species dependent on tree cavities, and identified the population status of "important" mammals occurring in the Clackamas Planning Unit. None of this information was specific to the project sites. A list of bird and mammal species inhabiting the project area is available from Doug Cramer, the PGE biologist for the North Fork Project. A final construction report by Ebasco Services, Inc. (1959) contained limited reference to general habitat conditions in the North Fork area. Post-construction aerial photos are available from PGE, BLM, the Federal Highway Administration, and the University of Oregon Map Library. The following information primarily is based on conversations with individuals knowledgeable of the project areas. Very little published information was found. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Habitat for wildlife within the impoundment areas was eliminated or extensively altered. The reservoir sites were used by black-tailed deer as winter range prior to dam construction (G. Herb, ODFW, pers. commun.). If the reservoir areas had not been inundated, it is likely they would provide deer winter range (G. Herb, ODFW, pers. commun.). Winter range in the Clackamas drainage is extremely limited and in severe winters is almost nonexistent (R. Phillips, ODFW files). The fish ladder on the west side of the river from below Faraday Diversion Dam to North Fork Reservoir probably has altered deer and elk movement

and migration (D. Cramer, PGE, pers. commun.). About 3 black-tailed deer per year drown in the ladder: one Roosevelt elk was recovered from the ladder in 1983 (D. Cramer, PGE, pers. commun.).

North Fork Reservoir inundated habitat utilized by black-tailed deer, blue grouse, mink, otter, and beaver, but the loss was considered insignificant by USFWS (1961). A report by Ebasco Services, Inc. (1959) stated "the lake does not inundate any useful lands." Stream habitat for furbearers was reduced as a result of the North Fork Project, especially at River Mill and North Fork Reservoirs (F. Newton, ODFW, pers. commun.). Nongame bird species adversely affected by construction of North Fork Reservoir probably included dippers and passerines which use riparian habitat (e.g. orioles, grosbeaks, warblers) (W. Haight, ODFW, pers. commun.).

Specific wildlife habitat types and the amount of each habitat type lost as a result of the project was not known (without conducting a more detailed study). The number of game and nongame animals affected by the project was not provided. The ecological significance of the loss of wildlife habitat was not evaluated. Information documenting the effects of project construction or operation on wildlife was not available.

(3) Benefits

Waterfowl may have benefited by construction of the reservoirs associated with the North Fork Project (G. Herb, ODFW, pers. commun.). Several hundred waterfowl winter at North Fork Reservoir (G. Herb, ODFW, pers. commun.). Tundra swans have been observed during the winter at Faraday Lake (D. Cramer, PGE, pers. commun.). Mallards, hooded and common mergansers, and a "few" wood ducks nest near North Fork Reservoir (G. Herb, ODFW, pers. commun.).

(4) Additional information

Ospreys forage in the reservoirs and 3 active nests are associated with the North Fork Project. Nests are located at Faraday Lake, just below River Mill Dam and within a couple hundred yards of North Fork Reservoir (J. Pesek, ODFW; D. Cramer, PGE, pers. commun.).

During winter 1984, a pair of bald eagles were regularly sighted between North Fork Dan and River Mill Dam (K. Buckingham, U.S. Forest Service [USFS], pers. commun.). Bald eagles in Oregon are classified as threatened by ODFW and USFWS. The Clackamas River was identified as a potential bald eagle nesting area by the Pacific States Bald Eagle Recovery Tean (1982). The overall effect dams have on bald eagle populations is not clear. Eagles may have benefited by construction of reservoirs if a greater year-round fish prey base occurred as a result (W. Haight, ODFW, pers. commun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs.

Black-tailed deer, Roosevelt elk. and black bear are among the most important big game species in the Clackamas Basin (FPC 1973; G. Herb,

OOFW, pers. commun.). Upland game species include mountain quail, band-tailed pigeon, grouse, squirrel, and rabbit (FPC 1973).

Avian species which may occasionally be attracted to the impounded areas include loons, grebes, gulls, terns, herons, and shorebirds (W. Haight, ODFW, pers. commun.). Beaver, muskrat, raccoon, nutria, mink, river otter, and marten are also found in the Clackamas Basin (FPC 1973; J. Pesek, ODFW, pers. commun.).

Elk transplants first occurred in the Clackamas Basin in 1917, when 17 elk were released in the Big Bottom area (G. Herb, ODFW, pers. commun.). Approximately 160 Roosevelt elk were released by ODFW in the Clackamas Basin from 1970-1980 (G. Herb, ODFW, pers. commun.).

Production, trend count, and harvest data for big game in the Santiam Wildlife Management Unit and for upland game in Clackamas County are available from ODFW. Estimates by ODFW of black-tailed deer population size in the Estacada Ranger District are available from USFS (G. Herb, ODFW, pers. commun.). Harvest data are available for furbearers in Clackamas County. This information is not specific to the project site.

Public recreational facilities at North Fork Reservoir consist of a park with camping facilities and boat launching site. PGE constructed a 3-acre park with a boat dock and launching ramp at River Mill Reservoir (PGE 1963). Public access is allowed on all lands owned and controlled by PGE and USFS (USFWS 1961).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

At the present time, no plans have been proposed for wildlife mitigation to directly offset impacts to wildlife as a result of the North Fork Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

River Mill Dam and Faraday Dam were constructed prior to passage of the Federal Water Power Act in 1920 and prior to the creation of FPC in 1922, thus no FPC requirements were applicable to those projects. Two articles of the North Fork Project license referred to wildlife. Article 29 stated that the FPC, upon recommendation of state and federal agencies, may require the Licensee "... to reserve from public access such project waters and adjacent project lands owned by the Licensee and to acquire or arrange for the acquisition of such other lands as may be reasonably necessary for the protection and management of fish and wildlife resources affected by the project." Article 44 provided for public access to project lands and water for "... recreational purposes, including fishing and hunting . .." when consistent with proper operation of the project (FPC 1965).

(2) Oregon Water Resources Department requirements

The requirements that applied to the North Fork Project at the time of construction were those in the Hydroelectric Act (ORS 543.225) passed 26 February 1931. This act did not include any mention of wildlife specifically, but did state "... fish, scenic, esthetic, recreational, park, highway or other beneficial use" were grounds for protest actions against a license application. The River Mill and Faraday Projects were constructed prior to passage of the Hydroelectric Act.

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife, fish and game . .." The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with USFWS and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Projects were required to contain adequate provisions for "conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon," consistent with primary project purposes. This act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs". Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The River Mill and Faraday Projects were constructed prior to passage of the predecessor of FWCA. The North Fork Project was required to meet FWCA standards as a condition of the licensing procedure (R. Lee, PGE, pers. commun.). The Federal Power Commission was responsible for soliciting comments on the license application from state and federal agencies and determined whether or not the requirements of FWCA were met (J. Leach, Federal Energy Regulatory Commission, pers. commun.).

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that agencies consult with the Department of the Interior to ensure that actions not jeopardize any threatened or endangered species. Since there have been no recent additions or major changes to the North Fork Project, no impact assessments or wildlife mitigation measures have been mandated during the operational history of the project.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No wildlife mitigation, enhancement, or protection measures of which ODFW, BLM, USFS, or PGE personnel were aware have been implemented at the North Fork Project (G. Herb, J. Pesek, ODFW; W. Logan, BLM; K. Buckingham, USFS; D. Cramer, D. Clark, PGE, pers. commun.).

VI. CURRENT STUDIES AND PLANNING

No studies or planning are currently being conducted for wildlife mitigation specifically at the North Fork Project (D. Cramer, PGE; G. Herb, ODFW; W. Logan, BLM, pers. commun.).

Studies and planning being conducted elsewhere in the State of Oregon could eventually affect wildlife/habitat management in the North Fork Project area. ODFW is developing black-tailed deer and Roosevelt elk population objectives for the Santiam Wildlife Management Unit, and is developing a statewide nongame plan. USFS is conducting studies of spotted owl and old growth forest management.

VII. REFEREKES CITED

Ebasco Services, Inc. 1959. North Fork hydro-electric development and Faraday Addition final construction reports 1956-1958. Paging various.

Federal Power Commission. 1965. Order amending license (major). 14 pp.

Federal Power Commission, Bureau of Power. 1973. Water resources appraisal for hydroelectric licensing, Clackamas River Basin, Oregon. 67 pp.

Franklin, J.F., and C.T. Dyrness. 1973. Natural vegetation of Oregon and Washington. U.S. Dep. Agric., For. Serv., Gen. Tech. Rep. PNW-8. 417 pp.

Greisser, A.H. 1982. History of Portland General Electric Company 1889-1981. Portland General Electric Co., Portland, Oreg. 218 pp.

Hydroelectric Commission of Oregon. 1956. License for project no. 202. 13 pp.

Pacific States Bald Eagle Recovery Team. 1982. Pacific States bald eagle recovery plan. Tech. review draft. Unpubl. rep., U.S. Fish and Wildl. Serv., Portland, Oreg. 72 pp + append.

Portland General Electric Company. 1956. Amendment to application for license for the North Fork hydroelectric project, Project No. 2195--Oregon. Paging various.

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U.S. Bureau of Land Management. 1979. Unit resource analysis, Eastside Salem, Salem District Office. Salem, Oreg. 144 pp + append.

_____. 1983. Eastside Salem sustained yield units, ten-year timber management plan, final EIS. Salem, Oreg. Paging various.

U.S. Fish and Wildlife Service. 1961. Initial follow-up report for North Fork Project, FPC No. 2195, Clackamas River, Oregon. Portland, Oreg. 7 pp + fig.

Water Resources Department. 1982. Annual statement of water power claimant, Claim No. 116, Salem, Oreg. np.

A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Jim Noyes
Karen Bedrossian
Dan Carleson
Mary Potter

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

D. Clark
D. Cramer
R. Klein
R. Lee
W. May

(2) Summary of Project Operator Contacts

Date	Individual	Summary
19 January 1984	R. Sandvik	D. Carleson sent letter to PGE providing information and requesting contacts.
16 February 1984	D. Clark D. Cramer R. Klein	Meeting. Discussed project and procedures for gathering information.
23 February 1984	D. Cramer	Phone. Discussed project.
24 February 1984	D. Cramer	Phone. Obtained information on land ownership.
06 March 1984	D. Clark	Meeting. Discussed project.
13 March 1984	R. Lee	Meeting. Discussed licensing procedures.
23 March 1984	D. Clark	Phone. Obtained description of project.
03 April 1984	D. Cramer	Phone. Arranged meeting for project tour.
06 April 1984	W. May	Phone. Obtained information on project.
18 April 1984	D. Cramer	Meeting. Observed the project area and discussed existing conditions.
03 May 1984	D. Cramer	Phone. Received comments on review draft of status report.

24 July 1984	R. Lee	Phone. Discussed project acreage.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

W. Haight
G. Herb
J. Hewkin
R. Ingram
R. Maben
F. Newton
J. Pesek

U.S. Forest Service

R. Auler, Clackamas Ranger District
K. Buckingham, Estacada Ranger District
D. Campbell, Bear Springs Ranger District
N. Duggan, Mt. Hood National Forest
D. Longrie, Mt. Hood National Forest

U.S. Bureau of Land Management

W. Logan, Salem District
R. Saunders, Salem District

Other

D. Buell, Oregon Water Resources Department
J. Leach, Federal Energy Regulatory Commission
S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 16 MAY 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS, BLM, USFS)

BPA requested comments on the 16 May 1984 North Fork draft report by 15 June 1984. Comments by BLM were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

(3) Tribes

No tribes are involved with the actions taken at the North Fork Project.

(4) Facility Operator (PGE)

ODFW Comments:

Department of Fish and Wildlife
506 SW. MILL STREET. P 0 BOX 3503. PORTLAND. OREGON 97208

June 7, 1984

Mr. John H. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Adminstration
P.O. Bos 3621
Portland, OR 97208

Dear John:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the North Fork Project Wildlife Mitigation Status Report and our attached comments on that report indicate,comprehensive evaluation of wildlife resource impacts and mltigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency or Portland General Electric (PGL). Knowledge of wildlife resources dnd public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of widlife resources the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating parties to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we must proceed to make and assessment of impacts in order to determine if mitigation of wildlife resources is needed at the North Fork Project. The Department is prepared to take the lead in this endeavor upon approval and funding by the Council and Bonneville Power Administration using: 1) the expertise of biologists from the various agencies and PGE; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the North Fork Project.

Sincerely,

John R. Donaldson, PhD
Director

Explanations or Modifications:

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
North Fork Project
7 June 1984

Oregon Department of Fish dnd Wildlife (OOFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration, dated 25 May 1984 to review the Mitigation Status Report for the North Fork Project.

Oregon Revised Statute 496.012. Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner thdt will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012. the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affeected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . .* This goal has yet to be achieved at the North Fork Project.

The North Fork Project Wildlife Mitigation Status Report demonstrated assessment of the impacts to wildlife resulting from construction and operation of the dams was not comprehensive. This is evident by the lack of information abailable regarding the effects of construction activities and the types and amounts of hdbitdt inundated. Wildlife densities prior to inundation were not estimated and nongame species were not considered. Habitat lost included big game winter range which is limited in the Clackamas drainage. Riparian habitat was also affected. The significance of the inundated habitat to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the North Fork Project, it is necessary to determine what impacts occurred. Although the North Fork Project has not been given as high a priority for wildlife mitigation by ODFW as the Corps' main stem Columbia River and Willamette Basin projects, this project should not be disregarded wlthout conducting a loss estimate to determine the Impacts of the project on the wildlife resources. Upon the approval of and funding by the

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

Council and Bonneville Power Administratio,n the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the North Fork Project. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with Portland General Electric (PGE) and appropriate agencies involved in the North Fork Project, is of course, an integral part of both of these processes. We believe that a workable loss estimate and mitigation plan can be developed based on existing information and the expertise of biologists from PGE and the various agencies who are familiar with the project area and appropradte wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has improved since the time of construction of the North Fork Project. Wc have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regardlng wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary

USFWS Comments:

JUN 20 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

June 14, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of May 25, 1984, we have reviewed the Wildlife Mitigation Status Report for the North Fork Project (the Project). The following comments are being provided for inclusion in the final report.

We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project.

Based on the report's content, it is evident that the construction and operation of the Project may have resulted in substantial adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate adverse wildlife impacts attributable to the Project.

We suggest the evaluation be habitat based and supported by population data when available. We believe that such an evaluation could be accomplished with a minimum of new data collection by: 1) analyzing the existing data referenced in the status report and 2) consulting with professional wildlife biologists familiar with the area's wildlife resources as they existed prior to project construction. The evaluation's results should be presented in an impact assessment report.

In conclusion, we believe no single user group is responsible for the adverse wildlife impacts which may have resulted from the development and operation of the North Fork Project. The proposals outlined in this letter

Explanations or Modifications:

No explanations or report modifications necessary.

USFWS Comments (cont.):

would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the North Fork Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife Program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

James W. Teeter
Acting Assistant Regional Director
Habitat Resources

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFS Comments:

JUN 20 1984

United States Department of Agriculture | Forest Service | Mt. Hood NF | 2955 NW Division St. Gresham, OR 97030

Reply To: 2600

Date: June 18, 1984

Division of Fish and Wildlife
Attn: Mr. James R. Meyer
Bonneville Power Administration
PO Box 3621
Portland, OR 97208

Dear Mr. Meyer:

The Project Reports on the "Wildlife Mitigation Status Review" for Oak Grove and North Fork were reviewd by Wildlife Biologists on the District and in the Supervisor's Office. These reports provided adequate information on the wildlife mitigation status for these areas. Thank you for the opportunity to comment on these Project Reports.

Sincerely,

DEAN P. LONGBIE
Biologist

364:3564E1

FS-6200-28(7-82)

Explanations or Modifications:

No explanations or report modifications necessary.

PGE Comments:

JUN 19 1984

Portland General Electric Company

OEAS-275-84L
ASSOC 8 - Fisheries

June 15, 1984

John Palensky
Director of Fish & Wildlife
Bonneville Power Administration
P. O. Box 3621
Portland, OR 97208

Dear John:

PGE has reviewed the "Wildlife Mitigation Status Review" reports for the Oak Grove Project (FERC License #135) and the North Fork Project (FERC License #2195) which are both located on the Clackamas River and its tributaries. We appreciate the opportunity to comment on the review and have no substantial disagreement with the documents as presented.

We do, however, have some minor items that we would like to bring to your attention. On page 6 of both of the reports, reference is made to terns being regular visitors to the impounded areas. We suggest that these birds are only occasional visitors to the sites. On page 5 of the North Fork Project report, the second paragraph, last sentence, states that orioles, grosbeaks, and warblers are dependent on riparian habitat and may have been adversely affected by the construction of North Fork Reservoir. These particular species are not exclusively dependent on riparian habitat but also utilize most deciduous forest habitats. On the same page, under number (3) "Benefits", we believe that the correct name for whistling swan is now tundra swan.

We thank you for the opportunity of commenting on these reports as they are submitted to you by the Oregon Department of Fish & Wildlife.

Sincerely,

Richard M. Sandvik, General Manager
Environmental & Analytical Services

RMS:DEC:jjc

Explanations or Modifications:

No report modifications necessary. See Section IV.B.(4).

Report modified. See Section IV.B.(2).

Report modified as suggested. See Section IV.B.(3).

Wildlife Mitigation Status Report

OAK GROVE PROJECT

Prepared by:

J. H. Noyes
K. L. Bedrossian
R. D. Carleson
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

J

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I. PROJECT NAME

Oak Grove Project (Timothy Lake, Harriet, Frog Lake Dams and Reservoirs)

II. PROJECT OPERATOR

Portland General Electric Company (PGE)

III. PROJECT DESCRIPTION

A. Location and Size

The Oak Grove Project consists of a dam and storage reservoir at Timothy Lake, a diversion dam about 10 miles downstream at Lake Harriet, a tunnel and pipeline system from the diversion dan to the Frog Lake reregulating forebay, and a pipeline from Frog Lake to a surge tank above the Oak Grove (Three Lynx) powerhouse (PGE 1970). The project lies within the Mt. Hood National Forest and is accessed by State Highway 224 and U.S. Forest Service (USFS) roads.

Timothy Lake is a seasonal storage reservoir located near the headwaters of the Oak Grove Fork of the Clackamas River in Clackamas County, Oregon. The reservoir encompasses 1,430 surface acres at full pool elevation (PGE 1970). The compacted earth and rock fill dam is approximately 100 feet high and 725 feet long (Hydroelectric Commission of Oregon [HCO] 1953). A single turbine unit with maximum generating capacity of 25 kilowatts was installed in the lower end of the dam outlet culvert to provide power for equipment at the dam (HCO 1955).

Lake Harriet is located approximately 31 miles southeast of Estacada, Oregon. The lake is 2,800 feet long, averages 250 feet in width, and impounds about 22 surface acres (PGE 1970). The diversion dam is a gravity arch - constant radius dam, with crest length of 186 feet and height of 69 feet above foundation.

From Lake Harriet a tunnel 1,545 feet long and a pipeline 20,060 feet long lead to Frog Lake (PGE 1970). Frog Lake is a man-made forebay (35 acres at full pool) enclosed by 2 rolled earth fill dikes. At the inlet side, the dike is 220 feet long and has a maximun height of 50 feet; the main dike at the outlet side is 2,200 feet long and 70 feet high (PGE 1970). The inside slopes are rip-rapped and the outside slopes are grass covered.

A steel pipeline extends 12,215 feet from Frog Lake to a surge tank on a steep rock promontory directly above the Oak Grove powerhouse. The powerhouse contains 2 vertical turbine generator units, each with a rated capacity of 25,500 kilowatts (PGE 1970). In the general vicinity of the powerhouse, the Oak Grove Project includes a village with 17 residences and 8 miscellaneous buildings.

B. Authorized Purposes

The purpose of the Oak Grove Project is hydroelectric power generation (Greisser 1982). Timothy Lake provides minor, incidental flood control benefits (Federal Power Commission [FPC] 1973).

C. Brief History

The potential for power development on the Clackamas River was recognized at the turn of the century (Greisser 1982). A FPC license for Project No. 135 was issued 27 September 1922 to Portland Railway, Light and Power Company and later transferred to PGE on 18 September 1930. This license covered the hydroelectric generating project, but not the storage reservoir at Timothy Lake.

The concrete diversion dam at Lake Harriet was completed November 1923 and the lake was filled June 1924. Commercial operation of the 2 turbine units began in August 1924 and March 1931, respectively (Greisser 1982). Limitations in the flow capacity of the g-foot diameter conduit line from Lake Harriet to the surge tank resulted in a maximum capacity of 35,000 kilowatts for the 2 units. The solution to add peak capability for the units was the creation of a 430 acre-foot capacity forebay at Frog Lake (Greisser 1982). On 14 September 1953, the FPC amended the Oak Grove Project license, authorizing the Frog Lake forebay development and creation of Timothy Meadows (later renamed Timothy Lake) storage reservoir. The Frog Lake forebay was in service 16 November 1953. The Hydroelectric Commission of Oregon (HCO) issued a license (No. 186) 11 September 1953 for the construction, operation, and maintenance of Timothy Lake storage reservoir. Construction was completed in 1956 (Greisser 1982). The reservoir was created to increase the generation capability of the Clackamas River plants during the low flow period from September to April (Greisser 1982).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The full pool elevation at Timothy Lake is 3,190 feet and the fall/winter drawdown season results in a maximum drawdown of 65 feet (PGE 1970). Minor water level fluctuations occur during the recreation season (D. Craner, PGE, pers. commun.). Reservoir refill begins in spring, and the summer period inflow is utilized for refilling and maintaining a full reservoir for recreational use and the next drawdown season. Use of the waters of Lake Harriet and Frog Lake for peaking operations results in "extreme daily fluctuations" (PGE 1970). Normal full pool elevation at Lake Harriet is 2,031 feet and maximum drawdown is about 8 feet (FPC 1973). Maximum drawdown at Frog Lake is 32 feet (FPC 1973).

(2) Land ownership

The total amount of land encompassed by the Oak Grove Project is approximately 2,497 acres (PGE 1970). Of this total, ownership is as

follows: USFS, 2,328 acres; PGE, 143 acres; U.S. Bureau of Land Management (BLM), 24 acres; private, 2 acres.

PGE regulates the water controlled by the Oak Grove Project and manages activities on the water surface of Frog Lake, Timothy Lake, and Lake Harriet (R. Lee, PGE, pers. commun.). Habitat management on the land within the project area is administered by the respective landowners, unless management practices interfere with the operation of the project for power generation purposes (USFS 1969; R. Lee, PGE, pers. commun.). Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the project area. The project lies within ODFW's Santiam Wildlife Management Unit.

(3) Indian rights

No tribes are involved with the actions taken at the Oak Grove Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Information on pre-construction project conditions was scarce. No reports were found that provided information on pre-construction conditions specific to the project site. Aerial photos of conditions in 1945 are available from the University of Oregon Map Library.

A recreation management plan by USFS (1969) and a new license application by PGE (1970) provided information on recent habitat conditions in the project area and were used to infer pre-construction conditions. A follow-up report on fish and wildlife resources several miles downstream at the North Fork Project prior to 1958 (U.S. Fish and Wildlife Service [USFWS] 1961) was used to infer wildlife species present at the Oak Grove sites. A report by Greisser (1982) on the history of PGE provided limited information on pre-construction conditions in the Clackamas Basin. No quantitative assessments of predicted impacts on wildlife were found. The following information is based on these reports and project files addressing the general area. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

Prior to 1922, when PGE constructed a wagon road into the area, the Clackamas River Basin east of Estacada was a 650 square mile area of timbered wilderness, with no roads and few trails (Greisser 1982). The Oak Grove Project is located within the Western Hemlock Zone described by Franklin and Dyrness (1973). The following information on current vegetation types in the Oak Grove area may be used to infer pre-construction conditions.

Douglas fir, white fir, western hemlock, western red cedar, and alder occur in the vicinity of Lake Harriet (PGE 1970). The understory primarily consists of vine maple, rhododendron, and fern. Timber in the Timothy Lake area is mostly western hemlock, with scattered Douglas fir, white pine, silver fir, and mountain hemlock (USFS 1969). The understory is sparse, consisting of bear grass, huckleberry and rhododendron.

No information on wildlife species occurring at the project site prior to construction was available. Black-tailed deer, blue grouse, mink, river otter, bobcat, grey fox, coyote, raccoon, beaver, and brush rabbit were present several miles downstream at the North Fork Reservoir prior to its construction in 1958 (USFWS 1961; G. Herb, ODFW, pers. commun.). These species probably also occurred at the Oak Grove site several decades earlier.

No mention of nongame species was found in the scant literature available on pre-construction conditions. The exclusion of reference to nongame species probably reflects the historical emphasis of wildlife management on game species only. ODFW was not given legal jurisdiction over nongame species until 1971.

B. Post-Construction Period

(1) Available information

Information on wildlife resources after construction of the Oak Grove Project did not include assessments of wildlife impacts resulting from the project. Environmental assessment reports, included within documents of proposed USFS timber sales, provided limited information on habitat conditions in the general area. In 1969, USFS published a recreation management plan for the Timothy Lake area which included reference to wildlife species present. Information on old growth forest habitat/wildlife relationships in the Clackamas Planning Unit, within which the entire Oak Grove Project is located, was obtained from a draft environmental impact statement on a land management plan (USFS 1978). An application for a new license by PGE (1970) indicated wildlife species present in the Timothy Lake area. A water resources appraisal report by FPC (1973) contained a list of wildlife species occurring in the Clackamas Basin. A list of bird and mammal species inhabiting the project area is available from Doug Cramer, the PGE biologist for the Oak Grove Project. A report by Greisser (1982) on the history of PGE dealt almost exclusively with project construction and technical information. Post-construction aerial photos are available from PGE, USFS, and the University of Oregon Map Library. The following information primarily is based on conversations with individuals knowledgeable of the project area. Very little published information specific to the project site was found. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Habitat for upland game, furbearers, nongame animals, and big game within the impoundment areas was eliminated or extensively altered. Lake Harriet and Frog Lake inundated "prime" deer and elk winter range (R. Auler, USFS; G. Herb, ODFW, pers. commun.). The long, narrow winter range of the entire Clackamas River drainage is limited and an important consideration with any timber management activity (USFS timber sale files).

Stream habitat for furbearers may have been reduced as a result of the Oak Grove Project (F. Newton, ODFW, pers. commun.). The effects on wildlife of the 9-foot diameter pipeline from Lake Harriet to the Oak Grove powerhouse are not known, but may include alteration of deer and elk movement and migration (D. Cramer, PGE, pers. commun.).

The only reference to specific wildlife habitat types lost as a result of the project was a report by Greisser (1982) that stated the meadow lands at Timothy Lake were completely inundated by the project. Other wildlife habitat types and the amount of each habitat type affected by the project were not known (without conducting a more detailed study). The number of game and nongame animals affected by the project was not provided. The ecological significance of the loss of wildlife habitat was not evaluated. Information documenting the effects of project construction or operation on wildlife was not available.

(3) Benefits

Migrating waterfowl may have benefited by impoundment of Timothy Lake. Mallards, blue-winged teal, snow geese, white-fronted geese, common and hooded mergansers, buffleheads, wood ducks, and goldeneyes have been observed at Timothy Lake (J. Pesek, G. Herb, ODFW, pers. commun.). Timothy Lake usually freezes each winter (D. Craner, PGE, pers. commun.).

(4) Additional information

Ospreys forage in the reservoirs and 1 nest is located within 0.5 mile of the northeast side of Timothy Lake (J. Pesek, ODFW, pers. commun.).

As many as 6 bald eagles may winter in the vicinity of Lake Harriet (J. Pesek, ODFW, pers. commun.). Bald eagles in Oregon are classified as threatened by ODFW and USFWS. Timothy Lake was identified as a potential bald eagle nesting area by the Pacific States Bald Eagle Recovery Team (1982). The overall effect dams have on bald eagle populations is not clear. Eagles may have benefited by construction of reservoirs if a greater year-round fish prey base occurred as a result (W. Haight, ODFW, pers. commun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs.

The endangered American peregrine falcon (ODFW and USFWS listing) is considered an "occasional visitor" to the Clackamas area, although no nest sites have been located (USFS 1978). Species classified as

threatened by ODFW that may occur in the area include the Northern spotted owl, wolverine, and Western spotted frog (USFS 1978).

Approximately 57% of the Clackamas Planning Unit forest cover is old growth timber (USFS 1978). The Oak Grove Project is included within this planning unit and significant amounts of old growth timber occur within the vicinity of the project sites (D. Cramer, PGE, pers. commun.). The "special interest" species dependent on old growth timber for at least a portion of their habitat requirements include the spotted owl, cougar, wolverine, fisher, and marten (USFS 1978).

Black-tailed deer, Roosevelt elk, and black bear are among the most important big game species in the Clackamas Basin (FPC 1973; G. Herb, ODFW, pers. commun.). The Frog Lake area is included within a deer census route conducted by ODFW that yields the highest deer count on annual census routes within the Clackamas drainage (G. Herb, ODFW, pers. commun.). A small population of black-tailed deer use the Timothy Lake area for summer range (USFS 1969). Timothy Lake lies at an elevation above big game winter range (G. Herb, ODFW, pers. commun.). Roosevelt elk occur in the area adjacent to Frog Lake and Lake Harriet. Elk transplants first occurred in the Clackamas Basin in 1917, when 17 elk were released in the Big Bottom area (G. Herb, ODFW, pers. commun.). Approximately 160 Roosevelt elk were released by ODFW in the Clackamas Basin from 1970-1980 (G. Herb, ODFW, pers. commun.). Upland game species in the area include mountain quail, band-tailed pigeon, grouse, squirrel, and rabbit (FPC 1973). Beaver, muskrat, raccoon, nutria, mink, river otter, and marten are also found in the Clackamas Basin (FPC 1973; J. Pesek, ODFW, pers. commun.). Other wildlife common to the Timothy Lake area include bobcat and coyote (PGE 1970). Wild turkeys occasionally migrate into the Timothy Lake area (G. Herb, ODFW, pers. commun.).

Avian species which may occasionally be attracted to the impounded areas include loons, grebes, gulls, terns, herons, and shorebirds (W. Haight, ODFW, pers. commun.). Great blue herons feed at Timothy Lake during summer; western and solitary sandpipers are occasionally seen at the mudflats at the east end of Timothy Lake (J. Pesek, ODFW, pers. commun.).

Production, trend count, and harvest data for big game in the Santiam Wildlife Management Unit and for upland game in Clackamas County are available from ODFW in the Wildlife Division annual reports. Deer census routes (ODFW) are located in the Three Lynx area and along the Oak Grove pipeline (G. Herb, ODFW, pers. commun.). Estimates by ODFW of black-tailed deer population size within the Clackamas and Bear Springs Ranger Districts are available from USFS (G. Herb, ODFW, pers. commun.). Harvest data are available from ODFW for furbearers in Clackamas County. Other than the census route along the Oak Grove pipeline, this information is not specific to the project site.

Timothy Lake became a very popular recreation lake soon after it was created (Greisser 1982). PGE provided 3 campgrounds around Timothy Lake, although Meditation Point is the only one within the project

boundary. PGE also operates a campground and boat ramp at Lake Harriet (FPC 1973). USFS developed three additional campsites at Timothy Lake.

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

At the present time, no plans have been proposed for wildlife mitigation to directly offset impacts to wildlife as a result of the Oak Grove Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The Federal Water Power Act of 1920, in effect at the time of project construction, required as a license condition that the project in the judgement of FPC "will be best adapted to a comprehensive plan... for the improvement and utilization of waterpower development, and for other beneficial public uses, including recreational purposes" (PGE files).

Article 33 of the Oak Grove Project license states "The Licensee shall continue to consult and cooperate with.. .appropriate agencies for the protection and development of the environmental resources and values of the project area" (Federal Energy Regulatory Commission [FERC] 1980).

(2) Oregon Water Resources Department requirements

No state wildlife mitigation legislation existed at the time of project initiation in the early 1920's. The requirements that applied to the Oak Grove Project when the license was amended in 1953 were those in the Hydroelectric Act (ORS 543.225) passed 26 February 1931. This act did not include any mention of wildlife specifically, but did state ". ..fish. scenic, esthetic, recreational, park, highway or other beneficial use" were grounds for protest actions against a license application.

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife, fish and game...." The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with USFWS and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Federal development projects were required to contain adequate provision for "conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon," consistent with primary project purposes. This act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and

mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The Oak Grove Project was initiated prior to passage of FWCA. The Frog Lake and Timothy Lake additions were required to meet the requirements of the predecessor of FWCA as a condition of the licensing procedure in 1953 (J. Leach, FERC, pers. commun.). FPC was responsible for soliciting comments on the license application from state and federal agencies and determined whether or not the requirements of FWCA were met (J. Leach, FERC, pers. commun.).

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that agencies consult with the Department of the Interior to ensure that actions not jeopardize any threatened or endangered species. Since there have been no recent additions or major changes to the Oak Grove Project, no impact assessments or wildlife mitigation measures have been mandated during the operational history of the project.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation. ODFW has special use agreements with USFS that provide for cooperative wildlife enhancement projects (e.g. forage seeding and fertilization, pothole development) on USFS land (G. Herb, F. Newton, ODFW, pers. commun.).

C. Mitigation Implemented

No wildlife mitigation, enhancement, or protection measures of which ODFW, USFS, or PGE personnel were aware have been implemented at the Oak Grove Project (G. Herb, J. Pesek, ODFW; R. Auler, USFS; D. Cramer, D. Clark, PGE, pers. commun.).

Although no wildlife enhancement measures were implemented to mitigate specifically for project impacts, USFS has conducted projects to benefit wildlife in the vicinity of the Oak Grove Project. The National Forest Management Act of 1976 (Section 18) provides for collection of funds from timber sales for habitat protection and enhancement (Whitt 1978). Examples of projects associated with timber sales in the area include: creation and fencing of wildlife ponds in wet meadows; forage seeding and fertilizing clearcut units and obliterated roads; meadow burning and rehabilitation; installation and maintenance of wood duck and bluebird boxes; planting of willows, fruit trees, and elderberry (USFS timber sale files; F. Newton, ODFW, pers. commun.). USFS has installed about 35 wood duck nest boxes on ponds near the Oak Grove pipeline and at Lake Harriet (R. Auler, USFS, pers. commun.). Wood ducks, hooded mergansers, and screech owls have used the boxes.

Three areas at Timothy Lake that were cleared during construction were reforested. During 1957-1959, PGE purchased trees which were planted in 2 of these areas by youth groups; USFS reforested the third area (PGE 1970). PGE also planted quaking aspen and rhododendron around the lake shore (PGE 1970).

VI. CURRENT STUDIES AND PLANNING

No studies or planning are currently being conducted for wildlife mitigation specifically at the Oak Grove Project (G. Herb, ODFW; D. Cramer, PGE, pers. commun.). Planning for wildlife habitat protection and enhancement projects, such as those mentioned in V. C., is part of the planning process for timber sales proposed near the project area (USFS timber sale files). Plans for new campgrounds in the Timothy Lake area will consider small animals and birds that inhabit the area (USFS 1969). Hollow logs, clumps of brush, and short snags will be preserved in areas where fire danger is not too great.

Studies and planning being conducted elsewhere in the State of Oregon could eventually affect wildlife/habitat management in the Oak Grove area. ODFW is developing black-tailed deer and Roosevelt elk population objectives for the Santiam Wildlife Management Unit, and is developing a statewide nongame plan. USFS is conducting studies of spotted owl and old growth forest management. Present USFS goals for the Clackamas Planning Unit are "providing, maintaining, improving and/or preserving habitats needed by wintering elk, spotted owl, pileated woodpecker, downy woodpecker and other species that require habitats provided by dead and defective trees, wetlands (ponds, meadows, lakes, marshes, seeps) and old growth timber" (USFS 1978).

VII. REFERENCES CITED

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Federal Power Commission, Bureau of Power. 1973. Water resources appraisal for hydroelectric licensing, Clackamas River Basin, Oregon. 67 pp.

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_____ 1955. First amendment to license for project no. 186. '3 pp.

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Portland General Electric Company. 1970. Application for a new license for the Oak Grove Project, FPC Project No. 135-Oregon. Paging various.

U.S. Fish and Wildlife Service. 1961. Initial follow-up report for North Fork Project, FPC No. 2195, Clackamas River, Oregon. Portland, Oreg. 7 pp + fig.

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_____. 1978. Clackamas planning unit land management plan, draft EIS. Mt. Hood National Forest. Gresham, Oreg. 94 pp.

Whitt, C. R. 1978. An evaluation of existing and potential fishery resources in the Clackamas River Land Management Unit. Mt. Hood National Forest, U.S. Forest Service. 72 pp.

A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Jim Noyes
Karen Bedrossian
Dan Carleson
Mary Potter

U. S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

D. Clark
D. Cramer
R. Klein
R. Lee
W. May

(2) Summary of Project Operator Contacts

Date	Individual	Summary
19 January 1984	R. Sandvik	D. Carleson sent letter to PGE providing information and requesting contacts.
16 February 1984	D. Clark D. Cramer R. Klein	Meeting. Discussed project and procedures for gathering information.
23 February 1984	D. Cramer	Phone. Discussed project.
24 February 1984	D. Cramer	Phone. Obtained information on land ownership.
6 March 1984	D. Clark	Meeting. Discussed project.
13 March 1984	R. Lee	Meeting. Discussed licensing procedures.
23 March 1984	D. Clark	Phone. Obtained description of project.
3 April 1984	D. Craner	Phone. Arranged meeting for project tour.
6 April 1984	W. May	Phone. Obtained information on project.
18 April 1984	D. Cramer	Meeting. Observed the project area and discussed existing conditions.
25 April 1984	R. Lee W. May	Meeting. Discussed project operation.
3 May 1984	D. Cramer	Phone. Received comments on review draft of status report.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

W. Haight
G. Herb
J. Hewkin
R. Ingram
R. Maben
F. Newton
J. Pesek

U.S. Forest Service

R. Auler, Cl ackamas Ranger District
R. Brown, Mt. Hood National Forest
K. Buckingham, Estacada Ranger District
D. Campbell, Bear Springs Ranger District
N. Duggan, Mt. Hood National Forest
D. Longrie, Mt. Hood National Forest

Other

D. Buell, Oregon Water Resources Department
J. Leach, Federal Energy Regulatory Commission
S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 16 MAY 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS, BLM, USFS)

BPA requested comments on the 16 May 1984 Oak Grove draft report by 15 June 1984. Comments by BLM were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the final report.

(3) Tribes

No tribes are involved with the actions taken at the Oak Grove Project.

(4) Facility Operator (PGE)

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife
506 SW MILL STREET, PO BOX 3503, PORTLAND, OREGON 97208

June 7, 1984

No explanations or report modifications necessary.

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland. OR 97208

Dear John:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Oak Grove Project Wildlife Mitigation Status Report dnd our attached comments on that report indicate comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency or Portland General Electric (PGE). Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating parties to move forwdrd in implementing the Wildlife Program of the Northwest Power Plamming Council. In particular, we must proceed to make anassessment of impacts in order to determine if mitigation of wildlife resources is needed at the Oak Grove Projects. The Department is prepared to take the lead in this endeavor upon approval and funding by the Council and Bonneville Power Administration using: 1) the expetise of biologists from the various agencies and PGF; 2) existing ddta where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation Status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the Oak Grove Project.

Sincerely,

^

John R. . Donaldson , PhD
Director

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Oak Grove Project
7 June 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer. Bonneville Power Administration, dated 25 May 1984 to review the Mitigation Status Report for the Oak Grove Project.

Oregon Revised Statute 496.012, Wildlife Policy. says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum livels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from projects construction and operation. These policies are consistent with the Power Act and Wildlife Porgram purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . ." This goal has yet to be achieved at the Oak Grove Project.

The Oak Grove Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from constructron and operation of the dams was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of habitat inundated. Wildlife densities prior to inundation were not estimated and nongame species were not considered. Habitat lost included big game winter range which is limited in the Clackamas drainage. Riparian habitat was also affected. The significance of the inundated habitat to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to widlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Oak Grove Project, it is nccessary to determine what impacts occurred. Although the Oak Grove Project has not been given as high a priorlty for wildlife mitigation by ODFW as the Corps' main stem Columbia River and Willamette Basin projects, this project should not be disregarded without conducting a loss estimate to determine the impacts of the project on the wildlife resources. Upon the approval of and funding by the

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Oak Grove Project. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with Portland General Electric (PGE) and appropriate agencies involved in the Oak Grove Project, is of course, an integral part of both of these processes. We believe that a workable loss estimate and mitigation plan can be developed based on existing information and the expertise of biologists from PGE and the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has improved since the time of construction of the Oak Grove Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

JUN 2[illegible] 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

June 14, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of May 25, 1984, we have reviewed the Wildlife Mitigation Status Report for the Oak Grove Project (the Project). The following comments are being provided for inclusion in the final report.

We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project.

Based on the report's content, it is evident that the construction and operation of the Project may have resulted in substantial adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate adverse wildlife impacts attributable to the Project.

We suggest the evaluation be habitat based and supported by population data when available. We believe that such an evaluation could be accomplished with a minimum of new data collection by: 1) analyzing the existing data referenced in the status report and 2) consulting with professional wildlife biologists familiar with the area's wildlife resources as they existed prior to project construction. The evaluation's results should be presented in an impact assessment report.

In conclusion, we believe no single user group is responsible for the adverse wildlife impacts which may have resulted from the development and operation of the Oaka Grove Project. The proposals outlined in this letter

Explanations or Modifications:

No explanations or report modifications necessary.

USFWS Comments (cont.):

would be considered 'standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Oak Grove Project was being developed. However, both the Northwest Power Plannlnq and Conservation Act and the Council's Fish and Wildlife Program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. Ths Service is eager to move toward that end.

Sincerely yours,

J.W. Teeter

James W. Teeter
Acting Assistant Regional Director
Habitat Resources

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFS Comments:

JUN 20 1984

United States Department of Agriculture | Forest Service | Mt Hood NF | 2955 NW Division St Gresham, OR 97030

Reply To: 2600

Date: June 18, 1984

Division of Fish and Wildlife
Attn: Mr. James R. Meyer
Bonneville Power Administration
PO Box 3621
Portland, OR 97208

Dear Mr. Meyer:

The Project Reports on the "Wildlife Mitigation Status Review" for Oak Grove and North Fork were reviewd by Wildlife Biologists on the District and in the Supervisor's Office. These reports provided adequate information on the wildlife mitigation status for these areas. Thank you for the opportunity to comment on these Project Reports.

Sincerely,

DEAN P. LONGBIE
Biologist

364:3564E1

FS-6200-28(7-82)

Explanations or Modifications:

No explanations or report modifications necessary.

PGE Comments:

JUN 19 1984

Portland General Electric Company

OEAS-275-84L
ASSOC 8 - Fisheries

June 15, 1984

John Palensky
Director of Fish & Wildlife
Bonneville Power Administration
P. O. Box 3621
Portland, OR 97208

Dear John:

PGE has reviewed the "Wildlife Mitigation Status Review" reports for the Oak Grove Project (FERC License #135) and the North Fork Project (FERC License #2195) which are both located on the Clackamas River and its tributaries. We appreciate the opportunity to comment on the review and have no substantial disagreement with the documents as presented.

We do, however, have some minor items that we would like to bring to your attention. On page 6 of both of the reports, reference is made to terns being regular visitors to the impounded areas. We suggest that these birds are only occasional visitors to the sites. On page 5 of the North Fork Project report, the second paragraph, last sentence, states that orioles, grosbeaks, and warblers are dependent on riparian habitat and may have been adversely affected by the construction of North Fork Reservoir. These particular species are not exclusively dependent on riparian habitat but also utilize most deciduous forest habitats. On the same page, under number (3) "Benefits", we believe that the correct name for whistling swan is now tundra swan.

We thank you for the opportunity of commenting on these reports as they are submitted to you by the Oregon Department of Fish & Wildlife.

Sincerely,

Richard M. Sandvik, General Manager
Environmental & Analytical Services

RMS:DEC:jjc

Explanations or Modifications:

No report modifications necessary. See Section IV.B.(4).

No report modification necessary for the Oak Grove report.

Wildlife Mitigation Status Report

BULL RUN PROJECT (PGE)

Prepared by:

M. S. Potter
K. L. Bedrossian
R. D. Carleson
J. H. Noyes

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Bull Run Project

II. PROJECT OPERATOR

Portland General Electric Company (PGE)

III. PROJECT DESCRIPTION

A. Location and Size

The Bull Run Project is located in Clackamas County, Oregon. The Marmot Diversion Dan is located at river mile 30 on the Sandy River (Hutchison and Claire 1970), a tributary of the Columbia River. The water diverted at this point is carried by a series of concrete canals and tunnels to the Little Sandy Diversion Dam (PGE 1976a) at river mile 1.7 of the Little Sandy River (Hutchison and Claire 1970). From this point, the water travels in a wooden flume and alternating concrete canals and tunnel to Roslyn Lake. Roslyn Lake serves as the storage reservoir and forebay for the power plant. Water flows down 2 penstocks to the powerhouse and is expended into the Bull Run River, a tributary of the Sandy River (PGE 1976a). The powerhouse is located at river mile 1.5 on the Bull Run River (Hutchison and Claire 1970). U.S. Highway 26 (Mt. Hood Loop Highway) lies south of the project. Several county roads provide access to Roslyn Lake and the Sandy River. A 2.6 mile road owned by PGE services Marmot Dam. The Little Sandy River can be reached at the mouth by U.S. Forest Service (USFS) road S10, or by USFS road S28 on the upper river. A 1.6-mile PGE road gives access to the Little Sandy diversion dam. The Bull Run River is not open to the public; however, USFS road S10 follows nearly its entire length (PGE 1976a, 1976b).

The Marmot Diversion Dam is a rock-filled timber crib dam 40 feet high with a crest elevation of 732 feet, and crest length of 345 feet. A concrete gravity section at the right abutment serves as the canal intake and is 5 feet high at the maximun section (PGE 1976a, PGE files). Water diverted at this point travels through a 1,520 foot concrete-lined canal; 2,188 foot tunnel; 1,500 foot concrete-lined canal; 1,550 foot tunnel; 4,220 foot concrete-lined canal; 600 foot concrete flume section; 4,702 foot tunnel; and discharges into a concrete box flume, which crosses the Little Sandy River and enters a wooden box flume (PGE 1976a). The concrete-lined canal is approximately 27 feet wide, and the tunnel measures 10 feet wide with a maximum height of 10 feet (PGE 1976a). The Little Sandy River Diversion Dan is a concrete gravity section dam with an overall crest length of 128 feet (PGE files). The spillway section is 94 feet long at an elevation of 709 feet (PGE 1976a). Maximum height of the dam is 14 feet (PGE 1976a). The water diverted from the Sandy and Little Sandy rivers travels westerly for 3 miles in a treated wood box flume. The flume is 12 feet wide, 8 feet deep and supported by wooden bents 4 feet apart. The wooden flume may be located on the ground or as much as 80 feet above ground, depending upon the terrain (C. Bell, PGE, pers. commun.). The water leaves the wooden flume through a concrete

transition structure into a 750 foot canal; 457 foot tunnel; 248 foot canal; and into Roslyn Lake (PGE 1976a). Roslyn Lake is the 160 surface-acre storage reservoir and forebay for the Bull Run plant. Eight thousand feet of earth-filled dikes comprise the west side of the lake. Maximum height of the dike is 45 feet, with a crest width of 10 feet (PGE 1976a). During periods of surplus water supply in the City of Portland's Bull Run watershed, water can be made available to Roslyn Lake (PGE 1976a). A concrete outlet structure is located at the northern edge of the lake where the water flows through two 1,400 foot penstocks to the powerhouse (PGE 1976a). The powerhouse is a concrete and steel structure containing 4 Francis-type turbines and 4 Westinghouse generators with power ratings of 5,250 kilowatts each. A transformer building is adjacent to the powerhouse on a higher level. Other facilities in the vicinity of the powerhouse include a shop, storage, equipment, and garage buildings. Water expended through the powerhouse flows into the Bull Run River, a tributary of the Sandy River (PGE 1976a).

B. Authorized Purposes

The Bull Run Project is operated for power generation (PGE 1976a). There are no downstream uses of the water below the project other than recreation, boating, and fishway. There are no navigation, irrigation, reclamation, flood control or municipal water supply uses on or below the project (PGE 1976a, 1976b). Secondary purpose of the project is recreation provided by Roslyn Lake (PGE 1976b).

C. Brief History

The Mount Hood Railway and Power Company, a predecessor of PGE incorporated in 1906, initiated investigations of power sites on the Sandy River and secured land and water rights on the Sandy, Little Sandy, and Bull Run rivers. Preliminary work on the hydroelectric project was conducted between 1906 and 1909. Surveying, clearing, grading and excavation for the penstocks was accomplished during this period. In 1910, construction was begun. The turbine was ready for testing by mid-1911, but equipment problems prevented its operation until 22 September 1912. On that date, initial generation began at the Bull Run plant using only Little Sandy River water. In August of 1912 a dam site was selected on the Sandy River, and on 20 February 1913 the timber crib dam was completed (Greisser 1982, PGE 1976a).

During 1921 and 1922, the three existing 3,750 kilowatt generating units were improved to increase their capacity to 5,250 kilowatts, and a fourth 5,250 kilowatt generating unit was added. In 1926, a 2,000 foot section of the original flume discharging into Roslyn Lake was replaced with a concrete-lined canal and tunnel. In 1946, the entire wood box flume was rebuilt. An outdoor switching station was installed adjacent to the powerhouse in 1954. In 1957, a large public recreation area was constructed at Roslyn Lake (PGE 1976a).

D. Other Pertinent Data

(1) Water level fluctuation and timing

There is no effective pondage or storage above the Marmot and Little Sandy diversion dams (PGE files). The pond area behind Marmot Dan is nearly silted full with sand and gravel, effectively eliminating any storage capacity (PGE files).

In the early years of plant operation, Roslyn Lake storage was operated for peaking purposes. At low flow periods, the plant is operated on the basis of balanced inflow-outflow and the storage capacity in Roslyn Lake is held for emergency uses and recreation. Full pool elevation is 655 feet, drawdown is 7 feet (PGE 1976a).

(2) Land ownership

Lands occupied by the project include 511.23 acres owned by PGE, 52.28 acres owned and administered by the U.S. Bureau of Land Management (BLM), and 19.51 acres owned and administered by the USFS (PGE 1976a; W. May, PGE, pers. commun.). In addition, PGE has acquired easements from individual owners totalling 4.34 acres for transmission line right-of-way and project appurtenances, 6.2 acres for transmission line right-of-way, and 12.35 acres for the water rights, river bed and riparian section of a portion of land within the project boundary. Three easements acquired by PGE allow passage of tunnels without accrual of acreage (PGE 1976a). All lands adjacent to the project are in private ownership.

The project is located within the Oregon Department of Fish and Wildlife's (ODFW) Santiam Wildlife Management Unit and the Clackamas Wildlife District of the Columbia Region. ODFW is responsible for the management of wildlife within the State of Oregon (ODFW 1982) and serves in an advisory capacity to PGE regarding fish and wildlife impacts at PGE projects.

(3) Indian rights

No tribes are involved with the actions taken at the Bull Run Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Very little information is available on pre-construction conditions. General information about the wildlife species present in the Oregon territory can be found in journals written by the early explorers and settlers. Brief references to conditions in the vicinity of the Bull Run Project were found in an historical publication by Hartman and Schwartz (1973). PGE's relicensing application (1976a, 1976b) describes the location of the project. Additional or more detailed information on

pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

PGE (1976b) stated that existing conditions were not significantly different from the original natural setting. Pre-construction conditions were inferred from more recent reports.

The Sandy River is located within the "Humid Transition Life Zone," characterized by a coniferous forest comprised mainly of Douglas fir, western hemlock, western red cedar, and pines (PGE 1976b). Smaller trees include red alder, big leaf maple, and dogwood. Shrubs present include salal, Oregon grape, thimbleberry, elderberry, blackberry, Indian plum, and ocean spray (PGE 1976b). Due to numerous springs in the canyon walls, a number of small marsh habitats occur (PGE 1976b). Sandbar willow communities occupy habitats exposed to open river, and black cottonwood is prevalent in areas elevated above the current water level (PGE 1976b). Project lands are, for the most part, steep, sloped ridges or canyons, with swift flowing streams subject to seasonal fluctuations of considerable extent (PGE 1976a).

At the turn of the century, lands surrounding the town of Sandy were described as a "patchwork quilt" of "stump ranches and uncut stands of old growth... all interlaced with slithering skid roads radiating from the mill sites" (Hartman and Schwartz 1973).

No quantitative information was located on wildlife species present at the Bull Run Project prior to construction. Individuals interviewed by Hartman and Schwartz (1973) commented on the presence of game animals, cougar and furbearers in the vicinity of the project.

B. Post-Construction Period

(1) Available information

Reports providing information on wildlife after construction of the Bull Run Project are very general. PGE's environmental report section of the 1976 relicensing application contains a list of wildlife known or believed to be present along the lower Sandy River. BLM's unit resource analysis of the Eastside Salem District (1979) provides estimated wildlife densities for BLM wildlife habitat areas. Wildlife population estimates on a county basis can be found in ODFW's fish and wildlife habitat protection plan for Clackamas County (1979). The Oregon State Game Commission's (OSGC) 1964 report on the fish and wildlife resources of the lower Willamette Basin, which includes the Sandy River basin, addresses only game species in relation to hunting success on a wildlife management unit and county basis (Hutchison and Aney 1964).

ODFW publishes wildlife production inventories, herd composition, trend counts, and harvest data in the Wildlife Division annual report. These data are available by region, county or wildlife management unit. The information is not specific to the project site. Aerial photographs of the project are available from PGE (W. May, PGE, pers. commun.), and

aerial photos of the Mt. Hood area dating back to the late 1950's are available from the University of Oregon Map Library (S. Trevitt-Clark, University of Oregon, pers. commun.).

The following information is based on the reports previously mentioned and on conversations with individuals knowledgeable of the Bull Run Project area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

No information was found regarding the effects of construction activities on wildlife. A "large number of laborers" were employed on the project (Hartman and Schwartz 1973). Separate camps were established for each major ethnic group at the Roslyn Lake site and on the Sandy River (Greisser 1982). Much of the excavation work was done by hand, and mules and horses were used to power the loaders and cart material to the dikes. Four-horse wagons carried supplies to the construction site (Hartman and Schwartz 1973). Impacts to wildlife and wildlife habitat resulting from the laborer camps and construction methods were not addressed.

The effect of the project on wildlife migration and/or movement was not documented, nor was the type of habitat inundated by Roslyn Lake and replaced by the adjacent recreation area identified. PGE's relicensing application indicated about 10 black-tailed deer per year entered the canals and drowned (PGE 1976a). In 1964 and 1969, PGE installed 5,400 linear feet of 8-foot fencing along the "Big Sandy" canals to prevent animal losses. Bridges were provided across the canals where well-used game trails were evident (Greisser 1982). Few losses of wildlife have been noted since installation of the major portion of the fence (PGE 1976a). Small mammals, such as mice, occasionally drown, and beaver have been caught in the fish screens (D. Craner, PGE, pers. commun.). Project personnel indicate deer and elk losses in the canal are usually infrequent accidents, generally the result of harassment by dogs (C. Bell, D. Cramer, PGE, pers. commun.). In 1972, OSGC requested completion of the fence along the entire Marmot Canal become a condition for relicensing (PGE 1976a). Clearing has begun in preparation to install the last section of fence (C. Bell, PGE, pers. commun.). The flume probably has little impact to wildlife, since it is mainly a trestle (D. Cramer, PGE, pers. commun.).

The largest impact of the Bull Run Project probably resulted from the access provided to the area, which is well used by hunters, fishermen and recreationists (D. Cramer, PGE, pers. commun.). PGE (1976b) indicated the project had reached equilibrium with many ecological factors during the seventy-plus years of its existence.

(3) Benefits

According to PGE (1981), the project has had little effect on wildlife, either favorable or unfavorable. It is not known if Roslyn Lake has benefited wildlife, because pre-construction conditions were not documented.

(4) Additional information

The project area is primarily wooded, characterized by reforested timber (C. Bell, D. Cramer, PGE, pers. commun.). Farms are located in the vicinity of Marmot. Roslyn Lake is more developed, with many small farm parcels adjacent to PGE property (C. Bell, PGE, pers. commun.).

ODFW's fish and wildlife habitat protection plan for Clackamas County (1979) provided 1976 population estimates on a county-wide basis, but was not specific to the project area. The report indicated the deer population in the northern part of the county was increasing, primarily due to logging activities which opened up new habitat. Sensitive habitat areas for big game in the county included the Little Sandy River drainage, and the main Sandy River and tributaries above the City of Sandy. Farmland areas, riparian vegetation, brushy woodlots and odd pieces of unfarmed land were designated as sensitive areas for pheasant, quail and mourning dove. Riparian strips, ponds and wetland areas were identified as the most important for nongame species because of the variety of habitat types these areas provide.

PGE's environmental report for the 1976 relicensing application included a checklist (provided by ODFW) of species known or believed to be in the area. No quantitative estimates were made for the report.

BLM's unit resource analysis for the Eastside Salem District (1979) provided population estimates for the 9 square mile "wildlife habitat area," which includes the 160 acres of BLM land surrounding the Marmot Diversion Dam (W. Logan, BLM, pers. commun.). Population estimates were provided for elk, deer, black bear, cougar and bobcat located within the "wildlife habitat area". Estimated abundance of selected species of furbearers, birds and anphibians was given for the entire Clackamas Planning Unit.

ODFW estimated population densities of elk, deer, black bear, ring-necked pheasant, blue grouse, ruffed grouse, California quail and mountain quail in Clackamas County in 1980 (ODFW files). The 1980 figures also included estimated furbearer populations and the occurrence of nongame wildlife in the county. Migration figures were provided for waterfowl. Available nesting habitat in the county was estimated for mallards, wood ducks and cinnamon teal. Estimates were not specific to the Bull Run Project area.

ODFW conducted a deer trend route along Marmot Road between 1973 and 1977. Counts along the 13 mile route were very low, ranging between 0-0.3 deer per linear mile and averaging 0.18 over the 5 years of data (E. Herb, ODFW, per-s. commun.). The route was discontinued because of the poor information acquired. Low deer numbers may reflect poaching activities in the area (C. Bell, PGE; E. Herb, ODFW, pers. commun.).

Elk are frequently observed at the project (C. Bell, D. Cramer, PGE, pers. commun.). Large bull elk are seen in the area, and have been taken in the vicinity of the project during hunting season. The elk are probably from the City of Portland's Bull Run Reserve, traveling along

the ridge which separates the "Big" and Little Sandy Rivers (D. Cramer, PGE, pers. commun.).

There is a population of black bear in the area, making it a popular location for hunters. The animals are probably from the Little Sandy and Bull Run watersheds (D. Cramer, PGE, pers. commun.), and are seen mainly along the Little Sandy River flume (C. Bell, PGE, pers. commun.).

Other mammals found at the project include cougar, bobcat, beaver, river otter, mink, raccoon, skunk, coyote, mountain beaver, Townsend chipmunk, flying squirrel, chickaree, California ground squirrel, brush rabbit, snowshoe hare, pika, and short-tailed weasel (C. Bell, D. Craner, PGE, pers. commun.). Cougar have been seen at the powerhouse buildings, and one is seen often at the project (C. Bell, D. Craner, PGE, pers. commun.).

A limited number of waterfowl use Roslyn Lake during the winter and/or nesting season (PGE 1976a). Mallards and wood ducks are the most frequent nesting species at the lake (C. Bell, D. Cramer, PGE, pers. commun.). The lake is a popular recreation site and receives heavy use during the spring and summer, which limits nesting success (D. Cramer, PGE, pers. commun.). During the hunting season birds scatter off the lake and away from the area (C. Bell, PGE, pers. commun.).

Seepage areas on PGE property are used by ducks, and pairs are seen at these locations (C. Bell, PGE, pers. commun.). Red-tailed hawks are seen in the area (C. Bell, D. Cramer, PGE, pers. commun.), and a red-tail pair nests in a tree adjacent to Marmot Dam (D. Cramer, PGE, pers. commun.). Pygmy owls are seen and heard frequently at the project and have been sighted roosting on nearby telephone poles (D. Craner, PGE, pers. commun.). Saw whet and screech owls are also found in the area (J. Pesek, ODFW, pers. commun.). There are no bald eagle nests associated with PGE lands (J. Pesek, ODFW, pers. commun.). Bald eagles and osprey forage in the area during the spring and summer (D. Cramer, PGE; C. Bruce, J. Pesek, ODFW, pers. commun.). Osprey nest along the Sandy River system and are seen at the Bull Run Project during the summer (C. Bell, PGE; J. Pesek, ODFW, pers. commun.). Roslyn Lake is used as a foraging area by osprey, which are seen there regularly in the spring and summer (J. Pesek, ODFW, pers. commun.). No spotted owls are known to be present on project lands (D. Craner, PGE; J. Pesek, ODFW, pers. commun.), although there is potential habitat for them in a stand of timber on private land in the vicinity of Marmot Dam (D. Craner, PGE, pers. commun.).

In addition to bald eagles, which are classified by ODFW and USFWS as "threatened" in Oregon, other species of concern in the Sandy River drainage include Pacific giant salamander and Oregon slender salamander (PGE 1976b). None of these species would be affected by continued operation of the project (PGE 1976b).

There is an abundance of furbearers on project lands. Willow habitat on the small peninsula at Roslyn Lake is used by beaver (D. Cramer, PGE, pers. commun.).

Maintenance of the Bull Run Project includes cutting brush along the canal and flume corridor to prevent potential problems and to provide inspection access. A buffer zone is cleared of deciduous and fir trees; ferns, grass and small shrubs are generally undisturbed. The area between the concrete canal and the game fence is kept clear. Most sections of the waterway are inspected daily.

Located near Oregon's major metropolitan area, the project and adjacent lands are popular with hunters, fishermen and recreationists. Species hunted in the area include black-tailed deer, black bear, blue grouse, ruffed grouse, mourning dove, band-tailed pigeon, and possibly ring-necked pheasant and California quail (PGE 1976b).

Roslyn Lake receives "heavy use" by visitors (D. Cramer, PGE, pers. comrnun.). The annual estimated visitations to PGE's park at the south end of the lake increased from 60,800 in 1972 (PGE 1976a) to about 92,000 in 1983 (T. Kolberg, PGE, pers. commun.). Activities at Roslyn Lake include picnicking, unpowered boating, swimming, year-round fishing, and waterfowl hunting (PGE 1976a). The park facilities are closed during the winter months, although year-round use of the site does occur (T. Kolberg, PGE, pers. commun.).

Recreationists make use of the PGE access road to Marmot Dan. Vehicle use may be restricted beyond the gate located 0.5 mile below the dam. Parking is provided and is used year-round by recreationists, particularly during steelhead runs up the Sandy River (C. Bell, D. Cramer, PGE, pers. commun.).

PGE project lands are open to the public. Vehicle access is blocked in many areas, but recreationists are allowed to enter on foot (C. Bell, PGE, pers. commun.).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

No records of wildlife mitigation proposals or requests made at the time of construction were located. All mitigation requests and proposals at the Bull Run Project concern anadromous fish passage at the Sandy and Little Sandy Diversion Dams.

The only documentation of requests concerning wildlife regard the completion of the game fence beside the Marmot Canal.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

Construction of the Bull Run Project began in 1906, 14 years before Congress approved the 1920 Federal Water Power Act. The Act provides for cooperation between the Federal Power Commission (FPC) and other federal agencies in the investigation of proposed power projects and for other agencies to provide information to the FPC upon request.

A 50 year minor part license was issued by FPC on 17 November 1924 to Portland Railway, Light and Power Company. The license was transferred to PGE and approved by FPC on 18 September 1930 (PGE 1976a).

Section 10(a) of the Federal Water Power Act, 16 U.S.C. 803(a), indicates all licensed projects must be "best adapted to a comprehensive plan for the improvement and utilization of water-power development, and for other beneficial uses, including recreational purposes...." PGE addressed these requirements in the 1976 application for relicensing, which included an environmental report.

(2) Oregon Water Resources Department requirements

Appropriation and use of water for power is controlled by Chapter 543, Hydroelectric Power Projects, Oregon Revised Statutes. ORS 543.120 requires water projects begun or constructed after 26 February 1931 to conform with the provisions of Chapter 543. Bull Run was completed 18 years prior to this date.

(3) FWCA proceedings

The Bull Run Project was constructed several years prior to the 1934 passage of the predecessor act to the Fish and Wildlife Coordination Act (FWCA). The Act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by the U.S. Fish and Wildlife Service and state agencies, and costs for these measures were to be made an integral part of the project costs. Major modifications and improvements to the project, as well as construction of the Roslyn Lake recreation area, occurred prior to 1958. The National Environmental Policy Act (NEPA) was passed in 1969, and the Endangered Species Act was adopted in 1973.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No records were found of wildlife mitigation, protection, or enhancement measures implemented at the Bull Run project other than construction of the game fence beside the Marmot Canal.

VI. CURRENT STUDIES AND PLANNING

No wildlife mitigation studies are currently in progress at the project site (D. Craner, PGE, pers. commun.).

The Clackamas County Comprehensive Plan (1979) sets fisheries and wildlife habitat goals to: 1) maintain and improve fisheries and wildlife habitat to enhance opportunities for consumptive and

nonconsunptive uses, and 2) retain and enhance wetlands and riparian habitat, to provide areas for fisheries and wildlife, and promote species diversity, bank stabilization and stormwater run-off control. The plan classifies the Roslyn Lake area as "Natural Environment," which should be left generally in its natural state with limited development of trails, access roads and camping facilities (PGE 1976a).

The Roslyn Lake area is the only site on project lands providing recreation development potential (PGE 1976a). PGE plans to realize the potential for recreation at the lake include revision of the park entrance (including low plantings), expansion of the nature trail within the fir grove near the park entrance, plantings to visually screen the group picnic areas, expansion of the beach area with a sand spit, a loop trail around the lake, and surfaced parking on the north and east sides of the lake for fishermen (PGE 1976a). Impacts to wildlife resulting from recreation improvement were predicted to have small adverse effects on terrestrial and aquatic species. It is predicted there may be a reduction in population size of small mammals, amphibians and reptiles due to habitat alteration. Removal of understory areas would reduce bird nesting habitat. Reductions in small mammal populations directly reduces the raptor food source. Re-establishment of wildlife in the altered areas is expected, but probably will be somewhat slowed by recreational use. According to PGE (1976b), the vast anount of suitable habitat for mammals and birds surrounding the Roslyn Lake project, the small land area involved, and the mobility of the various species affected preclude long-term adverse effects. Improvements to the recreation area have begun and will continue in stages over an extended period of time (T. Kolberg, PGE, pers. commun.).

BLM has developed land use plans through its "Eastside Salem sustained yield units ten-year timber management plan" (1983). The unit of BLM land surrounding Marmot Dam is designated "riparian withdrawn" for 200 feet on each side of the river. The remainder of the unit is designated "visual resource/restricted" which allows small clearcuts of less than 10% of the area per decade, on a 100-year rotation (W. Logan, BLM, pers. commun.).

USFS published the "Bull Run Planning Unit final environmental statement" in 1979. USFS lands outside the City of Portland Bull Run Reserve will be managed under a general policy of utilization of a variety of resource activities while maintaining water quality in accordance with state and federal environmental protection laws.

The Pacific States Bald Eagle Recovery Team (1982) addressed statewide management of the bald eagle population and discussed nest sites located in the Bull Run Reserve upriver from the powerhouse. Other studies and planning being conducted in the Willanette Valley and State of Oregon could eventually affect management in the Bull Run Project area. USFS is studying the spotted owl and old growth forest management. ODFW is developing several wildlife management plans including management objectives for big game in the Santiam Wildlife Management Unit, a statewide nongame plan, and a cooperative waterfowl management plan for the Willamette Valley.

VII. REFERENCES CITED

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Hutchison, J.M., and W.W. Aney. 1964. The fish and wildlife resources of the lower Willamette Basin, Oregon, and their water use requirements, a report with recommendations to the Oregon State Water Resources Board. Oregon State Game Commission. Unpubl. rep.

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Oregon Department of Fish and Wildlife. 1979. Fish and wildlife habitat protection plan for Clackarnas County. Unpubl. rep. 44pp.

Oregon Department of Fish and Wildlife. 1982. 1981-82 Oregon Wildlife and Commercial Fishing Codes. 125pp.

Portland General Electric Co. 1976a. Before the Federal Power Commission, application for a new license for Bull Run Project, FPC Project No. 477, Oregon, a major project on the Bull Run River, Sandy, and Little Sandy rivers in the state of Oregon. paging various.

Portland General Electric Co. 1976b. Before the Federal Power Commission, a part of the application for a new license for Bull Run Project, FPC Project No. 477, Oregon, a major project on the Bull Run, Sandy, and Little Sandy rivers in the state of Oregon. paging various.

Portland General Electric Co. 1981. Exhibit S - Project No. 477, Bull Run Project. PGE files.

U.S. Forest Service. 1979. Bull Run planning unit final environmental statement. Mt. Hood National Forest. 225pp. + append.

A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Mary Potter
Karen Bedrossian
Dan Carleson
Jim Noyes

U. S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

C. Bell
D. Clark
D. Cramer
R. Klein
T. Kolberg
R. Lee
E. Madden
W. May
D. Ratliff

(2) Summary of Project Operator Contacts

Date	Individual	Summary
19 Jan 1984	R. Sandvik	Initiation of consultation and coordination.
09 Feb 1984	R. Klein	Phone. Arranged for meeting.
16 Feb 1984	D. Clark, D. Cramer, R. Klein, E. Madden, D. Ratliff	Meeting. Discussed project and information collection procedures.
24 Feb 1984	D. Clark	Meeting. Provided information from PGE files.
05 March 1984	D. Clark	Meeting. Provided information from PGE files.
22 March 1984	D. Cramer	Mail. Provided wildlife species list for projects.
26 March 1984	R. Lee	Meeting. Provided information from PGE files.
02 April 1984	0. Cramer	Phone. Discussed wildlife present at project.
04 April 1984	C. Bell	Phone. Discussed project and wildlife present.
04 April 1984	T. Kolberg	Phone. Discussed Roslyn Lake park.
11 April 1984	W. May	Phone. Requested information.
12 April 1984	W. May	Phone. Confirmed project acreage.

23 April 1984	D. Craner	Phone. Obtained information, arranged for tour of project.
01 May 1984	D. Cramer	Meeting. Observed project site and discussed current conditions.
15 May 1984	D. Clark	Draft report submitted to PGE for informal comment.
19 June 1984	D. Clark	Phone. Discussed draft report.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

C. Bruce
W. Haight
E. Herb
R. Maben
J. Pesek

Bureau of Land Management

W. Logan

U.S. Forest Service

D. Longrie
R. Pfilf

Other

S. Trevitt-Clark, University of Oregon

APPENDIX C

COMMENTS ON 22 JUNE 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS, USFS, BLM)

(3) Tribes

No tribes are involved with the actions taken at the Bull Run project.

(4) Facility Operator (PGE)

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife
506 S.W. MILL STREET. P O BOX 3503. PORTLAND, OREGON 97208

July 16, 1984

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland. OR 97208

Attention Mr. James Meyer:

The Oregon Department of fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Bull Run (PGE) Project Wildlife Mitigation Status Report and our attached comments on that report indicate. comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency or Portland General Electric (PGE). Knowledge of wildllfe resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancements of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we should proceed to make an assessment of impacts in order to determine if mitigation of wildlife resources is needed at the Bull Run Project. The Department is prepared to take the lead in this endeavor upon approval and fundlnq by the Council and Bonneville Power Administration using: 1) the expertise of biologists from various agencies; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the Bull Run Project.

for John R. Donaldson, PhD
Director

JRD:aj
Encl.

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oergon Department of Fish and Wi ldlife
Comments on
Wildlife Mitigation Status Report
Bull Run (PGE) project
16 July 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration. dated 10 July 1984 to review the Mitigation Status Report for the Bull Run (PGE) Project.

Oregon Revised Statute 496.017. Wildlife Policy, says in part: "It is the policy of the State of Oregon thdt wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy. the goals of wi ldl ife management are:

(1) TO maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012. the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . .' This goal has yet to be achieved at the Bull Run Project.

The Bull Run Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction and operation of the dams was not comprehensive. This is evident by the lack of information available regarding the effects of consruction activities, and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate. dnd enhance" wildlife resources affected by the development and operation of the Bull Run Project, It is necessary to determine what impacts occurred. Although the Bull Run Project has not been given as high a priority for wildlife mitigation by ODFW as the Corps' main stem Columbia River and Willamette Basin projects, this project should not be disregarded without conducting a loss estimate to determine the impacts of the project on the wildlife resources. Upon the approval of and funding by the

Explanations or Midifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildli e resources resulting from the Bull Run Project. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with Portland General Electric (PGE) and appropriate agencies involved in the Bull Run Project, is of course, an integral part of both of these processes. We believe that a workable loss estimate and mitigation plan can be developed based on existing information and the expertise of biologists from PGE and the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has improved since the time of construction of the Bull Run Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

AUG 09 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

August 6, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 10, 1984, we have reviewed the Wildlife Mitigation Status Report for the Bull Run Project (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it appears that the construction and operation of the Project probably resulted in adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate adverse wildlife impacts attributable to the Project.

In conclusion, we believe no single agency or user group is responsible for the adverse wildlife impacts which may have resulted from the development and operation of the Bull Run Project. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Bull Run Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife Program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

James W. Teeter
Acting Assistant Regional Director
Habitat Resources

Explanations or Modifications:

No explanations or report modifications necessary.

USFS Comments:

United States Department of Agriculture | Forest Service | Mt. Hood NF | 2966 NW Division St. Gresham, OR 97030

Reply To: 2610 Cooperative Relations

Date: July 27, 1984

Subject: Formal Review of Project Report - Bull Run

To: Mr. John Palensky, Director
Division of Fish &Wildlife
Attn: Mr. James Meyer
BPA
PO Box 3621
Portland, OR 97208

The Project Report on the "Wildlife Mitigation Status Review" for the Bull Run was reviewed by District and Forest Biologists. The report appeared to adequately reflect known wildlife information for the Bull Run Project area.

Thank you for the opportunity to review dnd comment on this "Wildlife Mitigation Status Review".

George H Birchard

for DEAN P. LONGRIE
Biologist

364:4218E5

FS 6200 28(7 82)

Explanations or Modifications:

No explanations or report modifications necessary

BLM Comments:

Explanations or Modifications:

IN REPLY REFER TO

United States Department of the Interior

6522 (932)

BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
825 NE Multnomah Street
P.O. Box 2965
Portland, Oregon 97208

Mr. John Palensky, Director
Division of Fish and Wildlife
Attn: Mr. James Meyer
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

We have reviewed the Wildlife Mitigation Status Reports for Bull Run and Sullivan Dams and have no major comments. One text correction is necessary on page 10 of the Bull Run Status Report. The last sentence on this page should read as follows: "The remainder of the unit is designated visual resource/restricted which allows small clearcuts of less than 10% of the area per decade, on a 100-year rotation."

We appreciate the opportunity to comment on these wildlife mitigation status reports.

Sincerely yours,

Harold A. Berends

State Director

ACTING

Report modified as suggested. See Section VI.

PGE Comments:

Explanations or Modifications:

Portland General Electric Company

August 3. 1984
QEAS-363-84M
CNV-4

Mr. John Palensky
Director
Bonneville Power Administration
P.D. Box 3621
Portland, OR 97208

Attention: Mr. James Meyer

Dear John:

PGE has reviewed the "Wildlife Mitigation Status" reviews for the Bull Run Project (FERC License #477) and the Sullivan Project (FERC License #2233), which were prepared by the Oregon Department of Fish & Wildlife under measure 1004(b)(l) of the Columbia River Basin Fish and Wildlife Program.

For clarity we recommend changing the last sentence in the third paragraph to read "Riparian strips, ponds, and wetland areas were identified as the most important for nongame species because of the variety of habitat types these areas provide".

Report modified as suggested. See Section IV.B.(4).

The fifth and sixth paragraphs on Page 6, in our view, attempt to assign or transfer quantitative values to project lands without mdking a proper comparison of habitat types. We do no question the accuracy of the information provided in these two paragraphs. However, no attempt is made in the report to consider the likely presence of these various species at the project, taking into account the nature of the habitat at the project.

Report modified. See Section IV.B.(4).

Subsequent paragraphs in the review describe observations of species diversity and abundance specifically associated with project lands. Because of this we do not feel that paragraphs five and six on page six should be included In a project status review.

Report modified. See Section IV.B.(4).

Our comments concerning the Sullivan Project review refer to Page 4 of that document. The fifth paragraph states in part, that "A fair number of beaver, ... can be found along the river and around the power plant". The term "fair" is not quantified. We suggest that it be eliminated, so that the statement will be consistent with the rest of the paragraph.

See Sullivan status report.

PGE Comments (cont.):

In a similar vein, the next paragraph states "A few mallards ...." We do not believe the unquantifiable word "few" is necessary. and suggest that the sentence read "Mallards also nest in . ..."

WC appreciate the opportunity to comment on these reviews. If you have any questions please contact Ron Klein at (503) 226-5769.

Sincerely,

Richard El. Sandvik
General Manager
Environmental & Analytical Services

RMS:DEC:slc

Explanations or Modifications (cont.):

See Sullivan status report.

Wildlife Mitigation Status Report

T. W. SULLIVAN PLANT

Prepared by:

M. S. Potter
K. L. Bedrossian
R. D. Carleson
J. H. Noyes

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

T. W. Sullivan Plant, formerly referred to as Station B (Sullivan Plant)

II. PROJECT OPERATOR

Portland General Electric Company (PGE)

III. PROJECT DESCRIPTION

A. Location and Size

The Sullivan Plant is located in Clackamas County, Oregon, on the Willanette River. The plant is part of an industrial development at Willamette Falls near the cities of West Linn and Oregon City, approximately 13 miles south of Portland, Oregon.

The dam is a gravity section type made of concrete. The crest length is 4,510 feet, including head walls, gate structures and building walls. Approximately 185 feet of the structure is a non-overflow gravity-type dam, and 2,775 feet is constructed as an overflow spillway-type dam. The remaining 1,550 feet of the total length is made up of the above mentioned head walls, gate structures and building walls (PGE 1957).

Net plant capability is 15,000 kilowatts, and dependable capacity is 12,000 kilowatts (PGE 1957). Power is produced by 13 Francis-type turbines (PGE files).

B. Authorized Purposes

On 3 September 1904, the U.S. War Department issued a permit to the predecessor companies of PGE and Crown Zellerbach Corporation to construct and maintain a pulp mill, electric power station and approximately 900 feet of concrete weir or dam in the Willamette River at Willamette Falls. The permit was issued pursuant to Section 10 of an Act of Congress, approved 3 March 1899, entitled “An act making appropriations for the construction, repair, and preservation of certain public works on rivers and harbors, and for other purposes." (PGE 1957).

The electric power output of the Sullivan plant is transformed to high voltage at the powerhouse and transmitted to the PGE system from that point. Other power produced at the project developed by the manufacturing firms concerned is used on site (PGE 1957).

C. Brief History

Historical information about the project was difficult to locate. The main source of information was A.H. Greisser's history of PGE (1982), from which the following is taken.

After acquiring Willarnette Falls Electric Company and Willanette Falls Transportation and Locks Company, PGE began construction of the powerhouse at Station B during the sunmer of 1893. The project was

located on the west side of the Willamette River adjacent to the navigation canal and locks. The first 2 generating units were placed in commercial service in December 1895, and the third in January 1896. In 1897, an additional 4 generating units were installed. Station A, built on the west side of the falls in 1888 by Willamette Falls Electric Company, was dismantled in 1897 and the alternators were transferred to Station B. In 1899, construction began on the foundation walls for sections 12 and 13, and by 1903 two more turbines were installed. Between February 1952 and February 1953, the plant was modernized and renamed the T.W. Sullivan Plant.

D. Other Pertinent Data

(1) Water level fluctuation and timing

Operation of flood control reservoirs upstream from Salem, Oregon, affects the distribution of flows throughout each water-year (PGE 1957). Available flow in the Willamette River at Willamette Falls is released at all times (PGE 1957).

(2) Land ownership

The dam and appurtenances are located on PGE property, which includes both sides of the river and islands in the river. PGE and its predecessor companies acquired almost 95 acres at the location between 1892 and 1941 (PGE 1957; W. May, PGE, pers. commun.). No federal lands are affected. PGE owns the water rights which permit the diversion and use of water for power purposes at this location (PGE 1957).
Portions of paper mills owned by 2 other companies (Crown Zellerbach Corporation and Publisher's Paper Company) are located within the project boundary on land owned by PGE. These companies lease water rights from PGE (PGE 1957).

The project is located within the Oregon Department of Fish and Wildlife's (ODFW) Willamette Wildlife Management Unit and the Clackamas Wildlife District of the Columbia Region. ODFW is responsible for the management of wildlife within the State of Oregon (ODFW 1982) and serves in an advisory capacity to PGE regarding fish and wildlife impacts at PGE projects.

(3) Indian rights

No tribes are involved with the actions taken at the T. W. Sullivan plant.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction

(1) Available information

Very little information about conditions prior to construction is available. General information on species present in the Oregon

territory can be found in journals written by early explorers and settlers. Brief references to pre-construction conditions in the vicinity of the project were found in historical publications by Bowen (1978), Clark (1927), and Geldaker (1976).

Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this report.

(2) Conditions

Surveys conducted in the early 1850's indicated timber (Douglas Fir, incense cedar, hemlock, spruce, and fir) above the falls extended southward beyond the Molalla River with few breaks (Bowen 1978). The Oregon City site at Willamette Falls was "heavily timbered" (Clark 1927). The falls were formed by a rocky, horseshoe-shaped reef 25.5 miles above the mouth of the Willanette River (Clark 1927).

Gane species in the Willanette Valley were first used by white men as a food supply for the fur companies on the Columbia River. By 1816, large parties of trappers moved southward through the valley. John McLoughlin filed a claim on the east bank of the river at Willamette Falls and made a few improvements on his claim in 1829 (Clark 1927). In 1840, Robert Moore purchased 1,000 acres along the west bank of Willamette Falls, and by 1845-46 there were I5 dwellings on the property. The Linn City Works, comprised of a grist mill, sawmill, warehouse, wharves, and breakwater were constructed below the falls in 1853. The flood of 1861 destroyed Linn City, but by 1868 activity on the west bank of the river resumed with the construction of the navigation locks. The locks were completed in 1873, and 20 years later construction began on Station B. The present location of the Sullivan Plant and the Crown Zellerbach mill stands partly on the former site of Linn City (Geldaker 1976). By 1850, the growing towns on each side of the falls had populations of 124 at Linn City and 933 at Oregon City (Bowen 1978).

B. Post-Construction Period

(1) Available information

No reports were found containing information about wildlife or wildlife habitat for the project area. Conversations with individuals knowledgeable of the Willamette Falls area provided information on current conditions. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

Aerial photographs are available from PGE (W. May, PGE, pers. commun.) and from the University of Oregon map library dating back to 1936 (S. Trevitt-Clark, University of Oregon, pers. commun.).

(2) Losses

The PGE dam raised the water level at Willamette Falls as much as 8 feet (D. Cramer, R. Lee, PGE, pers. commun.). Impacts resulting from the change in water level were not documented, and little information is available on original river conditions (R. Lee, PGE, pers. commun.).

Most impacts to wildlife and wildlife habitat in the vicinity of the project occurred as a result of other development. Although pre-construction information is not totally site specific, it indicates exploitation of the wildlife population and alterations to wildlife habitat took place prior to construction of the Sullivan Plant. The Sullivan Plant probably had little impact on wildlife or wildlife habitat (D. Cramer, PGE; J. Pesek, ODFW, pers. commun.).

(3) Benefits

There have been no apparent benefits to wildlife or wildlife habitat resulting from construction of the project (D. Craner, PGE, pers. commun.).

(4) Additional information

The Sullivan Plant is located within the Willamette Falls Project. The Willamette Falls Project encompasses property on both sides of the river (Abernethy and Moore Islands) and includes a narrow strip of land along the west bank of the Willamette River from the substation to and including a short strip on the north bank of the Tualatin River (PGE 1957). The land along the Willamette River adjacent to the project is primarily a rocky hillside with cliffs and a few small flats, and does not provide ideal wildlife habitat (D. Craner, PGE; J. Pesek, ODFW, pers. commun.). The confluence of the Tualatin and Willamette Rivers, upstream approximately 2 miles from the project, does have "some good riparian habitat" (M. Houck, Portland Audubon Society, pers. commun.).

Beaver, nutria, muskrat, and mink can be found along the river and around the power plant (D. Cramer, PGE; J. Pesek, ODFW, pers. commun.). Opossum, raccoon, and squirrel are also observed on project lands. Mink have been seen in the Crown Zellerbach mill (D. Craner, PGE, pers. commun.).

Mallards nest in the navigation canal locks, and l-2 broods are produced each year. Great blue herons nest on an island downstream from the falls across from the mouth of the Clackamas River, and forage off the rocks and logs in the river above and below the project. (D. Cramer, PGE; J. Pesek, ODFW, pers. commun.). Rock doves are observed on the rocky cliffs in the area of the falls. Osprey are seen using the river in the vicinity of the falls (J. Pesek, ODFW, pers. commun.).

Salamanders, lizards, and other amphibians and reptiles can be found on PGE's riverfront property (D. Craner, PGE; J. Pesek, ODFW, pers. commun.).

ODFW publishes wildlife production inventories, herd composition, trend counts, and harvest data in the Wildlife Division annual report. These data are available by region, county, or wildlife management unit. The information is not specific to the project site.

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

No wildlife or wildlife habitat mitigation was proposed or requested to directly offset impacts resulting from construction or operation of the Sullivan Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

Construction began on the Sullivan Plant 27 years before Congress approved the 1920 Federal Water Power Act. The Act provides for cooperation between the Federal Power Commission (FPC) and other Federal agencies to provide information to the FPC upon request.

On 8 January 1930, FPC issued to PGE a Minor Part license scheduled to expire on 31 December 1954 (PGE 1957). PGE applied to the FPC on 27 September 1954, for the renewal of a Minor Part license to be valid for 50 years (PGE 1957). At the insistence of the FPC, the license was amended to a Major Part license, and Crown Zellerbach Corporation and Publisher's Paper Company joined with PGE as applicants. The 3 licensees objected to some provisions in the amended license application, and the Oregon State Game Commission and Fish Commission of Oregon filed jointly to express concerns for fish passage at the project (Greisser 1982). In June 1960, following a series of hearings, a Major Part license was issued, with an effective date of 1 January 1955 to include plant modernizations made in 1953 (PGE files).

(2) Oregon Water Resources Department requirements

No special hydroelectric, water power, or irrigation laws of the State of Oreqon pertain to the project. The water rights of PGE's predecessor company became vested prior to the Water Act of Oregon of 1909 and were recognized and preserved by the said Act (PGE 1957).

(3) FWCA proceedings

The Sullivan Plant was constructed many years prior to the passage of the predecessor of the Fish and Wildlife Coordination Act (FWCA) on 10 March 1934. Major modifications to the plant were completed in 1953. Five years later the Act was named FWCA with an amendment requiring wildlife conservation be given equal consideration and be coordinated with other features of water resource development programs. The National Environmental Policy Act (NEPA) was passed in 1969, and the Endangered Species Act was adopted in 1973.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No wildlife or wildlife habitat mitigation measures have been implemented at the Sullivan Plant (D. Cramer, PGE, pers. commun.).

VI. CURRENT STUDIES AND PLANNING

No wildlife studies or planning are currently in progress at the Sullivan Plant (D. Cramer, PGE, pers. commun.). Studies and plans which could eventually affect wildlife management at the Willamette Falls project include ODFW's development of management objectives for the Willamette Wildlife Management Unit, and a statewide nongame plan. Nongame tax checkoff funds administered by ODFW financed a recently completed Urban Wildlife Habitat Inventory. The City of West Linn Planning Department has been provided with wildlife habitat inventory maps developed during this study (M. Houck, Portland Audubon Society, pers. commun.).

VII. REFERENCES CITED

Bowen, W.A. 1978. The Willamette Valley, migration and settlement on the Oregon frontier. 120pp.

Clark, R.C. 1927. History of the Willamette Valley. 888pp.

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Greisser, A.H. 1982. History of Portland General Electric Company, 1889-1981. Portland General Electric Company. 218pp.

Oregon Department of Fish and Wildlife. 1982. 1981-82 Oregon Wildlife and Commercial Fishing Codes. 125pp.

Portland General Electric Company. 1957. Before the Federal Power Commission, Project No. 2233, Application for license for the Willamette Falls Development, A constructed major project in the State of Oregon. paging various.

A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Mary Potter
Karen Bedrossian
Dan Carleson
Jim Noyes

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

D. Clark
D. Cramer
R. Klein
R. Lee
E. Madden
D. Ratliff

(2) Summary of Project Operator Contacts

Date	Individual	Summary
19 January 1984	R. Sandvik	Letter. Establish consultation and coordination.
09 February 1984	R. Klein	Phone. Set up meeting.
16 February 1984	D. Clark, D. Craner, R. Klein, E. Madden, D. Ratliff	Meeting. Initial contact and coordination meeting.
24 February 1984	D. Clark	Meeting. Provided information.
05 March 1984	D. Clark	Meeting. Provided information.
26 March 1984	R. Lee	Meeting. Obtained information.
02 April 1984	D. Cramer	Phone. Obtained information.
11 April 1984	W. May	Phone. Requested information.
12 April 1984	W. May	Phone. Confirmed project acreage.
23 April 1984	D. Cramer	Phone. Discussed project, arranged tour of project.
01 May 1984	D. Cramer	Meeting. Observed project site and discussed current conditions.
02 May 1984	R. Lee	Phone. Obtained information.
15 May 1984	D. Clark	Draft report submitted to PGE for informal comment.
19 June 1984	D. Clark	Phone. Discussed draft report.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

W. Haight
E. Herb
R. Maben
J. Pesek

Other

M. Houck, Portland Audubon Society
S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 22 JUNE 1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (BLM, USFS, USFWS)

BPA requested comments on the 22 June 1984 Sullivan draft report by 30 July 1984. Comments by USFS were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

(3) Tribes

No tribes are involved with the actions taken at the Sullivan Plant.

(4) Facility Operator (PGE)

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife
506 SW MILL STREET, PO BOX 3603, PORTLAND. OREGON 97208

July 16, 1984

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, DR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Sullivan Project Wildlife Mitigation Status Report and our attached comments on that report indicate comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency or Portland General Electric (PGE). Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address abroad range of concerns, I urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we should proceed to make an assessment of impacts in order to determine if mitigation of wildlife resources is needed at the Sullivan Project. The Department is prepared to take the lead in this endeavor upon approval and funding by the Council and Bonneville Power Administration using: 1) the expertise of biologists from various agencies; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the Sullivan Project.

Sincerely,

John R. Donaldson, PhD
Director

JRD:aj
Encl.

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Sullivan Project
16 July 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration, dated 10 July 1984 to review the Mitigation Status Report for the Sullivan Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . ." This goal has yet to be achieved at the Sullivan Project.

The Sullivan Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction and operation of the dams was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Sullivan Project, it is necessary to determine what impacts occurred. Although the Sullivan Project has not been given as high a priority for wildlife mitigation by ODFW as the Corps' main stem Columbia River and Willamette Basin projects, this project should not be disregarded without conducting a loss estimate to determine the impacts of the project on the wildlife resources. Upon the approval of and funding by the

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Sullivan Project. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with Portland General Electric (PGE) and appropriate agencies involved in the Sullivan Project, is of course, an integral part of both of these processes. We believe that a workable loss estimate and mitigation plan can be developed based on existing information and the expertise of biologists from PGE and the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has improved since the time of construction of the Sullivan Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

BLM Comments:

Explanations or Modifications:

IN REPLY REFER TO

6522 (932)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
OREGON STATE OFFICE
825 NE Multnomah Street
P. O. Box 2965
Portland, Oregon 97208

Mr. John Palensky, Director
Division of Fish and Wildlife
Attn: Mr. James Meyer
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

We have reviewed the Wildlife Mitigation Status Reports for Bull Run and Sullivan Dams and have no major comments. One text correction is necessary on page 10 of the Bull Run Status Report. The last sentence on this page should read as follows: "The remainder of the unit is designated visual resource/restricted which allows small clearcuts of less than 10% of the area per decade, on a 100-year rotation."

We appreciate the opportunity to comment on these wildlife mitigation status reports.

Sincerely yours,

Harold A. Berman

State Director

ACTING

No explanations or report modifications necessary.

See Bull Run status report.

USFWS Comments:

Explanations or Modifications:

AUG 0 9 1984

United States
Department of the Interior

Fish and Wildlife Service
Lloyd 500 Building, Suite 1692
500 N.E. Multnomah Street
Portland, Oregon 97232

In Reply Refer To: Your Reference:

August 7, 1984

No explanations or report modifications necessary.

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 10, 1984, we have reviewed the Wildlife Mitigation Status Report for the T. W. Sullivan Plant (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it is evident that the construction and operation of the Project probably resulted in only minor adverse impacts to wildlife resources. There appears to be little need to address species of interest to our agency. The Oregon Department of Fish and Wildlife may wish to pursue further action, in which case we would be supportive but not actively involved in such efforts.

Sincerely yours,

J. W. Teeter

James W. Teeter
Acting Assistant Regional
Director
Habitat Resources

PGE Comments: | **Explanations or Modifications:**

Portland General Electric Company

August 3, 1984
OEAS-363-84M
ENV-4

Mr. John Palensky
Director
Bonneville Power Administration
P.O. Box 3621
Port I and OR 97208

Attention: Mr. James Meyer

Dear John:

PGE has reviewed the "Wildlife Mitigation Status" reviews for the Bull Run Project (FERC License #477) and the Sullivan Project (FERC license #2233), which were prepared by the Oregon Department of Fish & Wildlife under measure 1004(b)(l) of the Columbia River Basin Fish and Wildlife Program.

For clarity we recommend changing the last sentence in the third paragraph to read "Riparian strips, ponds,and wetland areas were identified as the most important for nongame species because of the variety of habitat types these areas provide".

See Bull Run status report.

The fifth and sixth paragraphs on Page 6, in our view, attempt to assign or transfer quantitative values to project lands without making a proper comparison of habitat types. We do no question the accuracy of the information provided in these two paragraphs. However, no attempt is made in the report to consider the 1ikely presence of these various species at the project, taking into account the nature of the habitat at the project.

See Bull Run status report.

Subsequent paragraphs in the review describe observations of species diversily and abundance specifically associated with project lands, Because of this we do not feel that paragraphs five and six on page six should be included in a project status review.

See Bull Run status report.

Our comments concerning the Sullivan Project review refer to Page 4 of that document. The fifth paragraph states, in part, that "A fair number of beaver. . .can be found along the river and arounnd the power plant". The term "fair" is not quantified. We suggest that it be eliminated, so that the statement will be consistent with the rest of the paragraph.

Report modified as suggested. See Section IV.B.(4).

PGE Comments (cont.):

In a simi lar vein. the next paragraph states "A few mallards ." We do not believe the unquantifiable word"few" is necessary. and suggest that the sentence read "Mallards also nest in ."

We appreciate the opportunity to comment on these reviews. If you have any questions please contact Ron Klein at (503) 226-5769.

Sincerely,

Richard M. Sandvik
General Manager
Environmental & Analytical Services

RMS:DEC:slc

Explanations or Modifications (cont.):

Report modified as suggested. See Section IV.B.(4)

Wildlife Mitigation Status Report

CARMEN-SMITH PROJECT

Prepared by:

M. S. Potter
K. L. Bedrossian
R. D. Carleson
J. H. Noyes

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Carmen, Smith River and Trail Bridge Dams and Reservoirs (Carmen-Smith Project)

II. PROJECT OPERATOR

Eugene Water and Electric Board (EWEB)

III. PROJECT DESCRIPTION

A. Location and Size

The Carmen-Smith Project is located on the McKenzie River and its tributary the Smith River, in Lane and Linn counties, Oregon. The McKenzie River is a tributary of the Willamette River. The project is located entirely within the boundary of the Willamette National Forest. The main access to the project is State Highway 126. The Carmen-Smith Project is composed of the Carmen diversion dam and reservoir on the McKenzie River, a diversion tunnel, the Smith River Dam and Reservoir on the Smith River, a power tunnel leading to the Carmen power plant, and the Trail Bridge Dam, Reservoir and power plant on the McKenzie River.

The Carmen diversion dam is an earthfill dike with a crest length of 2,180 feet (EWEB undated, U.S. Federal Power Commission [FPC] 1960, U. S. Forest Service [USFS] undated). The dam is approximately 25 feet high and has an overflow spillway about 75 feet long and 20 feet high (EWEB 1958, FPC 1960). The reservoir has a surface area of 30 acres, and full pool elevation is 2,625 feet (EWEB undated, FPC 1960, USFS undated). The upper extremity of the reservoir is 0.25 mile downstream from Koosah Falls (EWEB undated, 1958; USFS undated). The diverted water flows through a circular, concrete-lined tunnel 9.5 feet in diameter and 11,381 feet long (EWEB undated, USFS undated) and discharges into the forebay of Smith River Dam.

The Smith River Dam is a rock and earthfill dam 218.5 feet high and 1,100 feet long at the crest (EWEB undated, 1958; FPC 1960). Located 1,000 feet above the confluence of Bunchgrass Creek, the reservoir has a full pool elevation of 2,605 feet (EWEB undated, 1958). The dam has a gated, concrete-lined, chute-type spillway (FPC 1960). Smith River Reservoir is approximately 2 miles long and has a surface area of 170 acres (EWEB undated, 1958; USFS 1977, undated). A 7,275-foot long, concrete-lined, horseshoe-shaped pressure tunnel 13 feet 10 inches in diameter conveys water to an underground surge chamber (EWEB undated, USFS undated). The 31-foot diameter surge chamber rises 260 feet above the penstock. That portion of the surge chamber showing above ground is 40 feet in diameter (EWEB undated, USFS undated). The underground penstock is steel lined and embedded in concrete, with a diameter of 12 feet and is 1,284 feet long (EWEB undated, USFS undated). The Carmen powerhouse is a structural steel and asbestos-cement building containing two 40,000 kilowatt Francis-type turbines (EWEB undated, 1958; FPC 1960; USFS undated).

The Trail Bridge Dam on the McKenzie River is a rock and earthfill structure approximately 98 feet high with a crest length of 620 feet (EWEB undated, 1958; FPC 1960; USFS undated). Full pool elevation is 2,092 feet, and the reservoir has a surface area of 73 acres (USFS undated). The dam has a grated, concrete-lined chute spillway and serves as a reregulating dam for the project (FPC 1960). The powerhouse contains one 10,000 kilowatt Kaplan-type turbine (EWEB undated, FPC 1960, USFS undated). Associated with the Carmen-Smith Project is the Carmen substation, a l-mile long transmission line from the Trail Bridge plant to the Carmen substation, and a 19-mile long transmission line from the substation to the Cougar Switchyard (EWEB undated, 1958; FPC 1960). The power plants are operated by remote control from Eugene (EWEB undated).

B. Authorized Purposes

The primary purpose of the project is power generation (D. Hagey, EWEB, pers. commun.). The Trail Bridge Dam and Reservoir reregulate water flows for the project (EWEB undated, FPC 1960).

C. Brief History

Construction of the Cannen-Smith Project began in 1960 and was completed in 1963 (D. Hagey, EWEB, pers. commun.; USFS undated).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The entire flow of the McKenzie River up to about 675 cfs is diverted at Carmen Reservoir. Flows in excess of 675 cfs at Carmen diversion dam are spilled down the old river channel (D. Hagey, EWEB, pers. commun.). During normal years, 2.5 miles of streambed between Carmen diversion dam and Tamolitch Falls is dry from late July through early November (USFS undated; D. Hagey, EWEB, pers. commun.). Carmen Reservoir is held at or above elevation 2,624.5 feet during April through October. Winter elevation may drop below the spillway crest occasionally. Elevation changes are a result of runoff volumes (D. Hagey, EWEB, pers. commun.). Smith Reservoir is operated as a peaking plant. Normal maximum water level during the summer is at elevation 2,604 feet, and normal minimum water level during the winter is at elevation 2,593 feet (D. Hagey, EWEB, pers. commun.). Trail Bridqe Reservoir is operated as a reregulating reservoir (D. Hagey, EWEB, pers. commun.).

(2) Land ownership

The Carmen-Smith Project is located entirely within the boundary of the Willamette National Forest. EWEB operates the project under a "special use contract" with USFS signed in 1959 (D. Hagey, EWEB, pers. commun.).

The project is located within the Oregon Department of Fish and Wildlife's (ODFW) McKenzie Wildlife Management Unit and the Lane Wildlife District of the Northwest Region. ODFW is responsible for the

management of wildlife within the State of Oregon (ODFW 1982) and serves in an advisory capacity to EWEB and the McKenzie District of the Willamette National Forest regarding fish and wildlife impacts at EWEB projects.

(3) Indian rights

No tribes are involved with the actions taken at the Carmen-Smith Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Very little information is available on pre-construction conditions at the project site. No reports containing information specific to the project were found. General information about conditions in Lane and Linn counties can be found in historical documents. Conversations with individuals familiar with the Carmen-Smith area provided some background information.

Aerial photographs of the project before, during and after construction are available from EWEB (D. Hagey, EWEB, pers. commun.). Aerial photographs of the Willamette National Forest are available from the University of Oregon Map Library (S. Trevitt-Clark, University of Oregon, pers. commun.). Photos taken in 1946 of the National Forest are incomplete. Army river surveys conducted in 1944 and 1945 were thorough, and the photographs taken as part of the surveys, as well as lower elevation photographs of the project, are available at the University Library (S. Trevitt-Clark, University of Oregon, pers. commun.).

(2) Conditions

The Carmen-Smith Project is located in the transitional area of the Western Hemlock Zone and Subalpine forests described by Franklin and Dyrness (1973). The Carmen-Smith Project area was essentially undisturbed prior to construction (D. Hagey, EWEB; R. Jubber, ODFW, pers. commun.). The only access into the area was provided by the old "Fish Lake Road". The old trail systems were mainly along ridge tops and provided no access into the Smith River Reservoir area (R. Jubber, ODFW, pers. commun.). Black-tailed deer were seen along the old "Fish Lake Road", and Roosevelt elk sign was found on the ridge between the Smith and McKenzie rivers (R. Jubber, ODFW, pers. commun.). ODFW personnel hiked into the Beaver Marsh area prior to construction of Carmen Dam and made several observations. The marsh was fed by seeps and springs, as well as the McKenzie River. There were numerous birds in the area, including waterfowl. Evidence of duck nesting was observed. Beaver dams were also present in the marsh area (R. Jubber, ODFW, pers. commun.).

Most census work conducted by ODFW personnel was done on foot during the 1950's, which limited surveys (R. Jubber, ODFW, pers. commun.). During the 1970's, a census route was begun along Deer Creek, located south and west of the Carmen-Smith Project (R. Jubber, ODFW, pers. commun.). Blue and ruffed grouse have been observed on portions of this trend route during the late summer from 1980 through 1983 (J. Greer, ODFW, pers. commun.). Restricted access prevented population surveys in the project area.

B. Post-Construction Period

(1) Available information

No reports were found containing information about wildlife or wildlife habitat specific to the Carmen-Smith Project. The Oregon State Game Commission's (OSGC) 1966 report on the fish and wildlife resources of the Upper Willamette Basin addressed only game species in relation to hunting success on a wildlife management unit and county basis (Yutchison et al. 1966). Two reports by Lane County (1975, 1982) provided general descriptions of the upper McKenzie River, a species list, and a summary of habitat significance for wildlife. ODFW's Habitat Protection Plan for Linn County, written in the late 1970's, included wildlife population estimates on a county basis. ODFW compiled wildlife population and habitat estimates by county in 1980. The USFS final environmental statement for the Willamette National Forest multiple use plan (1977) described conditions of the McKenzie Planning Unit, within which the Carmen-Smith Project is located.

ODFW publishes wildlife production inventories, herd composition, trend counts, and harvest data in the Wildlife Division annual report. These data are available by region, county, or wildlife management unit, and are not specific to the project site.

Aerial photographs of the project area taken during and immediately after construction are available from EWEB (D. Hagey, EWEB, pers. commun.). Aerial photographs taken in 1966 and 1978 are available at the University of Oregon Map Library (S. Trevitt-Clark, University of Oregon, pers. commun.).

The followino information is based on the reports mentioned above and on conversations with individuals knowledgeable of the Carmen-Smith Project area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Because pre-construction conditions are not documented, it is difficult to determine wildlife or wildlife habitat losses resulting from construction and operation of the project. "In western Oregon water impoundments are detrimental to big game. Key winter ranges and migration routes normally coincide with reservoir sites. The seasonal altitudinal migrations of deer and elk along streams have been blocked by the construction of impoundments and has caused them to remain at high elevations during the winter." (Hutchison et al. 1966).

Specific wildlife habitat types and the amount of each habitat type affected by the project was not known without conducting a more detailed study. The number of game and nongame animals affected by the project was not provided. The ecological significance of the alteration of wildlife habitat was not evaluated. Information documenting the effects of project construction or operation activities on wildlife was not available.

The amount of marsh habitat lost at the Beaver Marsh site due to Carmen Dan and Reservoir is not known (R. Jubber, ODFW, pers. commun.) and may have been the greatest impact of the project (N. Schaller, USFS, pers. commun.). The entire flow of the McKenzie River up to 675 cfs is diverted at Carmen Reservoir. During the summer months a 2.5 mile section of the river flowing through the Tamolitch Valley is dry (EWEB 1958, USFS 1977). The valley is characterized by lava flows, and river water seeps through the porous lava to form a large, deep pool above Tamolitch Falls. The riverbed apparently dried up to some extent during low flow periods prior to construction (D. Hagey, EWEB, pers. commun.). EWEB is studying water flows within the upper 2 miles of the Tamolitch Valley and probably has the most complete data available (D. Hagey, EWEB, pers. commun.). The affect of the change in flows on wildlife and wildlife habitat has not been evaluated.

Carmen Dam probably had an impact on deer winter range (J. Greer, ODFW, pers. commun.). Smith River Reservoir is located in a deep, V-shaped canyon and for this reason it may not have been used as winter range (E. Harshman, USFS, pers. commun.), and likely did not have much of a riparian zone (J. Greer, ODFW, pers. commun.). However, elk were in the area and Smith River Reservoir would have influenced migration patterns (R. Jubber, ODFW, pers. commun.). The Trail Bridge Reservoir site probably had more riparian habitat prior to inundation (J. Greer, ODFW, pers. commun.). It is located at an intermediate elevation between summer and winter ranges which is characteristic of calving and fawning grounds (J. Greer, ODFW, pers. commun.). Trail Bridge is the most likely of the project's 3 reservoir sites to have been used as winter range. The presence of ceanothus and deciduous trees on the adjacent hillside indicate Trail Bridge is probably suitable winter range (E. Harshman, USFS, pers. commun.). The Carmen-Smith Project resulted in a loss of harlequin duck nesting and brood rearing habitat (D. Skeesick, USFS, pers. commun.). The project has probably affected spotted owl movements in the vicinity, since these birds won't venture across large, open areas (N. Schaller, USFS, pers. commun.). Negative impacts from this project are similar to those of other dams and reservoirs: a reduction in furbearers, some loss of winter range, and an influence on migration routes (R. Jubber, ODFW, pers. commun.).

A considerable mount of logging occurred around the Carmen-Smith Project at the time of construction, and the associated logging roads opened up the area to human access (D. Hagey, EWEB, pers. commun.). Highway 126 was built at the same time as the project. The combination of adjacent logging and increased human access has probably had as much or more impact on big game than the project itself (J. Greer, ODFW; D. Hagey, EWEB, pers. commun.). Harassment of wildlife within the McKenzie Planning Unit was viewed as an increasing problem as more roads and

trails were constructed, and as hunting pressure on big game also increased (USFS 1977). The Carmen-Smith Project removed from timber and wildlife production those areas inundated by the 3 reservoirs. The effect of Highway 126 on water sources above Beaver Marsh and Carmen Reservoir, and the resulting influence on water flows, is not known (R. Jubber, ODFW, pers. commun.).

(3) Benefits

No documentation was found of wildlife or wildlife habitat benefits resulting from the Carmen-Smith Project. The project may have created more migratory bird resting areas (R. Jubber, ODFW, pers. commun.). An increase in diving ducks and mallards has been noted at Carmen Reservoir (D. Hagey, EWEB, pers. commun.).

(4) Additional information

The Willamette National Forest is characterized by two major forest climax types, the western hemlock zone and mountain hemlock zone. These zones are characterized by western red cedar, Douglas fir, rhododendron, salal, vine maple, Oregon grape, twin-flower, violet, Prince's-pine and sword fern in the western hemlock zone; and mountain hemlock, Pacific silver fir, other true fir, western white pine, huckleberry and beargrass in the mountain hemlock zone (USFS 1977). The slopes around the reservoirs are heavily timbered. The slopes at Smith River Reservoir are steep and heavily timbered, predominantly by second growth Douglas fir forests (USFS 1977).

Information about wildlife species present and population estimates are available on a county, river sub-basin and USFS planning unit basis (Hutchison et al. 1966; Lane County 1975, 1978; ODFW files; USFS 1977).

Deer use the entire project area (N. Schaller, USFS, pers. commun.), and winter in the Trail Bridge Reservoir vicinity (D. Hagey, EWEB, pers. commun.). A resident herd of about 20 elk is located in the Carmen Reservoir and Tamolitch Valley area (D. Hagey, EWEB; N. Schaller, USFS, pers. commun.). An elk herd from Smith Ridge travels down along Smith River Reservoir to winter near Trail Bridge, and another herd of elk moves up Bunchgrass Creek in the spring and summer (N. Schaller, USFS, pers. commun.). Other big game associated with the Carmen-Smith Project are black bear and cougar (D. Hagey, EWES, pers. commun.).

Furbearers are infrequently seen at the Carmen-Smith Project (N. Schaller, USFS, pers. commun.). Aquatic furbearers, most commonly beaver, are found in the marsh habitat adjacent to Carmen Reservoir (J. Greer, ODFW; D. Hagey, EWEB, pers. commun.). Beaver ponds occur above Smith River Reservoir on Smith Ridge (J. Greer, ODFW, pers. commun.). Otter, short-tailed weasel and mink occur at Trail Bridge (D. Hagey, EWEB, pers. commun.).

Mountain quail, blue grouse and ruffed grouse are likely to occur at the project (J. Greer, ODFW, pers. commun.). The reservoirs receive limited use by waterfowl (N. Schaller, USFS, pers. commun.). Bufflehead,

merganser and mallard are the most common species found at the reservoirs (N. Schaller, USFS, pers. commun.). A wintering population of diving ducks use Trail Bridge Reservoir. Harlequin ducks, scaups and occasionally snow geese have been observed (D. Hagey, EWEB, pers. commun.). The marsh area adjacent to Carmen Reservoir is used by mallards, scaups, buffleheads, harlequin ducks and mergansers (D. Hagey, EWEB, pers. commun.). Harlequin ducks nest on the river above Trail Bridge Reservoir (N. Schaller, USFS, pers. commun.).

ODFW has classified the northern spotted owl as "threatened" in Oregon. One pair of spotted owls is located between Smith River and Trail Bridge reservoirs (E. Harshman, N. Schaller, USFS, pers. commun.). This pair is one of 100 pair for which the Willamette National Forest is managing. One or 2 adult owls and young owls have been observed at this location (E. Harshman, USFS, pers. commun.).

Osprey make considerable use of the project reservoirs (N. Schaller, USFS; C. Bruce, ODFW, pers. commun.). An active osprey nest is located on the flats south of Tamolitch Falls near the old highway, 2 miles below Carmen Reservoir (D. Hagey, EWEB; N. Schaller, USFS, pers. commun.). An osprey is seen regularly at Smith River Reservoir (N. Schaller, USFS, pers. commun.), and osprey have been sighted at Trail Bridge Reservoir (D. Hagey, EWEB, pers. commun.).

There have been occasional sightings of bald eagles at Trail Bridge in March and April. No roosts or nests are known to be associated with the Carmen-Smith Project, although the potential is there for bald eagle use (N. Schaller, USFS, pers. commun.). The overall effect dams have on bald eagle populations is not clear. Eagles may have benefited by construction of reservoirs if a greater year-round fish prey base occurred as a result (W. Haight, ODFW, pers. commun.). Eagles may have been adversely affected by dams because of increased human disturbance or reductions in anadromous fish runs.

Pileated woodpeckers occur in old growth timber associated with the project, and great blue herons are occasionally sighted foraging at the project. Red-tailed hawks have been observed near Carmen Reservoir. Although no nests have been located, red-tailed hawks probably nest at the site (N. Schaller, USFS, pers. commun.).

Carmen, Smith River and Trail Bridge reservoirs receive moderate to heavy angling pressure for trout (Hutchison et al. 1966). Picnic and overnight comping areas have been constructed and are maintained by USFS at all 3 project reservoirs. Boat launchings are provided at all 3 reservoirs. The parks are well used, particularly at Trail Bridge. As many as 50-60 campers at a time use Trail Bridge campground during the summer. Fishing, and hiking the McKenzie Trail through the Tamolitch Valley attract people to the reservoirs and project vicinity (N. Schaller, USFS, pers. commun.).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

At the present time, no plans have been requested or proposed for wildlife mitigation to directly offset impacts to wildlife or wildlife habitat as a result of the Carmen-Smith Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

FPC had the authority to grant licenses to hydroelectric projects meeting the requirements of the Federal Water Power Act whenever a substantial portion of the project land was owned or controlled by the United States, as was the case at Carmen-Smith.

Section 10(a) of the Federal Water Power Act required as a license condition that the project in the judgement of FPC "will be best adapted to a comprehensive plan. ..for the improvement and utilization of water-power development, and for other beneficial public uses, including recreational purposes.'

USFS and EWEB cooperated in the planning and construction of recreational facilities at the project's 3 reservoirs. Additional information on compliance with Federal Energy Regulatory Commission (FERC) requirements was not located.

(2) Oregon Water Resources Department requirements

Appropriation and use of water for power is controlled by Chapter 543, Hydroelectric Power Projects, Oregon Revised Statutes (ORS). The Water Policy Review Board "shall have due regard for conserving the highest use of water for all purposes, including . ..protection of... game fishing and wildlife..." when determining whether a project would impair or be detrimental to the public interest. The State Water Resources Board study of 1958 concluded that the McKenzie River between river mile 76.9 and 84.5, including the Smith River and Bunchgrass Creek, should be utilized for production of hydroelectric power. ORS 543.150 indicates ORS 543.010 to 543.610 (covering hearing, licensing, and financing procedures) shall not apply to cities, towns or other municipal corporations of this state.

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife, fish and game...". The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with U.S. Fish and Wildlife Service (USFWS) and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Projects were required to contain adequate provisions for "conservation, maintenance, and management of wildlife, resources

thereof, and its habitat thereon," consistent with primary project purposes. This Act was named FWCA on 12 August 1958, at which time an amendement was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The Carmen-Smith Project was required to comply with FWCA, including the 1958 amendment, as a condition of the licensing procedure. The FPC was responsible for soliciting comments on the license application from state and federal agencies and determined whether or not the requirements of FWCA were met (J. Leach, FERC, pers. commun.).

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring agencies to consult with the Department of the Interior to ensure that actions not jeopardize any threatened or endangered species. Since there have been no additions or major changes to the Carmen-Smith Project, no impact assessments or mitigation measures have been mandated during the operational history of the dam.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife or wildlife habitat mitigation.

EWEB and USFS have a cooperative wildlife enhancement plan for the transmission line right-of-way on the McKenzie Ranger District of the Willanette National Forest (USFS 1964).

C. Mitigation Implemented

No records were found of wildlife or wildlife habitat protection, mitigation, or enhancement at the Carmen-Smith Project.

VI. CURRENT STUDIES AND PLANNING

No studies or planning for wildlife or wildlife habitat protection, mitigation, or enhancement are currently in progress specifically at the Carmen-Smith Project.

The Carmen-Smith Project is included in several USFS management categories explained in the Willanette National Forest Multiple Use Plan (1977). Trail Bridge and Carmen reservoirs will be managed under the Scenic Influence I guidelines, where emphasis is placed on the maintenance of scenic values. Slopes adjacent to Trail Bridge and Carmen are under Scenic Influence I management. Visitors to these reservoirs can expect to see evidence of timber management activities and road construction. Smith River Reservoir is managed under Scenic Influence II guidelines, where management activities may be evident to the public, but most activities remain subordinate to the characteristic landscape. The Tamolitch Valley Special Interest Area extends from

Tamolitch Falls to the base of Carmen Reservoir. The valley was formed by lava flows and features lava tubes and tree casts. The McKenzie River Trail is located along the Tamolitch Valley floor and provides the primary access to the area. The management plan addresses spotted owls and indicates studies will continue to determine population levels, home range and specific needs. Spotted owl habitat will be substantially retained for the next 10 years, but may decrease after this period. The management plan also provides for adequate snag habitat to maintain a population of cavity-dwelling wildlife (USFS 1977).

EWEB and USFS have a cooperative wildlife enhancement plan (USFS 1964) for the transmission line right-of-way. The plan calls for 1) planting grass and legumes to provide supplemental winter forage for deer and elk and year-round forage for upland and nongame birds, 2) planting redstem ceanothus to supplement big game winter forage, and 3) leaving fallen logs to provide nesting, courting and cover habitat for small game and nongame wildlife. This plan is being implemented and the right-of-way is receiving heavy use by deer and some use by elk (N. Schaller, USFS, pers. commun.). EWEB intends to do maintenance of the right-of-way habitat improvements at 5- to 10-year intervals (N. Schaller, USFS, pers. commun.).

VII. REFERENCES CITED

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Mary Potter
Karen Bedrossian
Dan Carleson
Jim Noyes

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

D. Hagey

(2) Summary of Project Operator Contacts

Date	Individual	Summary
14 Feb. 1984	D. Hagey	Initiation of consultation and coordination.
02 April 1984	D. Hagey	Phone. Discussed project and type of information needed.
02 May 1984	D. Hagey	Phone. Arranged for tour of project.
17 May 1984	D. Hagey	Phone. Confirmed arrangements for meeting.
18 May 1984	D. Hagey	Meeting. Observed project site and discussed current conditions.
22 June 1984	D. Hagey	Draft report submitted to EWEB for informal review.
27 June 1984	D. Hagey	Phone. Discussed draft reports.
28 June 1984	D. Hagey	Informal comments on draft reports received.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife
- C. Bruce
- D. Cleary
- J. Greer
- R. Jubber

U. S. Forest Service
- E. Harshman
- N. Schaller
- D. Skeesick

Other
- J. Leach, Federal Energy Regulatory Commission
- S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 5 JULY 1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (USFWS and USFS)

BPA requested comments on the 5 July 1984 Carmen-Smith draft report by 6 August 1984. Comments by USFS were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

(3) Tribes

No tribes are involved with the actions taken at the Carmen-Smith Project.

(4) Facility Operator (EWEB)

BPA requested comments on the 5 July 1984 Carmen-Smith draft report by 6 August 1984. Comments by EWEB were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife
506 SW MILL STREET P 0 BOX 3503 PORTLAND OREGON 97208

August 2, 1984

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.D. Box 3621
Portland, OR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Carmen-Smith Project Wildlife Mitigation Status Report and our attached comments on that report indicate, comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomolished. This is not intended to be an indictment of anv agencv or Eugene Water and Electric Board (EWEB). Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources. the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular. we should proceed to make an assessment of impacts in order to determine the level of mitigation needed for wildlife resources at the Carmen-Smith Project. The Department is prepared to take the lead in this endeavor upon approval and funding by the Council and Bonneville Power Administration using: 1) the expertise of blologists from various agencies and EWEB; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildllfe habitat impacts at the Carmen-Smith Project.

Sincerely,

for R F Rousseau

John R. Donaldson, PhD
Director

JRD:kp

Encl.

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Carmen-Smith Project
2 August 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration, dated 17 July 1984 to review the Mitigation Status Report for the Carmen-Smith Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2 To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . ." This goal has yet to be achieved at the Carmen-Smith Project.

The Carmen-Smith Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction of the dams was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Carmen-Smith Project, it is necessary to determine what impacts occurred. Upon the approval of and funding by the Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Carmen-Smith Project. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

Eugene Water and Electric Board (EWEB) and appropriate agencies involved in the Carmen-Smith Project, is of course, and integral part of both of these processes. We believe that a workable loss estimate and mitigation plan can be developed based on existing information and the expertise of biologists from EWEB and the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has improved since the time of construction of the Carmen-Smith Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunlty to correct past misunderstanding and shorsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner. .

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

AUG 2 0 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

LLOYD 500 BUILDING SUITE 1692
500 N.E. MULTNOMAH STREET
PORTLAND OREGON 97232

August 14, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 17, 1984, we have reviewed the Wildlife Mitigation Status Report for the Carmen-Smith Project (the Project). The following comments are being provided for inclusion in the final report.

General Comments

We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project.

Based on the report's content, it is evident that the construction and operation of the Project has resulted in substantial adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate the adverse wildlife impacts attributable to the Project.

The Service has the necessary expertise and would like to participate in both the impact evaluation and mitigation plan development tasks.

Specific Comments

A comprehensive evaluation of the Project's impact on wildlife resources should be conducted by a team of qualified biologists composed of representatives from appropriate state and federal resource agencies and private development interests. These include the Oregon Department of Fish

Explanations or Modifications:

No explanations or report modifications necessary.

USFWS Comments (cont.):

and Wildlife, U.S. Forest Service, Bureau of Land Management, Fish and Wildlife Service, and the Eugene Water and Electric Board. We suggest the evaluation be habitat based and supported by population data when available. We believe that such an evaluation could be accomplished with a minimum of new data collection by: 1) analyzing the existing data referenced in the status report such as pre- and post-construction photography; and 2) consulting with professional wildlife biologists familiar with the area's wildlife resources as they existed prior to project construction. The evaluation's results should be presented in an impact assessment report.

Utilizing the results from the aforementioned impact statement, we believe that the same team of biologists, with assistance from their agencys' respective habitat specialists, should develop a mitigation plan. The plan, if implemented, would be designed to fully compensate the adverse wildlife impacts identified.

In conclusion, we believe no single user group is responsible for the adverse wildlife impacts which have resulted from the development and operation of the Carmen-Smith Project. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Carmen-Smith Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

Gary F. Watson

for James W. Teeter
Acting Assistant Regional Director
Habitat Resources

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

Wildlife Mitigation Status Report

LEABURG PROJECT

Prepared by:

M. S. Potter
K. L. Bedrossian
R. D. Carleson
J. H. Noyes

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Leaburg Project

II. PROJECT OPERATOR

Eugene Water and Electric Board (EWEB)

III. PROJECT DESCRIPTION

A. Location and Size

The Leaburg Project is located in Lane County, Oregon, on the McKenzie River, a tributary of the Willamette River. Leaburg Dan is approximately 28 miles, and Leaburg powerhouse 23 miles, east of the Eugene-Springfield metropolitan area (EWEB 1964). Main access to the project, situated near the town of Leaburg, is provided by State Highway 126. The project is composed of a dam, canal, forebay, penstocks, powerhouse, and substation.

The dam is a reinforced concrete and steel structure, approximately 450 feet long and 20 feet high. The dam is equipped with three 100 by 9 foot roller gates, with sluice-way and intake gates which partially divert water from the McKenzie River. The diverted water enters a 14-foot-deep cut and filled unlined canal leading to the powerplant forebay. From the forebay, the water flows through 2 reinforced concrete pipe penstocks 8 feet in diameter and 250 feet long. Water for power production drops with a head of 89 feet from the forebay through 2 Francis turbines rated 6,000 and 7,000 kilowatts, respectively. The Leaburg powerhouse is a reinforced concrete structure 32 feet wide, 82 feet long, and 40 feet high. Water is returned to the McKenzie River through a 500-foot-long tailrace channel (EWEB 1964, Federal Power Commission [FPC] 1968).

B. Authorized Purposes

The primary purpose of the project is power generation (D. Hagey, EWEB, pers. commun.).

C. Brief History

Exploratory drilling for the project began March 1927, and construction commenced 9 June 1928. Provision had been made for the installation of 2 units, but only 1 was installed. On 6 January 1930, the Leaburg powerplant went into operation with a rated capacity of 6,000 kilowatts. A second unit, with a rated capacity of 7,000 kilowatts, was placed in operation 17 January 1950. Canal improvements were made at that time to provide for the additional flow required by the enlarged plant capacity (EWEB 1964, FPC 1968).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The powerplant is operated as a baseload, or run-of-river project (EWEB 1964). Under normal operating conditions, 2,500 cfs are diverted from the McKenzie River at the Leaburg Dan, with the balance of flow continuing down the main river channel (EWEB 1964). Large water fluctuations occurred in portions of the McKenzie River when Walterville and Leaburg canals diverted water for power peaking operations (Hutchison et al. 1966). The project is no longer operated for peak load (D. Hagey, EWEB, pers. commun.).

Leaburg Lake elevation is maintained at 742 feet (EWEB 1964). The pool, which has silted in, extends upriver to a point approximately 200 yards downstrean from Goodpasture covered bridge (D. Hagey, EWEB, pers. commun.).

The unlined canal is approximately 14 feet deep. Beginning in 1972, the project has been shut down between mid-March and the first of June for the protection of salmon smolts. The water level of the canal drops approximately 1 foot during this period (D. Hagey, EWEB, pers. commun.).

(2) Land ownership

No federal lands are involved with the project (FPC 1968). Approximately 271 acres of land were purchased by EWEB for the Leaburg Project. Associated with the dam and lake is the 55-acre Water Board park, constructed and maintained by EWEB (EWEB 1964).

The Leaburg Project is located within the Oregon Department of Fish and Wildlife's (ODFW) McKenzie Wildlife Management Unit and the Lane Wildlife District of the Northwest Region. ODFW is responsible for the management of wildlife within the State of Oregon (ODFW 1982) and serves in an advisory capacity to EWEB regarding fish and wildlife impacts at EWEB projects.

(3) Indian rights

No tribes are involved with the actions taken at the Leaburg Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Very little information was available on pre-construction conditions at the project site. General information about the wildlife species present in the Oregon Territory was found in journals written by early explorers and settlers. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

No information was located regarding pre-construction conditions specific to the project site. The Leaburg Project is located in the transitional area of the Willamette Valley and the Western Hemlock Zone described by Franklin and Dyrness (1973). The first settlers in the upper Willamette Valley arrived in 1845 (Clark 1927). In 1862 the McKenzie Wagon Road Company was formed to construct a route east over the Cascade Range by way of McKenzie Pass (Beckham et al. 1981). Walterville, Leaburg and Vida emerged as small communities along the McKenzie River wagon road (Beckham et al. 1981). Farming attracted settlers into Lane County, and by the 1870's the good bottomlands and meadows were mostly claimed. Records indicate the McKenzie River was used extensively to float great quantities of logs to the Coburg and Willanette River sawmills during the late 19th century (FPC 1968).

B. Post-Construction Period

(1) Available information

No reports were found containing information about wildlife or wildlife habitat specific to the Leaburg Project. The Oregon State Game Commission's (OSGC) 1966 report (Hutchison et al. 1966) on the fish and wildlife resources of the Upper Willamette Basin addressed game species in relation to hunting success on a wildlife management unit and county basis. ODFW compiled wildlife population and habitat estimates by county in 1980. A species list and habitat information are provided in the Lane County Planning Department's 1982 working paper on flora and fauna.

ODFW publishes wildlife production inventories, herd composition, trend counts, and harvest data in the Wildlife Division annual report. These data are available by region, county, or wildlife management unit and are not specific to the project site.

Aerial photographs of the project area dating back to the 1940's are available from the University of Oregon Map Library. More recent aerial photographs available at the University were taken in 1968, and possibly 1976. The project area is included in high altitude photographs taken in 1982 (S. Trevitt-Clark, University of Oregon, pers. commun.). The most recent aerial photographs on file at EWEB were taken in the mid-1960's. Photographs of construction procedures at the Leaburg Project are also available at EWEB (D. Hagey, EWEB, pers. commun.).

The following information is based on the reports previously mentioned and on conversations with individuals knowledgeable of the Leaburg Project area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Because pre-construction conditions are not documented, it is difficult to determine wildlife and wildlife habitat losses resulting from construction and operation of the project. The Leaburg Canal is

probably a barrier to access of the river and bottomlands for deer and other wildlife (R. Jubber, ODFW; D. Skeesick, pers. commun.). The OSGC and Fish Commission of Oregon cited the partial restriction of animal movement in the project vicinity because of the canal as one item in their 1965 petition to intervene in the FPC licensing procedure for the Leaburg Project (ODFW files).

Animal losses in the canal have been noted. Deer entering the canal have usually been chased by dogs or coyotes (J. Greer, ODFW; D. Hagey, R. Lewis, EWEB, pers. commun.), and the infrequent losses are not considered a major problem (J. Greer, ODFW, pers. commun.). During a 4-year period at the Leaburg Project, no deer losses occurred in the canal. One fawn was found at the headgate and released (R. Lewis, EWEB, pers. commun.).

Approximately 75 acres of bottomland habitat have been flooded by the canal and removed from wildlife use (D. Hagey, EWEB; D. Skeesick, pers. commun.). Homesteads, human disturbance, and dogs have probably had more impact on wildlife in the project area than the canals (R. Jubber, ODFW; D. Hagey, EWEB, pers. canmun.).

Specific wildlife habitat types and the amount of each habitat type affected by the project was not known without conducting a more detailed study. The number of game and nongame animals affected by the project was not provided. The ecological significance of the alteration of wildlife habitat was not evaluated. Information documenting the effects of project construction or operation activities on wildlife was not available.

(3) Benefits

The canal may have increased the nunber of aquatic furbearers in the project area (R. Jubber, ODFW, pers. commun.), although use of the canal by furbearers is limited (J. Greer, ODFW, pers. commun.).

(4) Additional information

In 1966 when OSGC assessed fish and wildlife in the Upper Willamette River Basin, game populations were believed to be the largest in history (Hutchison et al. 1966). Black-tailed deer populations had increased sharply because of extensive logging and controlled harvest.

Upland game birds of the basin included blue and ruffed grouse, mountain and California quail, bobwhite, and ring-necked pheasant. Wintering goose populations in the basin were considered stable and several species of ducks commonly nested in the basin. River otter, beaver, muskrat, fisher and marten populations had declined, primarily from loss or degradation of habitat (Hutchison et al. 1966). The OSGC basin report was not specific to the project site.

ODFW wildlife population and habitat estimates for Lane County compiled in 1980 indicated there were approximately 22 deer, 35 California quail, 62 ring-necked pheasant, and 16 ruffed grouse per square mile of habitat. Peak migration populations were estimated at 6,000 mallards

and 400 Canada geese within the county. The 1980 figures also include estimated furbearer populations and the occurrence of nongame wildlife in Lane County. Estimates were not specific to the Leaburg Project area.

Lane County Planning Department (1982) provides a checklist of mammals, amphibians and reptiles occurring in the county. Over 305 species of birds exist in the county, according to the working paper.

ODFW conducts no deer census route in the vicinity of the project (J. Greer, ODFW, pers. commun.). Timber stands north and south of Leaburg now provide large blocks of cover for deer (J. Greer, ODFW, pers. commun.).

Five elk have been sighted on the hill to the north of the powerplant forebay (D. Hagey, EWEB, pers. commun.). Beaver, muskrat, weasel, raccoon, and oppossum occur at the project. River otter and mink are in the project vicinity (D. Hagey, EWEB, pers. commun.). California quail, ring-necked pheasant and possibly ruffed grouse may be found at the project (J. Greer, ODFW, pers. commun.). Approximately 40 wild ducks winter at Leaburg Lake (D. Hagey, EWEB, pers. commun.). The most common species of wild ducks at the lake include scaup, canvasback, redhead, and mallard (J. Greer, ODFW, pers. commun.). There are also 50-100 resident ducks of wild and domestic cross breeding (J. Greer, ODFW; D. Hagey, EWEB, pers. commun.). A bald eagle was seen feeding at Leaburg Lake during early spring of 1983 and 1984, but its nest location is unknown (J. Greer, ODFW, pers. commun.). In addition to the occasional bald eagle seen at Leaburg Lake, there are osprey in the area nesting along the McKenzie River. No osprey are known to nest at the lake (D. Hagey, EWEB, pers. commun.). Great blue heron and belted kingfisher are seen at the lake and along the river (D. Hagey, EWEB, pers. commun.).

Associated with the project is the 55-acre Water Board Park. Owned and maintained by EWEB, the park is for day-use only. The park can accommodate parking for 100 cars and has 2 docks and a boat landing ramp. Leaburg Lake is popular with sport fishermen, who use both row boats and smaller outboard powered craft. Approximately 50,000 persons visited the park in 1963 (EWEB 1964).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed.

No wildlife mitigation, enhancement or protection measures have been requested or proposed to directly offset impacts to wildlife or wildlife habitat as a result of the Leaburg Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The 1920 Federal Water Power Act provides for cooperation between the Federal Power Commission (FPC) and other federal agencies in the

investigation of proposed power projects and for other agencies to provide information to the FPC upon request. The Act also indicates all licensed projects must be "best adapted to a comprehensive plan for the improvement and utilization of water-power development, and for other beneficial uses, including recreational purposes..." Exhibit R, Project Recreation Plan, of the 1964 application for license addressed the potential of recreation development at Leaburg Lake.

(2) Oregon Water Resources Department requirements

Appropriation and use of water for power is controlled by Chapter 543, Hydroelectric Power Projects, Oregon Revised Statutes. The Water Policy Review Board "shall have due regard for conserving the highest use of water for all purposes, including... protection of... game fishing and wildlife..." when determining whether a project would impair or be detrimental to the public interest. ORS 543.120 requires water projects begun or constructed after 26 February 1931 to conform with the provisions of Chapter 543. The Leaburg Project was completed prior to this date.

(3) FWCA proceedings

The predecessor act to the Fish and Wildlife Coordination Act (FWCA) was passed in 1934, four years after completion of the Leaburg Project. The Act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by the U.S. Fish and Wildlife Service and state agencies, and costs for these measures were to be made an integral part of the project costs. Major modifications to the project occurred prior to 1958. The National Environmental Policy Act (NEPA) was passed in 1969, and the Endangered Species Act was adopted in 1973.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No records were found of wildlife or wildlife habitat mitigation implemented at the Leaburg project.

VI. CURRENT STUDIES AND PLANNING

There are no wildlife or wildlife habitat mitigation studies in progress at the project (D. Hagey, EWEB, pers. commun.).

The Lane County Summary of the Lower McKenzie Subarea Plan (1975) acknowledges the EWEB facilities are presently unalterable features of the landscape. The Lane County Planning Division recommends consideration of wildlife needs in land use planning, including the

limitation of development in the McKenzie Subarea to the valley floor, reservation of the upland forest areas for timber production, and watershed and wildlife protection.

ODFW is currently developing several wildlife management plans including management objectives for big game in the McKenzie Wildlife Management Unit, a statewide nongame plan, and a cooperative waterfowl management plan for the Willamette Valley.

VII. REFERENCES CITED

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Eugene Water and Electric Board. 1964. Before the Federal Power Commission, application for license for constructed major project. Leaburg Project. paging various.

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Mary Potter
Karen Bedrossian
Dan Carleson
Jim Noyes

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

D. Hagey
R. Lewis

(2) Summary of Project Operator Contacts

Date	Individual	Summary
14 Feb. 1984	D. Hagey	Initiation of consultation and coordination.
02 April 1984	D. Hagey	Phone. Discussed project and type of information needed.
02 May 1984	D. Hagey	Phone. Arranged for tour of project.
17 May 1984	D. Hagey	Phone. Confirmed arrangements for meeting.
18 May 1984	D. Hagey	Meeting. Observed project site and discussed current conditions.
22 June 1984	D. Hagey	Draft reports submitted to EWEB for informal review.
27 June 1984	D. Hagey	Phone. Discussed draft reports.
28 June 1984	D. Hagey	Received informal comments from EWEB on draft report.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

C. Bruce
D. Cleary
J. Greer
R. Jubber

Other

D. Skeesick, biologist
S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 3 JULY1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (USFWS)

(3) Tribes

No tribes are involved with the actions taken at the Leaburg Project.

(4) Facility Operator (EWEB)

BPA requested comments on the 3 July 1984 Leaburg draft report by 6 August 1984. Comments by EWEB were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife
506 S.W. MILL STREET, P.O. BOX 3503, PORTLAND, OREGON 97208

August 2, 1984

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Leaburg Project Wildlife Mitigation Status Report and our attached comments on that report indicate, comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency or Eugene Water and Electric Board (EWEB). Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we should proceed to make an assessment of impacts in order to determine the level of mitigation needed for wildlife resources at the Leaburg Project. The Department is prepared to take the lead in this endeavor upon approval and funding by the Council and Bonneville Power Administration using: 1) the expertise of biologists from various agencies and EWEB; 2) existing data where possible: and 3) cost effective methods.

The first step toward accomplishing the goals o the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildl fe and wildlife habitat impacts at the Leaburg Project.

Sincerely,

John R. Donaldson, PhD
Director

JRD:kp

Encl.

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Leaburg Project
2 August 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration dated 17 July 1984 to review the Mitigation Status Report for the Leaburg Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act dnd Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . ," This goal has yet to be achieved at the Leaburg Project.

The Leaburg Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction of the dams was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the tyes and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no miti ation measures have been lmplemented to offset impacts to wildlife rerulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Leaburg Project, it is necessary to determine what impacts occurred. Although the Leaburg Project has not been given as high a priority for wildlife mitigation by ODFW as the Corps' main stem Columbia River and Willamette Basin projects, this project should not be disregarded without conducting a loss estimate to determine the impacts of the project on wildlife resources. Upon approval of and funding by the

Explanations or Modifications (cont.):

No expldndtions or report modifications necessary.

ODFW Comments (cont.,):

Council and Bonneville Power Admistration the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Leaburg Project. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with Eugene Water and Electric Board (EWEB) and appropriate agencies involved in the Leaburg Project is, of course, an integral part of both of these processes.

The level of understanding of our wildlife resources has improved since the time of construction of the Leaburg Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

AUG 2 0 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

[illegible]
[illegible]
PORTLAND, OREGON 97232

August 14, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 17, 1984, we have reviewed the Wildlife Mitigation Status Report for the Leaburg Project (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it appears that the construction and operation of the Project probably resulted in adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate adverse wildlife impacts attributable to the Project.

In conclusion, we believe no single agency or user group is responsible for the adverse wildlife impacts which may have resulted from the development and operation of the Leaburg Project. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Leaburg Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife Program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

for James W. Teeter
Acting Assistant Regional Director
Habitat Resources

Explanations or Modifications:

No explanations or report modifications necessary.

Wildlife Mitigation Status Report

WALTERVILLE PROJECT

Prepared by:

M. S. Potter
K. L. Bedrossian
R. D. Carleson
J. H. Noyes

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Walterville Project

II. PROJECT OPERATOR

Eugene Water and Electric Board (EWEB)

III. PROJECT DESCRIPTION

A. Location and Size

The Walterville Project is located in Lane County, Oregon, on the McKenzie River, a tributary of the Willanette River. The canal intake is approximately 17 miles, and the powerhouse 13 miles, east of the Eugene-Springfield metropolitan area (EWEB 1964). Main access to the project, situated near the town of Walterville, is provided by State Highway 126. The project is composed of a headworks, canal, storage pond, forebay, forebay headworks, penstock and automated powerhouse.

The 4-mile long, 14-foot deep canal is controlled by a headworks structure containing two 14 by 20 foot tainter gates (Federal Power Commission [FPC] 1967). Water from the McKenzie River is diverted by gravity without the use of a dam or river obstruction (EWEB 1964). The cut and fill unlined canal originates on the right bank of the McKenzie River and flows westerly into the forebay (EWEB 1964, FPC 1967). Located approximately 3 miles below the intake on the right bank of the canal is a pump storage pond averaging 6 feet in depth, with a surface area of 65 acres and capacity of 345 acre-feet (EWEB 1964, FPC 1967). Four pmps fill the pond with water from the canal. Discharge from the pond is controlled by two 4 by 20 foot radial gates (EWEB 1964, FPC 1967). The forebay headworks contains a 20 by 22 foot radial gate which controls the flow of water through a 16.5 by 16.5 foot penstock and siphon bypass (EWEB 1964, FPC 1967). The reinforced concrete, rectangular penstock is approximately 130 feet long (EWEB 1964). Water for power production drops with a head of 55 feet through an 8,000 kilowatt Kaplan turbine at the powerhouse (EWEB 1964, FPC 1967). The powerhouse is a structural steel building with a substructure of reinforced concrete. The station is fully automatic and controlled from the dispatcher's office in Eugene (EWEB 1964). An outdoor substation operated by remote control is associated with the project (EWEB 1964). Water is returned to the McKenzie River through a 2-mile long tailrace, part of which is an old meander channel of the river (EWEB 1964).

B. Authorized Purposes

The primary purpose of the project is power generation (D. Hagey, EWEB, pers. commun.).

C. Brief History

Construction began in 1909 by the City of Eugene. The project was completed in March 1911 and placed under the control of the Eugene Water Board. At that time, the project consisted of a 4-mile long canal and

2 Francis turbines with a combined capacity of 1,500 kilowatts (EWEB 1964). In 1924 a third unit was added to the project and the capacity was increased to 3,050 kilowatts (EWEB 1964, FPC 1967). Reconstruction of the project began in 1948, at which time the canal was widened and deepened, and a new powerhouse was constructed. These alterations raised the water level of the forebay by 3 feet, the tailrace water level was lowered about 2 feet, and the headworks was improved to reduce head loss (EWEB 1964). A new 8,000 kilowatt automatic Kaplan unit was installed in the powerhouse, and the present plant went into operation on 3 December 1949 (EWEB 1964, FPC 1967). The 65-acre off-peak storage basin and pumps were constructed during 1951 and 1952 (EWEB 1964, FPC 1967).

0. Other Pertinent Data

(1) Water level fluctuation and timing

The power plant is presently operated as a baseload, or run-of-river project (EWEB 1964). Under normal operating conditions, 2,575 cfs are diverted from the McKenzie River into the canal, with the balance of flow continuing down the main river channel (EWEB 1964). Large water fluctuations occurred in portions of the McKenzie River when Walterville and Leaburg canals diverted water for power peaking operations (Hutchison et al. 1966). The project is no longer operated for peak load (0. Hagey, EWEB, pers. canmun.). The water level in the canal remains constant except during the summer months when it may decrease 1 foot (0. Hagey, EWEB, pers. commun.).

The storage pond is operated independently of the river flow. Water is stored at a maximum level of 8 feet above the operating level of the canal at the point where water from the pond enters the canal (EWEB 1964). The pond is fed by Jameson Creek and the canal (D. Hagey, EWEB, pers. commun.). Originally designed to provide for daily peak load, the pump storage pond has not been operated in this manner for 17 years (D. Hagey, EWEB, pers. commun.).

(2) Land ownership

No federal lands are involved with the project (FPC 1967). Approximately 385 acres of land were purchased by EWEB for the project (EWEB 1964).

The Walterville Project is located within the Oregon Department of Fish and Wildlife's (ODFW) McKenzie Wildlife Management Unit, and the Lane Wildlife District of the Northwest Region. ODFW is responsible for the management of wildlife within the State of Oregon (ODFW 1982) and serves in an advisory capacity to EWEB regarding fish and wildlife impacts at EWEB projects.

(3) Indian rights

No tribes are involved with the actions taken at the Walterville Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSUENTS

A. Pre-Construction Period

(1) Available information

Very little information was available on pre-construction conditions at the project site. General information about the wildlife species present in the Oregon territory was found in journals written by early explorers and settlers. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

No information was located regarding pre-construction conditions specific to the project site. The Walterville Project is located in the transitional area of the Willanette Valley and the Western Hemlock Zone described by Franklin and Dyrness (1973). The first settlers in the upper Willanette Valley arrived in 1845 (Clark 1927). In 1862 the McKenzie Wagon Road Company was formed to construct a route east over the Cascade Range by way of McKenzie Pass (Beckham et al. 1981). Walterville, Leaburg and Vida emerged as small communities along the McKenzie River wagon road (Beckham et al. 1981). Farming attracted settlers into Lane County, and by the 1870's the good bottomlands and meadows were mostly claimed. Records indicated the McKenzie River was used extensively to float great quantities of logs to the Coburg and Willamette River sawmills during the late 19th century (FPC 1967). Prior to construction in 1952, the site of the storage pond was a farm field and barnyard (D. Hagey, EWEB, pers. commun.).

B. Post-Construction Period

(1) Available information

No reports were found containing information about wildlife or wildlife habitat specific to the Walterville Project. The Oregon State Game Commission's (OSGC) 1966 report (Hutchison et al. 1966) on the fish and wildlife resources of the Upper Willamette Basin addressed game species in relation to hunting success on a wildlife management unit and county basis. ODFW compiled wildlife population and habitat estimates by county in 1980. A species list and habitat information are provided in the Lane County Planning Department's 1982 working paper on flora and fauna.

ODFW publishes wildlife production inventories, herd composition, trend counts, and harvest data in the Wildlife Division annual report. These data are available by region, county, or wildlife management unit. The information is not specific to the project site.

Aerial photographs of the project area dating back to the 1940's are available from the University of Oregon map library. More recent aerial photographs available at the University were taken in 1968, and possibly 1976. The project area is included in high altitude photographs taken

in 1982 (S. Trevitt-Clark, University of Oregon, pers. commun.). The most recent aerial photographs on file at EWEB were taken in the mid-1960's (D. Hagey, EWEB, pers. commun.).

The following information is based on the reports previously mentioned and conversations with individuals knowledgeable of the Walterville Project area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Because pre-construction conditions were not documented, it is difficult to determine wildlife or wildlife habitat losses resulting from construction and operation of the project. The Walterville Canal is probably a barrier to access of the river and bottomlands for deer and other wildlife (R. Jubber, ODFW; D. Skeesick, pers. commun.). In their 1965 petition to intervene in the FPC licensing procedure for the Walterville Project, the OSGC and Fish Commission of Oregon listed the partial restriction of animal movement in the project vicinity because of the canal (ODFW files).

Animal losses in the canal have been noted. Because the canal banks are left in a natural state, animals entering the canal can usually escape. Once animals reach the concrete-lined portion of canal at the powerhouse they have no footing to escape, and as many as 10 deer in 2 years have been found on the screen at the Walterville powerhouse (R. Lewis, EWEB, pers. commun.). Deer entering the canal have usually been chased by dogs or coyotes (J. Greer, ODFW; D. Hagey, R. Lewis, EWEB, pers. commun.). The losses are not considered a major problem (J. Greer, ODFW, pers. commun.).

Approximately 75 acres of bottomland habitat have been flooded by the canal and removed from wildlife use (D. Hagey, EWEB; D. Skeesick, pers. commun.). Homesteads, human disturbance, and dogs have probably had more impact on wildlife in the project area than the canals (R. Jubber, ODFW; D. Hagey, EWEB, pers. commun.).

Specific wildlife habitat types and the amount of each habitat type affected by the project was not known without conducting a more detailed study. The number of game and nongame animals affected by the project was not provided. The ecological significance of the alteration of wildlife habitat was not evaluated. Information documenting the effects of project construction or operation activities on wildlife was not available.

(3) Benefits

The canal may have increased the number of aquatic furbearers in the project area (R. Jubber, ODFW pers. commun.). although use of the canal by beaver, nutria and muskrat is limited (J. Greer, ODFW, pers. commun.).

A flock of Canada geese wintering in the vicinity of Walterville Pond has been increasing over the years and over 100 geese have been observed

in a wheat field adjacent to the pond D. Hagey, EWEB, pers. commun.). Waterfowl use of the pond has not been documented; however, migrating waterfowl can be found at the pond, particularly in the marshy portion (D. Hagey, EWEB, pers. commun.).

A bald eagle was observed roosting on a snag near the storage pond. At one time the pond was used to rear chinook salmon and it has been stocked with warm-water game fish, which may provide a food base for bald eagles (D. Hagey, EWEB, pers. commun.).

(4) Additional information

In 1966 when OSGC assessed fish and wildlife in the Upper Willamette River Basin, game populations were believed to be the largest in history (Hutchison et al. 1966). Black-tailed deer populations had increased sharply because of extensive logging and controlled harvest. Upland game birds of the basin included blue and ruffed grouse, mountain and California quail, bobwhite, and ring-necked pheasant. Wintering goose populations in the basin were considered stable and several species of ducks commonly nested in the basin. River otter, beaver, muskrat, fisher and marten populations had declined, primarily from loss or degradation of habitat (Hutchison et al. 1966). The OSGC basin report is not specific to the project site.

ODFW wildlife population and habitat estimates for Lane County compiled in 1980 indicated there were approximately 22 deer, 35 California quail, 62 ring-necked pheasant and 16 ruffed grouse per square mile of habitat. ODFW biologists estimated 30 square miles of nesting habitat for mallards in Lane County. Peak migration populations were estimated at 6,000 mallards and 400 Canada geese. The 1980 figures also included estimated furbearer populations and the occurrence of nongame wildlife in the county. None of the 1980 estimates were specific to the Walterville Project.

Lane County Planning Department (1982) provides a checklist of mammals, amphibians and reptiles occurring in the county. Over 305 species of birds exist in the county, according to the working paper.

ODFW conducts no deer census routes in the vicinity of the project (J. Greer, ODFW, pers. commun.). Agricultural bottomland and timber stands on private lands to the north of the Walterville Project provide forage and cover for deer (J. Greer, ODFW, pers. commun.). California quail, ring-necked pheasant, and ruffed grouse can be found at the project (J. Greer, ODFW; 0. Hagey, EWEB, pers. commun.).

The portion of the tailrace occupying the river meander channel is virtually unchanged from its original state (D. Hagey, EWEB, pers. commun.). EWEB conducts no chemical spraying on project lands. No maintenance is performed on the canal except for the removal of small trees growing within the canal, and mowing of the canal bank roads once or twice each summer (D. Hagey, EWEB, pers. commun.).

Walterville Pond is popular with fishermen, particularly in the spring (J. Greer, ODFW; D. Hagey, EWEB, pers. commun.). Parking is provided at

the pond, and a locked gate prevents vehicle access beyond the parking area. The project is open to public use, and attracts blackberry pickers and waterfowl hunters, in addition to fishermen (D. Hagey, EWEB, pers. commun.).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

No wildlife mitigation, enhancement or protection measures have been requested or proposed to directly offset impacts to wildlife or wildlife habitat as a result of the Walterville Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The 1920 Federal Water Power Act was approved 9 years after completion of the Walterville Project. The Act provides for cooperation between the Federal Power Commission (FPC) and other federal agencies in the investigation of proposed power projects and for other agencies to provide information to the FPC upon request. The Act also indicates all licensed projects must be "best adapted to a comprehensive plan for the improvement and utilization of water-power development, and for other beneficial uses, including recreational purposes...."

Exhibit R, Project Recreation Plan, of the 1964 application for license addressed the potential for recreation development at Walterville.

(2) Oregon Water Resources Department requirements

Appropriation and use of water for power is controlled by Chapter 543, Hydroelectric Power Projects, Oregon Revised Statutes. The Water Policy Review Board "shall have due regard for conserving the highest use of water for all purposes, including... protection of... game fishing and wildlife..." when determining whether a project would impair or be detrimental to the public interest. ORS 543.120 requires water projects begun or constructed after 26 February 1931 to conform with the provisions of Chapter 543. The Walterville Project was completed prior to this date.

(3) FWCA proceedings

The predecessor act to the Fish and Wildlife Coordination Act (FWCA) was passed in 1934, over 20 years after completion of the Walterville Project. The Act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by the U.S. Fish and Wildlife Service and state agencies, and costs for these measures were to be made an integral part of the project costs. Major modifications to the project and construction of the storage pond occurred prior to 1958. The National

Environmental Policy Act (NEPA) was passed in 1969, and the Endangered Species Act was adopted in 1973.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No records were found of wildlife or wildlife habitat mitigation implemented at the Walterville Project.

VI. CURRENT STUDIES AND PLANNING

There are no wildlife mitigation studies in progress at the project (D. Hagey, EWEB, pers. commun.).

The Lane County summary of the Lower McKenzie subarea plan (1975) acknowledges the EWEB facilities are presently unalterable features of the landscape. The Lane County Planning Division recommends consideration of wildlife needs in land use planning, including the limitation of development in the McKenzie Subarea to the valley floor, reservation of the upland forest areas for timber production, and watershed and wildlife protection.

ODFW is currently developing several wildlife management plans including management objectives for big game in the McKenzie Wildlife Management Unit, a statewide nongame plan, and a cooperative waterfowl management plan for the Willamette Valley.

VI I. REFERENCES CITED

Beckham, S.D., R. Minor, and K. A. Toepel. 1981. Prehistory and history of BLM lands in west-central Oregon: A cultural resource overview. 350pp.

Clark, R.C. 1927. History of the Willamette Valley. 888pp.

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Hutchison, J. J., K.E. Thompson, and J. D. Fortune. 1966. The fish and wildlife resources of the Upper Willamette Basin, Oregon, and their water requirements. Oregon State Game Commission, Basin Investigations Section. unpubl. rep. paging various.

Lane County Department of Environmental Management, Planning Division. 1975. Summary Lower McKenzie Subarea Plan. 33pp.

Lane County Planning Department. 1982. Working paper: flora and fauna. Comprehensive Plan Revision. Lane County, Oreg. Draft report. 39PP.

Oregon Department of Fish and Wildlife. 1982. 1981-82 Oregon Wildlife and Commercial Fishing Codes. 125pp.

A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Mary Potter
Karen Bedrossian
Dan Carleson
Jim Noyes

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

D. Hagey
R. Lewis

(2) Summary of Project Operator Contacts

Date	Individual	Summary
14 February 1984	D. Hagey	Initiation of consultation and coordination.
02 April 1984	D. Hagey	Phone. Discussed project and type of information needed.
02 May 1984	D. Hagey	Phone. Arranged for tour of project.
17 May 1984	D. Hagey	Phone. Confirmed arrangements for meeting.
18 May 1984	D. Hagey R. Lewis, Walterville	Meeting. Observed project site and discussed current conditions.
22 June 1984	D. Hagey	Draft reports submitted to EWEB for informal review.
27 June 1984	D. Hagey	Phone. Discussed draft reports.
28 June 1984	D. Hagey	Received informal comments from EWEB on draft report.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife
- C. Bruce
- D. Cleary
- J. Greer
- R. Jubber

Other
- D. Skeesick, biologist
- S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 5 JULY1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (USFWS)

(3) Tribes

No tribes are involved with the actions taken at the Walterville Project.

(4) Facility Operator (EWEB)

BPA requested comments on the 5 July 1984 Walterville draft report by 6 August 1984. Comments by EWEB were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife
506 S.W. MILL STREET, P.O. BOX 3503, PORTLAND, OREGON 97208

Augus 2, 1984

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Walterville Project Wildlife Mitigation Status Report and our attached comments on that report indicate, comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished. This is not intended to be an indictment of any agency or Eugene Water and Electric Board (EWEB). Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we should proceed to make an assessment of impacts in order to determine if mitigation of wildlife resources is needed at the Walterville Project. The Department is prepared to take the lead in this endeavor upon approval and funding by the Council and Bonneville Power Administration using: 1) the expertise of biologists from various agencies and EWEB; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at the Walterville Project.

Sincerely,

John R. Donaldson, PhD
Director

JRD:aj
Encl.

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Walterville Project
2 August 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer. Bonneville Power Administration dated 17 July 1984 to review the Mitigation Status Report for the Walterville Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife.'

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . .".

The Waltervllle Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction of the facilities was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Walterville Project, it is necessary to determine what impacts occurred. Although the Walterville Project has not been given as high a priority for wildlife mitigation by ODFW as the Corps' main stem Columbia River and Willamette Basin projects, this project should not be disregarded without conducting a loss estimate to determine the impacts of project on the wildlife resources. Upon approval of and funding by the

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Walterville Project. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with Eugene Water and Electric Board (EWEB and appropriate agencies involved in the Walterville Project is, of course,an integral part of both of these processes.

The level of understanding of our wildlife resources has improved since the time of construction of the Walterville Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

Explanations or Modifications:

AUG 2 0 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

August 14, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 17, 1984, we have reviewed the Wildlife Mitigation Status Report for the Walterville Project (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it appears that the construction and operation of the Project probably resulted in adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate adverse wildlife impacts attributable to the Project.

In conclusion, we believe no single agency or user group is responsible for the adverse wildlife impacts which may have resulted from the development and operation of the Walterville Project. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Walterville Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife Program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

for James W. Teeter
Acting Assistant Regional Director
Habitat Resources

No explanations or report modifications necessary.

Wildlife Mitigation Status Report

POWERDALE PROJECT

Prepared by:

M. S. Potter
K. L. Bedrossian
R. D. Carleson
J. H. Noyes

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Powerdale Project

II. PROJECT OPERATOR

Pacific Power and Light Company (PP&L)

III. PROJECT DESCRIPTION

A. Location and Size

The Powerdale project is located on the Hood River in Hood River County, Oregon, near the town of Hood River. The project is located at river mile 4.5 (Oregon State Game Commission [OSGC] 1963) and consists of a diversion dam, power canal, flume, power conduit, surge tank, and powerhouse.

The Powerdale dam is a low, concrete diversion structure 206 feet long and 11 feet high (PP&L 1969a, 1969b). The crest of the dam includes a 58-foot free-overflow section, and 2 steel rolling gates. Three piers, approximately 40 feet high, support the gear racks and hoisting equipment for the rolling gates. Earth wing dams extend to the grade at each end of the main dam. A pond with an area of approximately 1 acre (PP&L 1969b) at elevation 292 feet (PP&L 1969a) is formed behind the dam, but provides no useable storage capacity (Federal Energy Regulatory Commission [FERC] 1980). The 15,875 foot long power conduit has a maximum capacity of 500 cfs, and consists of a concrete-lined canal, a wood flume, a concrete settling basin, and alternating sections of wood-stave and steel pipe varying in diameter from approximately 8 feet to 10 feet. The pipe crosses the Hood River on a steel truss bridge. The lower end of the wood stave pipeline is a 40-foot Venturi section, followed by a 74-foot long penstock approximately 8 feet in diameter. A surge tank 207 feet high and 28 feet in diameter is connected midway to the penstock. The concrete powerhouse contains 1 Francis turbine rated at 6,000 kilowatts, with a maximum capacity of 6,600 kilowatts (FERC 1980; PP&L 1969a, 1969b).

B. Authorized Purposes

The purpose of the Powerdale project is power production (E. Weiss, PP&L, pers. commun.).

C. Brief History

The project was constructed during 1922 and 1923 using hand labor and teams, and a steam donkey engine. The Powerdale project went into service 10 May 1923 and was considered the largest power development since Portland General Electric's Bull Run project (Dierdorff 1971). The Powerdale project was first licensed by FERC on 14 March 1980 (PP&L files).

D. Other Pertinent Data

(1) Water level fluctuation and timing

Powerdale is a run-of-the-river project (FERC 1980) with no storage and negligible pondage (PP&L 1969b). The portion of river flow diverted fluctuates with the natural stream flow so that established minimum stream flows may be maintained (E. Weiss, PP&L, pers. commun.).

(2) Land ownership

No federal lands are involved with the project (PP&L 1969b). No information was found regarding acreage of the project.

The project is located within the Oregon Department of Fish and Wildlife's (ODFW) Hood Wildlife Management Unit, and the Columbia Wildlife District of the Central Region. ODFW is responsible for the management of wildlife within the State of Oregon (ODFW 1982) and serves in an advisory capacity to PP&L regarding fish and wildlife impacts at PP&L projects.

(3) Indian rights

No tribes are involved with the actions taken at the Powerdale Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Very little information is available on pre-construction conditions. General information about the wildlife species present in the Oregon territory can be found in journals written by the early explorers and settlers. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The Hood River flows through a steep, narrow canyon and is nearly inaccessible between the dam and powerhouse (PP&L 1969b). The canyon rises 400-500 feet above the river then levels to form plateaus on each side of the canyon (J. Beck, ODFW, pers. commun.). The river channel below the dam is fairly wide and flat, composed primarily of rubble and boulders (OSGC 1963). Vegetation in the canyon is characteristic of western Oregon trees and shrubs, and includes oak, pine, fir, and alder (J. Beck, ODFW, pers. commun.).

Settlers arrived in the Hood River area in the late 1800's and planted orchards, experimenting with a variety of fruit crops (Hood River County Historical Society 1982). The plateau farmlands adjacent to the Hood River canyon were probably not yet developed at the time the Powerdale project was constructed (J. Beck, ODFW, pers. commun.).

B. Post-Construction Period

(1) Available information

No reports were found containing information about wildlife or wildlife habitat specific to the Powerdale project. The 1963 OSGC report on the fish and wildlife resources of the Hood Basin addressed only game species in relation to hunting success. In 1978, ODFW investigated the wildlife resources of the central valley planning unit, Hood River Valley (Beck 1978). ODFW compiled wildlife population and habitat estimates for Hood River County in 1980.

Aerial photographs of the project area are available from the University of Oregon Map Library. The earliest photographs were taken in 1953, and the most recent were taken in 1980 (S. Trevitt-Clark, University of Oregon, pers. commun.).

ODFW publishes wildlife production inventories, herd composition, trend counts, and harvest data in the Wildlife Division annual report. These data are available by region, county, or wildlife management unit.

The following information is based on the reports previously mentioned and conversations with individuals knowledgeable of the Powerdale project area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Because pre-construction conditions are not well documented, it is difficult to determine what wildlife or wildlife habitat impacts resulted from construction and operation of the project.

In 1969, OSGC and the Fish Commission of Oregon (FCO) jointly filed a petition to intervene in the FERC licensing procedure for the Powerdale Project because of anadromous fish passage concerns. At that time, OSGC and FCO noted the project was not known to interfere with terrestrial wildlife (OSGC and FCO 1969). The U.S. Fish and Wildlife Service (USFWS) indicated operation of the project had not affected wildlife resources significantly (FERC 1980). Construction of the project created some amount of disturbance and wildlife habitat was removed at the dam and powerhouse sites; however, the Powerdale project made little alteration in the area (J. Beck, ODFW, pers. commun.). Wildlife movement and access to the river may be inhibited by the fenced canal and ground level sections of the flume and conduit.

(3) Benefits

No documentation was found regarding wildlife or wildlife habitat benefits resulting from construction and operation of the project.

The water conduit has widened the riparian zone because of leakage, providing an additional water source otherwise not available (J. Beck, ODFW, pers. cofnmun.). PP&L is replacing the wooden stave section of the

conduit with steel conduit, which will eliminate leakage when completed (E. Weiss, PP&L, pers. commun.).

Approximately 423 acres of PP&L lands not required for project operation are associated with the Powerdale project. This property is primarily river bank extending from the Interstate Highway 84 bridge crossing almost to the town of Dee. Included in the PP&L property is a 110 acre tract of timber. The property is in an unmanaged state and provides habitat for wildlife. PP&L has resisted pressure to develop this property and would like ODFW to purchase or acquire easement of the property upstream from the dam (E. Weiss, PP&L; R. Scherzinger, ODFW, pers. commun.).

(4) Additional information

OSGC (1963) indicated a lack of wildlife habitat which could support high game concentrations in the Hood River Basin. The basin is unique in that it contains a large population of black-tailed deer normally found only west of the Cascade Summit. Black-tailed deer are the major big game species of the basin, and small herds of elk may be found on the east and west side of the Hood River valley. Black bear occur in the basin. Game bird numbers are generally low in the Hood River valley due to a high human population density and agricultural practices, such as heavy pesticide use. Pheasant and California quail are the predominant upland game birds in the valley. Band-tailed pigeons provide some hunting in localized areas of the Hood River valley. Western gray squirrels are present in limited numbers. Beaver, mink, otter and muskrat are the primary furbearer species in the valley. None of the above information is specific to the project site. ODFW's 1978 report on wildlife resources of the Central Valley planning unit of the Hood River valley contains general wildlife information (Beck 1978). This report describes the general habitat types found in the planning unit and explains their significance for wildlife. The report also includes a list of species occurring in the planning unit and makes recommendations for habitat protection policies. Riparian habitat has critical value for upland game birds, waterfowl and songbirds, and is used extensively by big game (Beck 1978). Furbearers use the streams and streamside habitat for denning, rearing of young, and foraging (Beck 1978). ODFW's 1980 wildlife population and habitat estimates for Hood River County provided approximate numbers of game mammals, furbearers, and game birds per square mile of habitat. Nesting and wintering populations of waterfowl were also estimated, and the occurrence of nongame wildlife within the county was indicated.

The wildlife values of the project area are mainly for nongame species (J. Beck, ODFW, pers. commun.). Resident black-tailed deer use the Hood River canyon in the project vicinity. Beaver, mink, and river otter can be found in the vicinity of the project. Harlequin duck broods are observed on the river between the dam and powerhouse (J. Beck, ODFW, pers. commun.).

Major floods in recent years have changed the river channel in some areas, causing the channel to meander during high water levels. Since

construction of the Powerdale project, the adjacent plateaus have been developed for housing and orchards have been planted (J. Beck, ODFW, pers. canmun.).

Public fishing use is heavy at the dam and powerhouse. A parking lot next to the river downstrem from the dam and a trail beside the river provide access to 3-4 fishing areas. Anglers must hike in to fish the 2-3 sites below the Powerdale powerhouse. Heaviest public use occurs at the time of steelhead runs in the Hood River during the winter and spring; however, little disturbance occurs to wildlife, since use of the project area is localized at the few sites mentioned above (J. Beck, ODFW, pers. commun.).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

At the present time, no plans have been requested or proposed for wildlife mitigation to directly offset impacts to wildlife or wildlife habitat as a result of the Powerdale project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The Federal Water Power Act was approved in 1920. The Act indicates all licensed projects must be "best adopted to a comprehensive plan for the improvement and utilization of water-power development, and for other beneficial uses, including recreational purposes. . ."

PP&L has provided fishing access to the Hood River at the project site and maintains a small day-use area. The 1980 FERC license (No. 2659) addresses recreation potential at the project.

(2) Oregon Water Resources Department requirements

Appropriation and use of water for power is controlled by Chapter 543, Hydroelectric Power Projects, Oregon Revised Statutes. ORS 543.120 requires water projects begun or constructed after 26 February 1931 to conform with the provisions of Chapter 543. The Powerdale project was completed in 1923.

(3) FWCA proceedings

The predecessor act to the Fish and Wildlife Coordination Act (FWCA) was passed in 1934, 11 years after completion of the Powerdale project. The Act was named FWCA on 12 August 1958, at which time an anendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by the USFWS and state agencies, and costs for these measures were to be made an integral part of the project costs. No modifications have been made to the Powerdale project since 1923. The National

Environmental Policy Act (NEPA) was passed in 1969, and the Endangered Species Act was adopted in 1973.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife or wildlife habitat mitigation.

C. Mitigation Implemented

No records were found of wildlife or wildlife habitat protection, mitigation, or enhancement at the Powerdale project.

VI. CURRENT STUDIES AND PLANNING

No studies or planning for wildlife or wildlife habitat protection, mitigation, or enhancement are currently in progress at the Powerdale project.

ODFW is currently developing several wildlife management plans, including a statewide nongame plan. Management objectives for deer and elk in the Hood Wildlife Management Unit have been adopted by the Oregon Fish and Wildlife Commission.

VII. REFERENCES CITED

Beck, J. 1978. A wildlife resources report for the central valley planning unit, Hood River Valley. Oregon Department of Fish and Wildlife. The Dalles, Oreg. unpubl. rep. 13pp + append.

Dierdorff, J. 1971. How Edison's lamp helped light the west, the story of Pacific Power and Light Co. and it's pioneer forebearers. 313pp.

Federal Energy Regulatory Commission. 1980. Order issuing license (major), project no. 2659, Powerdale project, Pacific Power and Light Co. paging various.

Hood River County Historical Society. 1982. History of Hood River County, Oregon. 1852-1982. 558pp.

Oregon Department of Fish and Wildlife. 1982. 1981-82 Oregon Wildlife and Commercial Fishing Codes. 125pp.

Oregon State Game Commission. 1963. The fish and wildlife resources of the Hood Basin, Oregon, and their water use requirements. unpubl. rep. 2Opp.

Oregon State Game Commission and Fish Commission of Oregon. 1969. Petition for leave to intervene. In the matter of the Pacific Power and Light Company in its license application for Powerdale hydroelectric project, Oregon, Project no. 2659, Before the Federal Power Commission. 3pp.

Pacific Power and Light Co. 1969a. Notice of application for license for constructed project, Project no. 2659, Before the Federal Power Commission. 2pp.

Pacific Power and Light Co. 1969b. Before the Federal Power Commission, application for license, Project no. 2659, Powerdale project. paging various.

A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Mary Potter
Karen Bedrossian
Dan Carleson
Jim Noyes

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

E. Weiss

(2) Summary of Project Operator Contacts

Date	Individual	Summary
12 March 1984	E. Weiss	Initiation of consultation and coordination.
16 April 1984	E. Weiss	Phone. Requested information.
3 May 1984	E. Weiss	Provided information. Discussed availability of project information.
15 May 1984	E. Weiss	Phone. Provided information.
16 May 1984	E. Weiss	Provided information.
03 July 1984	E. Weiss	Submitted draft report to PP&L for informal review.
06 July 1984	E. Weiss	Phone. Discussed draft report.
10 July 1984	E. Weiss	Phone. Discussed draft report and provided information.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

J. Beck
R. Scherzinger

Other

S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 12 JULY1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (USFWS)

(3) Tribes

No tribes are involved with the actions taken at the Powerdale Project.

(4) Facility Operator (PP&L)

BPA requested comments on the 12 July 1984 Powerdale draft report by 14 August 1984. Comments by PP&L were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife

506 SW MILL STREET. PO BOX 3503. PORTLANO.OREGON 97208

August 2, 1984

Mr. John R. Palensky, Dlrector
Division Of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish dnd Wildlife (ODFW) has high expectations of the Northwest Power planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Powerdale Project Wildlife Mitigation Status Report and our attached comments on that report indicate, a comprehentlve evaluation of wildlife resource impacts was not conducted. No documentation was found of wildlife mitigation, enhancement, or protectlon measures implemented to offset wildlife resource losses resulting from the project. This is not intended to be an indictment of any agency or Pacific Power and Light (PP&L). Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protectlon, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responslblllties to address a broad range of concerns, I urge the participating parties to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In consideration of this goal, ODFW recommends that an assessment of impacts at Powerdale in order to determine if mitigation of wildlife resources is needed, not be conducted until such activities have been accomplished at higher priority projects in the State of Oreyon.

Sincerely,

for R.R. Russell

John R. Donaldson, PhD
Director

JRD:aj
Encl.

No explandtlons or report modifications necessary.

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ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Powerdale Project
2 August 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration, dated 24 July 1984 to review the Mitigation Status Report for the Powerdale Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . ."

The Powerdale Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction of the project was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Powerdale Project, it is necessary to determine what impacts occurred. Although the Powerdale Project has not been given a high priority for wildlife mitigation by ODFW, this project should not be disregarded without conducting a loss estimate to determine the impacts of the project on wildlife resources. Upon approval of and funding by the the Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Powerdale Project. The Department is also ready to take

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

the lead In developing mitigation plans if needed. Consultation and coordination with Pacific Power and Light (PP&L) and appropriate agencies Involved in the Powerdale Project, is of course, an integral part of both of theses processes.

The level of understanding of our wildlife resources has improved since the time of construction of the Powerdale Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective. and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

AUG 20 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

[illegible] BUILDING SUITE [illegible]
[illegible] NE MULTNOMAH STREET
PORTLAND OREGON 97232

August 14, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 24, 1984, we have reviewed the Wildlife Mitigation Status Report for the Powerdale Project (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it is evident that the construction and operation of the Project probably resulted in only minor adverse impacts to wildlife resources. There appears to be little need to address species of interest to our agency. The Oregon Department of Fish and Wildlife may wish to pursue further action, in which case we would be supportive but not actively involved in such efforts.

Sincerely yours,

for James W. Teeter
Acting Assistant Regional Director
Habitat Resources

Explanations or Modifications:

No explanations or report modifications necessary.

Wildlife Mitigation Status Report

BEND PROJECT

Prepared by:

J. H. Noyes
K. L. Bedrossian
R. D. Carleson
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Bend Project

II. PROJECT OPERATOR

Pacific Power and Light Company (PP&L)

III. PROJECT DESCRIPTION

A. Location and Size

The Bend Project is located on the Deschutes River (river mile 166), in Deschutes County, within the city limits of Bend, Oregon (Colbert and Young 1969, PP&L 1967). A timber-crib spillway dam 250 feet long and 14 feet high extends across the main channel of the river. A concrete wing wall (150 feet long) connects the spillway dam to the powerhouse, which is located in a secondary channel of the river (PP&L 1967). Power is generated by 3 turbine units operating under approximately 16 feet of head and possessing a generating capacity of 1,110 kilowatts (Federal Power Commission [FPC] 1922, PP&L 1967). The reservoir formed by the dam (Mirror Pond) is approximately 1 mile long and encompasses 40 acres of surface area.

B. Authorized Purposes

The purpose of the Bend Project is hydroelectric power generation (E. Weiss, PP&L, pers. commun.).

C. Brief History

The Bend Project was constructed in 1913 by Bend Water, Light, and Power Company, who initially filed a water rights claim for power purposes in 1908 (FPC 1922, PP&L files). In addition to the 200-kilowatt turbine-generator unit installed at the time of construction, other units were added in 1916 (350 kilowatts) and 1917 (560 kilowatts) (PP&L 1967, Colbert and Young 1969). The project was first licensed (No. 2643) on 20 March 1970, with a license expiration date of 31 December 1993 (PP&L files).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The Bend Project is operated as a run-of-the-river plant (FPC 1970).

(2) Land ownership

Approximately 60% of the reservoir shoreline is bordered by Drake Park, owned by the City of Bend (FPC 1970). The park occupies approximately 5 blocks and 11 acres along the river, and receives heavy public use (Bend City Planning Commission 1958). Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife (not including

domestic waterfowl) within the project area, located in ODFW's Central Region, Deschutes Wildlife District.

(3) Indian rights

No tribes are involved with the actions taken at the Bend Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

No information on pre-construction project conditions was available from reports, project files, historical records, or conversations with individuals knowledgeable of the area. No assessments of predicted impacts on wildlife were found.

(2) Conditions

No information was available.

B. Post-Construction Period

(1) Available information

No published information was found that addressed wildlife resources specific to the project area. No information on wildlife impact assessments was found. The following information primarily is based on conversations with ODFW wildlife biologists familiar with the area. Additional or more detailed information was not available without conducting further research beyond the scope of this review.

(2) Losses

Specific wildlife habitat types and the amount of each habitat type affected by the project was not known without conducting a more detailed study. The number of game and nongame animals affected by the project was not provided. The ecological significance of the alteration of wildlife habitat was not evaluated. Information documenting the effects of project construction or operation activities on wildlife was not available.

(3) Benefits

The pond created by the dam appears to have increased populations of furbearers and waterfowl (N. Behrens, ODFW, pers. commun.). Beaver, mink, and river otter populations are large in the project area. As a result, furbearer damage occurs on adjacent lands. ODFW receives approximately 5-10 furbearer damage complaints per year within the project area (N. Behrens, ODFW, pers. commun.).

In addition to a resident population of ducks and geese, migrant waterfowl use Mirror Pond. Ducks currently nest on islands and larger

hummocks and in vegetation along the reservoir shoreline (N. Behrens, ODFW, pers. commun.).

(4) Additional information

ODFW cooperates with the City of Bend in designating the project area around Drake Park as a wildlife refuge area and signs are posted accordingly. Furbearer trapping to control damage is allowed with special permits, but little trapping actually occurs (N. Behrens, ODFW, pers. commun.).

The City of Bend is presently dredging the forebay for silt removal, but not within 6 feet of the shoreline (N. Behrens, ODFW pers. commun.).

ODFW conducts an annual winter waterfowl survey along the Deschutes River that includes the Mirror Pond area. ODFW also does a breeding bird survey on the Deschutes River several miles upstream of the project; the habitat surveyed is similar to that found in the project area and species observed are probably representative of those that occur at the Bend Project (N. Behrens, ODFW, pers. commun.). Christmas bird counts have included the Mirror Pond area (T. Crabtree, Audubon Society, pers. commun.).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

At the present time, no plans have been proposed for wildlife mitigation to directly offset impacts to wildlife as a result of the Bend Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The Bend Project was constructed prior to passage of the Federal Water Power Act in 1920 and was not licensed until 1970. Three articles of the FPC license issued in 1970 refer to wildlife, either directly or indirectly. Article 5 states that FPC may control the operations of the Licensee "... in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes..."

Article 6 requires the Licensee to permit the United States or its designated agency to use project lands in order to construct fish and wildlife facilities or to improve existing fish and wildlife facilities. Also, the Licensee "... shall modify the project operation as may be prescribed by the Commission, reasonably consistent with the primary purpose of the project, in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved..."

Article 14 states the Licensee shall consult and cooperate with fish and wildlife agencies to conserve and develop fish and wildlife resources, and "... shall make such reasonable modifications of the project

structures and operations for fish and wildlife . . . as may be ordered by the Commission..."

(2) Oregon Water Resources Department requirements

The Bend Project was constructed prior to passage of the Hydroelectric Act (ORS 543.225) in 1931.

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed in 1934, 21 years after construction of the Bend Project. The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that agencies consult with the Department of the Interior to ensure that actions not jeopardize any threatened or endangered species. Since there have been no recent additions or major changes to the Bend Project, no impact assessments or mitigation measures have been mandated during the operational history of the project.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No wildlife mitigation, enhancement, or protection measures of which ODFW or PP&L personnel were aware have been implemented at the Bend Project (N. Behrens, ODFW; E. Weiss, PP&L, pers. commun.).

VI. CURRENT STUDIES AND PLANNING

No studies or planning are currently being conducted for wildlife mitigation at the Bend Project (N. Behrens, ODFW; E. Weiss, PP&L, pers. commun.). ODFW is currently developing a statewide nongame plan which could affect wildlife/habitat management in the Bend Project area.

VII. REFERENCES CITED

Bend City Planning Commission. 1958. Parks and recreation, Bend, Oregon. 65 pp.

Colbert, J. L., and L. L. Young. 1969. Review of waterpower classifications and withdrawals, Deschutes River Basin, Oregon. U.S. Geological Survey, Conservation Division. Portland, Oreg. 169 pp.

Federal Power Commission. 1922. Report to the Federal Power Commission on uses of Deschutes River, Oregon. U.S. Gov. Printing Office, Wash. D.C. 90 pp.

_____. 1970. Order issuing license (minor). 7 pp.

Pacific Power and Light Company. 1967. Application for license for the Bend hydroelectric project, constructed minor project on the Deschutes River, State of Oregon. Portland, Oreg. 5 pp.

A P P E N D I C E S

APPENDIX A

STUDY TM

Oregon Department of Fish and Wildlife
- Jim Noyes
- Karen Bedrossian
- Dan Carleson
- Mary Potter

U.S. Fish and Wildlife Service
- Dick Giger
- Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

E. Weiss

(2) Summary of Project Operator Contacts

Date	Individual	Summary
19 March 1984	E. Weiss	D. Carleson sent letter to PP&L providing information and requesting contacts.
03 May 1984	E. Weiss	Phone. Requested project information.
14 May 1984	E. Weiss	Meeting. Obtained brief description of project.
19 June 1984	E. Weiss	Phone. Obtained information.
27 June 1984	E. Weiss	Letter. Requested comments on informal draft report.
06 July 1984	E. Weiss	Phone. Received comments on informal draft report.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife
- N. Behrens
- C. Bruce

Other
- D. Buell, Oregon Water Resources Department
- T. Crabtree, Audubon Society

APPENDIX C

COMMENTS ON 12 JULY 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS)

(3) Tribes

No tribes are involved with the actions taken at the Bend Project

(4) Facility Operator (PP&L)

BPA requested comments on the 12 July 1984 Bend Project draft report by 14 August 1984. Comments by PP&L were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife

506 SW MILL STREET PO BOX 3503, PORTLAND OREGON 97208

August 2, 1984

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Port land, OR 97208

Attention Mr. James Meyer:

Tne Oregon Department of Fish and Wildlife (ODFW) has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

Q-10

As the Bend Project Wildlife Mitigation Status Report and our attached comments on that report indicate, a comprehensive evaluation of wildllfe resource impacts was not conducted. No documentation was found of wildlife mitigation, enhancement, or protection measures implemented to offset wildlife resource losses resulting from the project. This is not intended to be an indictment of any agency or Pacific Power and Light (PP&L). Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife population and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating parties to move forward in implementing the wildlife Program of the Northwest Power Planning Council. In consideration of this goal, ODFW recommends that an assessment of impacts at the Bend Project in order to determine if mitigation of wildlife resources is needed, not be conducted until such activities have been accomplished at higher priority projects in the State of Oregon.

Sincerely,

John R. Donaldson, PhD
Director

JRD:aj
Encl.

No explanations or report modifications necessary

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Bend Project
2 August 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration, dated 24 July 1984 to review the Mitigation Status Report for the Bend Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . ."

The Bend Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction of the project was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Bend Project, it is necessary to determine what impacts occurred. Although the Bend Project has not been given a high priority for wildlife mitigation by ODFW, this project should not be disregarded without conducting a loss estimate to determine the impacts of the project on wildlife resources. Upon approval of and funding by the Council

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Bend Project. The Department is also ready to take the lead in developing mitigation plans if needed. Consultation and coordination with Pacific Power and Light (PP&L) and appropriate agencies involved in the Bend Project is, of course, an integral part of both of these processes.

The level of understanding of our wildlife resources has improved since the time of construction of the Bend Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

AUG 2 0 '984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

[illegible]

August 14, 1984

Mr. Joan Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: [illegible]
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky,

As requested in Mr. Meyer's letter of July 24, 1984, we have reviewed the Wildlife Mitigation Status Report for the Bend Project (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it is evident that the construction and operation of the Project probably resulted in only minor adverse impacts to wildlife resources. There appears to be little need to address species of interest to our agency. The Oregon Department of Fish and Wildlife may wish to pursue further action, in which case we would be supportive but not utilized in such efforts.

Sincerely yours,

James W. Teeter
Acting Assistant Regional Director
Habitat Resources

Q-13

Explanations or Modifications:

No explanations or report modifications necessary.

Wildlife Mitigation Status Report

CLINE FALLS PROJECT

Prepared by:

J. H. Noyes
K. L. Bedrossian
R. D. Carleson
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Cline Falls Project

II. PROJECT OPERATOR

Pacific Power and Light Company (PP&L)

III. PROJECT DESCRIPTION

A. Location and Size

The Cline Falls Project is located on the Deschutes River (river mile 145), approximately 4 miles west of Redmond, Oregon in Deschutes County (Columbia Basin Inter-agency Committee 1963). Access to the project is provided by State Highway 126.

A rockfill diversion dam, approximately 5 feet high and 330 feet long, diverts water through a tainter gate into a flowline consisting of a 115-foot rock-lined canal, a 260-foot wooden flume, and a 37-foot steel penstock (PP&L files). The turbine-generator unit operates under 35 feet of head and is rated at 1,000 kilowatts, with maximum output of 1,040 kilowatts.

B. Authorized Purposes

The purpose of the Cline Falls Project is hydroelectric power generation (E. Weiss, PP&L, pers. commun.).

C. Brief History

A claim for water rights (90 cfs) for the purpose of power and irrigation was filed by the Cline Falls Power Company in 1900 (Federal Power Commission [FPC] 1922). The original project, consisting of a 3-4 foot high diversion dam and 150 kilowatt plant with head of 28 feet, was constructed in 1913 by Deschutes Power Company (Colbert and Young 1969, PP&L files). In 1915 the plant was rebuilt approximately 250 feet downstream. Reconstruction of the plant in 1943 resulted in the present capacity of 1,000 kilowatts and head of 35 feet (Colbert and Young 1969). The Cline Falls Project is not currently licensed by FPC (E. Weiss, PP&L, pers. commun.).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The Cline Falls Project is operated as a run-of-the-river plant (E. Weiss, PP&L, pers. commun.). Stream flow for the Deschutes Basin follows the usual pattern: "The higher flows occur in spring and early summer following winter rains and springtime snowmelt; and the lower flows occur in late summer, fall, and winter." (Colbert and Young 1969) .

(2) Land ownership

The Cline Falls facilities are located on land leased from the Central Oregon Irrigation District; the lease was extended in 1963 to the year 2013 (PP&L files). Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the project area, located in ODFW's Metolius Wildlife Management Unit.

(3) Indian rights

No tribes are involved with the actions taken at the Cline Falls Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

No information on pre-construction conditions specific to the project site was available from reports, project files, historical records, or conversations with individuals knowledgeable of the area. No assessments of predicted impacts on wildlife were found. An environmental impact statement for a grazing program in central Oregon, including the Cline Falls area, provided a current species list and information on wildlife-habitat interrelationships (U.S. Bureau of Land Management [BLM] 1982). A license application for a hydroelectric project on the Deschutes River near Bend, Oregon contained information on vegetation and wildlife species typical of central Oregon (Haner, Ross and Spot-seen, Inc. [HRS] 1982). These reports and conversations with ODFW wildlife biologists familiar with the area were used to infer pre-construction conditions. Additional information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The Cline Falls Project lies within the Western Juniper Zone described by Franklin and Dyrness (1973). Predominant overstory species include Western juniper and ponderosa pine. Major shrub species are sagebrush and bitterbrush; predominant grasses include bluebunch wheatgrass and Idaho fescue. Alder and willow species occur in the riparian zone (HRS 1982).

Based on wildlife species presently occurring in the Deschutes Basin (BLM 1982; HRS 1982; N. Behrens, ODFW, pers. commun.), species existing in the project area prior to construction may have included mule deer, cougar, black bear, bobcat, coyote, weasel, raccoon, beaver, river otter, mink, and muskrat. Raptors occurring in the area may have included bald and golden eagle, red-tailed hawk, American kestrel, and prairie falcon.

B. Post-Construction Period

(1) Available information

No published information was found that addressed wildlife resources specific to the project area. An environmental impact statement by BLM (1982) provided information on species occurrence and wildlife-habitat interrelationships in an area that included the Cline Falls Project. A hydroelectric project license application (HRS 1982) provided information on wildlife species occurring in Western juniper habitat. No information on wildlife impact assessments was found. The following information is based on the previously mentioned reports and on conversations with individuals knowledgeable of the project area. Aerial photos of the project area taken in 1944, 1951, 1966, 1968, and 1980 are available from the University of Oregon Map Library. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Specific wildlife habitat types and the amount of each habitat type affected by the project was not known without conducting a more detailed study. The number of game and nongame animals affected by the project was not provided. The ecological significance of the alteration of wildlife habitat was not evaluated. Information documenting the effects of project construction or operation activities on wildlife was not available.

(3) Benefits

Benefits to wildlife resulting from construction of the Cline Falls Project have not been documented (N. Behrens, ODFW, pers. commun.). The small forebay probably has benefited wildlife such as amphibians, and also song birds because of increased riparian habitat (F. Newton, ODFW; N. Behrens, ODFW; E. Weis, PP&L, pers. commun.).

(4) Additional information

The Cline Falls Project area lies within winter range for mule deer; deer also use the area year-round (N. Behrens, ODFW, pers. commun.). The nearest mule deer census route conducted by ODFW is approximately 10 miles from the project area (N. Behrens, ODFW, pers. commun.).

The Deschutes River Basin, including the project area, provides "excellent" habitat for raptor species such as red-tailed hawk, golden eagle, and prairie falcon (N. Behrens, ODFW, pers. commun.). A golden eagle nest site is located approximately 3 miles upstream from the project. ODFW conducts annual winter raptor surveys in the area encompassing Cline Falls. Other wildlife species existing in the area include California quail and various small mammals and passerines associated with Western juniper habitat (HRS 1982; N. Behrens, ODFW, pers. commun.).

Production, trend count, and harvest data for big game in the Metolius Wildlife Management Unit and for upland game in Deschutes County are available from ODFW. Furbearer harvest data are available for Deschutes County. This information is not specific to the project site.

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

At the present time, no plans have been proposed for wildlife mitigation to directly offset impacts to wildlife as a result of the Cline Falls Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The Cline Falls Project was constructed prior to passage of the Federal Water Power Act in 1920 and prior to the creation of FPC in 1922, thus no FPC requirements are applicable to the project.

(2) Oregon Water Resources Department requirements

The Cline Falls Project was constructed prior to passage of the Hydroelectric Act (ORS 543.225) in 1931.

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed in 1934, 21 years after construction of the Cline Falls Project. The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that agencies consult with the Department of the Interior to ensure that actions not jeopardize any threatened or endangered species. Since there have been no recent additions or major changes to the Cline Falls Project, no impact assessments or mitigation measures have been mandated during the operational history of the project.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No wildlife mitigation, enhancement, or protection measures of which ODFW or PP&L personnel were aware have been implemented at the Cline Falls Project (N. Behrens, ODFW; E. Weiss, PP&L, pers. commun.).

VI. CURRENT STUDIES AND PLANNING

No studies or planning are currently being conducted for wildlife mitigation specifically at the Cline Falls Project, (N. Behrens, ODFW; E. Weiss, PP&L, pers. commun.).

Studies and planning being conducted elsewhere in the State of Oregon could eventually affect wildlife/habitat management in the Cline Falls area. The Fish and Wildlife Commission has adopted mule deer population management objectives for the Metolius Wildlife Management Unit and ODFW is developing a statewide nongame plan.

VII. REFERENCES CITED

Colbert, J.L., and L. L. Young. 1969. Review of waterpower classifications and withdrawals, Deschutes River Basin, Oregon. U.S. Geological Survey, Conservation Division. Portland, Oreg. 169pp.

Columbia Basin Inter-agency Committee, Hydrology Subcommittee. 1963. River mile index, Deschutes River, Colunbia River Basin, Oregon. np.

Federal Power Commission. 1922. Report to the Federal Power Commission on uses of Deschutes River, Oregon. U.S. Gov. Printing Office, Wash. D.C. 90pp.

Franklin, J.F., and C. T. Dyrness. 1973. Natural vegetation of Oregon and Washington. U.S. Dep. Agric., For. Serv., Gen. Tech. Rep. PNW-8. 417pp.

Haner, Ross and Sporseen, Inc. 1982. Application for license from the Federal Energy Regulatory Commission, Bend diversion dam hydroelectric project. Gladstone, Oreg. Paging various.

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Jim Noyes
Karen Bedrossian
Dan Carleson
Mary Potter

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

E. Weiss

(2) Summary of Project Operator Contacts

Date	Individual	Summary
19 March 1984	E. Weiss	D. Carleson sent letter to PP&L providing information and requesting contacts.
03 May 1984	E. Weiss	Phone. Requested project information.
14 May 1984	E. Weiss	Meeting. Obtained project description information.
19 June 1984	E. Weiss	Phone. Obtained information.
26 June 1984	E. Weiss	Letter. Requesting comments on informal draft report.
06 July 1984	E. Weiss	Phone. Received comments on informal draft report.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife
- N. Behrens
- C. Bruce
- F. Newton

U.S. Bureau of Land Management
- W. Elmore

Other
- D. Buell, Oregon Water Resources Department
- C. Carter, Oregon State Parks and Recreation
- P. Stark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 12 JULY 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS)

(3) Tribes

No tribes are involved with the actions taken at the Cline Falls Project.

(4) Facility Operator (PP&L)

BPA requested comments on the 12 July 1984 Cline Falls draft report by 14 August 1984. Comments by PP&L were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife

506 SW MILL STREET. P O BOX 3503, PORTLAND OREGON 97208

August 2. 1984

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish and Wildlife (ODFW) has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

R-11

As the Cline Falls Project Wildlife Mitigation Status Report and our attachcd comments on that report indicate a comprehensive evaluation of wildlife resource impacts was not conducted. No documentation was found of wildlife mitigation, enhancement, or protection measures implemented to offset wildlife resource losses resulting from the project. This is not intended to be an indictment of any agency or Pacific Power and Light (PP&L). Knowledge of wildlife resources and public policies have changed since the project was constructed in addition to the requirements of the Northwest Power planning act for protection mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating parties to move forward in implementing the wildlife Program of the Northwest Power Planning Council. In consideration of this goal, ODFW recommends that an assessment of impacts at Cline Falls in order to determine if mitigation of wildllfc resources is needed not be conducted until such activities have been accomplished at higher priority projects in the State of Oregon.

Sincerely,

for John R. Donaldson, PhD
Director

JRD:kp

Encl.

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Departmetn of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Cline Falls Project
2 August 1964

Oregon Department of Fish dnd Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration, dated 24 July 1984 to review the Mitigation Status Report for the Cline Falls Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serlous depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project constructlon and operatlon. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . , ."

The Cline Falls Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wlldlife resulting from construction of the project was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate and enhance" wildlife resources affected by the development and operation of the Cline Falls Project, it is necessary to determine what impacts occurred. Although the Cllne Falls Project has not been given a high priority for wildlife mitigation by ODFW, this project should not be disregarded without conducing a loss estimate to determine the Impacts of the project on wildlife resources. Upon approval of and funding by the Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Cline Falls Project. The Department is also ready to take

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

the lead in developing mitigation plans if needed. Consultation and coordination with Pacific Power and Light (PP&L) and appropriate agencies involved in the Cline Falls Project, is of course, an integral pdrt of both of these processes.

The level of understanding of our wildlife resources has improved since the time of construction of the Cline Falls project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Colmbia River Basin. The Oregon Department Of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

AUG 2 0 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

August 14, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: Jame Meyer
P. O. Box 3621
Portlan I, Oregon 97208

Dear Mr Palen sky:

As requested in Mr. Meyer's letter of July 24, 1984, we have reviewed the Wildlife Mitigation Status Report for the Cline Falls Project (the Project). We believe the report Is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it is evident that the construction and operation of the Project probably resulted in only minor adverse Impacts to wildlife resources. There appears to be little need to address species of interest to our Agency. The Oregon Department of Fish and Wildlife may wish to pursue further action, in which case we would be supportive but not actively involved in such efforts.

Sincerely yours,

James C. Teeter
Acting Assistant Regional Director
Habitat Resources

Explanations or Modifications:

No explanations or report modifications necessary.

Wildlife Mitigation Status Report

ALBANY PROJECT

Prepared by:

M. S. Potter
K. L. Bedrossian
R. D. Carleson
J. H. Noyes

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BPl2913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Santiam - Albany Canal (Albany Project)

II. PROJECT OPERATOR

Pacific Power and Light Company (PP&L)

III. PROJECT DESCRIPTION

A. Location and Size

The Albany Project is located in Linn County, Oregon, on the South Santiam River, a tributary of the Willamette River. Access to the project is provided by various county roads.

A lo-foot high concrete diversion dam is located on the South Santiam River approximately 2 miles southeast of Lebanon and 2 miles downstream from the Waterloo gauging station (CH_2M Hill 1966, PP&L files). The 490-foot long dam provides no storage or pondage (PP&L files) and is at elevation 370 feet (CH_2M Hill 1966). Water diverted from the river into the unlined canal is controlled by a combination of flashboard adjustments on the diversion dam, and adjustment of control gates at the intake structure of the canal (CH_2M Hill 1966). From the intake, the 18-mile canal flows northwesterly through Lebanon and then to Albany, where the water is discharged through the Albany power plant, or over the forebay spillway into the Calapooia River at a point near the mouth of the Calapooia (CH_2M Hill 1966). The width of the canal varies from 20 to 40 feet (CH_2M Hill 1966). There are 73 bridge crossings (both public and private), 3 underground utility crossings, and 35 pipe crossings over the canal. Water in the canal flows through 3 culverts and there are numerous control structures along the canal (CH_2M Hill 1966). The Albany power plant generators are located in a portion of the water treatment plant within the City of Albany. Two Francis turbines operate under a 36-foot head and are connected to generators rated at 400 kilowatts (PP&L files). Water limitations allow only 1 unit to operate at a time. The plant's potential of 500 kilowatts is established by the overload capacity of 1 unit (PP&L files).

B. Authorized Purposes

Water from the canal is used by and for: U.S. Plywood Corporation, Lebanon water supply, Crown Zellerbach Corporation, farm crop irrigation, Albany water supply, and PP&L's Albany Power Plant (CH_2M Hill 1966).

C. Brief History

The Santiam Ditch and Canal Company was formed in 1860 with the purpose of building a barge canal to bring timber products down the canal and manufactured goods back up the canal. Construction began in 1872 and was completed in 1874. A dam of wooden timbers was built, as well as loading docks, and a 12-mile long canal ran almost straight between Lebanon and Albany. The current in the canal proved to be too swift to

pull the barges back upstream; however, timber products and grain were floated downstream for a short time. In the late 1870's, the canal was purchased by John Crawford, who developed the canal for water power with the addition of various ditches and canals. By 1880, 14 turbines were being run along the canal. In the mid-1890's, Mr. Hughes built the Lebanon Canal for the primary purpose of providing Lebanon with an adequate water supply for domestic use and fire protection. A timber dam was located 3 miles upstream from the Albany Canal diversion. The Lebanon Canal wound through town with a gentle flow and joined the Albany Canal 0.5 mile below the origin of the Albany Canal. The 2 canals were essentially 1 canal under divided ownership. Hughes also built a combined hydraulic turbine and electric plant and water pump station in Lebanon. Around the turn of the century the Albany portion of the canal came under the ownership of Oregon Water and Power Company. In 1922 a flood destroyed the Albany timber dam, making the Lebanon canal diversion dam the only water source from the South Santiam River for the canal system. In 1923 the Mountain States Power Company purchased all interests in the canal and controlled it for approximately 30 years. During this period, the present headgates were constructed, and the Albany generating facilities were replaced with two 450 kilowatt turbine generators. In 1954, PP&L took control of the project. In 1968, the Lebanon water filtration plant was built and all previous generating facilities at Lebanon were removed (Dierdorff 1971, Lowe 1974, Mullen 1971, Nutting 1982, Work Projects Administration of Oregon 1978).

D. Other Pertinent Data

(1) Water level fluctuation and timing

No useable storage or pondage is created by the diversion dam (PP&L files). Canal water surface levels are below the elevation of the surrounding land except for those portions of the canal which pass through Lebanon and Albany (CH_2M Hill 1966).

(2) Land ownership

No information was found regarding acreage of the project.

The project is located within the Oregon Department of Fish and Wildlife's (ODFW) Willamette Wildlife Management Unit, and the Salem Wildlife District of the Northwest Region. ODFW is responsible for the management of wildlife within the State of Oregon (ODFW 1982) and serves in an advisory capacity to PP&L regarding fish and wildlife impacts at PP&L projects.

(3) Indian rights

No tribes are involved with the actions taken at the Albany Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

Very little information is available on pre-construction conditions. General information about the wildlife species present in the Oregon territory can be found in journals written by the early explorers and settlers. General information about conditions in the vicinity of the project were available from historical publications. Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of the review.

(2) Conditions

At the time of the first migrations, the Willamette Valley was characterized by open white oak savannas and grass on the open plains (Bowen 1978). South of the Santiam River an open plain spread in all directions to the limits of the valley. The vast expanse of grass was broken by an occasional shallow swale along the margins of which grew ash and oak trees. Wooded strips containing vine maple, ash, oak, maple and occasional Douglas fir followed the banks of the Santiam, Calapooia and Willamette rivers (Bowen 1978).

Early references to conditions in the Lebanon area mention the "waves of waist-high grass". Until the turn of the century, Lebanon was located in "stock and grain country" (Welch 1942). Much of what is now Lebanon was wheat fields. The prairie west of town lent itself to raising wheat, while stock was run in the hills east of town. Lebanon experienced a rapid growth period in the 1890's when the paper mill was opened (Welch 1942). Shortly after completion of the Lebanon-Albany canal, the population of Albany was approximately 1,900 people (Work Projects Administration of Oregon 1978).

B. Post-Construction Period

(1) Available information

No reports were found containing information about wildlife or wildlife habitat specific to the Albany Project. The Oregon State Game Commission's (OSGC) 1963 report on the fish and wildlife resources of the Middle Willamette Basin addressed only game species in relation to hunting success on a wildlife management unit and county basis. In the mid-1970's, ODFW drafted a wildlife habitat protection plan for Linn County which provided estimated wildlife populations within the county. ODFW compiled wildlife population and habitat estimates by county in 1980.

ODFW publishes wildlife production inventories, herd composition, trend counts, and harvest data in the Wildlife Division annual report. These data are available by region, county, or wildlife management unit.

Aerial photographs of the project area are available from the University of Oregon Map Library. The earliest photos on hand were taken in 1936, and the most recent in 1970. Photos taken in 1980 may be available elsewhere (S. Trevitt-Clark, University of Oregon, pers. commun.).

The following information is based on the reports previously mentioned and on conversations with individuals knowledgeable of the Albany Project area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Because pre-construction conditions are not well documented, it is difficult to determine what wildlife or wildlife habitat impacts resulted from construction and operation of the project. Both Albany and Lebanon were established towns at the time of construction, and the surrounding countryside was developed for agricultural use (Welch 1942).

(3) Benefits

No documentation was found regarding wildlife or wildlife habitat benefits resulting from construction and operation of the project.

(4) Additional information

OSGC's 1963 report on the Middle Willamette Basin indicated the extensive agricultural development of the basin provided excellent upland game habitat typical of mixed farming areas. Ring-necked pheasants were numerous throughout the basin on or near agricultural land. Moderate numbers of California quail were present, and bobwhite quail also occurred. Mourning doves and band-tailed pigeons were plentiful during the summer and early fall. Western gray squirrels were common in stands of deciduous trees. Furbearers found in the basin included: beaver, river otter, mink, muskrat, raccoon, striped and spotted skunk, red and gray fox, nutria, weasel and coyote (OSCG 1963). In its draft habitat protection plan for Linn County, ODFW (undated) indicated ring-necked pheasant, California quail and mourning dove were the principle upland bird species in agricultural areas of the county, with estimated populations of 17,300, 15,600, and 36,800, respectively. The draft also mentioned slow-moving streams with brushy banks provided important nesting habitat for mallards, wood ducks, teal and mergansers, and also provided important winter resting and feeding habitat for other waterfowl. The habitat protection plan draft included estimated furbearer populations within Linn County, and indicated approximately 220 species of nongame wildlife occurred in the county. ODFW wildlife population and habitat estimates made for Linn County in 1980 indicated there were approximately 32 ring-necked pheasants, 82 California quail, 64 mourning doves and 8 band-tailed pigeons per square mile of habitat. The 1980 figures also included estimated furbearer populations and the occurrence of nongame wildlife in Linn County.

The Lebanon-Albany Canal is much like any other creek on the lower valley floor, and those wildlife species typically associated with

riparian habitat can be expected to occur along the project (N. Ten Eyck, ODFW, pers. commun.). Aquatic mammals, such as beaver, muskrat, nutria, raccoon and occasionally otter and mink are likely to be found at the canal, as well as water associated birds such as swallows, great blue heron, sandpiper, kingfisher and waterfowl. Overgrown portions of the canal are used by a few resident mallards for nesting, and the shrubbery along the canal provides habitat for songbirds and upland game birds. Amphibians are likely to be associated with the canal (N. Ten Eyck, ODFW, pers. commun.).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

At the present time, no plans have been requested or proposed for wildlife mitigation to directly offset impacts to wildlife or wildlife habitat as a result of the Albany Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The Albany Project was constructed and in operation several decades before Congress approved the 1920 Federal Water Power Act. No Federal Energy Regulatory Commission (FERC) license has been issued for this project.

(2) Oregon Water Resources Department requirements

Appropriation and use of water for power is controlled by Chapter 543, Hydroelectric Power Projects, Oregon Revised Statutes. ORS 543.120 requires water projects begun or constructed after 26 February 1931 to conform with the provisions of Chapter 543. The Albany Project was completed prior to 1931.

(3) FWCA proceedings

The predecessor act to the Fish and Wildlife Coordination Act (FWCA) was passed in 1934, many years after completion of the Albany Project. The Act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by the U.S. Fish and Wildlife Service and state agencies, and costs for these measures were to be made an integral part of the project costs. Project modifications made in 1968 involved the removal of generating facilities at the Lebanon plant and construction of a water filtration plant in Lebanon. The National Environmental Policy Act (NEPA) was passed in 1969, and the Endangered Species Act was adopted in 1973.

(4) MOU's or other agreements

No agreements were found that applied to wildlife or wildlife habitat mitigation.

C. Mitigation Implemented

No records were found of wildlife or wildlife habitat protection, mitigation, or enhancement at the Albany Project.

VI. CURRENT STUDIES AND PLANNING

No studies or planning for wildlife or wildlife habitat protection, mitigation, or enhancement are currently in progress at the project.

ODFW is currently developing several wildlife management plans including management objectives for big game in the Willamette Wildlife Management Unit, a statewide nongame plan, and a cooperative waterfowl management plan for the Willamette Valley.

VI I. REFERENCES CITED

Bowen, W. A. 1978. The Willamette Valley, migration and settlement on the Oregon frontier. 120 pp.

CH_2M Hill. 1966. An engineering report on Santiam-Albany canal. For Pacific Power and Light Company. 21 pp. + Append.

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Lowe, J. R. 1974. The changing usages of the Albany-Lebanon canal: a historial view of the development of a local water resource. Unpubl. rep. 22 pp.

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Nutting, F. 1982. Linn County, Oregon, pioneer settlers. Old time Albany. 169 pp.

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Work Projects Administration of Oregon. 1978. History of Linn County. Oregon State Board of Control. 174 pp.

APPENDICES

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Mary Potter
Karen Bedrossian
Dan Carleson
Jim Noyes

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

E. Weiss

(2) Summary of Project Operator Contacts

Date	Individual	Summary
12 March 1984	E. Weiss	Initiation of consultation and coordination.
16 April 1984	E. Weiss	Phone. Requested information.
03 May 1984	E. Weiss	Provided information. Discussed availability of information.
15 May 1984	E. Weiss	Phone. Provided information.
16 May 1984	E. Weiss	Provided information.
28 June 1984	E. Weiss	Submitted draft report to PP&L for informal comment.
06 July 1984	E. Weiss	Phone. Discussed draft report.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife
- C. Bruce
- D. Cleary
- N. Ten Eyck

Other
- S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 26 JUNE 1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agency (USFWS)

(3) Tribes

No tribes are involved with the actions taken at the Albany Project.

(4) Facility Operator (PP&L)

BPA requested comments on the 26 June 1984 Albany Project draft report by 14 August 1984. Comments by PP&L were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife
506 SW MILL STREET. PO BOX 3503. PORTLAND, OREGON 97209

August 2, 1984

Mr. John R. Palensky, Director
Division of Fish and Ulldllfe
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish and Wildlife (ODFW) has high expectations of the Northwest Power Pldnnlng Act to provlde for wildlife end wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

S-12

As the Albany Project Wlldllfe Mitigation Status Report and our attached comments on thdt report indicate, a comprehensive evaluation of wildlife resource impacts was not conducted, No documentation was found of wildlife mitigation, enhancement, or protection measures implemented to offset wildlife resource losses resulting from the project. This is not intended to be an indictment of any agency or Pacific Power and Llght (PP&L). Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Pldnnlng Act for protection mitlgatlon and enhancement of wildlife resources, the Department of Fish dnd Wildlife has a policy to request mitigation for losses Of wildlife populations dnd habitat.

In recognition of our increased responslblllttles to address a broad range of concerns, I urye the participating parties to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In consideration of this goal. ODFU recommends that an assessment of impacts at the Albany Project in order to determine If mitigation of wildlife resources is needed, not be conducted until such activities have been accomplished at higher priority projects in the State of Oregon.

Sincerely,

for R. Rousseau

John R. Donaldson, PhD
Director

JRD:aj
Encl.

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Albany Project
2 August 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration dated 24 July 1984 to review the Mitigation Status Report for the Albany Project.

Oregon Revised Statue 496.017, Wildlife Policy, says in part: "It IS the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this State. In furtherance of this policy, the goals of Wildlife management are:

(1) In maintain all species of wildife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this State in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its ttributaries . . ."

The Albany Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction of the project was not comprehensive This is evident by the lack of information available regarding the effects of construction activities and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Imapcts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate and enhance wildlife resources affected by the development and operation of the Albany Project, it is necessary to determine what impacts occurred. Although the Albany Project has not been given a high priority for wildlife mitigation by ODFW, this project should not be disregarded without conducting d loss estimate to determine the impacts of the project on wildlife resources. Upon approval of and funding by the Council and Bonneville Power Administration the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Albany Project. The Department is also ready to take the

Explanations or Modifications (cont.]:

No explanations or report modifications necessary.

ODFW Comments (cont.):

lead in developing mitigation plans if needed. Consultation and coordination with Pacific Power and Light (PP&L) and appropriate agencies Involved in the Albany Project, is of course, an integral part of both of these processes,

The level of understanding of our wildlife resources has improved since the time of construction of the Albany Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development dnd operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible In a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanation or report modifications necessary.

USFWS Comments:

AUG 2 0 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

August 14, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 24, 1984, we have reviewed the Wildlife Mitigation Status Report for the Santiam-Albany Canal Project (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it is evident that the construction and operation of the Project probably resulted in only minor adverse impacts to wildlife resources. There appears to be little need to address species of interest to our agency. The Oregon Department of Fish and Wildlife may wish to pursue further action, in which case we would be supportive but not actively involved in such efforts.

Sincerely yours,

James W. Teeter
Acting Assistant Regional Director
Habitat Resources

Explanations or Modifications:

No explanations or report modifications necessary.

Wildlife Mitigation Status Report

STAYTON PROJECT

Prepared by:

M. S. Potter
K. L. Bedrossian
R. D. Carleson
J. H. Noyes

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
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Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NM

Stayton Project

II. PROJECT OPERATOR

Pacific Power and Light Company (PP&L)

III. PROJECT DESCRIPTION

A. Location and Size

The Stayton Project is located in the City of Stayton, Marion County, Oregon, on the North Santiam River, a tributary of the Willanette River. The City of Stayton is 18 highway miles southeast of Salem and 20 miles east of the confluence of the North Santiam and Willanette rivers (Mountain States Power Co. [MSPC] 1951). Main access to the project is by State Highway 22.

The Stayton plant derives water from the privately-owned Gardner-Bennett Power Canal. Water is diverted into the canal by a dam on the North Santian River approximately 1 mile east of Stayton (MSPC 1951). The 4-foot high dam consists of a 400-foot long timber crib structure and a 150-foot long concrete overflow section. The powerhouse contains a single turbine operated under a 15-foot head. Maximun plant output is 600 kilowatts, and average annual generation is 4,600,000 kilowatt hours (PP&L files).

B. Authorized Purposes

The purpose of the Stayton Project is power generation (Oregon State Game Commission [OSGC] 1955). Very little information about the canal was located, but PP&L Federal Energy Regulatory Commission (FERC) license records indicate the canal was built for purposes other than power (B. Eddy, PP&L, pers. commun.).

C. Brief History

The project was constructed in 1937 (PP&L files) by Mountain States Power Company. In 1954, PP&L acquired the Stayton Project when Mountain States Power Company was merged into PP&L (Dierdorff 1971). No documentation was located on when the Santiam Water Control District built the diversion dam and canal (B. Eddy, PP&L, pers. commun.).

D. Other Pertinent Data

(1) Water level fluctuation and timing

No water storage is associated with the project (PP&L files). Water is returned to the canal for other uses downstream (OSGC 1955).

(2) Land ownership

PP&L owns only the powerhouse and the grounds immediately adjacent (PP&L files).

The project is located within the Oregon Department of Fish and Wildlife's (ODFW) Willamette Wildlife Management Unit, and the Salem Wildlife District of the Northwest Region. ODFW is responsible for the management of wildlife within the State of Oregon (ODFW 1982) and serves in an advisory capacity to PP&L regarding fish and wildlife impacts at PP&L projects.

(3) Indian rights

No tribes are involved with the actions taken at the Stayton Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENT

A. Pre-Construction Period

(1) Available information

Very little information is available on pre-construction conditions. General information about the wildlife species present in the Oregon territory can be found in journals written by the early explorers and settlers. General information about conditions in the vicinity of the project were available from historical publications. Aerial photographs of the Stayton area taken in 1936 are available from the University of Oregon Map Library (S. Trevitt-Clark, University of Oregon, pet-s. commun.). Additional or more detailed information on pre-construction conditions was not available without conducting additional research beyond the scope of this report.

(2) Conditions

The Stayton Project is located in the Willanette Valley vegetational area described by Franklin and Dyrness (1973). The City of Stayton was established in 1872 (E. Williams & Co. 1976). Early industrial development in the town included a sawmill, wool carding plant and flour mill (MSPC 1951, Schmid 1951) which drew upon the agricultural and natural resources of the vicinity.

B. Post-Construction Period

(1) Available information

No reports were found containing information about wildlife or wildlife habitat specific to the Stayton Project. The OSGC 1963 report on the fish and wildlife resources of the Middle Willamette Basin addressed only game species in relation to hunting success on a wildlife management unit and county basis. In 1980 ODFW compiled wildlife population and habitat estimates for Marion County.

ODFW publishes wildlife production inventories, herd composition, trend counts, and harvest data in the Wildlife Division annual report. These data are available by region, county, or wildlife management unit.

Aerial photographs of the Stayton area taken in 1976 are available from the University of Oregon Map Library. Photographs taken in 1982 may be

available from another source (S. Trevitt-Clark, University of Oregon, pers. commun.).

The following information is based on the reports previously mentioned and on conversations with individuals knowledgeable of the Stayton Project area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Because pre-construction conditions are not well documented, it is difficult to determine what wildlife or wildlife habitat impacts resulted from construction and operation of the project. Stayton was an established town at the time of construction, and the surrounding countryside was in agricultural use.

(3) Benefits

No documentation was found regarding wildlife or wildlife habitat benefits resulting from construction and operation of the project.

(4) Additional information

OSGC's 1963 report on the Middle Willamette Basin indicated the extensive agricultural development of the basin provided excellent upland game habitat typical of mixed farming areas. Ring-necked pheasants were numerous throughout the basin on or near agricultural land. Moderate numbers of California quail were present, and bobwhite also occurred. Mourning doves and band-tailed pigeons were plentiful during the summer and early fall. Western gray squirrels were common in stands of deciduous trees. Furbearers found in the basin included beaver, river otter, mink, muskrat, raccoon, striped and spotted skunk, red and gray fox, nutria, weasel and coyote (OSGC 1963). ODFW wildlife population and habitat estimates for Marion County, compiled in 1980, indicated there were approximately 82 ring-necked pheasants, 45 California quail, 19 mourning doves and 8 band-tailed pigeons per square mile of habitat. The 1980 figures also included estimated furbearer populations and the occurrence of nongame wildlife in Marion County. The above information is not specific to the project site.

The Gardner-Bennett Canal is similar to a natural stream, except for the section within the Stayton urban area, thereby giving it fairly high riparian values (N. Ten Eyck, ODFW, pers. commun.). Wildlife species typically associated with riparian habitat can be expected to occur along the multiple-use canal. Aquatic mammals, waterfowl, water-associated birds, songbirds, upland game, and amphibians are likely to be present at the canal (N. Ten Eyck, ODFW, pers. commun.).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

At the present time, no plans have been requested or proposed for wildlife mitigation to directly offset impacts to wildlife or wildlife habitat as a result of the Stayton Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The Stayton Project is not licensed by FERC because it is located on a non-navigable, man-made canal constructed for purposes other than power (B. Eddy, PP&L, pers. commun.).

(2) Oregon Water Resources Department requirements

Water power projects constructed after 26 February 1931 were required to conform with the provisions of Chapter 543, Hydroelectric Power Projects, Oregon Revised Statutes. Chapter 543 stipulates the Water Policy Review Board "shall have due regard for conserving the highest use of water for all purposes, including... protection of game fishing and wildlife..." when determining whether a project would impair or be detrimental to the public interest. Available information indicates water from the North Santiam River was originally diverted for purposes other than power.

(3) FWCA proceedings

The predecessor act to the Fish and Wildlife Coordination Act (FWCA) was adopted in 1934. The Act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modifications, and/or project operations modification were to be based on impact and mitigation reports by the U.S. Fish and Wildlife Service and state agencies, and costs for these measures were to be made an integral part of the project costs. The National Environmental Policy Act (NEPA) was passed in 1969, and the Endangered Species Act was adopted in 1973.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife or wildlife habitat mitigation.

C. Mitigation Implemented

No records were found of wildlife or wildlife habitat mitigation, enhancement, or protection measures implemented at the Stayton Project.

VI. CURRENT STUDIES AND PLANNING

There are no wildlife or wildlife habitat mitigation studies known to be in progress at the project.

ODFW is currently developing several wildlife management plans, including management objectives for big game in the Willamette Wildlife Management Unit, a statewide nongame plan, and a cooperative waterfowl management plan for the Willamette Valley.

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Mary Potter
Karen Bedrossian
Dan Carleson
Jim Noyes

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

B. Eddy
E. Weiss

(2) Summary of Project Operator Contacts

Date	Individual	Summary
12 March 1984	E. Weiss	Initiation of consultation and coordination.
16 April 1984	E. Weiss	Phone. Requested information.
03 May 1984	E. Weiss	Provided information. Discussed availability of information.
15 May 1984	E. Weiss	Phone. Provided information.
16 May 1984	E. Weiss	Provided information.
03 July 1984	B. Eddy	Phone. Requested information.
03 July 1984	E. Weiss	Submitted draft report to PP&L for informal review.
06 July 1984	E. Weiss	Phone. Discussed draft report.
06 July 1984	B. Eddy	Phone. Provided information.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife
C. Bruce
D. Cleary
N. Ten Eyck

Other
S. Trevitt-Clark, University of Oregon

APPENDIX C

COMMENTS ON 12 JULY 1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (USFWS)

(3) Tribes

No tribes are involved with the actions taken at the Stayton Project.

(4) Facility Operator (PP&L)

BPA requested comments on the 12 July 1984 Stayton Project draft report by 14 August 1984. Comments by PP&L were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife
506 SW MILL. STREET, PO BOX 3503 PORTLAND, OREGON 97208

August 2, 1984

Mr. John R. Palensky Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Port land OR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish and Wildlife (ODFW) has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

T-11

As the Stayton Project Wildlife Mitigation Status Report and our attached comments on that report indicate, a comprehensive evaluatlon of wildlife resource impacts was not conducted, No documentation was found of wildlife mitigation enhancement or protection measures implemented to offset wildlife resource losses resulting from the project. This is not intended to be an indictment of any agency or Pacific Power and Light (PP&L). Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife had a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating parties to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In consideration of this goal, ODFW recommends that an assessement of impacts at the Stayton Project in order to determine if mitigation of wildlife resources is needed, not be conducted until such activities have been accomplished at higher priority projects in the State of Oregon.

Sincerely,

for

John R. Donaldson, PhD
Director

JRD:aJ
Encl.

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oregon Department of Fish dnd Wildlife
Comments on
Wildlife Mitigation Status Report
Stayton Project
2 August 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration dated 24 July 1984 to review the Mitigation Status Report for the Stayton Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy. the goals of wildlife management are:

(I) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner thdt will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . ."

The Stayton Project Wildlife Mitigation Status Report demonstrates asessment of the impacts to wildlife resulting from construction of the project was not comprehensive, This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of hahitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Stayton Project, it is necessary to determine what impacts occurred. Although the Stayton Project has not been given a high priority for wildlife mitigation by ODFW this project should not be disregarded without conducting a loss estimate to determine the impacts of the project on wildlife resources. Upon approval of and funding by the Council and Bonneville Power Administration the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Stayton Project. The Department is also ready to take the lead in developing mitigation plans if needed. Consultation and coordination

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFU Comments (cont.):

with Pacific Power and Light (PP&L) and appropriate agencies involved in the Stayton Project, is of course, an integral part of both of these processes.

The level of understanding of our wildlife resources has improved since the time of construction of the Stayton Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish a Wildlife progam have provided the opportunlty to correct past misunderstanding and shortsightedness regarding wildlife resources affested by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

Explanations or Modifications:

AUG 2 0 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

August 14, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 24, 1984, we have reviewed the Wildlife Mitigation Status Report for the Stayton Project (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it is evident that the construction and operation of the Project probably resulted in only minor adverse impacts to wildlife resources. There appears to be little need to address species of interest to our agency. The Oregon Department of Fish and Wildlife may wish to pursue further action, in which case we would be supportive but not actively involved in such efforts.

Sincerely yours,

James W. Teeter
Acting Assistant Regional Director
Habitat Resources

No explanations or report modifications necessary.

Wildlife Mitigation Status Report

WALLOWA FALLS PROJECT

Prepared by:

J. H. Noyes
K. L. Bedrossian
R. D. Carleson
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-33BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Colunbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Wallowa Falls Project

II. PROJECT OPERATOR

Pacific Power and Light Company (PP&L)

I I I. PROJECT DESCRIPTIN

A. Location and Size

The Wallowa Falls Project is located in Wallowa County, Oregon, near the town of Joseph. State Highway 82 provides access to the project.

The rock-filled timber crib diversion dam, 18 feet high and 125 feet long, is located on the East Fork of the Wallowa River, approximately 1.5 miles upstream from its confluence with the West Fork of the Wallowa River (Federal Power Commission [FPC] 1976, PP&L 1971). An 8-inch diameter diversion pipe conduit (250 feet long) runs from Royal Purple Creek to the forebay (0.2 surface acre) formed by the dam. A penstock 5,680 feet long consisting of 18- and 16-inch diameter steel pipe leads from the diversion dam into an indoor powerhouse (PP&L 1971). The project operates under approximately 800 feet of hydraulic head (Klingeman 1980). Power is generated by a single impulse-type turbine rated at 1,100 kilowatts (FPC 1976, PP&L 1971).

B. Authorized Purposes

The purpose of the Wallowa Falls Project is hydroelectric power generation (PP&L 1971).

C. Brief History

The diversion dam, penstock, and powerhouse were constructed in 1921 (Dierdorff 1971, PP&L 1971). The original major license for Wallowa Falls Project (No. 308) was issued to Enterprise Electric Company on 27 June 1924 for the period 1 April 1924 to 31 March 1974 (FPC 1976). On 19 October 1928 FPC approved the license transfer to Inland Power and Light Company effective 1 January 1928. The FPC amended the license on 8 April 1929 to include construction of the Royal Purple Creek diversion pipe, which was built in 1929 (FPC 1976). On 23 November 1942 the license was transferred from Inland Power and Light Company to PP&L. In 1967 a larger generator replaced the original unit, which was damaged by lightning in 1965 (PP&L 1971). A new minor license was issued for the project on 29 March 1976 for a period of 10 years.

D. Other Pertinent Data

(1) Water level fluctuation and timing

The Wallowa Falls powerhouse operates primarily as a run-of-the-river plant (E. Weiss, PP&L, pers. commun.). Flows in excess of the plant

capability spill over the dam; insufficient flows occasionally occur during the winter months (E. Weiss, PP&L, pers. commun.).

(2) Land ownership

The project occupies 12 acres of public land within the Wallowa-Whitman National Forest (FPC 1976); the remainder of the project lands are owned by PP&L. Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the project area, located in ODFW's minam Wildlife Management Unit.

(3) Indian rights

No tribes are involved with the actions taken at the Wallowa Falls Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

No information on pre-construction conditions specific to the project site was available from reports, project files, historical records, or conversations with individuals knowledgeable of the area. No assessments of predicted impacts on wildlife were found. Two books on the history of the general area around Wallowa Lake (Bartlett 1967, Killough 1971) contained brief reference to wildlife. Reports by U.S. Forest Service (USFS 1980, 1982) and ODFW (Smith 1975) provided information on present wildlife species and conditions near the project and were used to infer pre-construction species occurrence. The following information is based on these reports and on conversations with ODFW wildlife biologists familiar with the area. Additional information on pre-construction conditions was not available without conducting additional research beyond the scope of this review.

(2) Conditions

In the 1860's mountain sheep "roamed by the thousands" in the mountains adjacent to Wallowa Lake (Bartlett 1967). The only other reference to wildlife during the pre-construction period was that in the early 1900's "...there had been a very few native elk left here after the early settlers stopped killing then" (Killough 1971).

Based on wildlife species presently occurring in the Grande Ronde River Basin (Smith 1975) and areas of the Wallowa-Whitman National Forest near the project site (USFS 1980, 1982), species existing in the project area prior to construction may have included mule deer, bighorn sheep, cougar, black bear, bobcat, lynx, weasel, river otter, beaver, badger, muskrat, and blue, ruffed and spruce grouse.

B. Post-Construction Period

(1) Available information

No published information was found that addressed wildlife resources specific to the project area. A report on the status, value, limiting factors, and water requirements of the wildlife resources of the Grande Ronde Basin was published by Smith (1975). Two USFS reports (1980, 1982) contained a list of wildlife species occurring in areas of the Wallowa-Whitman National Forest near the project. A checklist of the birds found in northeast Oregon is available from the Grande Ronde Bird Club and Oregon Department of Fish and Wildlife (ODFW) (undated). The Audubon Society has maintained records since 1976, of birds seen on a Christmas bird count route that includes the project area. None of this information is specific to the project site. Aerial photos of the Wallowa-Whitman National Forest taken in 1964, 1970, 1977 and 1980 are available from USFS. The following information is based on these reports and on conversations with ODFW wildlife biologists familiar with the area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

The Oregon State Game Commission, in a letter dated 28 October 1973, stated "the project has not been detrimental to fish and wildlife in the past and it should not pose serious problems in the future" (FPC 1976).

Specific wildlife habitat types and the amount of each habitat type affected by the project was not known without conducting a more detailed study. The number of game and nongame animals affected by the project was not provided. The ecological significance of the alteration of wildlife habitat was not evaluated. Information documenting the effects of project construction of operation activities on wildlife was not available.

(3) Benefits

No apparent benefits to wildlife have resulted from construction of the Wallowa Falls Project (V. Coggins, W. VanDyke, ODFW, pers. commun.).

(4) Additional information

Mule deer and Rocky Mountain elk, both of which occur in the project area, are the most abundant big game species in the Grande Ronde River Basin (Smith 1975). ODFW has conducted deer census routes near Wallowa Lake since 1954 (W. VanDyke, ODFW, pers. commun.). Twenty-two elk were transplanted from Jackson Hole, Wyoming to Wallowa County in 1912 (Killough 1971). Low numbers of elk (less than 10) summer in the project area, which is primarily utilized by elk as part of their migration route (V. Coggins, ODFW, pers. commun.).

Other big game found in the area include mountain goat, bighorn sheep, cougar, and black bear (Smith 1975). Black bear damage complaints in Wallowa Lake State Park resulted in 3 bears being trapped and relocated

during spring 1983 (W. VanDyke, ODFW; R. Foster, PP&L, pers. commun.). Mountain goats were introduced on Chief Joseph Mountain in the Eagle Cap Wilderness in 1950 and the herd has increased to approximately 40 animals (V. Coggins, ODFW, pers. commun.; USFS 1982). Bighorn sheep were introduced in the upper Lostine River drainage, several miles from the project, in 1971 (Smith 1975). The project area lies within bighorn sheep historic sunmer range (W. VanDyke, ODFW, pers. commun.). Although still widely scattered, more cougar occur in the Grande Ronde River Basin than anywhere in Oregon; areas of greatest cougar abundance include the upper Imnaha River, several miles from the project (Smith 1975).

Threatened or endangered species that occur in the general area include the American peregrine falcon, northern bald eagle, and wolverine (USFS 1980). An unconfirmed peregrine falcon sighting was made in 1983 along the east side of Wallowa Lake (W. VanDyke, ODFW, pers. commun.). The American peregrine falcon is classified endangered in Oregon by ODFW and U.S. Fish and Wildlife Service (USFWS). The northern bald eagle is listed by USFWS and ODFW as threatened in Oregon; the wolverine is classified by ODFW as threatened in Oregon. Of the species found near the project area, pine marten, pika, pileated woodpecker and ptarmigan were mentioned as having "local, national or scientific interest" (USFS 1980). Although no nest sites have been located, pileated woodpeckers occur near the Wallowa Falls forebay and may be nesting in the area (R. Stewart, USFS, pers. commun.).

Other wildlife species existing in the Eagle Cap Wilderness and presumably near the project area are bobcat, lynx, coyote, weasel, rabbit, hoary marmot, flying squirrel, bats, pocket gopher, porcupine, river otter, beaver, badger, and muskrat (USFS 1982). Blue, ruffed, and spruce grouse are found in the vicinity of the project (USFS 1980).

Production, trend count, and harvest data for big game in the Minam Wildlife Management Unit and for upland game in Wallowa County are available from ODFW. Furbearer harvest data are available for Wallowa County. This information is not specific to the project site.

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

No wildlife mitigation, enhancement or protection measures have been proposed to directly offset impacts to wildlife as a result of the Wallowa Falls Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The Wallowa Falls Project was constructed prior to the creation of FPC in 1922, thus no FPC requirements were applied to the original license. Four articles of the new FPC license issued in 1976 refer to wildlife, either directly or indirectly. Article 9 states that FPC may control the operations of the Licensee "...in the interest of the fullest

practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes..."

Article 11 states "The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, of arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission..."

Article 12 requires the Licensee to permit the United States or its designated agency to use project lands in order to construct fish and wildlife facilities of to improve existing fish and wildlife facilities. Also, the Licensee "... shall modify the project operation as may be prescribed by the Commission, reasonably consistent with the primary purpose of the project, in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved..."

Article 28 states the Licensee shall continue to consult and cooperate with state and federal agencies " . ..for the protection and development of the environmental resources and historical values at the project area."

(2) Oregon Water Resources Department requirements

The Wallowa Falls Project was constructed prior to passage of the Hydroelectric Act (ORS 543.225) in 1931.

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed in 1934, 13 years after construction of the Wallowa Falls Project. The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that agencies consult with the Department of the Interior to ensure that actions not jeopardize any threatened of endangered species. Since there have been no recent additions of major changes to the Wallowa Falls Project, no impact assessments or mitigation measures have been mandated during the operational history of the project.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No wildlife mitigation, enhancement, of protection measures of which ODFW, PP&L, or USFS personnel were aware have been implemented at the Wallowa Falls Project (V. Coggins, W. VanDyke, ODFW; E. Weiss, PP&L; R. Anderson, USFS, pers. commun.).

VI. CURRENT STUDIES AND PLANNING

No studies or planning are currently being conducted for wildlife mitigation specifically at the Wallowa Falls Project (V. Coggins, ODFW; E. Weiss, PP&L, pers. commun.).

Studies and planning being conducted elsewhere in the State of Oregon could eventually affect wildlife/habitat management in the Wallowa Falls area. The Oregon Fish and Wildlife Commission has adopted mule deer and Rocky Mountain elk population objectives for the Minam Wildlife Management Unit. ODFW is developing a statewide nongame plan.

VI I. REFERENCES CITED

Bartlett, G. 1967. The story of Wallowa Lake. 14 pp.

Dierdorff, J. 1971. How Edison's lamp helped light the West, the story of Pacific Power and Light Company and its pioneer forebears. Pacific Power and Light Co., Portland, Oreg. 313 pp.

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Jim Noyes
Karen Bedrossian
Dan Carleson
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U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

R. Foster
E. Weiss

(2) Summary of Project Operator Contacts

Date	Individual	Summary
19 March 1984	E. Weiss	D. Carleson sent letter to PP&L providing information and requesting contacts.
03 May 1984	E. Weiss	Phone. Requested project information.
14 May 1984	E. Weiss	Meeting. Obtained project description information.
21 May 1984	R. Foster	Meeting. Discussed general project layout and description.
29 May 1984	E. Weiss	Phone. Obtained flow information and requested project acreage.
06 June 1984	E. Weiss	Mailed informal review draft to PP&L for comments.
June 1984	E. Weiss	Received comments from PP&L on informal draft.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife
G. Anderson
V. Coggins
J. Melland
R. Rohweder
W. VanDyke

U.S. Forest Service
R. Anderson
B. Hill
R. Stewart

Other

D. Buell, Oregon Water Resources Department
3. Leach, Federal Energy Regulatory Commission
S. Trevitt-Clark, Univ. of Oregon Map Library

APPENDIX C

COMMENTS ON 20 JUNE 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS and USFS)

(3) Tribes

No tribes are involved with the actions taken at the Wallowa Falls Project.

(4) Facility Operator (PP&L)

ODFW Comments

Explanations or Modifications:

R-4X

JUL 2 5 1984

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Department of Fish and Wildlife

506 S.W. MILL STREET. PO BOX 3503, PORTLAND, OREGON 97208

July 16, 1984

No explanations or report modifications necessary.

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland. OR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish and Wildlife (ODFW) has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Wallowa Falls Project Wildlife Mitigation Status Report and our attached comments on that report indicate, a comprehensive evaluation of wildlife resource impacts was not conducted. This is not intended to be an indictment of any agency or Pacific Power and Light (PP&L). Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating parties to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In consideration of this goal, ODFW recommends that an assessment of impacts at Wallowa Falls in order to determine If mitigation of wildlife resources is needed, not be conducted until such activities hdve been accomplished at higher priority projects in the State of Oregon.

Sincerely,

John R. Donaldson, PhD
Director

JRD:aj
Encl.

U-13

ODFW Comments (cont.):

Oregon Department of Fish dnd Wildlife
Comments on
Wildlife Mitigation Status Report
Wallowa Falls Project
16 July 1964

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration, dated 5 July 1984 to review the Mitigation Status Report for the Wallowa Falls Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlIfe populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Progran purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . .*

The Wallowa Falls Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction and operation of the project was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Wallowa Falls Project, it is necessary to determine what impacts occurred. Although the Wallowa Falls Project has not been given a high priority for wildlife mitigation by ODFW this project should not be disregarded without conducting a loss estimate to determine the impacts of the project on the wildlife resources. Upon the approval of and funding by

Explanations or Modifications (cont.):

No explanatlons or report modifications necessary.

ODFW Comments (cont.):

the Council and Bonneville Power Administration, the Department s prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Wallowa Falls Project. The Department is als(ready to take the lead in developing mitigation plans if needed. Consult tion and coordination with Pacific Power and Light (PP&L) and appropriate agencies involved in the Wallowa Falls Project, is of course, an integral part of both of these processes.

The level of understanding of our wildlife resources has improved since the time of construction of the Wallowa Falls Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.)

No explanations or report modifications necessary.

USFWS Comments:

Explanations or Modifications:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

LLOYD 500 BUILDING, SUITE 1692
500 NE MULTNOMAH STREET
PORTLAND, OREGON 97232

July 26, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 5, 1984, we have reviewed the Wildlife Mitigation Status Report for the Wallowa Falls Project (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it is evident that the construction and operation of the Project may have resulted in adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate adverse wildlife impacts attributable to the Project.

In conclusion, we believe no single agency or user group is responsible for the adverse wildlife impacts which may have resulted from the development and operation of the Wallowa Falls Project. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Wallowa Falls Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

Richard D. Angor

for James W. Teeter
Acting Assistant Regional Director
Habitat Resources

No explanations or report modifications necessary.

USFS Comments:

United States Department of Agriculture | Forest Service | Wallowa-Whitman National Forest | P. 0. Box 907 Baker, OR 97814

AUG 0 9 1984

Reply to 2770

Date August 6, 1984

Mr. John Palenski, PJS
Director, Division of Fish and Wildlife
Bonneville Power Administration
P. 0. Box 3621
Port land, OR

ATTN: Mr. James Meyer

Dear Mr. Palenski:

We have reviewed the "Wildlife Mitigation Status Reviews" for Wallowa Falls and Rock Creek Dams which you sent to Mr. Richard Pederson in our Portland Office on July 5. The copy we were initially asked to review was incomplete, hence our late response date. We find both status reviews well prepared and accurate and have nothing to add as they relate to existing or potential impacts on wildlife.

Thank you for giving us the opportunity to review the information.

Sincerely,

RODMiller
Wildlife Biologist

FS 6200-11b (7-81)

Explanations or Modifications:

No explanations or report modifications necessary.

PP&L Comments:

Explanations or Modifications:

JUL 1 3 1984

PACIFIC POWER & LIGHT COMPANY
920 S.W. SIXTH AVENUE • PORTLAND OREGON 97204 • (503) 243 1122

July II. 1984

No explanations or report modifications necessary.

John Palensky
Director, Division of Fish & Wildlife
Attention: Mrs. James Meyer
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Dear Mr. Palensky:

This letter is in response to your request for comments on the "Wildlife Mitigation Status Review" for Pacific's Wallowa Falls and Condit project".

We have had the opportunity to provide input to the agencies in the development of there documents and have no formal comments to make at this time.

Sincerely.

Edward F. Weiss,
Sr. Fish & Wildlife Biologist

EFW:tp

U-18

TELECOPIER 243-4774 • TWX 910 464 1594

Wildlife Mitigation Status Report

PORTLAND BULL RUN HYDROELECTRIC PROJECT

Prepared by:

M. S. Potter
K. L. Bedrossian
R. D. Carleson
J. H. Noyes

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Progran

Portland, Oregon
1984

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I. PROJECT NAME

Portland Hydroelectric Project (Portland Bull Run Hydroelectric Project)

II. PROJECT OPERATOR

City of Portland, Oregon (Portland)

III. PROJECT DESCRIPTION

A. Location and Size

The Portland Bull Run Hydroelectric Project (Bull Run Project) is located on the Bull Run River, a tributary of the Sandy River, in Clackamas and Multnomah counties, Oregon. The project is composed of 2 dams and reservoirs. Dan Number One is situated at river mile 11.2, and Dam Number Two is located at river mile 6.3 on the Bull Run River. (City of Portland [Portland] 1978). Portland is approximately 30 miles west of the Bull Run Project (Portland 1978, U.S. Forest Service [USFS] 1979), and the town of Sandy is 6.5 air miles southwest of Dam Number One (Portland 1978). The project is located within the Bull Run Reserve of the Mt. Hood National Forest. Public access to the project is prohibited; however, USFS road SlO follows nearly the entire length of the Bull Run River (Portland General Electric Company [PGE] 1976).

Bull Run Dan Number One is a concrete arch-gravity structure built on a 600-foot radius. The dam is approximately 1,000 feet long at the crest and 200 feet high. The spillway crest is at elevation 1,036 feet. At maximun full pool elevation, Reservoir Number One is 4 miles long and covers 451 surface acres. Two 8-foot diameter, 120-foot long penstocks are built into the dam and connect to a single 10.5 foot diameter penstock feeding to the turbine. Powerhouse Number One is located at the toe of Dam Number One. The powerhouse is a reinforced concrete and steel frame structure containing 1 Francis-type turbine, 1 generator with a capacity of 24,000 kilowatts, an operational control room and other auxiliary equipment (Portland 1978; C. Hilbrick, Portland, comments on 17 July 1984 draft report).

Bull Run Dam Number Two is a rockfill embankment with a central clay core. The dam is 900 feet long at the crest, and 145 feet high. Elevation at the top of the dan is 875 feet. Reservoir Number Two is 5 miles long from the face of Dan Number Two to the inflow below Dan Number One, with a surface of 418 acres. The north intake structure, of the 2 former municipal water supply intakes, is a single-level tower located between elevations 755 and 780 feet. A 1,1000-foot long, 15-foot dianeter, steel-lined tunnel is attached to the 130-foot long, 10.5-foot diameter steel penstock (C. Hilbrick, Portland, comments on 17 July 1984 draft report). Powerhouse Number Two is a reinforced concrete and steel structure housing 1 Kaplan-type turbine, 1 generator with a capacity of 12,000 kilowatts, an operational control room and other auxiliary equipment (Portland 1978; C. Hilbrick, Portland, comments on 17 July 1984 draft report). Also associated with the project is a lo-mile long transmission line which follows Forest Road SlO between Dam Number One and Dan Number Two, and a municipal water supply conduit between Dan Number Two and PGE's Bull Run hydroelectric plant (Portland 1978).

B. Authorized Purposes

"Preservation of water quality and quantity in the City of Portland's only source of water is the predominant purpose of the system of dams and reservoirs. The generation of electric energy is completely subordinate to the preservation of water quality and quantity" (Portland 1978). Intakes, tunnels and penstocks were built into both duns at the time of construction, but power facilities were not installed due to lack of funds (C. Hilbrick, Portland, pers. commun.; Portland 1978).

C. Brief History

The Bull Run Project is located within the Bull Run Reserve, established in 1892 as the Bull Run Forest Reserve (Hartmann and Honey 1978, USFS 1979). In 1895, water was first diverted from the Bull Run River to supply the City of Portland with water (Greisser 1982). The 1904 Bull Run Trespass Act prohibited entry into the reserve for anyone not on official business (USFS 1979). Bull Run Dan and Storage Reservoir Number One were completed in 1929. In 1959, 42,500 acres within the reserve were opened for public use, including timber management. Bull Run Dam Number Two was completed in 1962. In 1977, the Bull Run Watershed Management Unit was created for the cooperative management of the reserve, and public access was again prohibited (USFS 1979). In the early 1970's the Portland City Council authorized a study to determine the feasibility of adding hydroelectric power facilities to the dams, and by 1976 Portland began the Federal Energy Regulatory Commission (FERC) license application process (C. Hilbrick, Portland, pers. commun.). Construction of the hydroelectric facilities began in June 1979, and commercial power from the Bull Run Project was first generated in January 1982 (C. Hilbrick, Portland, pers. commun.).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The reservoirs are operated to meet municipal water supply needs. The maximum seasonal drawdown for the municipal water supply usually does not exceed 60 feet at Reservoir Number One, and 40 feet at Reservoir Number Two. Following the summer drawdown season, when water flows again exceed the municipal demand, the reservoirs are operated for maximum power generation. The reservoirs are refilled in the fall before power generation takes place. Maximum water fluctuation for power generation is limited to 2 feet below the spillway by the FERC license (C. Hilbrick, Portland, pers. commun.). During the spring, March through May, minimum reservoir levels are restricted to allow the reservoirs to refill prior to the summer municipal water supply drawdown season (Portland 1978). Manipulation of reservoir water levels was conducted in this manner for many years prior to construction of the hydroelectric facilities (C. Hilbrick, Portland, pers. commun.).

Reservoir Number One is operated to meet peak power demands. Reservoir Number Two is operated as a baseload plant and reregulates the stream flow from Reservoir Number One. Daily operations of the Bull Run

Project are controlled from PGE's Bull Run hydroelectric plant at river mile 1.7 of the Bull Run River (Portland 1978).

(2) Land ownership

The Bull Run Project is located within the 95,382 acre Bull Run Watershed Management Unit (USFS 1979). The City of Portland owns 3,989 acres within the watershed management unit (USFS 1979). The Bull Run Project boundary encompasses the reservoir, dams, spillways, powerhouses, transmission line and access road to Dam Number One, and totals over 1,066 acres (Portland 1978).

The project is located within the Oregon Department of Fish and Wildlife's (ODFW) Santiam Wildlife Management Unit, and the Clackamas Wildlife District of the Columbia Region. ODFW is responsible for the management of wildlife within the State of Oregon (ODFW 1982) and serves in an advisory capacity to the City of Portland and the Columbia Gorge District of the Mt. Hood National Forest regarding fish and wildlife impacts at the Bull Run Project.

(3) Indian rights

No tribes are involved with the actions taken at the Bull Run Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

In 1964, the Oregon State Game Commission compiled a report on the fish and wildlife resources of the Lower Willamette Basin, Oregon, and their water use requirements (Hutchison and Aney 1964). The report included the Sandy River Basin and contained general information for the entire Lower Willamette Basin regarding game species and hunter success. The information was not specific to the project.

The Bull Run Trespass Act prohibited all entry into the reserve except for the purpose of protecting the watershed and water quality. The 1977 amendment to the Act permitted entry for hydroelectric development, at which time field investigations could begin (Portland 1978). Portland's 1978 Environmental Report, Exhibit W of the FERC license application, was based on limited information existing prior to the 1977 amendment. The report included a description of the project site, as well as lists of wildlife species known to be or likely to occur in the project area. A cultural resource survey of the proposed project site was conducted in 1978 (Hartmann and Honey 1978) which provided on-site wildlife observations. USFS published the final environmental statement on the Bull Run Planning Unit in 1979. The statement described conditions in the planning unit, which encompasses the watershed management unit and the Bull Run Project.

Aerial photographs taken prior to construction of the power facilities are available from USFS, and the University of Oregon Map Library has

photos taken in 1959 (S. Trevitt-Clark, University of Oregon, pers. commun.). Aerial photographs of powerhouse construction are available from Portland, which also has photographs of the Bull Run area dating back to the late 1800's (C. Hilbrick, Portland, pers. commun.).

The following information is based on the reports previously mentioned and on conversations with individuals knowledgeable of the Bull Run Project. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The Bull Run River valley is relatively narrow, with an elevation drop of 100 feet over the 5 miles between the dams, and a gradient of 100 feet per mile from Dan Number Two to PGE's Bull Run plant (Portland 1978). Dam Number One is situated in a 200-foot deep river canyon with steep slopes. The valley slopes are steep at the site of Dam Number Two, but the embankment slopes flatten out (Portland 1978). The terrain surrounding the project is densely vegetated western Oregon forest dominated by Douglas fir described as Western Hemlock Zone (Hartmann and Honey 1978). In addition to Douglas fir, the Bull Run Planning Unit is characterized by western hemlock and western red cedar, with intermingled noble fir, silver fir, grand fir, subalpine fir, and mountain hemlock. Major deciduous trees include bigleaf maple and red alder. The most commonly observed shrub species are huckleberries, vine maple, dogwood, Oregon grape, salal, rhododendron, and devil's club. Herbaceous vegetation within the planning unit is composed of swordfern, oxalis, bunchberry, beargrass, and twinflower (USFS 1979). The Bull Run Planning Unit is unique in that 75% of the forest has never been harvested. The majority of the forest is old growth timber with an estimated age of 250 years. On some sites the trees are 35 to 50 inches in diameter at breast height and 150 feet tall (Portland 1978). The planning unit has an abundance of snag habitat (USFS 1979). Closure of the watershed management unit to public entry makes it, in effect, a wildlife preserve (Portland 1978).

No quantitative information on wildlife or wildlife habitat specific to the project area was found for the period prior to construction of the dams and reservoirs. Limited information was available on conditions prior to construction of hydroelectric facilities. Information was available on bird species present in the project area prior to the power facilities, but population densities were not known. Information on herptiles was limited to the species likely to occur in the area and provided no information on density or cotnnunity structure (Portland 1978). Deer per mile figures were available from census routes conducted north and south of the reservoir (Portland 1978). Cougar and marten were suspected to be in the project area, and mountain beaver, goshawk and pileated woodpecker had been observed in the planning unit (Portland 1978). Osprey had been sighted roosting in a snag tree 200 yards downstream from Dam Number One (Hartmann and Honey 1978) and an osprey nest was located at the south shore of Reservoir Number One near the mouth of Fir Creek (Portland 1978). Bald eagles were occasionally seen in the project area (USFS 1979), but no known nests, roosting or perching sites occurred near the project location (Hartmann and Honey

1978, USFS 1979). Spotted owls had been seen near the project site (Portland 1978), but did not appear to nest nearby (Hartmann and Honey 1978). Other than bald eagles and spotted owls, no threatened or endangered species had been observed in the planning unit or were expected to occur (Portland 1978). Wolverine and western spotted frog might occur in the project area (Portland 1978), but are not known to be present (R. Maben, ODFW, pers. commun.).

B. Post-Construction Period

(1) Available information

No reports were located documenting information on impacts to wildlife or wildlife habitat resulting from installation of the dams, reservoirs and associated facilities, or construction of the powerhouses. Aerial photographs are available from USFS. ODFW publishes wildlife population inventories, herd composition, trend counts, and harvest data in the Wildlife Division annual report. These data are available by region, county or wildlife management unit. The information is not specific to the project site.

The following information is based on the reports mentioned in IV.A.(l) and on conversations with individuals knowledgeable of the Bull Run Project area. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Specific wildlife habitat types and the amount of each habitat type affected by the project was not known without conducting a more detailed study. The number of game and nongame animals affected by the project was not provided. The ecological significance of the alteration of wildlife habitat was not evaluated. Information documenting the effects of project construction or operation activities on wildlife was not available.

The impact of installation of power facilities on plant and animal habitat was predicted to be very small compared to the impact which occurred as a result of the installation of the dams, reservoirs, and associated facilities (Portand 1978). Upon completion of construction, the addition of the powerhouses at the Bull Run Project has probably had a minor impact on wildlife (E. Herb, J. Pesek, ODFW; R. Kneeland, USFS, pers. commun.). The most serious aspect of powerhouse construction was probably the extensive blasting and excavation required for the road to the base of Dam Number One (Hartmann and Honey 1978). According to C. Hilbrick (Portland, pers. commun.), blasting operations were conducted in a conservative manner over a 4-week period due to the proximity of the dam. The road right-of-way contained many large Douglas fir and snag trees which were cleared. The adverse impact on snag nesting birds and mammals was possibly high, but could not be estimated without more detailed knowledge of habitat utilization before construction of the power facilities (Hartmann and Honey 1978). Some old growth timber was cleared for the transmission line right-of-way, which was predicted to destroy habitat for animals nesting in the

material removed (Portland 1978). Construction noise was expected to affect wildlife, but the magnitude was not known (Portland 1978). No rare habitat types were expected to be disturbed, no changes in wildlife migration patterns were anticipated, and no substantial ecosystem disruption was expected (Portland 1978).

(3) Benefits

Manual vegetation control along the transmission line right-of-way was expected to benefit browsing wildlife species, such as deer (Portland 1978). No other project benefits were documented. Mudflats exposed at low water levels are used by a small population of shorebirds, such as spotted sandpiper (J. Pesek, ODFW; R. Kneeland, USFS, pers. commun.).

(4) Additional information

ODFW conducts annual spring deer trend routes in the vicinity of the project. The routes are located north and south of the project, averaging 1.5-5 miles in distance from the reservoirs. A portion of the southern trend route parallels the reservoirs at a distance of 0.5-0.75 mile. These annual counts average 1.5 deer per mile on the northern route, and 1 deer per mile on the southern route (E. Herb, ODFW, pers. commun.).

Although the project area is not a major waterfowl area, a few wood ducks, mergansers and mallards nest at the project (E. Herb, ODFW, pers. commun.). The reservoirs receive osprey use which has increased over the past few years. Two active osprey nests are located at Reservoir Number One, one at the mouth of Fir Creek, and another at the mouth of Deer Creek (E. Herb, J. Pesek, ODFW; R. Kneeland, USFS, pers. commun.). Bald eagles have been sighted at the project, primarily during the winter. Habitat conditions could support bald eagle nesting at the Bull Run Project, but no nesting has occurred (R. Kneeland, USFS; J. Pesek, ODFW, pers. commun.). Although spotted owls nest within the Bull Run watershed, no nesting pairs have been located at the project (R. Kneeland, USFS; J. Pesek, ODFW, pers. commun.). Due to the abundance of old growth timber in the project area, wildlife species dependent upon this habitat are found within the project area (J. Pesek, ODFW, pers. commun.).

The sighting of common loons at the project in the spring is of special interest (E. Herb, J. Pesek, ODFW; R. Kneeland, USFS, pers. commun.). Common loons no longer nest in Oregon, but a pair has attempted to nest at Reservoir Number Two on debris accumulated against log booms or on old stumps protruding from the water during drawdown (R. Kneeland, USFS; J. Pesek, ODFW, pers. commun.). The pair of common loons was sighted at the project in April 1984, and again two months later. Unfortunately, water level fluctuations of the reservoir seem to be flooding out the nest (R. Kneeland, USFS; J. Pesek, ODFW, pers. commun.).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

Exhibit W of Portland's license application (Portland 1978) indicated all ground surfaces disrupted by construction of power facilities would be restored and revegetated, which was done with native species (C. Hilbrick, Portland, pers. commun.). No plans for enhancement of habitat for wildlife species by planting special grasses and shrubs were proposed as part of the project (Portland 1978). No specific opportunities for such programs were identified, nor did ODFW recommend any (Portland 1977).

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

FPC had the authority to grant licenses to hydroelectric projects meeting the requirements of the Federal Water Power Act whenever a substantial portion of the project land was owned or controlled by the United States, as was the case at Bull Run.

Section 10(a) of the Federal Water Power Act required as a license condition that the project in the judgement of FPC "will be best adapted to a comprehensive plan. ..for the improvement and utilization of water-power development, and for other beneficial public uses, including recreational purposes".

Exhibit W of Portland's license application (1978) was written in compliance with NEPA of 1969 (Portland 1978), and addressed the impact of the project on threatened or endangered species.

(2) Oregon Water Resources Department requirements

Appropriation and use of water for power is controlled by Chapter 543, Hydroelectric Power Projects, Oregon Revised Statutes. The Water Policy Review Board "shall have due regard for conserving the highest use of water for all purposes, including . ..protection of...game fishing and wildlife..." when determining whether a project would impair or be detrimental to the public interest. ORS 543.150 indicates ORS 543.010 to 543.610 (covering hearing, licensing, and financing procedures) shall not apply to cities, towns, or other municipal corporations of this state.

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed 10 March 1934 (48 Stat. 401). This law was enacted "to promote the conservation of wildlife, fish and game..." The first legislative mandate was passed in an amendment on 14 August 1946, which required all hydroelectric project developers to consult with U.S. Fish and Wildlife Service (USFWS) and state conservation agencies prior to project development "with a view to preventing loss of and damage to wildlife resources." Projects were required to contain adequate provisions for

"conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon," consistent with primary project purposes. This Act was named FWCA on 12 August 1958, at which time an amendment was added stating "wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs." Land acquisition, project modification, and/or project operations modification were to be based on impact and mitigation reports by USFWS and state agencies, and costs for these measures were to be made an integral part of project costs.

The Bull Run Project was required to comply with FWCA, including the 1958 amendment, as a condition of the licensing procedure. The Federal Power Commission was responsible for soliciting comments on the license application from state and federal agencies and determined whether or not the requirements of FWCA were met (J. Leach, FERC, pers. commun.).

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that agencies consult with the Department of the Interior to ensure that actions not jeopardize any threatened or endangered species.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife habitat mitigation.

Public Law 95-200, adopted in 1977, prescribes management of the Bull Run Watershed Management Unit in a manner to protect the municipal water supply. The City of Portland and USFS work cooperatively toward this goal. Portland has a Special Use Permit from USFS which applies to all portions of the Portland Bull Run Hydroelectric project which lie on USFS lands (C. Hilbrick, Portland, comments on 17 July 1984 draft report).

C. Mitigation Implemented

Ground surfaces disrupted by construction of the power facilities were revegetated with native species (C. Hilbrick, Portland, pers. commun.).

No other records were found of wildlife or wildlife habitat protection, mitigation, or enhancement at the Bull Run Project.

VI. CURRENT STUDIES AND PLANNING

No studies or planning for wildlife or wildlife habitat protection, mitigation, or enhancement are currently in progress at the Bull Run Project.

The Pacific States Bald Eagle Recovery Plan designates Bull Run Reservoir as a potential nesting area (Pacific States Bald Eagle Recovery Team 1982.) USFS is studying the spotted owl and old growth forest management (USFS 1981). Other studies and planning being conducted in the Willamette Valley and State of Oregon could eventually affect management in the Bull Run area. ODFW is developing several management

plans, including big game management objectives for the Santiam Wildlife Management Unit, and a statewide nongame plan.

USFS published the Final Environmental Statement on the Bull Run Planning Unit Land Management Plan in 1979.

VII. REFERENCES CITED

City of Portland, Oregon. 1977. Before the Federal Power Commission, application for license, project No. 2821, Oregon. Portland Hydroelectric Project. Exhibit S. 9 pp.

City of Portland, Oregon. 1978. Before the Federal Power Commission, application for license, project No. 2821, Oregon. Portland Hydroelectric Project. Exhibit W, environmental report. Revised. 213 pp.

Griesser, A. H. 1982. History of Portland General Electric Company, 1889-1981. Portland General Electric Company. 218 pp.

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A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Mary Potter
Karen Bedrossian
Dan Carleson
Jim Noyes

U.S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

C. Hilbrick
L. Ly

(2) Summary of Project Operator Contacts

Date	Individual	Summary
20 April 1984	L. Ly	Initiation of consultation and coordination.
01 May 1984	C. Hilbrick	Phone. Discussed information needed.
09 May 1984	C. Hilbrick	Provided information about project.
29 June 1984	C. Hilbrick	Phone. Provided information.
09 July 1984	C. Hilbrick	Phone. Arranged for tour of project. Draft report submitted to Portland for informal comments.
11 July 1984	C. Hilbrick	Toured project. Discussed draft report.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

E. Herb
R. Maben
J. Pesek

U. S. Forest Service

R. Kneeland
D. Longrie
R. Pfilf

Other

S. Trevitt-Clark, University of Oregon

APPENDIX C

COMMENTS ON 17 JULY 1984 DRAFT REPORT

(1) State Agency (ODFW)

(2) Federal Agencies (USFWS and USFS)

BPA requested comments on the 17 July 1984 Bull Run draft report by 14 August 1984. Comments by USFS were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

(3) Tribes

No tribes are involved with the actions taken at the Bull Run Project.

(4) Facility Operator (Portland)

ODFW Comments:

AUG 06 1984

Department of Fish and Wildlife

506 SW MILL STREET. PO BOX 3503, PORTLAND, OREGON 97209

August 2, 1984

Mr. John R. Palensky. Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland OR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish and Wildlife has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Bull Run (Portland) Project Wildlife Mitigation Status Report and our attached comments on that report indicate, comprehensive evaluation of wildlife resource impacts and mitigation for wildlife habitat losses were not accomplished.This is not intended to be an indictment of any agency or the City Of Portland. Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act fur protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating agencies to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In particular, we should proceed to make an assessment of impacts in order to determine if mitigation of wildlife resources is needed at the Bull Run Project. The Department is prepared to take the lead in this endeavor upon approval and funding by tne Council and Bonneville Power Administration using: 1) the expertise of biologists from various agencies; 2) existing data where possible; and 3) cost effective methods.

The first step toward accomplishing the goals of the Power Council's Fish and Wildlife Program has been the mitigation status report. We must now take the succeeding steps leading to full compensation for wildlife and wildlife habitat impacts at tne Bull Run Project.

Sincerely,

John R. Donaldson, PhD
Director

JRD:kp

Encl.

V-15

Explanations or Modifications:

No explanations or report modifications necessary.

ODFW Comments (cont.):

Oergon Department Of Fish and WildlIfe
Comments on
Wildife Mitigation Status Report
Bull Run (Portland) Project
2 August 1984

Oregon Department of Fish and Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonnevile Power Aministration dated 24 July 1984 to review the Mitigation Status Report for the Bull Run (Portland) Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic beneflts for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(I) To maintain all species of wildlife at optimum levels and prevent the serious depeletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigatlon when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate dnd enhance fish and wildlife to the extent affected by tne development and operation of any hydroelectric project of the Columbia River and its tributaries . . ," This goal has yet to be achieved at the Bull Run Project.

The Bull Run Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction of the dams was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of habitat affected. Tne significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. Tne status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Bull Run Project, it is necessary to determine what impacts occurred. Upon approval of and funding by the Council and Bonneville Power Adminstration the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Bull Run Project. The Department is also ready to take the lead in developing mitigation plans. Consultation and coordination with the City of

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

Portland and appropriate agencies Involved in the Bull Run Project is, of course, an integral part of both of these processes.

The level of understanding of our wildlife resources has improved since the time of construction of the Bull Run Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power In the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective nnd cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

AUG 20 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

August 14, 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 24, 1984, we have reviewed the Wildlife Mitigation Status Report for the Bull Run (PDX) Hydroelectric Facility (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it is evident that the construction and operation of the Project probably resulted in only minor adverse impacts to wildlife resources. There appears to be little need to address species of interest to our agency. The Oregon Department of Fish and Wildlife may wish to pursue further action, in which case we would be supportive but not actively involved in such efforts.

Sincerely yours,

James W. Teeter
Acting Assistant Regional Director
Habitat Resources

Explanations or Modifications:

No explanations or report modifications necessary.

Portland Comments: | **Explanations or Modifications:**

CITY OF
PORTLAND, OREGON
HYDROELECTRIC POWER

Francis J. Ivancie, Mayor
James I. Doane, Manager
1120 S.W. 5th, 5th Floor
Portland, Oregon 97204-1975
(503) 796-7405

AUG 20 1984

August 17, 1984

170

Mr. John Palensky, Ddirector
Dlvlsion of Flsh and Wildlife
Bonneville Power Admlnlstratlon
P. 0. Box 3621
Portland, OR 97203

Attn: Mr. James Meyer

Re: Wildlife Mitigation Status Report for the Portland Hydroelectric Project

Dear Mr. Meyer:

The City of Portland's Bureau of Hydroelectric Power staff has reviewed the draft copy of BPA's Wildlife Mitigation Status Report for the Portland Hydroelectric Project and offers the followlng comments:

1) On the title page as well as on Pages 1, 2, 3. 4, and 8: The City's Project is referred to as the Bull Run Project. To eliminate confusion between the City's project and PGE's nearby Project, please utilize the actual title of this project, which is the Portland Hydroelectric Project.

   Report modifled.

2) On Page 1, Section III-A: Both powerhouses are reinforced concrete and steel frame structures. Both powerhouses also contain one turbine, one generator, an operational control room and other auxiliary equipment.

   The reference to a steel building in the third paragraph is probably referring to one of the air housings which surrounds each of the generators.

   Report modified as suggested. See Section II1.A

3) On Page 1, Section III-A: The 1100 foot long, 15 foot diameter steel lined tunnel at Dam No. 2 is attached to the 130 foot long, 10.5 foot diameter steel penstock at a point just west of the downstream toe of Dam No. 2.

   Report modified as suggested. See Section 1II.A.

4) On Page 2, Section III-D-(l): The City's FERC license restricts the operation of the hydroelectric plants such that the water levels behind each of the two dams can not be drawn down more than 2 feet past the respective dam's spillway crest elevation solely for hydropower generation purposes.

   No report modification necessary.

Portland Comments (cont.):

Mr. John Palensky
August 17, 1984
page 2

During the spring of each year, the drawdown and refill operations at each of the reservoirs are controlled very carefully to insure that the reservoirs will be at maximum storage potential when the summer municipal water supply drawdown cycle starts.

5) On Page b, Section V-B-(4): Portland has a Special Use Permit from the USFS which applies to all portions of the Portland Hydroelectric project which lie on USFS lands.

Should you have dny questions regarding these comments, please contact me.

Sincerely,

Carl Goebel. Administrator

Clarence P. Hillbrick, Principle Engineer
Bureau of Hydroelectric Power

CPH:kb

cc: James L. Doane
Frank Galida

Explanations or Modifications (cont.):

No report modifications necessary.

Report modified as suggested. See Section V.B.(4)

Wildlife Mitigation Status Report

ROCK CREEK PROJECT

Prepared by:

J. H. Noyes
K. L. Bedrossian
R. D. Carleson
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

W

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I. PROJECT NAME

Rock Creek Project

II. PROJECT OPERATOR

CP National Corporation (CP National)

III. PROJECT DESCRIPTION

A. Location and Size

The Rock Creek Project is located in Baker County, Oregon, approximately 15 miles northwest of Baker. Access to the project is provided by County Road 552; Interstate 84 lies about 12 miles east of the project site.

A 4-foot high concrete gravity dam diverts water from Rock Creek via a 42-inch diameter, half-round timber flume (8,500 feet long) to an earth-lined forebay 930 feet above the powerhouse (CP National 1981). Timber trestles carry approximately 800 feet of the flume over Rock Creek and 2 tributary draws. The remainder of the flume is supported directly on a bench cut in the sidehill (U.S. Forest Service [USFS] 1981). The forebay is about 7 feet deep, measures 125 feet by 275 feet, and encompasses about 0.8 surface acre. From the forebay, a steel penstock about 2,700 feet long, ranging from 12-24 inches in diameter, runs down a steep ridge to the powerhouse (CP National 1981). The project operates under 936 feet of hydraulic head (Klingeman 1980). Two 400-kilowatt Pelton turbine-generator units are located within the powerhouse (CP National 1981).

B. Authorized Purposes

The purpose of the Rock Creek Project is hydroelectric power generation (CP National 1981).

C. Brief History

The original Rock Creek hydroelectric facilities were constructed in 1905 by Rock Creek Power and Transmission Company, acquired in the same year by Baker Light and Power Company (CP National 1981, Federal Power Commission [FPC] 1951). An easement for the diversion dam and 4,300 feet of flume (6.29 acres total) was issued by the U.S. Department of A riculture to Eastern Oregon Light and Power Company in 1910 (USFS 1981 4. In 1926, the original timber flume (3 feet deep by 6 feet wide) was replaced by the existing half-round flume, with a flow capacity of 23 cubic feet per second (cfs) (CP National 1981).

In June 1946, the easement for the diversion and flume was acquired by California-Pacific Utilities Company (currently CP National). FPC license no. 1986 was issued June 1951 (USFS 1981).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The Rock Creek Project is operated as a run-of-the-river plant (CP National 1981). From 1905 until 1 turbine unit failed in 1980, all flows up to about 20 cfs were diverted for power purposes (CP National 1981). The failed turbine unit went on line in June 1982 and river flows up to 20 cfs were again diverted for power purposes (R. Erwin, CP National, pers. commun). Rock Creek is primarily fed by snowmelt from the Elkhorn Mountains, thus flows are dependent on the snowpack during any given year.

(2) Land ownership

The diversion dam and the first 4,300 feet of the timber flume (6.29 acres total) are located on USFS land (FPC 1951). The next 4,000 feet of flume and the middle section of the penstock (about 1,000 feet) leading to the powerhouse are on private land. CP National owns the land occupied by the last 200 feet of flume, the forebay, approximately 1,700 feet of penstock, and the powerhouse (CP National 1981). Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the project area, located in ODFW's Sumpter Wildlife Management Unit.

(3) Indian rights

No tribes are involved with the actions taken at the Rock Creek Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

No information on pre-construction project conditions was available from reports, project files, or historical records. No assessments of predicted impacts on wildlife were found. An application for a new license by CP National (1981) provided information on recent conditions in the project vicinity and was used to infer pre-construction conditions. The following information is based on this license application and on conversations with ODFW wildlife biologists familiar with the area. Additional information was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The project vicinity is a "relatively steep-sided valley", which supports a mixed stand of ponderosa pine, lodgepole pine, Douglas fir, white fir, tamarack, and spruce (CP National 1981). Aspen, cottonwood, maple, and willow occur along the stream. Typical shrubs include wild rose, spiraea, snowberry, ocean spray, manzanita, ninebark, huckleberry, and Oregon boxwood (CP National 1981). Grasses and forbs in the area

include arnica, elk sedge, bluebunch wheatgrass, blue bunchgrass, hawkweed, and lupine.

Based on wildlife species presently occurring in the Powder River Basin (CP National 1981; R. Humphreys, ODFW, pers. commun.), species existing in the project area prior to construction may have included mule deer, mountain quail, blue and ruffed grouse, beaver, muskrat, river otter, marten, mink, bald eagle, and wolverine.

B. Post-Construction Period

(1) Available information

No published information was found that addressed wildlife resources specific to the project area. A license application by CP National (1981) and an environmental assessment by USFS (1981) provided limited information on species occurrence and recreational use within the general project area. A wildlife inventory for a USFS timber sale in 1982 provided data on wildlife use and forest conditions near the project area. The following information is based on these reports and on conversations with individuals knowledgeable of the project area. No information on wildlife impact assessments was found. Aerial photos of the Wallowa-Whitman National Forest taken in 1964, 1970, 1977, and 1980 are available from USFS. Post-construction aerial photos are available from the University of Oregon Map Library. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

The project area is within winter range for mule deer and Rocky Mountain elk (R. Humphreys, ODFW, pers. commun.). The existing timber flume is a minor obstruction to the movement of these animals (ODFW files). Observations from the flume and from aerial photographs indicate a history of frequent erosion problems caused by ice jams backing up water in the flume, and structural failures (USFS 1981). The diversion of strean flows from Rock Creek may have altered the vegetation along the stream. Elk currently winter on the south facing slopes to the north of the powerhouse (K. Baer, CP National, pers. commun.). The Oregon State Game Commission did not express any concerns with the license application for the Rock Creek Project (FPC 1951).

Specific wildlife habitat types and the amount of each habitat type affected by the project was not known without conducting a more detailed study. The number of game and nongame animals affected by the project was not provided. The ecological significance of the alteration of wildlife habitat was not evaluated. Information documenting the effects of project construction or operation activities on wildlife was not available.

(3) Benefits

No apparent benefits to wildlife have resulted from construction of the Rock Creek Project (R. Humphreys, J. Grover, ODFW, pers. commun.).

(4) Additional information

Wildlife species listed as threatened in Oregon, which occur in the Powder River Basin include northern bald eagle and possibly wolverine (CP National 1981). No bald eagle nest sites or roosts have been reported in the Rock Creek Project area. Wolverine sightings have been reported in Baker County, but no sightings were confirmed (CP National 1981). Heavy elk use and potential pileated woodpecker and goshawk nest sites were identified at the Muddy Creek Timber Sale, approximately 0.5 mile west of the project (USFS timber sale files).

Production, trend count, and harvest data for big game in the Sumpter Wildlife Management Unit and for upland game in Baker County are available from ODFW. ODFW has conducted aerial elk surveys for over 15 years along a route that includes the area east of the Rock Creek powerhouse (J. Grover, ODFW, pers. commun.). Harvest data are available for furbearers in Baker County. This information is not specific to the project site.

No recreation sites occur near the project area (USFS 1981). The majority of recreational use within the Rock Creek drainage occurs during the fall hunting season, and generally at higher elevations within the drainage (USFS 1981).

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

No wildlife mitigation enhancement or protection measures have been proposed to directly offset impacts to wildlife as a result of the Rock Creek Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The Rock Creek Project was constructed prior to passage of the Federal Power Act in 1920 and prior to the creation of FPC in 1922, thus no FPC requirements are applicable to the project.

(2) Oregon Water Resources Department requirements

The Rock Creek Project was constructed prior to passage of the Hydroelectric Act (ORS 543.225) in 1931.

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed in 1934, 29 years after construction of the Rock Creek Project.

The National Environmental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that agencies consult with the Department of the Interior to ensure that actions not jeopardize any threatened or endangered species. Since there have been

no recent additions or major changes to the Rock Creek Project, no impact assessments or mitigation measures have been mandated during the operational history of the project.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No wildlife mitigation, enhancement, or protection measures of which ODFW or CP National personnel were aware have been implemented at the Rock Creek Project (R. Humphreys, ODFW; K. Baer, CP National, pers. canmun.).

VI. CURRENT STUDIES AND PLANNING

No studies or planning are currently being conducted for wildlife mitigation specifically at the Rock Creek Project (R. Humphreys, ODFW, pers. commun.).

Studies and planning being conducted elsewhere in the State of Oregon could eventually affect wildlife/habitat management in the Rock Creek area. The Oregon Fish and Wildlife Commission has adopted mule deer and Rocky Mountain elk population management objectives for the Sumpter Wildlife Management Unit, and ODFW is developing a statewide nongame plan.

VII. REFERENCES CITED

CP National Corporation. 1981. Application for new license, Rock Creek hydroelectric project, draft. Concord, Calif. Paging various.

Federal Power Commission. 1951. Order issuing license (major). Paging various.

Klingeman, P.C. 1980. A resource survey of the hydroelectric potential at existing and proposed dams in Oregon. Oregon Water Resources Research Institute, Corvallis, Oreg. 93 pp.

U.S. Forest Service. 1981. Environmental assessment for C.P. National's hydroelectric proposal on Rock Creek. Baker Ranger District, Baker County, Oreg. 16pp.

APPENDICES

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Jim Noyes
Karen Bedrossian
Dan Carleson
Mary Potter

U. S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

K. Baer
R. Erwin
J. Vetromile

(2) Summary of Project Operator Contacts

Date	Individual	Summary
24 April 1984	J. Vetromile	D. Carleson sent letter to CP National providing information and requesting contacts.
22 May 1984	R. Erwin	Meeting. Discussed project and obtained information.
22 May 1984	K. Baer	Meeting. Toured project.
29 May 1984	R. Erwin	Phone. Requested information.
06 June 1984	R. Erwin	Mailed informal review draft to CP National for comments.
14 June 1984	R. Erwin	Received comments on informal review draft from CP National.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife

J. Grover
R. Humphreys
J. Melland
R. Rohweder

U. S. Forest Service

L. Anes
E. Baumgarten
R. Miller
T. Thomas

Other

D. Buell, Oregon Water Resources Department
J. Leach, Federal Energy Regulatory Commission
S. Trevitt-Clark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 20 JUNE 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS and USFS)

(3) Tribes

No tribes are involved with the actions taken at the Rock Creek Project.

(4) Facility Operator (CP National Corporation)

BPA requested comments on the 20 June 1984 Rock Creek draft report by 23 July 1984. Comments by CP National were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

JUL 27 1984

Department of Fish and Wildlife
506 S.W. MILL STREET, P.O. BOX 3503, PORTLAND, OREGON 97208

July 16, 1984

Mr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Attention Mr. James Meyer:

The Oregon Department of Fish and Wildlife (ODFW) has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Rock Creek Project Wildlife Mitigation Status Report and our attached comments on that report indicate, a comprehensive evaluation of wildlife resource impacts was not conducted. This is not intended to be an indictment of any agency or CP National Corporation. Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating parties to move forward in implementing the Wildlife Program of the Northwest Power Planning Council. In consideration of this goal, ODFW recommends that an assessment of impacts at Rock Creek in order to determine if mitigation of wildlife resources is needed, not be conducted until such activities have been accomplished at higher priority projects in the State of Oregon.

Sincerely,

John R. Donaldson, PhD
Director

JRD:aj
Encl.

No explanations or report modifications necessary

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Rock Creek Project
16 July 1984

Oregon Department of Fish and wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer. Bonneville Power Administration, dated 5 July I984 to review the Mitigation Status Report for the Rock Creek Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(I) To maintain all species of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife.'

In accordance with DRS 496.012. the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . . ."

The Rock Creek Project Wildlife Mitigation Status Report demonstrates assessment of the impacts to wildlife resulting from construction and operation of the projects was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also have not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Rock Creek Project, it is necessary to determine what impacts occurred. Although the Rock Creek Project has not been given a high priority for wildlife mitigation by ODFW this project should not be disregarded without conducting d loss estimate to determine the impacts of the project on the wildlife resources. Upon the approval of and funding by

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

the Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Rock Creek Project. The Department is also ready to take the lead in developing mitigation plans if needed. Consultation and coordination with CP National Corporation and appropriate agencies involved in the Rock Creek Project, is of course, an integral part of both of these processes. We believe that a workable loss estimate and mitigation plan can be developed based on existing information and the expertise of biologists from CP National and the various agencies who are familiar with the project area and appropriate wildlife habitat and species. Extensive, detailed studies will only delay implementation of mitigation measures.

The level of understanding of our wildlife resources has improved since the time of construction of the Rock Creek Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS omme :

Explanations or Modifications:

AUG 0 1 1984

United Stat esDepartr nentó the Interior

FIS AND WILD IF ERVICE

July 26, 1984

Mr. John Palensky, Dir ctor
Division of Fish and W ldlife
Bonneville Power Admin stration
Attention: James Mey
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Palensky:

As requested in Mr. Meyer's letter of July 5, 984, we have reviewed the Wildlife Mitigation Status Report for the Rock Creek Project (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it is evident that the construction and operation of the Project may have resulted in adverse impacts to wildlife resources which have been neither adequately identified nor mitigated. Therefore, the Service recommends that the Bonneville Power Administration provide funds to: 1) conduct a comprehensive evaluation of the impacts of the Project on wildlife resources; and 2) based on the findings of that evaluation, develop a mitigation and enhancement plan which would fully compensate adverse wildlife impacts attributable to the Project.

In conclusion, we believe no single agency or user group s responsible for the adverse wildlife impacts which may have resulted from the development and operation of the Rock Creek Project. The proposals outlined in this letter would be considered "standard operating procedures" for evaluating the impacts of new water development proposals under present state and federal laws, regulations, and policies. Unfortunately, these legal mandates which today provide for the protection of our wildlife resources were not as strong when the Rock Creek Project was being developed. However, both the Northwest Power Planning and Conservation Act and the Council's Fish and Wildlife program recognize this and together have given us an opportunity to evaluate and replace lost wildlife resources. The Service is eager to move toward that end.

Sincerely yours,

Richard D. Hoge

for James W. Toeter
Acting Assistant Regional Director
Habitat Resources

No explanations or report modifications necessary.

USFS Comments:

United States Department of Agriculture | Forest Service | Wallowa-Whitman National Forest | P. O. Box 907 Baker, OR 97814

AUG 09 1984

Reply to 2770

Date August 6, 1984

Mr. John Palenski, PJS
Director, Division of Fish and Wildlife
Bonneville Power Administration
P. O. Box 3621
Portland, OR

ATTN: Mr. James Meyer

Dear Mr. Palenski:

We have reviewed the "Wildlife Mitigation Status Reviews" for Wallowa Falls and Rock Creek Dams which you sent to Mr. Richard Pederson in our Portland Office on July 5. The copy we were initially asked to review was incomplete, hence our late response date. We find both status reviews well prepared and [illegible] and have nothing to add as they relate to existing or potential impacts on wildlife.

Thank you for giving us the opportunity to review the information.

Sincerely,

ROD MILLER
Wildlife Biologist

FS 6200-11b (7 81)

Explanations or Modifications:

No explanations or report modifications necessary.

Wildlife Mitigation Status Report

BAKER PROJECT

Prepared by:

J. H. Noyes
K. L. Bedrossian
R. D. Carleson
M. S. Potter

Oregon Department of Fish and Wildlife

under agreement number DE-AI79-83BP12913
for
Bonneville Power Administration
in compliance with
Northwest Power Planning Council's
Columbia River Basin
Fish and Wildlife Program

Portland, Oregon
1984

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I. PROJECT NAME

Baker Project

II. PROJECT OPERATOR

City of Baker

III. PROJECT DESCRIPTION

A. Location and Size

The Baker Project is located in Baker County, Oregon in the watershed for the City of Baker. Eleven concrete diversion dams varying from 3-10 feet high and 8-30 feet wide exist in the watershed, which drains the east side of the Elkhorn Mountains. These diversion structures and 26 miles of 12-18 inch diameter pipeline (mostly buried) channel water to the 175-kilowatt capacity hydroelectric plant on the east side of Baker (CH_2M Hill 1978; J. Adamson, City of Baker, pers. commun.). A road parallels the pipeline along the entire 26 mile distance. The Baker plant operates under approximately 800 feet of head (J. Adamson, City of Baker, pers. commun.). After passing through the turbine, water enters a reservoir serving as storage for the Baker water supply.

B. Authorized Purposes

The water collection system associated with the Baker Project was originally for mining purposes and was later used as a municipal water supply (J. Adamson, City of Baker, pers. commun.). As of 1914, when power generation facilities were installed, the purpose included hydroelectric power generation (Water Resources Dept. 1983).

C. Brief History

The dam at Goodrich Lake, part of the water collection system, was originally constructed in the late 1800's as part of a mining project in the area (J. Adamson, City of Baker, pers. commun.). The "Old Mountain Line" pipeline system was constructed in the early 1900's and the powerhouse was added in about 1914 (CH2M Hill 1978; J. Adamson, City of Baker, pers. commun.). Goodrich Lake served as a storage reservoir for both the hydroelectric plant and the municipal water supply until 1956, when the dam washed out. Modifications in the project in 1961 involved reconstructing the Goodrich Lake dam and adding a new pipeline ("Goodrich Line"). As of 1961, water from Goodrich Lake and the Goodrich pipeline no longer passed through the hydroelectric plant before entering the municipal water tank (J. Adanson, City of Baker, pers. commun.).

D. Other Pertinent Data

(1) Water level fluctuation and timing

The Baker Project is operated as a run-of-the-river plant, with no storage reservoir serving the hydroelectric plant (J. Adamson, City of Baker, pers. commun.).

(2) Land ownership

The pipeline is on land acquired by easement from the U.S. Forest Service (USFS), U.S. Bureau of Land Management (BLM), and private owners. The powerhouse occupies land owned by the City of Baker (J. Adamson, City of Baker, pers. commun.). Oregon Department of Fish and Wildlife (ODFW) is responsible for management of wildlife within the project area, located in ODFW's Sumpter Wildlife Management Unit.

(3) Indian rights

No tribes are involved with the actions taken at the Baker Project.

IV. WILDLIFE SPECIES AND HABITAT ASSESSMENTS

A. Pre-Construction Period

(1) Available information

No information on pre-construction conditions at the project site was available from reports, project files, or historical records. No assessments of predicted impacts on wildlife were found. An application for a hydroelectric license at Phillips Lake (Cascade Water Power Development Corporation 1983) provided information on recent conditions several miles south of the Baker Project and was used to infer pre-construction conditions in the project area. A license exemption application by the City of Haines (1983) for the Eilertson Meadow area several miles north of the project was used similarly. The following information was based on these applications and on conversations with ODFW wildlife biologists familiar with the area. Additional information was not available without conducting additional research beyond the scope of this review.

(2) Conditions

The north and west slopes of the eastern edge of the Elkhorn Mountains (including the Baker watershed), between 4,000-5,000 feet elevation, are covered by a diverse coniferous forest that includes Douglas fir, true fir, larch, ponderosa pine, and lodgepole pine (City of Haines 1983). Aspen, cottonwood, maple, and willow occur along the streams. Typical understory shrubs include wild rose, spiraea, snowberry, ocean spray, ceanothus, ninebark, huckleberry, and Oregon boxwood (City of Haines 1983). Grasses and forbs include arnica, elk sedge, bluebunch wheatgrass, blue bunchgrass, fescue, hawkweed, and lupine.

Based on wildlife species presently occurring in the Powder River Basin, species existing in the project area prior to construction may have included Rocky Mountain elk, mule deer, mountain quail, blue and ruffed grouse, black bear, cougar, bobcat, coyote, wolverine, beaver, muskrat, river otter, marten, mink, and bald eagle (Cascade Water Power Development Corporation 1983; City of Haines 1983; R. Humphreys, ODFW, pers. commun.).

B. Post-Construction Period

(1) Available information

No published information on wildlife resources specific to the project area was found. Three hydroelectric license applications (Cascade Water Power Development Corporation 1983; City of Haines 1983; CP National Corporation 1981) provided limited information on species occurrence in the general area. The following information was based on these applications and on conversations with individuals knowledgeable of the project area. No information on wildlife impact assessments was available. Aerial photos of the Wallowa-Whitman National Forest, taken in 1964, 1970, 1977, and 1980 included the Baker watershed, and are available from USFS. Post-construction aerial photos are also available from the University of Oregon Map Library. Additional or more detailed information was not available without conducting additional research beyond the scope of this review.

(2) Losses

Specific wildlife habitat types and the mount of each habitat type affected by the project was not known without conducting a more detailed study. The number of game and nongame animals affected by the project was not provided. The ecological significance of the alteration of wildlife habitat was not evaluated. Information documenting the effects of project construction or operation activities on wildlife was not available.

(3) Benefits

No apparent benefits to wildlife have resulted from construction of the Baker Project (R. Humphreys, J. Grover, ODFW, pers. commun.).

(4) Additional information

In addition to mule deer and Rocky Mountain elk, wildlife species occurring at higher elevations within the project area watershed probably include pileated woodpecker, goshawk, and other wildlife dependent on mature or old growth forest (M. Kniesel, BLM, pers. commun.). Wildlife species, listed as threatened in Oregon, occurring in the Powder River Basin include the northern bald eagle and possibly wolverine (CP National 1981). No bald eagle nest sites or roosts have been reported in the Baker Project area (R. Humphreys, ODFW, pers. commun.). Wolverine sightings have been reported in Baker County, but no sightings were confirmed (CP National 1981).

Production, trend count, and harvest data for big game in the Sumpter Wildlife Management Unit and for upland game in Baker County are available from ODFW. Harvest data are available for furbearers in Baker County. This information is not specific to the project site.

V. WILDLIFE MITIGATION HISTORY

A. Mitigation Requested or Proposed

No wildlife mitigation, enhancement, or protection measures have been proposed to directly offset impacts to wildlife as a result of the Baker Project.

B. Mitigation Agreements or Requirements

(1) FPC/FERC requirements

The Baker Project was constructed prior to passage of the Federal Water Power Act in 1920 and prior to the creation of FPC in 1922, thus no FPC requirements are applicable to the project.

(2) Oregon Water Resources Department requirements

The Baker Project was constructed prior to passage of the Hydroelectric Act (ORS 543.225) in 1931.

(3) FWCA proceedings

The predecessor of the Fish and Wildlife Coordination Act (FWCA) was passed in 1934, approximately 20 years after construction of the Baker Project. The National Enviromental Policy Act (NEPA) was passed in 1969. The Endangered Species Act was passed in 1973, requiring that agencies consult with the Department of the Interior to ensure that actions not jeopardize any threatened or endangered species. Since there have been no recent additions or major changes to the Baker Project, no impact assessments or mitigation measures have been mandated during the operational history of the project.

(4) MOU's or other agreements

No agreements were found that applied specifically to wildlife mitigation.

C. Mitigation Implemented

No wildlife mitigation, enhancement, or protection measures of which ODFW or City of Baker personnel were aware have been implemented at the Baker Project (R. Humphreys, J. Grover, ODFW; J. Adamson, City of Baker, pers. commun.).

VI. CURRENT STUDIES AND PLANNING

No studies or planning are currently being conducted for wildlife mitigation specifically at the Baker Project (R. Humphreys, ODFW, pers. commun.).

Studies and planning being conducted elsewhere in the State of Oregon could eventually affect wildlife/habitat management in the Baker area.

The Oregon Fish and Wildlife Commission adopted mule deer and Rocky Mountain elk population management objectives for the Sumpter Wildlife Management Unit, and ODFW is developing a statewide nongame plan.

VII. REFERENCES CITED

Cascade Water Power Development Corporation. 1983. Application of an initial license for a major water power project, 5 megawatts or less, Mason Dan hydroelectric project. Boise. Idaho. Paging various.

CH2M Hill. 1978. Small hydro generation reconnaisance report, City of Baker, Oregon. Corvallis, Oreg. 12pp.

City of Haines, Oregon. 1983. Application for exemption of small hydroelectric power project from licensing, Eilertson hydroelectric power project. Paging various.

CP National Corporation. 1981. Application for new license, Rock Creek hydroelectric project, draft. Concord, Calif. Paging various.

Water Resources Department. 1983. Annual statement of water power claimant, Claim No. 535. Salem, Oreg. np.

A P P E N D I C E S

APPENDIX A

STUDY TEAM

Oregon Department of Fish and Wildlife

Jim Noyes
Karen Bedrossian
Dan Carleson
Mary Potter

U. S. Fish and Wildlife Service

Dick Giger
Patrick Wright

APPENDIX B

CONSULTATION/COORDINATION

(1) Project Operator Contacts

J. Adamson

(2) Summary of Project Operator Contacts

Date	Individual	Summary
24 April 1984	J. Adamson	D. Carleson sent letter to the City of Baker providing information and requesting contacts.
03 May 1984	J. Adamson	Phone. Obtained information on the project location and size.
07 May 1984	J. Adamson	Received map of project layout.
22 May 1984	J. Adamson	Meeting. Discussed project and toured the powerhouse.
04 June 1984	J. Adamson	Phone. Obtained information.
18 June 1984	J. Adamson	Letter. Requested that City of Baker review informal draft report.
28 June 1984	J. Adamson	Phone. Obtained comments on informal draft report.

(3) Other Individuals Contacted

Oregon Department of Fish and Wildlife
- J. Grover
- W. Haight
- R. Humphreys
- J. Melland
- R. Rohweder

U. S. Bureau of Land Management
- M. Kniesel

U.S. Forest Service
- L. Ames
- E. Baumgarten
- R. Miller

Other
- D. Buell, Oregon Water Resources Department
- J. Leach, Federal Energy Regulatory Commission
- P. Stark, University of Oregon Map Library

APPENDIX C

COMMENTS ON 3 JULY 1984 DRAFT REPORT

(1) State Agencies (ODFW)

(2) Federal Agencies (USFWS, BLM, USFS)

(3) Tribes

No tribes are involved with the actions taken at the Baker Project.

(4) Facility Operator (City of Baker)

BPA requested comments on the 3 July 1984 Baker Project draft report by 6 August 1984. Comments by the City of Baker were not received by 17 August 1984 when the final report was typed and therefore could not be incorporated into the report.

ODFW Comments:

Explanations or Modifications:

Department of Fish and Wildlife

506 S.W. MILL STREET. PO BOX 3503 PORTLAND, OREGON 97208

August 2, 1984

No explanations or report modifications necessary.

Hr. John R. Palensky, Director
Division of Fish and Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

Attention Hr. James Meyer:

The Oregon Department of Fish and Wildlife (ODFW) has high expectations of the Northwest Power Planning Act to provide for wildlife and wildlife habitat mitigation to offset impacts resulting from hydroelectric development.

As the Baker Project Wildlife Mitigation Status Report and our attached comments on that report indicate, a comprehensive evaluation of wildlife resource Impacts was not conducted. No documentation was found of wildlife mitigation enhancement, or protection measures implemented at the Baker Project. This is not intended to be an indictment of any agency or the City of Baker. Knowledge of wildlife resources and public policies have changed since the project was constructed. In addition to the requirements of the Northwest Power Planning Act for protection, mitigation and enhancement of wildlife resources, the Department of Fish and Wildlife has a policy to request mitigation for losses of wildlife populations and habitat.

In recognition of our increased responsibilities to address a broad range of concerns, I urge the participating parties to move forward In Implementing the Wildlife Program of the Northwest Power Planning Council. In consideration of this goal, ODFW recommends that an assessment of impacts at the Baker Project in order to determine if mitigation of wildlife resources is needed, not be conducted until such activities have been accomplished at higher priority projects in the State of Oregon.

Sincerely,

John R. Donaldson, PhD
Director

JRD:aj
Encl.

ODFW Comments (cont.):

Oregon Department of Fish and Wildlife
Comments on
Wildlife Mitigation Status Report
Baker Project
2 August 1984

Oregon Department of Fish dnd Wildlife (ODFW) has prepared the following comments in response to the request from James R. Meyer, Bonneville Power Administration, dated 17 July 1984 to review the Mitigation Status Report for the Baker Project.

Oregon Revised Statute 496.012, Wildlife Policy, says in part: "It is the policy of the State of Oregon that wildlife shall be managed to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the goals of wildlife management are:

(1) To maintain all species Of wildlife at optimum levels and prevent the serious depletion of any indigenous species.

(2) To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife."

In accordance with ORS 496.012, the Department has a policy to request mitigation when losses to wildlife populations and habitat result from project construction and operation. These policies are consistent with the Power Act and Wildlife Program purpose "to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries . , ."

The Baker Project Wildlife Mitigation status Report demonstrates assessment of the impacts to wildlife resulting from construction of the project was not comprehensive. This is evident by the lack of information available regarding the effects of construction activities, and the types and amounts of habitat affected. The significance of the project to wildlife has not been fully explored. Impacts from operation of the facility also hdve not been assessed. The status report indicates no mitigation measures have been implemented to offset impacts to wildlife resulting from the project.

In order to "protect, mitigate, and enhance" wildlife resources affected by the development and operation of the Baker Project, it is necessary to determine what impdctr occurred. Although the Baker Project has not been glven a high priority for wildlife mitigation by ODFW, this project should not be disregarded without conducting a loss estimate to determine the impacts of the project on wildlife resources. Upon approval of and funding by the

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

ODFW Comments (cont.):

Council and Bonneville Power Administration, the Department is prepared to take the lead in conducting an assessment of impacts to wildlife resources resulting from the Baker Project. The Department is also ready to take the lead in developing mitigation plans if needed. Consultation and coordination with the City of Baker and appropriate agencies involved in the Baker Project, is of course, an integral part of both of these processes.

The level of understanding of our wildlife resources has improved since the time of construction of the Baker Project. We have broader concerns and are more aware of wildlife/habitat relationships. The Northwest Power Planning Act and the Power Council's Fish and Wildlife program have provided the opportunity to correct past misunderstanding and shortsightedness regarding wildlife resources affected by the development and operation of hydroelectric power in the Columbia River Basin. The Oregon Department of Fish and Wildlife would like to see this opportunity realized to the fullest degree possible in a timely, effective, and cost-efficient manner.

Explanations or Modifications (cont.):

No explanations or report modifications necessary.

USFWS Comments:

Explanations or Modifications:

AUG 20 1984

United States Department of the Interior

FISH AND WILDLIFE SERVICE

LLOYD 500 BUILDING SUITE 692
500 N.E. MULTNOMAH STREET
PORTLAND, OREGON 97232

August 14, 1984

No explanations or report modifications necessary.

Mr. John Palensky, Director
Division of Fish and Wildlife
Bonneville Power Admistraion Power
Attention: James Meyer
P. O. Box 3621
Portland, Oregon 97208,

Dear Mr. Palensky,

N-X

As requested in Mr. Meyer's letter of July 17, 1986, we have reviewed the Wildlife Mitigation Status Report for the Baker Project (the Project). We believe the report is well written and adequately describes the status of past, present, and proposed wildlife mitigation for the Project. The following comments are being provided for inclusion in the final report.

Based on the report's content, it is evident that the construction and operation of the Project probably resulted in only minor adverse impacts of wildlife resources. There appears to be little need to address species of interest to our agency. The Oregon Department of Fish and Wildlife may wish to pursue further action, in which case we would be supportive but not actively involved in such efforts.

Sincerely yours,

Gary F. Watson

for James W. Teeter
Actinq Assistant Regional Director
Habitat Resources

BLM Comments:

Explanations or Modifications:

AUG 0 7 1984

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Baker Resource Area Headquarters
P. O. Box 987, Baker, Oregon 97814
503-523-6391, Ext. 281

IN REPLY REFER TO

6500

August 3, 1984

James Meyer
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208

Dear Mr. Meyer:

We have reviewed the Project Report on the "Wildlife Mitigation Status Review" for Baker Dam. We have no additional comments.

Thank you for allowing us to review the report.

Sincerely yours,

Jack D. Albright

Jack D. Albright
Area Manager

No explanations or report modifications

USFS Comments:

United States Department of Agriculture — Forest Service — Wallowa-Whitman National Forest

P. O. Box 907
Baker, OR 97814

cefile

2

540

July 19 1984

Mr. John Palensky, Director
Division of Fish and Wildlife
Department of Energy
Bonneville Power Administration
P. O. Box 3621
Portland, OR 97208

Dear Mr. Palensky:

We have reviewed the "Wildlife Mitigation Status Review" for Baker Dam prepared by the Oregon Dept. of Fish and Wildlife. As we perceive it, the review involved appraising the effects on wildlife of the City of Baker's domestic water supply pipeline and inline power generation facilities. We find the report accurate and have nothing to add.

Sincerely,

JERRY G. ALLEN
for Forest Supervisor

Explanations or Modifications:

No explanations or report modifications necessary.

FS-6200-11 (8-80)

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