Section 7 - Multi-Year Wildlife Workplan

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7. Multi-Year Wildlife Workplan

7.1 Approach

The Northwest Power Act (the Act or NPA) of 1980 recognizes that the development and operation of the hydroelectric dams of the Columbia River and its tributaries have affected fish and wildlife resources. The Act calls upon the Northwest Power Planning Council (the Council or NPPC) to develop a program to protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia Basin and its tributaries (NPA 1980, Section 4(h)(1)(A), page 12; NPPC 1995, Section 2, page 2-1). The Act states that this program is to be implemented and funded by the Bonneville Power Administration (BPA). The Council's Columbia River Basin Fish and Wildlife Program (Fish and Wildlife Program) was created as a result of the Act.

The 1984 amendment of the Fish and Wildlife Program (NPPC 1984) describes the Council's endorsement of (1) the establishment of formal wildlife representation in all matters of power system planning, management, and operation; (2) the establishment of a Council wildlife coordinator position; (3) the development of comprehensive wildlife resource inventories of existing and future hydroelectric dams; (4) the establishment of operational changes to avoid certain impacts to wildlife resources and the acquisition, development, and management of wildlife habitat to mitigate losses; (5) the development of measures for wildlife and habitat mitigation and enhancement programs; and (6) the compensation for certain habitat lost in the past through offsite enhancement measures.

The 1984 Fish and Wildlife Program also outlined a series of steps designed to result in full mitigation for hydroelectric project impacts on wildlife. Under the Council's Fish and Wildlife Program, each state developed a mitigation status report of all past, present, and proposed mitigation at each hydroelectric project in the Columbia River Basin. The mitigation status reports were to include an evaluation of (1) the need for baseline inventory information, (2) the extent to which wildlife populations have been affected by the hydroelectric projects, (3) the extent at which wildlife populations have been enhanced by the construction of hydroelectric projects, (4) the extent to which previous programs have succeeded in mitigating wildlife losses, and (5) losses of and continuing changes in island, shore, and other floodplain habitat in areas affected by each dam. Upon completion of the mitigation status reports, the BPA and the Council's wildlife coordinator determined the need for wildlife loss statements.

Each state, associated tribe, and agency completed a Wildlife Loss Assessment for each hydroelectric facility. These impact assessments, based on Habitat Evaluation Procedures (HEP), were conducted in the 1980s by HEP teams to quantify losses and benefits to wildlife. Upon completion of the Wildlife Loss Assessments, mitigation plans were developed for some hydroelectric projects. The mitigation plans were to be approved by the Northwest Power Planning Council, at which time the BPA or the appropriate project operator was to fund implementation of the plans.

The Council asked Beak Consultants, Inc. (Beak) to conduct an audit of the Loss Assessments. The audit, completed in 1993, identified several differences in impact assessment approaches

between the states and recommended that a written plan (the Wildlife Plan) be prepared to address the differences, and to provide guidance for continuing with the Loss Assessments and the mitigation of the losses (Appendix 1). The Council endorsed this recommendation.

The multi-year Wildlife Workplan was prepared by the Wildlife Working Group (WWG) (Appendix 2) made up of representatives from state and federal fish, wildlife, and land management agencies; tribes; and the funding agency (BPA). Figure 7-1 provides an organizational chart for the workplan.

The Wildlife Workplan provides a link between the legislative goals outlined by the Northwest Power Act and the Council's Fish and Wildlife Program, and between the objectives and methods of the specific Loss Assessments and mitigation. Objectives to meet the legislative goals are based on input from the Wildlife Working Group. Methods to be implemented by the biologists working day-to-day on the assessment process are presented in general terms. A schedule for completing the components of the Wildlife Multi-Year Plan has been developed (see Figure 7-2). The Wildlife Plan is intended to be an investment that will help ensure that the wildlife resources and the ratepayers will receive a scientific and policy-relevant return on the public's investment.

The Wildlife Plan addresses limitations of the methods and analyses proposed. Discussion of these factors will alert all those involved to the potential for differences in methods and the ways in which the findings may be influenced. It is unrealistic to expect that the potential for differences between individual projects does not exist in a large system-based environmental assessment. The solution to this potential problem is full disclosure and review by a group of scientists and policy analysts whose competing interests discipline their joint conclusions (Cowling 1992).

The Wildlife Plan addresses wildlife issues only; fish issues are addressed in other areas of the Council's Fish and Wildlife Program, particularly the Integrated System Plan of the Subregional Process (NPPC 1995, Section 3.1D, page 3-5). Issues such as quality assurance, system planning, schedules, and compatibility between hydroprojects and subregions are addressed (Figure 7-3). The goal of the Subregional Process is to ensure integration and consistency with the Council's goal and policies within the Columbia River Basin. A Scientific Review Group (SRG) was formed in May 1989 to assist in the successful implementation of the Fish and Wildlife Program. This SRG, comprised primarily of fish experts, focused on fish-related hydropower issues. A Wildlife SRG will be formed to address wildlife-related hydropower issues of the Wildlife Program and assist in quality assurance processes.

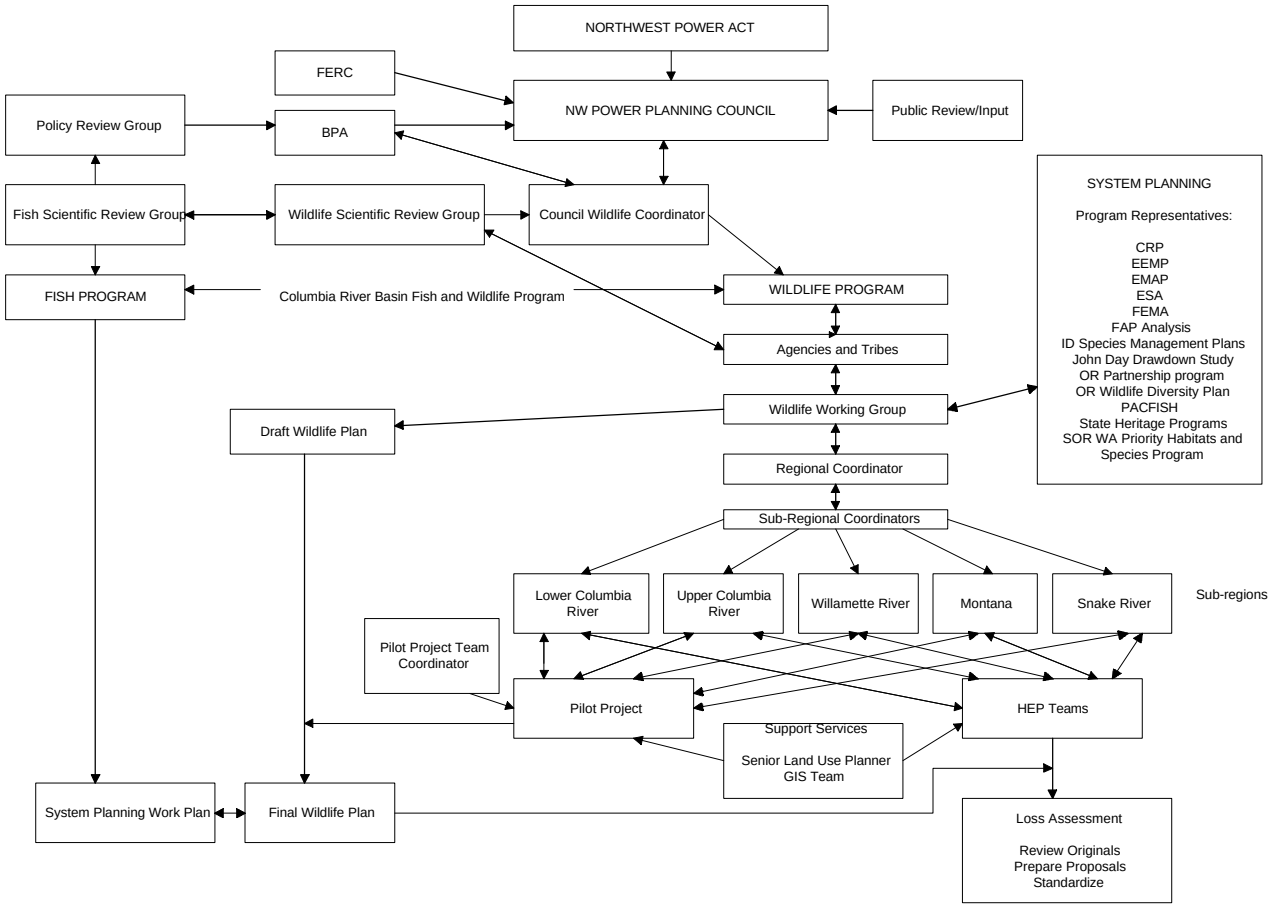

Figure 7- 1 Organizational chart for standardizing and completing loss assessments

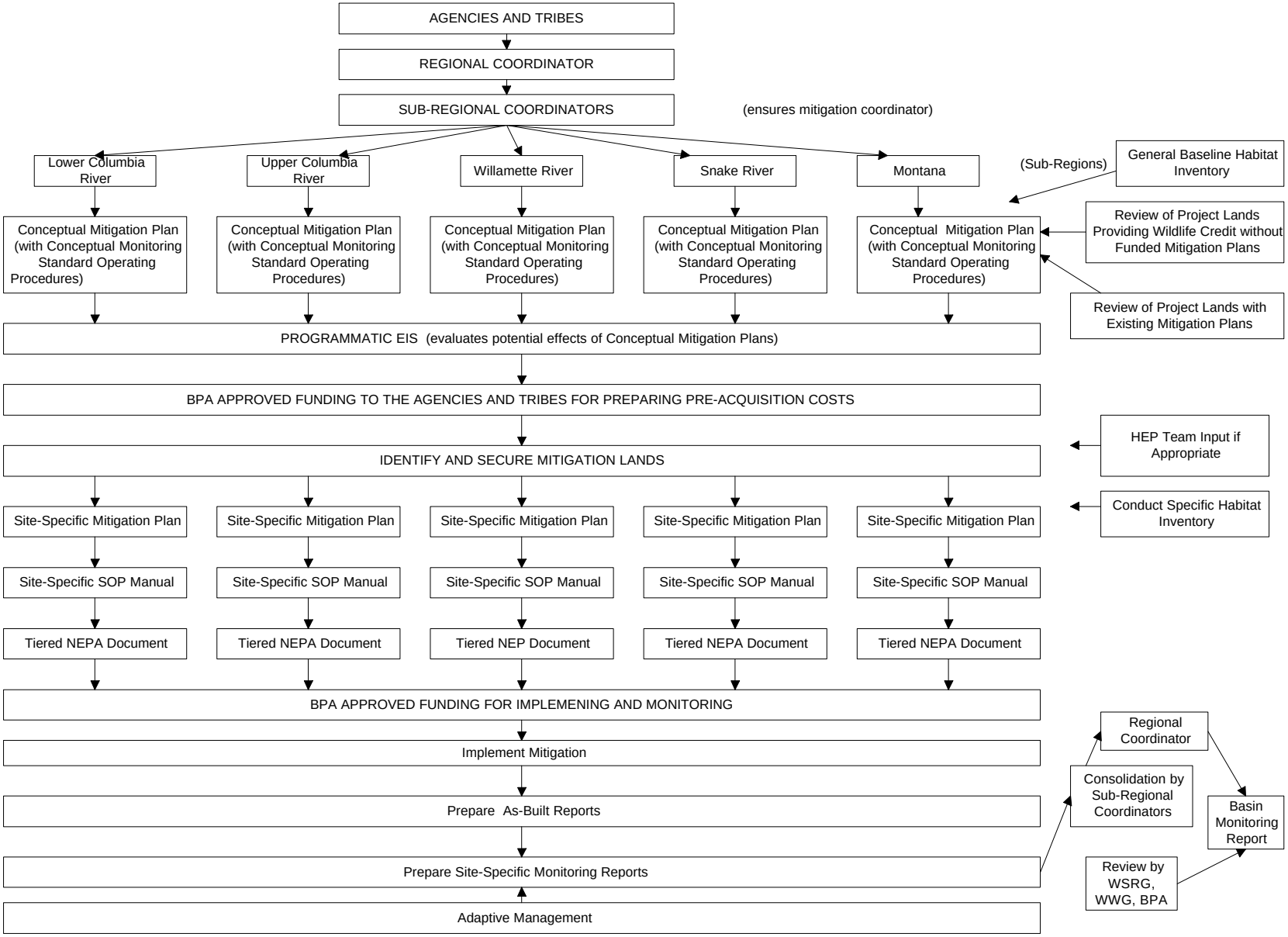

Figure 7- 2 Organizational chart for implementing and monitoring mitigation activities on a subregional level

7.2 Ecological Objectives

7.2.1 System Goal

The Council system goal for fish and wildlife is a healthy Columbia Basin, one that supports both human settlement and the long-term sustainability of native fish and wildlife species in native habitat where possible, while recognizing that where impacts have irrevocably changed the ecosystem, we must protect and enhance that ecosystem (NPPC 1995, Section 2.1, page 2-1). To implement this goal, the program will: (1) view the Columbia Basin in an ecosystem context; (2) protect, mitigate, and enhance fish and wildlife while assuring an adequate, efficient, economical, and reliable power supply; and (3) be consistent with the activities of the fish and wildlife agencies and tribes (NPPC 1995, Section 2.1, page 2-1).

7.2.2 Wildlife Program Goal

The Wildlife Program goal is to achieve and sustain levels of habitat and species productivity in order to fully mitigate the wildlife losses that have resulted from construction and operation of the federal and nonfederal hydroelectric system (NPPC 1995, Section 11.1, page 11-2).

7.2.3 Mitigation Goal

According to the Wildlife Program Rule (NPPC 1995), the mitigation goal is for wildlife agencies and the tribes to develop plans that will fully mitigate the wildlife losses that have resulted from construction and operation of the federal and nonfederal hydroelectric system (Section 11.1, page 11-2).

Mitigation is defined as achieving and sustaining the levels of habitat and species productivity for the HUs lost (i.e., the replacement of habitat losses) as a result of the construction and operation of the federal and nonfederal hydropower system (NPPC 1995, Section 11.2C.1, page 11-2). Mitigation activities are those actions funded by the BPA that are included in mitigation plans prepared by the individual agencies and tribes.

Habitat Units gained as a result of implementing BPA-funded mitigation activities will be tracked on a mitigation scorecard. This scorecard will display the number of HUs gained as a result of implementing mitigation efforts and the remaining number of HUs to be mitigated. In this way, mitigation HUs (HUs gained as a result of mitigation efforts) will offset losses. HUs will be tracked by evaluation species and displayed for each hydroelectric project, each subregion, and the entire Basin.

Mitigation will be coordinated with other types of mitigation efforts (e.g., mitigation of impacts caused by the construction and operation of nonfederal facilities) within the region (NPPC 1995, Section 11, page 11-1; Section 11.2D, page 11-3).

Mitigation opportunities consistent with Section 11.2D.1 of the Wildlife Program Rule (NPPC 1995, page 11-3) will be identified and pursued and mitigation plans will be developed by the individual agencies and tribes.

7.2.4 Monitoring/Evaluation Goal

According to the Wildlife Program Rule (NPPC 1995), the monitoring/evaluation goal is for the BPA to determine whether projected benefits to wildlife result from the program (Section 11.4, page 11-9). Monitoring/evaluation efforts will ensure that mitigation is actually occurring on the ground. Sub-goals are the following:

HEP-based monitoring/evaluation procedures (SOPs) and guidelines will be incorporated into mitigation plans developed by the individual agencies and tribes.

Monitoring/evaluation success criteria will be developed and implemented by the individual agencies and tribes to ensure mitigation accountability. Success criteria may include HEP-based habitat parameters and/or species response variables.

Adaptive management principles (NPPC 1995, Section 3.2, page 3-6) will be used to update the mitigation plans pending monitoring results and review of monitoring reports.

Monitoring reports that compile information on wildlife mitigation implementation, Habitat Units gained, and the status of wildlife populations will be prepared (NPPC 1995, Section 11.4A.1, page 11-9).

An independent Wildlife Scientific Review Group will be selected and funded to help evaluate the progress and success of wildlife mitigation efforts and to provide quality assurance in the monitoring/evaluation processes (NPPC 1995, Section 11.4A.2, page 11-9).

7.2.5 Quality Assurance Goal

Quality control will be provided by the HEP teams. Quality assurance will be achieved by periodic reviews of products and results by the WWG throughout the Wildlife Program. The Wildlife SRG will also review various products and results as requested by the WWG. The goal of quality assurance is to ensure high quality products, consistency between subregions, standardization of the original Loss Assessments, and mitigation success (NPPC 1995, Section 3.2B.1, page 3-8).

7.3 Summary of Current Activities

Much of the history of the Wildlife Program has been provided in the previous section of this document. The Wildlife Working Group (WWG) was established in February 1994 as the successor to the CBFWA Wildlife Committee and the Bonneville Wildlife Scoping Group (WSG), which had been in existence since 1990. The WSG was charged by Bonneville with ranking projects for the Implementation Planning Process. The WSG developed criteria and a point system for ranking wildlife projects and provided BPA with ranked project lists for funding. Following the demise of the IPP and the loss of funding and technical support from the CBFWA, the wildlife managers formed the WWG as an ad hoc committee to continue to provide a coordinated forum for addressing wildlife mitigation actions called for in the Fish and Wildlife Program.

In 1994, the WWG worked with Beak Consultants to develop a written plan that defines goals and objectives and describes methodologies for proceeding with wildlife mitigation under the

Council's program. This culminated in the Draft Wildlife Plan, which was endorsed by the wildlife managers in December 1994, and was submitted to the Council for its 1994 Fish and Wildlife Program amendment process. In conjunction with development of the plan, the WWG also worked with BPA to initiate a Programmatic EIS for wildlife mitigation in the Columbia Basin (see Appendix 3). The Final EIS is expected in January 1997. Following the completion of the EIS, the WWG will revise the Wildlife Plan to ensure consistency with the EIS and will submit it to the Council for adoption.

Additionally, in 1995, the CBFWA asked the WWG to serve as the official body for ranking and prioritization of wildlife projects under the newly established prioritization process. The WWG has carried out this function for the last two years.

Since 1989, long-term mitigation agreements have been adopted for construction of Hungry Horse and Libby dams in Montana and Dworshak dam in Idaho. A five-year interim agreement has been achieved for wildlife mitigation in Washington state. A variety of specific mitigation projects including Flying Goose Ranch, Conforth Ranch, Burlington Bottoms, and the Northeast Oregon project are also being implemented. The Council's Program calls for Bonneville to fund projects that address the impacts on wildlife and wildlife habitat caused by the construction of dams. Mitigation efforts address wildlife species lost at individual projects and identified through the Habitat Evaluation Procedure. Mitigation efforts use a habitat-based approach. Additional mitigation plans and projects that have been prioritized by the region's fish and wildlife managers will be reviewed by the Council and additional wildlife agreements will be encouraged. Table 7-1 lists the current activities being funded through the Wildlife Program. Table 7-2 displays acquisition projects, acreage, and habitat units credited to Bonneville.

Table 7- 1 Wildlife program five year planning budget

	1997	1998	1999	2000	2001	5 Year Total
COMMITTED FUNDS						
Ongoing Enhancement & O&M						
Kalispel Pend Oreille Wetland	$150,000	$156,000	$162,000	$168,000	$175,000	$811,000
Kalispel Pend Oreille Wetlands II		$5,000	$5,000	$5,000	$5,000	$20,000
Burlington Bottoms	$52,000	$55,000	$58,000	$62,000	$65,000	$292,000
Conforth Ranch	$200,000	$200,000	$150,000	$150,000	$150,000	$850,000
NE Oregon		$411,393	$227,734	$235,325	$242,917	$1,117,369
Amazon Basin - TNC	$51,000	$45,000	$25,000	$25,000	$25,000	$171,000
Sub-Total	**$453,000**	**$872,393**	**$627,734**	**$645,325**	**$662,917**	**$3,261,369**
Washington Agreement	$7,600,000					$7,600,000
Yakima Riparian	$0					$0
Hellsgate	$0					$0
Colville Performance Contract	$0					$0
WDW Projects	$0	$5,307,135	$3,130,100	$1,912,335	$0	$10,349,570
Spokane Contract	$0					$0
USFWS	$0					$0
CTUIR	$0					$0
Sub-Total	**$7,600,000**	**$5,307,135**	**$3,130,100**	**$1,912,335**	**$0**	**$17,949,570**
Other Ongoing Projects						
S. Idaho Mitigation Project	$3,000,000					$3,000,000
Albeni Falls	$800,000					$800,000

	1997	1998	1999	2000	2001	5 Year Total
Northeast Oregon	$1,500,000					$1,500,000
Lake Creek - Coeur d'Alene						$0
Willamette Basin	$200,000					$200,000
Squaw Creek - CTUIR	$600,000					$600,000
Crates Point	$200,000					$200,000
Columbia Basin Mitigation - Oregon	$275,000					$275,000
Wildlife Plan	$100,000					$100,000
Sub-Total	**$6,675,000**	**$0**				**$5,500,000**
Total Committed	**$14,728,000**	**$6,179,528**	**$3,757,834**	**$2,557,660**	**$662,917**	**$27,885,939**
Total Available (@$15M/YR)	**$272,000**	**$8,820,472**	**$11,242,166**	**$12,442,340**	**$14,337,083**	**$47,114,061**

	1997	1998	1999	2000	2001	5 Year Total
UNCOMMITTED FUNDS						
New Projects, O&M, & Enhancement						
Washington Agreement						
Yakima Riparian	$0	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$6,000,000
Hellsgate	$0	$250,000	$250,000	$250,000	$350,000	$1,100,000
Colville Performance Contract	$0	$0	$100,000	$100,000	$150,000	$350,000
WDW Projects	$0	$0	$105,800	$686,800	$2,300,200	$3,092,800
Spokane Contract	$0	$100,000	$100,000	$100,000	$100,000	$400,000
USFWS	$0	$0	$0	$0	$0	$0
CTUIR	$0	$350,000	$350,000	$400,000	$400,000	$1,500,000
Sub-Total	**$0**	**$2,200,000**	**$2,405,800**	**$3,036,800**	**$4,800,200**	**$12,442,800**
Other Ongoing Projects						
S. Idaho Mitigation Project		$3,450,000	$3,511,446	$3,230,970	$2,857,976	$13,050,392
Albeni Falls		$1,510,000	$790,000	$800,000	$810,000	$3,910,000
Willamette Basin		$1,000,000	$500,000	$200,000	$200,000	$1,900,000
Squaw Creek - CTUIR		$200,000	$200,000	$200,000	$200,000	$800,000
Crates Point						
Columbia Basin Mitigation - Oregon		$500,000	$4,000,000	$5,000,000	$6,000,000	$15,500,000
Wildlife Plan		$100,000	$150,000	$150,000	$150,000	$550,000
Sub-Total	**$0**	**$6,760,000**	**$9,151,446**	**$9,580,970**	**$10,217,976**	**$35,710,392**
New Projects						
Pend Oreille Wetlands III		$300,000	$8,000	$8,000	$9,000	
Pend Oreille Wetlands IV				$200,000	$27,000	
Total	**$14,728,000**	**$15,539,128**	**$15,315,080**	**$15,175,430**	**$15,681,093**	**$76,039,131**
					Available	**($1,039,131)**

Table 7- 2 BPA acquisitions for wildlife mitigation

		Protection		Improvement
Project	**Acres**	**HU's**	**Acres**	**Est. HU's**
Roloff Property	9,119	7,066		1,651
Welch Property	3,408	1,963		970
Dormier Property	318	448		32
Bill Khune Property	4,820	4,232		
Abramson Property	77			
Conforth	2,765	2,334		2,495
Double Z Ranch	453	91		
Straub Property	196	107		372
James Property	90	48		168
NE Oregon	16,500	5,000		
Amazon/Willow Creek	349	575		240
Burlington Bottoms	417	1,319		105
Pend Oreille Wetlands	436	345		632
WDFW HU Agreement			98,939	33,000
CCT HU Agreement	11,720	4,866		
STI HU Agreement	1,768	1,695		
YIN HU Agreement	4,420	2,644		
Totals	**56,856**	**32,733**	**98,939**	**39,665**
Swanson DNR Lease (93 -96)	1,280	1,063		
Satus Lease (1995)	3,118			

Note: Other than habitat response to rest, improvement HU's have not been realized.
Except for WDFW HU Agreement,"Acquisition Cost" represents land acquisition.

7.4 Summary of Future Activities

7.4.1 System Objectives

System objectives are: (1) to view the Columbia River Basin in an ecosystem context, (2) to assess impacts of the federal and nonfederal hydropower projects, (3) to coordinate mitigation efforts, and (4) to fully mitigate losses throughout the Basin. The objective is to develop a process and methodology that will protect and enhance the Columbia River Basin ecosystems to ensure it can support both human settlement and the long-term sustainability of native fish and wildlife species (NPPC 1995, Section 2.1, page 2.1).

7.4.2 System Mitigation Needs/Opportunities to Coordinate with Other Programs

An approach for identifying mitigation needs and protection and enhancement opportunities throughout the Columbia River Basin will be discussed and refined by the Wildlife Working Group and the Subregional Coordinators. Whenever possible, impact assessment, mitigation, and monitoring/evaluation activities will be coordinated across administrative boundaries and conducted in a manner that effectively addresses the health of the ecosystem. For example, the

U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, BPA, and the various fish, wildlife, and land agencies and tribes have coordinated the content of this document. This coordinated approach has continued to endorse fish and wildlife protection, enhancement, and existing mitigation activities while ensuring an adequate, efficient, and reliable power supply (NPPC 1995, Section 2.1, page 2-1). Coordination of mitigation needs and opportunities with existing mitigation plans will also be considered to reduce project costs, increase benefits, and/or eliminate duplicative activities (NPPC 1995, Section 11.2, page 11-4). Coordinated approaches to system management will be considered and may include one or several of any system-wide programs such as the programs listed below:

Conservation Reserve Program (CRP)
Interior Columbia River Basin Ecosystem Management Project
Environmental Monitoring & Assessment Program (EMAP)
Endangered Species Act (ESA)
Forest Ecosystem Management Assessment (FEMA)
Gap Analysis
Idaho Species Management Plans
John Day Pool Drawdown HEP Analysis
Oregon Partnership Program
Oregon Wildlife Diversity Plan (OWDP)
PACFISH
State Heritage Programs
System Operation Review (SOR)
Washington Priority Habitats and Species Program (PHS)

The objective of mitigation coordination is to consider the above programs and select program features that will enhance and reinforce the goals set by the Council. The Regional Coordinator and/or the Subregional Coordinators will meet with a representative from each of the above programs to learn about the information/products available that may supplement the Council's Wildlife Program. The Regional Coordinator will relay this information to the WWG and the Subregional Coordinators will inform the agencies and tribes within their subregions of the various opportunities to coordinate mitigation activities. A GIS database could be used to track mitigation opportunities, to identify candidates for mitigation coordination according to certain criteria, and to coordinate mitigation implementation (how much of each cover type should be mitigated for and how it could be distributed). The recent commitment to system goals and recommendations, such as coordinating with the Fish Program Work Plan, and the proposed coordination with nonfederal projects are the types of specific ideas that can be gleaned from the array of system programs that are being developed.

7.4.3 Coordination with Nonfederal Projects

Nonfederal hydroelectric projects are licensed by the Federal Energy Regulatory Commission (FERC). The Electric Consumers Protection Act of 1986 (ECPA) mandates that FERC give equal consideration to the protection, mitigation of damage to, and enhancement of wildlife in licensing and relicensing (NPPC 1995, Section 11.5A, page 11-10). As written in the Wildlife Program Rule (NPPC 1995, Section 11.2C, page 11-2), 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 the federal and nonfederal hydropower system. The Council will take the lead in coordinating wildlife mitigation efforts with FERC.

7.5 Wildlife Program

7.5.1 Objectives

The Wildlife Program is based on an ecosystem approach to fully mitigate the wildlife losses that have resulted from the inundation (construction) and operation of federal hydropower projects in the Columbia River Basin. The objectives of the Wildlife Program are: (1) to assess wildlife habitat losses caused by the construction and operation of federal hydropower projects, (2) to coordinate mitigation efforts (federal and nonfederal) throughout the Basin, (3) to develop wildlife mitigation success criteria, and (4) to 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 (NPPC 1995, Section 11.2B.1, page 11-2).

7.5.2 Research

Research projects, such as the river otter project conducted in association with the Dworshak project and the northwestern pond turtle study in the Willamette Basin, are encouraged where appropriate. Research will be viewed as a component of adaptive management. Although research dollars will not be given direct mitigation credit, the benefits of research will theoretically increase the likelihood of successful mitigation and ultimately gains in HUs. These research efforts will increase the likelihood that dollars spent on mitigation will produce measurable benefits for wildlife. The value of the research is the increased probability of success, which will save dollars that might otherwise be required to modify projects that were unsuccessful.

7.5.3 Subregional Priorities

The Council has established the subregional priorities for wildlife mitigation as shown in Tables 7-3, 7-4, and 7-5.

Table 7- 3 Lower Columbia subbasin wildlife mitigation priorities

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	

Table 7- 4 Upper Columbia subbasin wildlife mitigation priorities

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 7- 5 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	

7.5.4 Subregional Objectives

Subregional objectives for wildlife mitigation are shown in Tables 7-6, 7-7, and 7-8.

Table 7- 6 Lower Columbia subregion wildlife mitigation objectives

Species	Total Habitat Units
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
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
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

Table 7- 7 Upper Columbia subregion wildlife mitigation objectives

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
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
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

Table 7- 8 Snake River subbasin wildlife mitigation objectives

Species	Total Habitat Units
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
Deadwood	
• Mule Deer	-2080
• Mink	-987
• Spruce Grouse	-1411
• Yellow Warbler	-309
• Yellow-rumped Warbler	-2626
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.	
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
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

7.6 Key Policy Issues

1. Allocation of Effort

Measure 11.2B.1 of the Council's Fish and Wildlife Program states that Bonneville, the Corps, and the Bureau of Reclamation are to determine the allocation of expenditures needed to achieve full mitigation of wildlife losses. Although this issue has been addressed as part of the federal agency MOA, it needs further clarification in order to determine specific policies and procedures regarding funding needs and responsibilities. The WWG will continue to work with the federal agencies to clarify this issue. Resolution is expected in the first half of 1997.

2. Operation and Maintenance

Under the Council's Program, Bonneville is responsible for funding operation and maintenance activities necessary to maintain the habitat units for which it is receiving credit. As more projects are implemented, an increasing portion of the wildlife budget will go to operation and maintenance activities. The WWG is in the process of developing criteria for evaluating and ranking O&M activities for proposed projects and for reviewing approved projects. This work will be completed in early 1997 before the FY 98 project ranking is undertaken.

3. Subregional funding strategies

The preferred method for funding wildlife projects is through long-term agreements using trust funds or similar financial arrangements (NPPC, 1995. Measures 11.3D and 11.3E). The WWG continues to support this concept because of the flexibility that it provides to the managers and because of the long-term cost savings to the region from these arrangements. The WWG is exploring possible mechanisms for developing funding agreements at the subregional level. Over the next several years it will work to develop a budget proposal for the years following FY 2001 that will incorporate the concept of long-term trust agreements. This work will be completed by the end of 1998.

4. Nonfederal projects

Measure 11.5A of the Fish and Wildlife Program calls for the Federal Energy Regulatory Commission (FERC) to take into account the policies of the Council's wildlife program and to ensure that license conditions are consistent with and complement wildlife mitigation efforts funded by Bonneville. A number of major projects (Hell's Canyon Complex, Mid-Columbia Dams, Cabinet Gorge, Noxon, Pelton, Round Butte) will begin the relicensing process over the next five years. The WWG will be developing strategies on how to work with the licensees and FERC to ensure regional consistency with the Council's Program. To that end, the WWG endorses the NPPC's recommendation in the 180 Day Report to Congress that the President by executive order require that the actions of the FERC be consistent with the Council's Fish and Wildlife Program. These issues should be resolved by the end of 1997.

5. Operational Losses/Secondary Losses

To date, wildlife mitigation efforts have been focused on mainstem inundation/construction losses caused by the hydroelectric system. Losses from operations and secondary impacts have yet to be assessed or addressed, although the need to do so has been recognized by both the Council and Bonneville. Processes to address these losses need to get underway over the next five years. The Draft Wildlife Plan (NPPC, 1995 Appendix G) provides a detailed plan for quantifying losses caused by the operation of the federal hydrosystem and recognizes the need to address secondary losses attributed to the loss of the fish prey base. The Draft Plan will be finalized by the WWG following the publication of Bonneville's Final Environmental Impact Statement on the Wildlife Mitigation Program. This work will be completed in FY 98 and should lead to efforts to begin quantification of operational effects.

6. Watershed Strategies

To date, the focus of the wildlife program has been on mitigation for inundation losses caused by the mainstem Columbia River dams. However, losses to wildlife caused by the loss of the ecological integrity of watersheds as a result of the loss of anadromous and resident fish prey base are very real. The wildlife managers recognize that (1) rivers form a natural organizing feature of many ecosystems in the Columbia River Basin, (2) watersheds or subbasin catchments are the appropriate natural biophysical and sociocultural units for a variety of land/water uses and therefore habitat-based mitigative activities, and (3) metapopulation structure and regional basin-wide factors form the ecosystem context for watershed-based mitigative activities. It is the recommendation of the WWG that these ecosystem losses be addressed in the context of the watershed mitigation efforts. The re-establishment of functional ecosystems at the watershed level should mitigate secondary wildlife losses. This issue should be addressed through the participation of the wildlife managers in the subregional and watershed planning efforts. Additionally, measure 11.3C.2, which calls upon Bonneville and the wildlife managers to develop a method for crediting wildlife benefits from fish habitat projects, would become moot under a watershed-based mitigation strategy. The establishment of a coordinated watershed strategy for all habitat related projects should be completed by the end of 1997.

7. Mainstem Operations

Changes in mainstem hydro operations have the potential to affect wildlife species and existing wildlife mitigation efforts. Operational strategies such as reservoir drawdowns can have both positive and negative effects on wildlife habitats and populations. The WWG recommends that the wildlife managers should formally participate in the planning and implementation of mainstem operations that could potentially affect wildlife populations or habitats. This issue should be resolved in the first three months of 1997.

7.7 Costs

The attached five year budget (Table 7-1) was based on the assumption that the wildlife program would continue to receive 15 percent of the Bonneville direct program budget, approximately $15 million dollars per year. The budget provides estimated costs for both ongoing and future projects. See **Table 7-1** for information on costs.