

ANNUAL REPORT ON
WILDLIFE ACTIVITIES
FISCAL YEAR 1985

Action Item 40.1

Columbia River Basin
Fish and Wildlife Program

Prepared By

U.S. Department of Energy
Bonneville Power Administration
Division of Fish and Wildlife

September 1985

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INTRODUCTION

This annual report addresses the status of wildlife projects Bonneville Power Administration (BPA) has implemented to date under the Columbia River Basin Fish and Wildlife Program (Program) established pursuant to the Northwest Power Act (P.L. 96-501). This report provides a brief synopsis and discussion of wildlife activities BPA has undertaken. It is not intended to be an indepth review or analysis of these activities.

The wildlife section of the Program establishes a process intended to achieve two objectives: wildlife protection, mitigation, and enhancement planning; and implementation of actions to protect, mitigate, and enhance wildlife affected by development and operation of hydroelectric facilities in the Columbia River Basin. The wildlife mitigation planning process developed by the Northwest Power Planning Council (Council) is a stepwise process that proceeds through the review of the status of wildlife mitigation at Columbia River Basin hydroelectric facilities [Measure 1004 (b)(1)]; estimates wildlife losses from hydroelectric development and operation [Measure 1004 (b)(2)]; and identifies actions for the protection, mitigation, or enhancement of wildlife [Measure 1004 (b)(3), Mitigation Plans]. Implementation of wildlife protection, mitigation, and enhancement actions is expected to occur upon adoption of the mitigation plans by the Council [Measure 1004 (b)(4)].

The majority of BPA's effort to date has gone towards coordinating and implementing wildlife mitigation planning projects.

WILDLIFE MITIGATION PLANNING PROJECTS

MEASURE 1004 (B)(1) WILDLIFE MITIGATION STATUS REVIEW

Project: Status Review of Wildlife Mitigation of Columbia Basin Hydroelectric Facilities. BPA 83-478.

Contractors: U.S. Fish and Wildlife Service.
Oregon Department of Fish and Wildlife.
Washington Department of Game.
Idaho Department of Fish and Game.

BPA Project Manager: Jim Meyer.

Project Status: Completed.

Project Summary

Scope :

The purpose of the project was to review existing information concerning wildlife mitigation actions associated with the development of Columbia River Basin hydroelectric facilities in the states of Oregon, Washington, and Idaho. It included identification and summarization of existing agreements as they pertain to wildlife mitigation history; effects of hydroelectric development and operation on wildlife; and past, current, and proposed wildlife protection, mitigation, and enhancement actions.

Objectives:

1. Provide a review of existing information pertaining to the effects on wildlife resulting from development and operation of hydroelectric facilities within the Columbia River Basin of Oregon, Washington, and Idaho.
2. Identify past, present, and proposed wildlife protection, mitigation, and enhancement programs at Columbia River Basin hydroelectric facilities.

Results/Discussion:

Results of the project are found in four reports and are grouped according to Columbia River mainstem facilities (Howerton, Hwang, et al., 1984); Oregon facilities (Bedrossian, et al., 1984); Washington facilities (Howerton, Jordan, et al., 1984); and Idaho facilities, excluding Idaho Power Company facilities (Martin, et al., 1985). The reports are general in nature and provide a brief discussion of the facilities, wildlife resources, and mitigation agreements and efforts. The major value of these reports is the identification of wildlife information pertaining to the facilities.

MEASURE 1004 (B)(2)&(3)

WILDLIFE LOSS ASSESSMENTS AND MITIGATION PLANS

Project: Impacts of Water Levels on Canada Geese. BPA 83-2.

Contractor: Confederated Salish and Kootenai Tribes.

BPA Project Manager: Jim Meyer.

Project Status: Ongoing; initiated January 1983, completion is scheduled for July 1987.

Project Summary

Scope:

The purpose of the project is to identify and evaluate the effects of hydroelectric operation on the production and survival of Canada geese in the southern Flathead Valley in Montana. Both Hungry Horse and Kerr Dams influence the water regimes of the Flathead system. The study includes an evaluation of the effects of water level fluctuations on Canada goose nesting success, gosling survival, and on nesting and brooding habitat. The area being evaluated includes the southern half of Flathead Lake and the Lower Flathead River within the Confederated Salish and Kootenai Tribes' Reservation. The project is being coordinated with a similar study being conducted on the Upper Flathead River by Montana Department of Fish, Wildlife and Parks (BPA 83-498).

Objectives:

1. Assess the effects of water level fluctuation on goose nesting success and nesting habitat.
2. Assess the effects of water level fluctuation on gosling survival and brooding habitat.

3. Determine the population impacts of providing artificial nest sites secure from water level fluctuations.
4. Formulate mitigation/management recommendations to protect and/or enhance canada goose populations under current and potential future hydroelectric operations.

Results/Discussion:

Results for the first two field seasons of the study are available and can be found in the 1983 annual report (Gregory, et al., 1984) and in the 1984 annual report (Mackey, et al., 1985). Findings in these reports are preliminary but indicate a significant number of geese are nesting at or below the high water mark, and that flows during the nesting season may influence the predation rate on nests.

Upon completion, the project will provide information on the influence of water levels of the lower Flathead system on the canada goose population. More importantly it will enable managers to make informed decisions regarding changes in the hydro system and potential effects on geese, such as nest flooding. The data gained from this study and from the upper Flathead River goose study (BPA project 83-498) should provide information to protect and enhance a valuable wildlife resource of the Flathead Valley.

Project: Impacts of Water Levels on Productivity of Canada Geese in the Northern Flathead Valley. BPA 83-498.

Contractor: Montana Department of Fish, Wildlife, and Parks.

BPA Project Manager: Jim Meyer

Project Status: Ongoing; initiated March 1984, completion is scheduled for August 1987.

Project Summary

Scope:

The purpose of the project is to identify and evaluate the effects of hydroelectric operation on the production and survival of canada geese in the northern Flathead Valley in Montana. Both Hungry Horse and Kerr Dams influence the water regimes of the Flathead system. The study includes an evaluation of the effects of water level fluctuations on canada goose nesting success, gosling survival, and on nesting and brooding habitat. The area being evaluated includes the upper Flathead River from the confluence of the South Fork Flathead River to Flathead Lake and the North end of Flathead Lake. The project is being coordinated with a similar study being conducted on the Lower Flathead River by the Confederated Salish and Kootenai Tribes of the Flathead Reservation (BPA 83-2).

Objectives:

1. Assess the effects of water level fluctuation on goose nesting success and nesting habitat.
2. Assess the effects of water level fluctuation on gosling survival and brooding habitat.

3. Formulate mitigation/management recommendations to protect and/or enhance canada goose populations under current and potential future hydroelectric operations.

Results/Discussion:

The project is just completing its second field season of work. Results of the first year are in the 1984 annual report by Casey and Wood (1984). The study is a counterpart to the one being conducted by the Salish/Kootenai Tribe. When completed these studies will provide a basin perspective on canada geese in the Flathead Valley and the influence of hydroelectric operations on them.

Project: Evaluation of the Effects on Wildlife and Wildlife Habitat Associated with Development of Hydroelectric Projects in Montana. BPA 83-464.

Contractor: Montana Department of Fish, Wildlife, and Parks (MDFWP).

BPA Project Manager: Jim Meyer.

Project Status: Completed.

Project Summary

Scope:

The project was intended to fulfill the requirements of Measures 1004 (b) (1),(2),&(3) of the Program for hydroelectric facilities in northwest Montana (Libby, Hungry Horse, Thompson Falls, Noxon Rapids, and Cabinet Gorge Dams). Effects to wildlife from development of these facilities were identified and target wildlife species selected. Mitigation goals and objectives were developed and actions for the protection, mitigation, and/or enhancement of the target species identified.

Objectives:

1. Based on existing information, determine the probable effects to wildlife, and wildlife habitats associated with development of Columbia River Basin hydroelectric facilities in Montana.
2. Determine the status, degree of implementation, and level of success or failure of wildlife mitigation efforts.
3. Develop mitigation goals and objectives, and recommend actions for the protection, mitigation, and/or enhancement of the target species.

Results/Discussion:

Results of the project can be found in the following documents:

Loss Assessments

Libby Dam - Munding and Yde; 1984.

Hungry Horse Dam - Casey, Yde, and Olsen; 1984.

Thompson Falls Dam - Wood and Olsen; 1984a.

Cabinet Gorge and Noxon Dams - Wood and Olsen; 1984b.

Mitigation Plans

Libby Dam - Yde and Olsen; 1984.

Hungry Horse Dam - Bissell and Wood; 1984.

Thompson Falls Dam - Bissell and Wood; 1985.

Cabinet Gorge and Noxon Dams - Bissell, Yde, and Wood; 1985.

The loss assessments provided reasonable estimates of wildlife habitat and its carrying capacity in terms of numbers (density) of target wildlife species lost from development of hydroelectric facilities in northwest Montana. These reports show that considerable wildlife habitat was lost from development of these facilities with little wildlife mitigation being provided. MDFWP did a good job in identifying, reviewing, and selecting mitigation projects that meet the needs of the target species. However, there are unresolved issues associated with the plans. These issues are: losses identified in the reports are fully attributed to hydroelectric development (allocation of losses); the level of mitigation is aimed at fully compensating and maintaining over the life of the facilities the losses identified (level of mitigation); and determination for which wildlife species to mitigate.

The mitigation plans developed have been transmitted to the Council. The Council is having Montana Department of Fish, Wildlife, and Parks revise the plans for Libby and Hungry Horse to address some of the unresolved issues, prior to the Council considering them for approval.

Project: Wildlife and Wildlife Habitat Loss Assessments for the Willamette River Basin Federal Hydroelectric Facilities. BPA 84-36.

Contractor: Oregon Department of Fish and Wildlife.

BPA Project Manager: Jim Meyer.

Project Status: Ongoing; initiated September 1984, completion is scheduled for December 1985.

Project Summary

Scope:

The purpose of the project is to estimate net losses of wildlife and wildlife habitat resulting from development and operation of Federal hydroelectric facilities in the Willamette River Basin in Oregon. Loss estimates are being developed using a habitat based evaluation procedure, and are to address both positive and negative effects resulting from the projects. The study is divided into two phases where each phase carries out loss assessments for a portion of the Willamette Basin Federal hydroelectric facilities. Phase I facilities are Lookout Point, Hills Creek, Dexter, and Cougar dams, while phase II facilities include Green Peter/Foster, and Detroit/Big Cliff dams.

Objectives:

1. Identify effects of past development and operation to wildlife and wildlife habitat from the Federal hydroelectric facilities in the Willamette River Basin.
2. Determine the hydroelectric portion of the wildlife/wildlife habitat losses for the facilities.

Results/Discussion:

Loss assessments for phase I facilities have been completed and are found in the following reports: Lookout Point (Bedrossian, et al., 1985a); Hills Creek (Bedrossian, et al., 1985b); Dexter (Bedrossian, et al., 1985c); and Cougar (Bedrossian, et al., 1985d). Loss evaluations for phase II facilities are presently being prepared.

The loss assessments that have been completed for the Willamette Basin determined acreages of vegetation types lost or altered by the projects. Estimates of the value (habitat units) of these vegetation types to target species were derived. Habitat units are based on how the potential of the affected area to support the target wildlife species was altered and were developed using a subjective approach. Historic wildlife losses identified in the reports have been totally attributed to hydroelectric development and operation. However factors, such as human disturbance from activities like recreational use of the project area, which are not directly related to hydroelectric development and operation influenced the values of the loss ratings. The losses identified in these reports should be considered only as an index of the magnitude of wildlife habitat changes in the project areas, which have occurred for a variety of reasons. They should not be used as absolutes in selecting wildlife mitigation target species or in establishing protection, mitigation, and enhancement goals and objectives.

Project: Wildlife and Wildlife Habitat Loss Assessment for Palisades Dam, Idaho. BPA 84-37.

Contractor: U.S. Fish and Wildlife Service.

BPA Project Manager: Jim Meyer.

Project Status: Completed.

Project Summary

Scope:

The project was designed to meet the requirements of Measure 1004 (b)(2) of the Program. Losses of wildlife and wildlife habitat resulting from development and operation of Palisades Dam on the South Fork of the Snake River in Idaho were estimated. Loss estimates were developed using Habitat Evaluation Procedures.

Objectives:

1. Determine the probable effects from development and operation of Palisades Dam to wildlife and wildlife habitat.
2. Determine the hydroelectric portion of the wildlife/wildlife habitat losses for Palisades Dam.

Results/Discussion:

Results of the project are found in the report by Sather-Blair and Preston (1985). The project used the U.S. Fish and Wildlife Service's Habitat Evaluation Procedures which is based on Habitat Suitability Index Models for target wildlife species. Specific habitat parameters from the models were

measured in the field and habitat values were calculated for the habitat types inundated by the project. The study used the assumption that the habitat quality of vegetative communities currently in or near the study area were representative of corresponding vegetative communities inundated by the project. The study's assumption is reasonable in view of the limited preconstruction information available. Overall, the study produced estimates of wildlife habitat losses in a cost and time effective manner. The major problem with the findings is that the historic losses identified were totally attributed to hydroelectric development.

Project: Wildlife and Wildlife Habitat Loss Assessments for the Anderson Ranch, Black Canyon, and Boise Diversion Hydroelectric Facilities in Idaho. BPA 85-1.

Contractor: Idaho Department of Fish and Game.

BPA Project Manager: Jim Meyer.

Project Status: Ongoing; initiated May 1985, completion scheduled for December 1985.

Project Summary

Scope:

The purpose of the project is to evaluate impacts of hydroelectric development and operation of Anderson Ranch, Black Canyon, and Boise Diversion Facilities on wildlife. The project will result in an estimate of net losses of wildlife and wildlife habitat associated with the construction and operation of these hydroelectric facilities. Loss estimates are being developed using a habitat based evaluation procedure, and will address both positive and negative effects resulting from the projects.

Objectives:

1. Identify effects of past development and operation to wildlife and wildlife habitat.
2. Determine the hydroelectric portion of the wildlife/wildlife habitat losses.

Results/Discussion:

Loss assessments for these facilities are presently being developed. Results are not available at this time.

WILDLIFE MITIGATION PROJECTS

MEASURE 1004 (B)(4)
WILDLIFE PROTECTION, MITIGATION, AND ENBANCEMENT

Project: Ural-Tweed Bighorn Sheep Mitigation/Enhancement. BPA 84-38 & 84-39.

Contractors: U.S. Forest Service.
Montana Department of Fish, Wildlife, and Parks.

BPA Project Manager: Jim Meyer.

Project Status: Ongoing; initiated Janurary 1985, completion is scheduled for December 1988.

Project Summary

Scope:

The Ural-Tweed bighorn sheep herd is one of the few remaining native bighorn sheep populations in northwestern Montana. The current population status of the herd is less than 25 percent of that of the early 1960's population estimate of 150 to 200 animals. Important segments of the Ural-Tweed bighorn sheep spring and winter range were lost due to hydroelectric development and subsequent flooding from impoundment of the Kootenai River by Libby Dam. The formation of Lake Koocanusa inundated approximately 4,350 acres of crucial winter and spring ranges. The primary objectives of these projects are to improve existing habitat conditions by developing new grass stands and rejuvenating existing grass and shrub stands that are in poor condition; and to monitor treatment and herd response to such habitat changes. The project is expected to increase the capacity of spring and winter range to support bighorn sheep.

Objectives:

1. Enhance approximately 1300 acres of sheep range by developing new grass stands and rejuveniating existing grass and shrub stands that are in poor condition.
2. Evaluate the effectiveness of the habitat improvement projects in enhancing bighorn sheep and their habitat.
3. Outline a program to maintain a viable Ural-Tweed bighorn sheep population.

Results/Discussion:

Limited results are available from the project as it is in its first year of implementation. Activities have concentrated on obtaining baseline information on habitat conditions, sheep population dynamics and behavior, and design and initiation of habitat treatments. The project is a cooperative effort between MDFWP, the Forest Service, and BPA. It is an example of the type of wildlife mitigation/enhancement efforts that should be undertaken as part of the Columbia River Basin Fish and Wildlife Program. The project deals with current needs of the sheep population, and the loss of critical habitat from Libby Dam appears to have been one of the major factors leading to the decline in their population.

CONSULTATIONS

Both Measures 1004 (b)(2)&(3) call for BPA to consult with the appropriate fish and wildlife agencies, tribes, and project operators. BPA understands that the purpose of the 1004 (b)(2) consultations is to discuss the need for and direction of further studies (loss assessments). The 1004 (b)(3) consultations are to review and discuss the loss assessments and the development of actions for the protection, mitigation, and enhancement of wildlife. What follows is a brief discussion of the numerous consultation meetings BPA has convened during the period May 1984 to the present. In each case, we have identified participants, summarized the conclusions of such consultations, and identified any resulting action BPA has taken.

1004 (B)(2) CONSULTATIONS

Facilities: Lookout Point, Hills Creek, Dexter, and Cougar Dams, Oregon (Willamette Basin).

Date of Consultation: May 30, 1984.

Participants: Oregon Department of Fish and Wildlife, Fish and Wildlife Service, Forest Service, Corps of Engineers, Northwest Power Planning Council, and BPA.

Summary: Conclusion of the meeting was that a loss assessment should be prepared.

Action: BPA funded Oregon Department of Fish and Wildlife to develop loss assessments for the Willamette Basin. The loss assessments have been completed. For more information see BPA project 84-36.

Facility: Palisades Dam, Idaho.

Date of Consultation: June 14, 1984.

Participants: Idaho Department of Fish and Game, Fish and Wildlife Service, Forest Service, Bureau of Reclamation, Northwest Power Planning Council, and BPA.

Summary: Conclusion of the meeting was that a loss assessment should be prepared.

Action: BPA funded the U.S. Fish and Wildlife Service to develop a loss assessment for Palisades dam. The loss assessment has been completed. For more information see BPA project 84-37.

Facility: Black Canyon, Anderson Ranch, and Boise Diversion, Idaho.

Date of Consultation: January 25, 1985.

Participants: Idaho Department of Fish and Game, Fish and Wildlife Service, Bureau of Reclamation, and BPA.

Summary: Conclusion of the meeting was that loss assessments should be prepared.

Action: BPA funded Idaho Department of Fish and Game to develop loss assessments for these facilities. The assessments are presently being prepared. For more information see BPA project 85-1.

Facilities: Detroit/Big Cliff and Green Peter/Foster, Oregon (Willamette Basin).

Date of Consultation: March 5, 1985.

Participants: Oregon Department of Fish and Wildlife, Fish and Wildlife Service, Bureau of Land Management, Corps of Engineers, and BPA.

Summary: Fish and Wildlife agencies felt that loss assessments need to be prepared. Corps of Engineers questioned the value of loss assessments, and felt that the agencies should come forward to discuss what they want for wildlife (ie. management plans and goals), and that wildlife actions should be pursued under a good stewardship approach. Good stewardship is the concept of voluntarily managing land, such as the project operator's lands, in a manner that is beneficial to wildlife.

Action: BPA funded Oregon Department of Fish and Wildlife to develop loss assessments for these facilities. They are presently being prepared. For more information see BPA project 84-36.

Facility: Dworshak Dam, Idaho

Date of Consultation: March 19, 1985

Participants: Idaho Department of Fish and Game, Nez Perce Tribe, Forest Service, Corps of Engineers, Idaho Land Board, Northwest Power Planning Council, and BPA.

Summary: It was concluded that further information was needed to identify and recommend possible actions for wildlife affected by hydroelectric development and operation. It was agreed that a work group approach would be used to obtain the information and recommend wildlife protection, mitigation, and enhancement actions.

Action: BPA has establish a work group to determine wildlife needs for Dworshak. The work group consists of Idaho Department of Fish and Game, Fish and Wildlife Service, Nez Perce Tribe, Forest Service, Idaho Land Board, Pacific Northwest Utilities Conference Committee, and Corps of Engineers. The first meeting of the work group was held September 12, 1985. The group is presently outlining objectives and tasks, and developing a work schedule.

Facility: Grand Coulee Dam, Washington.

Date of Consultation: April 2, 1985.

Participants: Washington Department of Game, Fish and Wildlife Service, Bureau of Reclamation, Colville Tribe, Spokane Tribe, Bureau of Indian Affairs, Washington Water Power Company, Grant County PUD, Chelan County PUD, Douglas County PUD, Northwest Power Planning Council, and BPA.

Summary : Washington Department of Game presented a scope of work for developing a mitigation plan for Grand Coulee. It was based on a conceptual goal for replacement of 70,000 acres inundated by the project. The utility representatives felt that the mitigation goal should be refined through evaluation of preconstruction and current aerial photos. It was agreed that a task group should be developed consisting of the wildlife agencies, Tribes, project operator, and utility representatives to develop a mitigation plan for Grand Coulee.

Action: BPA is in the process of initiating a project to develop a mitigation plan for Grand Coulee. Washington Department of Game, Fish and Wildlife Service, Colville Tribe, Spokane Tribe, Bureau of Reclamation, and Pacific Northwest Utilities Conference Committee are participating in development of the plan.

Facilities: Bonneville, The Dalles, John Day, and McNary Dams, Washington and Oregon.

Date of Consultations: March 12, 1985.
April 9, 1985.
June 18, 1985.

Participants: Washington Department of Game, Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Forest Service, Corps of Engineers, Pacific Northwest Utilities Conference Committee. Public Power Council, Northwest Power Planning Council and BPA (not all the participants identified have been present at all meetings).

Summary: Several consultation meetings were held to try to reach concensus among the various interests.

The fish and wildlife agencies position is that loss assessments need to be prepared. The utility representatives do not believe loss assessments are

appropriate, and that if further wildlife mitigation is needed, it should be pursued under the Fish and Wildlife Coordination Act. The utility interests would consider protecting and enhancing wildlife under good stewardship of their lands if the wildlife agencies would identify the target wildlife species of concern and the management goals for these species.

Action: BPA proposes to move forward to develop a wildlife plan for Bonneville Dam following the approach outlined in the prospectus section of this report. This approach will allow entertainment of the good stewardship concept.

1004 (B)(3) CONSULTATIONS

Facility: Palisades Dam, Idaho.

Date of Consultation: January 24, 1985

Participants: Idaho Department of Fish and Game, Fish and Wildlife Service, Forest Service, Bureau of Land Management, Bureau of Reclamation, Northwest Power Planning Council, and BPA.

Summary: Conclusion of the meeting was that a mitigation plan should be developed.

Action: BPA is proposing to implement development of a wildlife plan for Palisades in FY 1986.

Facilities: Lookout Point, Hills Creek, Dexter, and Cougar Dams, Oregon (Willamette Basin).

Date of Consultation: July 11, 1985.

Participants: Oregon Department of Fish and Wildlife, Fish and Wildlife Service, Forest Service, Corps of Engineers, Pacific Northwest Utilities Conference Committee, Portland General Electric, Eugene Water and Electric Board, Northwest Power Planning Council, and BPA.

Summary: There was considerable discussion on the value of doing historic loss evaluations for Willamette Basin Federal hydroelectric facilities, with no consensus being reached. Agencies feel loss assessments are needed, while utility representatives question the need and value of them. Also, there is little agreement on development of mitigation plans. The utility representatives do not believe mitigation plans should be developed and that wildlife needs should be addressed in a good stewardship approach which ties in with the agencies existing management plans and goals.

Action: BPA is proposing to fund development of a wildlife plan for the Willamette Basin facilities in FY 1986. Development of the plan would be initiated following completion of BPA project 84-36 and subsequent consultations.

WILDLIFE PROGRAM EXPENDITURES

The following table shows the funding level BPA has obligated in implementing the wildlife section of the Program. To date, only a small portion of the obligated funds have gone towards projects that provide wildlife protection, mitigation, and enhancement. In the future, the focus of the wildlife section of the Program will be on projects that protect and enhance existing wildlife populations of the Columbia River Basin.

<u>Measure a/</u>	<u>FY 1983</u>	<u>FY 1984</u>	<u>FY 1985</u>	<u>Total</u>
1004 (b)(1)	\$156,650	\$ 237,270	\$ 0	\$ 393,920
1004 (b)(2)&(3)	208,380	650,950	551,600	1,410,930
1004 (b)(4)	0	124,840	0 <u>b/</u>	124,840
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Total	\$365,030	\$1,013,060	\$551,600	\$1,929,690

a/ 1004 (b)(1) - Wildlife mitigation status review.
 1004 (b)(2)&(3) - Wildlife loss assessments and mitigation plans.
 1004 (b)(4) - Wildlife protection, mitigation, and enhancement.

b/ No funds are shown for Measure 1004 (b)(4) in FY 1985 as mitigation projects were funded through FY 1985 with FY 1984 dollars.

WILDLIFE PROGRAM PROSPECTUS

As outlined briefly in this report, BPA's effort in the wildlife section of the Program has gone towards coordinating and implementing wildlife mitigation planning [Measures 1004 (b)(1)-(3)]. Throughout this effort BPA has been presented divergent views regarding wildlife protection, mitigation, and enhancement under the Fish and Wildlife Program.

The wildlife mitigation planning process presently being pursued is the traditional process associated with water development projects. This process entails impact assessment, development of mitigation measures, decision regarding mitigation, and implementation of mitigation. While this approach may be appropriate in assessing the impact and establishing mitigation levels for water development projects during their planning phase, the situation faced in the Columbia River Basin (Basin) and in the Program is associated with existing hydroelectric facilities and the current status of wildlife populations. The traditional planning approach focuses the Program on mitigation of historic losses but does not necessarily assist in protecting or maintaining existing wildlife populations of the Pacific Northwest or the Columbia River Basin. BPA believes the focus of the planning process needs to shift from a solely historic perspective to an approach whereby the focus of activity is on protection and enhancement of existing wildlife populations associated with hydroelectric facilities in the Basin (current status approach).

The current status approach involves identification of target wildlife species of concern in the hydroelectric project area, along with identifying management goals and plans for these species. After having identified target species, problems and current and future needs for the protection and enhancement of such species in the project area need to be identified. From this information protection and enhancement goals would be developed. Based on these goals wildlife agencies, tribes, project operators, land management agencies, the Council and BPA would discuss, develop, and recommend options available to provide wildlife protection and enhancement. This approach does not preclude the use of the historic approach, but in fact may compliment and justify the need for the mitigation of historic losses.

By pursuing the suggested approach, a wildlife plan can be developed which protects and enhances existing wildlife populations associated with hydroelectric facilities in the basin, along with providing any warranted mitigation for historic losses. This forms the basis of a sound wildlife plan for the Columbia River Basin based on current and future wildlife needs.

WILDLIFE REPORTS

The following section lists the various reports resulting from the projects implemented by BPA under section 1004 of the Program. Copies of the reports can be obtained from: Bonneville Power Administration, Division of Fish and Wildlife - PJ, P.O. Box 3621, Portland, Oregon 97208.

MEASURE 1004(B)(1) - WILDLIFE MITIGATION STATUS REVIEW

Project 83-478

Bedrossian, K.L., R.D. Carleson, J.H. Noyes, and M.S. Potter. 1984. Status Review of Wildlife Mitigation at Columbia Basin Hydroelectric Projects - Oregon Facilities, Final Report. Oregon Dept. Fish & Wildlife. Bonneville Power Admin. Proj. 83-478. (DOE/BP-317)

Howerton, J., D. Hwang, M. Jordan, E. Rybak, D. Sill, R. Starkey, G. Van Lom, and P. Wright. 1984. Status Review of Wildlife Mitigation at Columbia Basin Hydroelectric Projects - Columbia Mainstem & Lower Snake Facilities (83-478), **Final** Report. Washington Dept. of Game and U.S. Fish and Wildlife Service. Bonneville Power Admin. Proj. 83-478. (DOE/BP-369)

Howerton, J., M. Jordan, D. Kraege, E. Rybak, R. Starkey, and G. Van Lom. 1984. Status Review of Wildlife Mitigation at Columbia Basin Hydroelectric Projects - Washington Facilities, Final Report. Washington Dept. of Game and U.S. Fish and Wildlife Service. Bonneville Power Admin. Proj. 83-478. (DOE/BP-319)

Martin, R.C., L.A. Mehrhoff, J.E. Chaney, and S. Sather-Blair. 1985. Status Review of Wildlife Mitigation at Columbia Basin Hydroelectric Projects - Idaho Facilities, Final Report. Idaho Dept. Fish and Game, and U.S. Fish and Wildlife Service. Bonneville Power Admin. Proj. 83-478. (DOE/BP-12144)

MEASURES 1004(B)(2)&(3) - WILDLIFE LOSS ASSESSMENTS AND MITIGATION PLANS

Project 83-2

Gregory, S., D. Mackey, J.J. Claar, and I.J. Ball. 1984. Impacts of Water Level Fluctuations on Breeding Canada Geese and the Methodology for Mitigation and Enhancement in the Flathead Drainage, 1983 Annual Report. Confederated Salish & Kootenai Tribes. Bonneville Power Admin. Proj. 83-2. (DOE/BP-203)

Mackey, D.L., W.C. Mathews, Jr., S. Gregory, J.J. Claar, and I.J. Ball. 1985. Impacts of Water Level Fluctuations on Breeding Canada Geese and the Methodology for Mitigation and Enhancement in the Flathead Drainage, 1984 Annual Report. Confederated Salish & Kootenai Tribes. Bonneville Power Admin. Proj. 83-2. (DOE/BP-10062)

Project 83-498

Casey, D. and M. Wood. 1985. Effects of Water Levels on the Productivity of Canada Geese in the Northern Flathead Valley - 1984 Annual Report. Montana Dept. Fish, Wildlife, and Parks. Bonneville Power Admin. Proj. 83-498. (DOE/BP-16687-1)

Project 83-464

Mundinger, J. and C.A. Yde. 1984. Wildlife Impact Assessment and Mitigation Summary: Montana Hydroelectric Projects; Volume I - Libby Dam, Final Report. Montana Dept. Fish, Wildlife, and Parks. Bonneville Power Admin. Proj. 83-464. (DOE/BP-314)

Wood, M. and A. Olsen. 1984a. Wildlife Impact Assessment and Mitigation Summary: Montana Hydroelectric Projects; Volume IIA - Thompson Falls (83-464), Final Report: Montana Dept. Fish, Wildlife, and Parks. Bonneville Power Admin. Proj. 83-464. (DOE/BP-316)

Wood, M. and A. Olsen. 1984b. Wildlife Impact Assessment and Mitigation Summary: Montana Hydroelectric Projects; Volume IIB - Cabinet Gorge and Noxon Dams, Final Report. Montana Dept. Fish, Wildlife, and Parks. Bonneville Power Admin. Proj. 83-464. (DOE/BP-315)

Casey, D., C.A. Yde and A. Olsen. 1984. Wildlife Impact Assessment and Mitigation Summary: Montana Hydroelectric Projects, Volume III - Hungry Horse Dam, Final Report. Montana Dept. Fish, Wildlife, and Parks. Bonneville Power Admin. Proj. 83-464. (DOE/BP-313)

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MEASURE 1004(B)(4) - WILDLIFE PROTECTION, MITIGATION, AND ENHANCEMENT

No Reports completed.

JMeyer:jm (WP-PJS-6297N)