

Section 11

WILDLIFE

The development of the hydropower system in the Columbia River Basin has affected many species of wildlife as well as fish. Some floodplain and riparian habitats important to wildlife were inundated when reservoirs were filled. In some cases, fluctuating water levels caused by dam operations have created barren vegetation zones, which expose wildlife to increased predation. In addition to these reservoir-related effects, a number of other activities associated with hydroelectric development have altered land and stream areas in ways that affect wildlife. These activities include construction of roads and facilities, draining and filling of wetlands, stream channelization and shoreline riprapping (using large rocks or boulders to reduce erosion along streambanks). In some cases, the construction and maintenance of power transmission corridors altered vegetation, increased access to and harassment of wildlife, and increased erosion and sedimentation in the Columbia River and its tributaries.

The habitat that was lost because of the hydropower system was not just land, it was home to many different, interdependent species. In responding to the system's impacts, we should respect the importance of natural ecosystems and species diversity.

While the development of the hydropower system harmed wildlife, it also resulted in a number of beneficial effects. For example, the creation of reservoirs provided important resting, feeding and wintering habitat for waterfowl. In addition, where reservoir storage is used for irrigation as well as power generation, the irrigation water promoted extensive growth of grass and food crops that could not otherwise exist in such a dry climate. These areas have provided important habitat for wildlife. On the other hand, many acres of native shrub and

grasslands providing habitat for a variety of native wildlife species were replaced, and a large body of scientific evidence shows that some of the species have not sustained initial population increases. Programs to protect, mitigate and enhance wildlife affected by hydroelectric development should consider the net effects on wildlife associated with hydropower development.

Although the Northwest Power Act refers to them as "hydropower facilities," the dams serve multiple purposes: hydropower, flood control, navigation, irrigation, recreation and other purposes. Congress encouraged a comprehensive response to the fish and wildlife impacts of dams on the Columbia River and its tributaries, and rejected the piecemeal, fragmented approach that characterized past mitigation efforts. The Council believes the region will benefit from a coordinated approach to wildlife mitigation. At the same time, as Congress specified, consumers of electric power should pay only the cost of measures to deal with the effects of electric power. The Act gives the Bonneville Power Administration the responsibility to allocate expenditures to the various project purposes, in consultation with the Corps of Engineers and the Bureau of Reclamation, and in accordance with existing accounting procedures.

The Council's program will address the full impacts of the "hydropower facilities" in the broad sense that Congress intended, including all effects traceable to any of the projects' purposes. Bonneville, in consultation with the Army Corps of Engineers and the Bureau of Reclamation, should allocate implementation costs, and develop any cooperative agreements needed to ensure coordinated and expeditious program implementation.

It is critical, however, that implementation of wildlife measures not be delayed by these allocation procedures. Bonneville funding for the ratepayer share of wildlife mitigation should proceed expeditiously, pursuant to short-term agreements. There is no reason for ratepayer wildlife mitigation in the short term to wait for a determination of the financial responsibility of other project purposes. For the longer term, if there is no agreement on funding allocations, the federal agencies should work with the Council and the Congressional delegation to arrive at a solution.

11.1 WILDLIFE PROGRAM GOAL: FULLY MITIGATE FOR WILDLIFE LOSSES FROM HYDROPOWER IN THE COLUMBIA RIVER BASIN

The goal of this program's wildlife strategy is to achieve and sustain levels of habitat and species productivity as a means of fully mitigating wildlife losses caused by construction and operation of the federal and non-federal hydroelectric system.

11.2 WILDLIFE PROGRAM POLICIES

11.2A Ratepayer Share of Funding

Bonneville, the Corps and the Bureau of Reclamation have jointly determined that the percent of joint costs of the Federal Columbia River Power System allocated to power for systemwide fish and wildlife mitigation is 72 percent. The hydropower system is therefore responsible for mitigation for 72 percent of the lost habitat units identified in Table 11-4.

Bonneville

11.2A.1 To develop a comprehensive coordinated wildlife mitigation strategy, in consultation with other responsible operators and managers, coordinate ratepayer-funded measures with measures that address impacts caused by non-electric power development and operations. The parties should develop any cooperative agreements necessary to ensure coordinated and expeditious program implementation and should submit them to the Council for review and approval by December 1, 1994. Should the parties fail to develop agreements necessary to ensure coordinated program implementation, the Council will take the actions necessary to ensure that such agreements are developed.

11.2A.2 Report to the Council yearly on progress to date on all coordinated wildlife mitigation activities.

11.2B Determine Allocation of Effort

**Bonneville, Corps of Engineers,
Bureau of Reclamation and
Wildlife Managers**

11.2B.1 Determine the allocation of expenditures by the relevant federal entities needed to achieve full mitigation of wildlife losses attributable to the construction and operation of the federal hydroelectric facilities.

11.2C Definition of Mitigation

Relevant Parties

11.2C.1 For purposes of this program, mitigation is defined as achieving and sustaining the levels of habitat and species productivity for the habitat units lost as a result of the construction and operation of federal and non-federal hydropower projects.

11.2D Mitigation Plans and Agreements

Bonneville and Wildlife Managers

11.2D.1 In developing wildlife mitigation plans and projects, demonstrate the extent to which the plans comply with the following principles:

- Are the least-costly way to achieve the biological objective.
- Have measurable objectives, such as the restoration of a given number of habitat units.
- Protect high quality native or other habitat or species of special concern, whether at the project site or not, including endangered, threatened or sensitive species.
- Provide riparian or other habitat that can benefit both fish and wildlife.
- Where practical, mitigate losses in-place, in-kind. When a wildlife measure is not in-place, in-kind, the habitat units protected, mitigated or enhanced by that measure will be credited against mitigation due for one or more hydroelectric projects.
- Help protect or enhance natural ecosystems and species diversity over the long term.
- Complement the activities of the region's state and federal wildlife agencies and Indian tribes. In particular, state clearly how plans

or projects would complement agency and tribal policies or programs to protect or enhance natural ecosystems and species diversity over the long term.

- Encourage the formation of partnerships with other persons or entities, which would reduce project costs, increase benefits and/or eliminate duplicative activities.
- Do not impose on Bonneville the funding responsibilities of others, as prohibited by Section 4(h)(10)(A) of the Northwest Power Act.
- Address special wildlife losses in areas that formerly had salmon and steelhead runs that were eliminated by hydroelectric projects (for example, societal and tribal wildlife losses).
- Address concerns over additions to public land ownership and impacts on local communities, such as reduction or loss of local government tax base, special district tax base or the local economic base; or consistency with local governments' comprehensive plans.
- Use publicly owned land for mitigation or management agreements on private land, in preference to acquisition of private land, while providing permanent protection or enhancement of wildlife habitat in the most cost-effective manner.

11.2E Mitigation Priorities

Bonneville and Wildlife Managers

11.2E.1 Ensure that wildlife mitigation projects implemented in fulfillment of this program are consistent with the

basinwide implementation priorities described in Tables 11-1, 11-2 and 11-3, below.

<i>Table 11-1</i>	
<i>Lower Columbia Subbasin Wildlife Mitigation Priorities</i>	
Habitat Types--Target Species	Priority
Riparian/Riverine	High
• Great Blue Heron	
Old Growth Forest	High
• Northern Spotted Owl	
Wetlands	High
• Great Blue Heron	
• Band-tailed Pigeon	
• Western Pond Turtle	
Coniferous Forest	Medium
• Ruffed Grouse	
• Elk	
• American Black Bear/Cougar	

<i>Table 11-2</i> <i>Upper Columbia Subbasin Wildlife Mitigation Priorities</i>	
Habitat Types--Target Species	Priority
Riparian/River	High
• Bald Eagle (breeding)	
• Black-capped Chickadee	
• Peregrine Falcon	
Shrub-Steppe	High
• Sharp-tailed Grouse	
• Pygmy Rabbit	
• Sage Grouse	
• Mule Deer	
Wetlands	High
• Mallard	
• Redhead	
Islands	Medium
• White Pelicans	
Agricultural Lands	Low
• Swainson's Hawk	
• Ring-necked Pheasant	

Table 11-3
Snake River Subbasin Wildlife Mitigation Priorities

Habitat Type--Target Species	Priority
Riparian/Riverine	High
• Bald Eagle (breeding)	
• Bald Eagle (wintering)	
• River Otter	
• Black-capped Chickadee	
• Peregrine Falcon	
• Ruffed Grouse	
Wetlands	High
• Mallard	
Native Grasslands and Shrubs	Medium
• Mule Deer/Elk	
• White-tailed Deer	
• Sharp-tailed Grouse	
Coniferous Forest	Medium
• Elk	
Old Growth Forest	Medium
• Pileated Woodpecker	
Lowland Forest	Low
• White-tailed deer	

11.3 IMPLEMENT WILDLIFE MEASURES

11.3A Identify Measures Based on Losses

Bonneville and Wildlife Managers

- 11.3A.1 Use the loss estimates in Table 11-4 for identifying wildlife measures and developing short-term and long-term wildlife mitigation agreements. These losses represent the unannualized losses attributable to the construction of the federal hydropower system.

11.3B Wildlife Plan

Bonneville

- 11.3B.1 In consultation with the wildlife managers, Corps of Engineers, Bureau of Reclamation, state and federal land management agencies, the Council and other interested parties, finalize the Draft Wildlife Plan as described in Appendix G of this program by March 1, 1996. Upon approval by the Council fund implementation of the final Wildlife Plan.

11.3C Credit for New Actions

Wildlife Managers and Bonneville

- 11.3C.1 Because there are inconsistencies throughout the basin in how to determine the amount of credit given for acquisitions of habitat involving the protection of existing habitat, develop a consistent, systemwide method for crediting new wildlife mitigation

actions for the losses described in Table 11-4, while reflecting the following principles:

- The Council endorses the use of habitat units as the preferred unit of measurement for mitigation accounting unless parties to an agreement develop another method that, in the Council's opinion, adequately takes into account both habitat quantity and quality adequate to mitigate for the identified losses.
- The hydropower system must protect, mitigate and enhance wildlife to the extent affected by Columbia River Basin hydropower facilities. This obligation will be discharged when these effects are fully addressed, i.e., when mitigation actually offsets the loss caused by a hydropower facility, and when the operator provides adequate operation and maintenance funding to sustain the mitigation while the hydroelectric project is in place. Mitigation agreements may predict a certain level of mitigation, as long as provision is made for operation and maintenance funding and for monitoring and evaluation to determine if the predicted benefits were realized.
- It is clear that Bonneville should receive some credit for protection of existing habitat. That credit can be determined through the use of the annualization process contained in the Habitat Evaluation Procedure or through a negotiated settlement such as the Lower Snake Compensation Plan, in which the Corps has agreed to credit acquisitions for habitat

protection at half of their existing value.

- 11.3C.2 The Council recognizes some fish habitat projects provide benefits to wildlife as well as fish. Because of this, the Council calls upon Bonneville and the wildlife managers to develop a method for crediting wildlife benefits from fish projects. The development of such a method for crediting should not prevent fish habitat projects that benefit wildlife from going forward.

11.3D Short-Term Agreements

Bonneville and Wildlife Managers

- 11.3D.1 To ensure that wildlife mitigation proceeds expeditiously, within 90 days following the adoption of this program consummate interim five-year agreements, similar to the interim Washington Wildlife Mitigation agreement, with the states of Idaho and Oregon and appropriate Indian tribes

Interested Parties

- 11.3D.2 If the parties are unable for any reason to reach agreement within this time frame, then by February 15, 1994, submit to the Council a list of wildlife mitigation projects for implementation. Each October 1, thereafter, submit to the Council a list of wildlife mitigation projects for implementation.

Council

- 11.3D.3 Select and approve those projects to be funded for a given fiscal year.

Bonneville

- 11.3D.4 Upon Council approval, fund the projects approved by the Council.
- 11.3D.5 Continue to fund ongoing wildlife mitigation projects and incorporate them into the interim agreements.
- 11.3D.6 Fund the purchase of 100 acres adjacent to the existing Pend Oreille Wetlands Wildlife Mitigation project to protect and enhance an additional 100 acres of riparian forest and adjacent flood plain to partially mitigate for lost habitat units caused by the inundation and water level fluctuations due to the construction of Albeni Falls Dam on the Pend Oreille River. Funding will be provided to purchase land and fund operation and maintenance, and evaluation and monitoring of the project.
- 11.3D.7 Fund advance design activities and implement Black Canyon Reservoir wildlife mitigation, with the highest priority area in the Bruneau River Valley.
- 11.3D.8 In consultation with the State of Idaho, the Shoshone-Bannock Tribes, the Council and other interested parties, initiate implementation planning for the remainder of wildlife mitigation projects at the Palisades project. The Idaho Department of Fish and Game has completed planning for mitigation projects focused on bald eagles, the species of priority within the Palisades mitigation plan. The Tribes' efforts are intended to supplement the ongoing efforts of the agencies.

11.3E Long-Term Agreements

**Bonneville, Corps of Engineers,
Bureau of Reclamation and
Wildlife Managers**

11.3E.1 Within three years following the adoption of this program, develop long-term agreements for all wildlife mitigation. The following elements should be considered and addressed in the development of long-term agreements:

- Clear objectives (e.g., number of habitat units, acres and/or habitat types, sample projects with list of indicator species);
- Demonstration of how the agreement is expected to meet, exceed or fall short of wildlife loss assessments;
- Demonstration that the level of funding provided has substantial likelihood of achieving and sustaining stated wildlife mitigation objectives;
- Demonstration of consistency with the Council's wildlife rule policies and standards;
- Incentives to ensure effective implementation of the agreement with periodic monitoring and evaluation (including an audit at least every other year) to ensure progress and document successes and failures;
- Demonstration that the agreements do not impose financial liabilities on states or tribes for operation and maintenance or for third party claims for additional mitigation. State/tribal liability should be limited to good-faith performance of the mitigation agreement and should not include the risk of financial or biological uncertainty;

- Criteria for re-evaluation or reopening to consider whether mitigation actually has been achieved; and
- Provisions for public involvement during implementation (e.g., advisory council, hearings, etc.).

Council

- 11.3E.2 Before any agreement is signed, the Council will review the agreement in an open, public process, and determine whether it is consistent with this program.

11.3F Complete and Implement Snake River Compensation Program

The Corps of Engineers is in the final stages of implementing mitigation plans for the Lower Snake River Fish and Wildlife Compensation Plan. The Compensation Plan was authorized by Congress in 1976. The Corps has acquired all of the acreage called for in the plan. Final habitat developments on acquired lands will be completed by September 1996. The Council believes that when complete, the wildlife portion of the Compensation Plan developed by the Corps will meet acreage/funding obligations mandated by Congress. However, the Corps has not fully mitigated the habitat unit losses identified for the Lower Snake River hydroelectric projects. Accordingly, the Council has included the unmitigated wildlife losses associated with the Lower Snake River Projects in Table 11-4.

Corps of Engineers

- 11.3F.1 The Corps will complete wildlife mitigation as authorized under the Lower Snake River Fish and Wildlife Compensation Plan. Upon completion of all activities in 1996, the Corps will submit a report to the Council documenting the work completed and the mitigation credited in terms of habitat units.

Bonneville

- 11.3F.2 Within 90 days following adoption of this program, report to the Council all costs reimbursed to the U.S. Treasury by Bonneville associated with the wildlife mitigation portion of the Lower Snake River Fish and Wildlife Compensation Plan.

- 11.3F.3 Fund implementation of the hydropower share of unaddressed mitigation according to Section 11.3D of the program. Highest priority should be given to unaddressed losses sustained by the Nez Perce Tribe and Yakama Indian Nation.

11.4 MONITOR AND EVALUATE WILDLIFE EFFORTS AT FEDERAL DAMS

The Council is interested in ensuring that mitigation actually occurs on the ground and accordingly is providing for monitoring to determine projected benefits to wildlife that result from the program.

11.4A Biennial Monitoring Report and Scientific Review

Bonneville

- 11.4A.1 Fund the coordinated preparation of a biennial monitoring report. The report should compile information on wildlife implementation, habitat units gained, and the status of wildlife populations. The report should reflect broad technical review and input, including the Council. The final report should be submitted to the Council by June 15, every other year.

11.4A.2 Fund an independent scientific review group to evaluate the progress and success of wildlife mitigation efforts.

11.5 MONITOR AND EVALUATE WILDLIFE EFFORTS AT NON-FEDERAL PROJECTS

Non-federal hydroelectric projects are licensed by the Federal Energy Regulatory Commission. The Electric Consumers Protection Act of 1986 (ECPA) mandates that the Federal Energy Regulatory Commission give equal consideration to the protection, mitigation of damage to, and enhancement of wildlife in licensing and relicensing decisions.

11.5A Mitigation Considerations in Dam Licensing Decisions

Federal Energy Regulatory Commission

11.5A.1 In developing license conditions, take into account to the fullest extent practicable the policies established in this section, and the measures taken by Bonneville and others to implement this section, and Section 12.1A.2 of this program. In particular, it is important to take into account the mitigation projects at federal projects undertaken pursuant to this section, to ensure that license conditions are consistent with and complement these wildlife mitigation projects and contribute fully and proportionately to regional wildlife mitigation goals.

Council

11.5A.2 The Council will monitor the Federal Energy Regulatory Commission licensing and relicensing proceedings and comment or intervene where appropriate.

<i>Table 11-4 Estimated Losses Due to Hydropower Construction (losses are preceded by a “-”, gains by a “+”)</i>	
Species	Total Habitat Units
Albeni Falls	
• Mallard Duck	-5,985
• Canada Goose	-4,699
• Redhead Duck	-3,379
• Breeding Bald Eagle	-4,508
• Wintering Bald Eagle	-4,365
• Black-Capped Chickadee	-2,286
• White-tailed Deer	-1,680
• Muskrat	-1,756
• Yellow Warbler	+171
Lower Snake Projects	
• Downy Woodpecker	-364.9
• Song Sparrow	-287.6
• Yellow Warbler	-927.0

• California Quail	-20,508.0
• Ring-necked Pheasant	-2,646.8
• Canada Goose	-2,039.8
Anderson Ranch	
• Mallard	-1,048
• Mink	-1,732
• Yellow Warbler	-361
• Black Capped Chickadee	-890
• Ruffed Grouse	-919
• Blue Grouse	-1,980
• Mule Deer	-2,689
• Peregrine Falcon	-1,222 acres*
* Acres of riparian habitat lost. Does not require purchase of any lands.	
Black Canyon	
• Mallard	-270
• Mink	-652
• Canada Goose	-214
• Ring-necked Pheasant	-260
• Sharp-tailed Grouse	-532
• Mule Deer	-242
• Yellow Warbler	+8
• Black-capped Chickadee	+68

<i>Table 11-4</i>	
<i>Estimated Losses Due to Hydropower Construction</i>	
<i>(losses are preceded by a “-”, gains by a “+”</i>	
Deadwood	
• Mule Deer	-2080
• Mink	-987
• Spruce Grouse	-1411
• Yellow Warbler	-309
• Yellow-rumped Warbler	-2626

Table 11-4 (cont.)
Estimated Losses Due to Hydropower Construction
(losses are preceded by a “-”, gains by a “+”

Species	Total Habitat Units
Palisades	
• Bald Eagle	-5,941 breeding
	-18,565 wintering
• Yellow Warbler/	-718 scrub-shrub
• Black Capped Chickadee	-1,358 forested
• Elk/Mule Deer	-2,454
• Waterfowl and Aquatic Furbearers	-5,703
• Ruffed Grouse	-2,331
• Peregrine Falcon*	-1,677 acres of forested wetland
	-832 acres of scrub-shrub wetland
	+68 acres of emergent wetland
* Acres of riparian habitat lost. Does not require purchase of any lands.	
Willamette Basin Projects	
• Black-tailed Deer	-17,254
• Roosevelt Elk	-15,295
• Black Bear	-4,814
• Cougar	-3,853
• Beaver	-4,477
• River Otter	-2,408
• Mink	-2,418
• Red Fox	-2,590
• Ruffed Grouse	-11,145
• California Quail	-2,986
• Ring-necked Pheasant	-1,986
• Band-tailed Pigeon	-3,487
• Western Gray Squirrel	-1,354
• Harlequin Duck	-551
• Wood Duck	-1,947
• Spotted Owl	-5,711
• Pileated Woodpecker	-8,690
• American Dipper	-954
• Yellow Warbler	-2,355
• Common Merganser	+1,042
• Greater Scaup	+820
• Waterfowl	+423
• Bald Eagle	+5,693
• Osprey	+6,159

Table 11-4 (cont.)
Estimated Losses Due to Hydropower Construction
(losses are preceded by a “-”, gains by a “+”

Species	Total Habitat Units
Grand Coulee	
• Sage Grouse	-2,746
• Sharp-tailed Grouse	-32,723
• Ruffed Grouse	-16,502
• Mourning Dove	-9,316
• Mule Deer	-27,133
• White-tailed Deer	-21,362
• Riparian Forest	-1,632
• Riparian Shrub	-27
• Canada Goose Nest Sites	-74
McNary	
• Mallard (wintering)	+13,744
• Mallard (nesting)	-6,959
• Western Meadowlark	-3,469
• Canada Goose	-3,484
• Spotted Sandpiper	-1,363
• Yellow Warbler	-329
• Downy Woodpecker	-377
• Mink	-1,250
• California Quail	-6,314
John Day	
• Lesser Scaup	+14,398
• Great Blue Heron	-3,186
• Canada Goose	-8,010
• Spotted Sandpiper	-3,186
• Yellow Warbler	-1,085
• Black-capped Chickadee	-869
• Western Meadowlark	-5,059
• California Quail	-6,324
• Mallard	-7,399
• Mink	-1,437

Table 11-4 (cont.)
Estimated Losses Due to Hydropower Construction
(losses are preceded by a “-”, gains by a “+”

Species	Total Habitat Units
The Dalles	
• Lesser Scaup	+2,068
• Great Blue Heron	-427
• Canada Goose	-439
• Spotted Sandpiper	-534
• Yellow Warbler	-170
• Black-capped Chickadee	-183
• Western Meadowlark	-247
• Mink	-330
Bonneville	
• Lesser Scaup	+2,671
• Great Blue Heron	-4,300
• Canada Goose	-2,443
• Spotted Sandpiper	-2,767
• Yellow Warbler	-163
• Black-capped Chickadee	-1,022
• Mink	-1,622
Dworshak	
• Canada Goose-(breeding)	-16
• Black-capped Chickadee	-91
• River Otter	-4,312
• Pileated Woodpecker	-3,524
• Elk	-11,603
• White-tailed Deer	-8,906
• Canada Goose (wintering)	+323
• Bald Eagle	+2,678
• Osprey	+1,674
• Yellow Warbler	+119

Table 11-4 (cont.)
Estimated Losses Due to Hydropower Construction
(losses are preceded by a “-”, gains by a “+”

Species	Total Habitat Units
Minidoka	
• Mallard	+174
• Redhead	+4,475
• Western Grebe	+273
• Marsh Wren	+207
• Yellow Warbler	-342
• River Otter	-2,993
• Mule Deer	-3,413
• Sage Grouse	-3,755
Chief Joseph	
• Lesser Scaup	+1,440
• Sharp-tailed Grouse	-2,290
• Mule Deer	-1,992
• Spotted Sandpiper	-1,255
• Sage Grouse	-1,179
• Mink	-920
• Bobcat	-401
• Lewis' Woodpecker	-286
• Ring-necked Pheasant	-239
• Canada Goose	-213
• Yellow Warbler	-58

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