
PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Albeni Falls Wildlife Mitigation

BPA project number: 9206100

Contract renewal date (mm/yyyy): 3/1999 **Multiple actions?**

Business name of agency, institution or organization requesting funding

Albeni Falls Interagency Work Group

Business acronym (if appropriate)

Proposal contact person or principal investigator:

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NPPC Program Measure Number(s) which this project addresses

11.2D.1, 11.2E.1, 11.3D.4, 11.3D.5

FWS/NMFS Biological Opinion Number(s) which this project addresses

NA

Other planning document references

Bonneville Power Administration Wildlife Mitigation Program Final Environmental Impact Statement (BPA 1997); Albeni Falls Wildlife Management Plan: Final Environmental Assessment (BPA 1996); Conservation Strategy for Northern Idaho Wetlands (Jankovsky-Jones 1997); and Protection, Mitigation and Enhancement Measures: Clark Fork Settlement Agreement (WWP 1998).

Short description

Protect, enhance, and maintain important wetland wildlife habitat in the Lake Pend Oreille vicinity as ongoing mitigation for construction impacts associated with the Albeni Falls hydroelectric project.

Target species

Bald eagle (wintering and breeding), black-capped chickadee, mallard, Canada goose, muskrat, white-tailed deer.

Section 2. Sorting and evaluation

Subbasin

Upper Columbia-Pend Oreille River

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
<input type="checkbox"/> Anadromous fish <input type="checkbox"/> Resident fish <input checked="" type="checkbox"/> Wildlife	<input checked="" type="checkbox"/> Multi-year (milestone-based evaluation) <input type="checkbox"/> Watershed project evaluation	<input type="checkbox"/> Watershed councils/model watersheds <input type="checkbox"/> Information dissemination <input checked="" type="checkbox"/> Operation & maintenance <input type="checkbox"/> New construction <input type="checkbox"/> Research & monitoring <input checked="" type="checkbox"/> Implementation & management <input checked="" type="checkbox"/> Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
9106000	Pend Oreille Wetlands-Flying Goose	Partial Albeni Falls wildlife mitigation
9004401	Lake Creek Acquisition and Enhancement	Partial Albeni Falls wildlife mitigation
	Washington Water Power Wildlife PM&E Measures	Project-induced erosion and wildlife habitat loss in the Clark Fork Delta

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1995	Completion of Albeni Falls Wildlife Mitigation Status Report	N/A
1988	Completion of Albeni Falls Protection, Mitigation, and Enhancement Plan	N/A
1996	Completion of Albeni Falls Wildlife Management Plan: Final Environmental Assessment	N/A
1997	Protected 353 acres of high quality wetland habitat	Yes. IDFG credited BPA with 679 HUs.
1998	Protected 110 acres of wetland habitat. Other acquisitions are nearing completion.	Yes. IDFG credited BPA with 1,200 HUs.
1998	Maintained 352 acres and 726 HUs.	Yes. No net loss of HUs.
1999	Nearing completion on 400-acre acquisition.	Yes. BPA will receive credit for baseline HUs when HEP is completed.

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Protect 6,323 acres and provide 7,778 HUs through acquisition of fee-title or conservation easements through FY2004.	a	Identify willing landowner participants.
		b	Consult and coordinate throughout process with the NWPPC, BPA, CBFWA, local governments, and the public.
		c	Complete federal compliance requirements (e.g., appraisal, hazardous materials survey, cultural resource survey, etc.).
		d	Credit HUs in Intergovernmental contract with BPA.
		e	Secure fee-title and/or conservation easement.
		f	Complete wildlife and habitat surveys.
		g	Complete HEP report, wildlife management plan for review.

2	Enhance 2,240 acres through FY2001.	a	Construct boundary fences to prevent trespass grazing and reestablishment of native vegetation.
		b	Plant native shrubs to increase vegetative diversity and waterfowl nesting habitat suitability.
		c	Conduct prescribed burns to increase forage and vegetative diversity.
		d	Create nesting islands to increase nesting habitat.
		e	Develop water control structures to manage water levels and aquatic vegetation.
		f	Construct public access sites to reduce human disturbance.
		g	Apply chemical, biological, mechanical control to retard spread of noxious weeds.
3	Maintain 962 acres and 1,413 HUs; there will be no net loss of HUs.	a	Maintain gates, roads, trails, signs, and fence lines.
		b	Control and/or eradicate non-native invasive annuals (noxious weeds).
		c	Maintain water control structures.
		d	Control nuisance animals.
		e	Maintain public access sites.
4	Monitor and evaluate wildlife habitat and management activities on 3,285 acres.	a	Conduct 5-year HEP to determine increase in HUs from enhancement activities.
		b	Conduct appropriate wildlife surveys on annual and random basis.
		c	Monitor soil response resulting from burning, recreational activities, elimination of livestock grazing.
		d	Monitor burned areas at regular intervals.
		e	Monitor vegetative response to planting prescriptions and water level manipulations.
		f	Monitor the control of noxious weeds.

		g	Monitor public use.
		h	Amend and update plans.

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	10/1999	9/2004	FY2000: Protect 2,323 acres and provide 1,778 HUs.	Protect avg. of 1,500 HUs/yr.	94.00%
2	10/1999	9/2004	FY2000: Enhance 962 acres. FY2001: Enhance 1,278 acres.	Enhance avg. of 900 acres/yr.	3.00%
3	6/1998		No net loss of HUs.	FY2000: Maintain 962 acres and 1,413 HUs.	2.00%
4	6/1997		Net gain of wetland habitat .	FY2000: Monitor and evaluate habitat on 3,285 acres.	1.00%
				Total	100.00%

Schedule constraints

Critical constraints include the willingness of landowners to sell land for appraised value; increases in land values; listed properties being sold prior to the Work Group acquiring BPA funding; subcontractors behind schedule; and equipment failure.

Completion date

If the Work Group continues to provide BPA an average of 1,500 HUs per year, the Project is expected to be completed in 2020. Operations and maintenance costs (which include monitoring and evaluation) will be required beyond 2020.

Section 5. Budget

FY99 project budget (BPA obligated): \$700,000

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel	Includes funds for three tribes and one state agency.	% 1	87,890
Fringe benefits	No greater than 33%.	% 0	36,859
Supplies, materials, non-	Includes, maps, film and film	% 0	10,500

expendable property	processing, photocopies, and continuous communications costs.		
Operations & maintenance	Includes maintenance activities on existing Albeni Falls mitigation parcels acquired in FY 97-99.	% 1	47,000
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	Includes funds for conservation easements and fee-title acquisitions.	%82	3,640,000
NEPA costs	Cultural resource surveys.	%2	116,150
Construction-related support			
PIT tags	# of tags:		
Travel	Includes mileage and per diem for three tribes and one state agency.	%0	21,450
Indirect costs	Overhead rate: 25%	%3	155,537
Subcontractor	Subcontractors chosen by bid. Includes funds for appraisals, surveys, title searches, closing fees	%5	232,300
Other	Includes enhancement costs for parcels acquired in FY 97-99.	% 1	70,000
TOTAL BPA FY2000 BUDGET REQUEST			\$4,417,686

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount (\$)
Henderson Family Trust	Property clean-up, sign and trail construction, trail maintenance, and vegetation planting.	%0	5,000
Clark Fork High School	Vegetation planting, artificial nest structure maintenance.	%0	5,000
Total project cost (including BPA portion)			\$4,427,686

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	\$4,500,000	\$4,500,000	\$4,500,000	\$4,500,000

Section 6. References

Watershed?	Reference
<input type="checkbox"/>	Bonneville Power Administration. 1997. Wildlife mitigation program final environmental impact statement. DOE/EIS - 0246. U.S. Department of Energy, Portland, OR.
<input type="checkbox"/>	_____. 1996. Albeni Falls wildlife management plan final environmental assessment. DOE/EA - 2939. U.S. Department of Energy, Portland, OR.
<input type="checkbox"/>	Bursik, R.J. and R.K. Moseley. 1995. Ecosystem conservation strategy for Idaho panhandle peatlands. Idaho Department of Fish and Game, Boise, ID.
<input type="checkbox"/>	
<input type="checkbox"/>	Columbia Basin Fish and Wildlife Authority. 1998. Guidelines for enhancement, operation, and maintenance activities for wildlife mitigation projects. Wildlife Caucus.
<input type="checkbox"/>	Dahl, T.E. 1990. Wetlands--Losses in the United States, 1780's to 1980's. U.S. Fish and Wildlife Service Report to Congress, Washington, D.C.
<input type="checkbox"/>	Hays, R.L., C. Summers, W. Seitz. 1981. Estimating wildlife habitat variables. U.S. Department of Interior Fish and Wildlife Service, Washington, D.C.
<input type="checkbox"/>	Jankovsky-Jones, M. 1997. Conservation strategy for northern Idaho wetlands. Conservation Data Center, Idaho Department of Fish and Game, Boise, ID.
<input type="checkbox"/>	Martin, R.C., L.A. Mehrhoff, J.E. Chaney, and S. Sather-Blair. 1985. Status review of wildlife mitigation at 14 of 27 major hydroelectric projects in Idaho. Project 83-478. Bonneville Power Administration, Portland, OR.
<input type="checkbox"/>	Martin, R.C., H.J. Hansen, and G.A. Meuleman. 1988. Albeni Falls wildlife protection, mitigation, and enhancement plan. Proj. 87-43. Bonneville Power Administration, Portland, OR.
<input type="checkbox"/>	Northwest Power Planning Council. 1995. Columbia river basin fish and wildlife program, 1995 amendments. NPPC, Portland, OR.
<input type="checkbox"/>	Payne, N.F. 1992. Techniques for wildlife habitat management of wetlands. McGraw-Hill, Inc.
<input type="checkbox"/>	Soil Conservation Service. 1992. 1992 National resources inventory tables. United States Department of Agriculture, Soil Conservation Service, Boise, ID
<input type="checkbox"/>	U.S. Department of Agriculture. 1979. Forester's guide to aerial photo interpretation. Agriculture Handbook No. 308.
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	U.S. Fish and Wildlife Service. 1960. Supplementary follow-up report, Albeni Falls Project, Idaho.
<input type="checkbox"/>	_____. 1980. Habitat evaluation procedures. Ecological Services Manual 102. U.S. Department of the Interior Fish and Wildlife Service, Washington, D.C.
<input type="checkbox"/>	
<input type="checkbox"/>	U.S. Forest Service. 1988. Managing competing and unwanted vegetation:

	final environmental impact statement. Pacific Northwest Region. Portland,OR.
<input type="checkbox"/>	Washington Water Power. 1998. Protection, mitigation and enhancement measures to be appended to the Clark Fork Settlement Agreement.

PART II - NARRATIVE

Section 7. Abstract

The Albeni Falls Wildlife Mitigation Project (Project) was developed to protect, enhance, and maintain the long-term quality of wetland and riparian wildlife habitat in the Lake Pend Oreille vicinity as on-going mitigation for construction of the Albeni Falls hydroelectric project (NWPPC Program Measures 11.2D.1, 11.2E.1, 11.3D.4, 11.3D.5). The long-term conservation potential for the Project is protection of existing high quality wetland habitat and associated target species. The overall Project objective is to protect and enhance up to 28,587 Habitat Units (HUs) (7,300-25,000 acres) over the next 20-25 years. The Project goal is to provide protection of 6,323 acres and 7,778 habitat units through acquisition of fee-title and/or conservation easements for a five-year period, through 2004. High quality cottonwood forests and emergent wetlands will be protected from the threat of development in perpetuity. Habitat quality of additional wetlands will dramatically improve within five years. Enhancement activities will allow for an increase in wetland acreage with five years. In the long-term, wetland enhancements would result in an increase of wetland plant and animal diversity, and in vegetative cover types that range from freshwater deep marsh to seasonally flooded wet meadows.

The Albeni Falls Interagency Work Group (Work Group), an interagency/tribal team of five Columbia Basin Fish and Wildlife Authority (CBFWA) members and other biologists, prioritized potential mitigation sites around Lake Pend Oreille in the mid-1980's. The Work Group established priority mitigation focus areas by taking into consideration in-place/in-kind opportunities, the threat to wetland plant communities in the primary areas of impact, juxtaposition to other management areas, and availability of protection opportunities. The Work Group subjects each mitigation parcel to the CBFWA regional wildlife criteria to ensure that it meets regional wildlife program standards. While the original list of potential mitigation areas continues to guide mitigation implementation, many of the specified sites are no longer available. The Work Group is developing more local criteria to serve as an additional filter for determining whether mitigation parcels meet more contemporary wetland conservation strategies.

The Work Group will document mitigation progress through annual reporting and will monitor the effectiveness of management actions by measuring standardized target species habitat variables using the Habitat Evaluation Procedure (HEP) process (USFWS 1980). The Work Group will follow monitoring and evaluation standards and protocols once they are developed by the CBFWA Wildlife Caucus (Caucus).

Section 8. Project description

a. Technical and/or scientific background

Land use activities have impacted native wildlife habitat in the Columbia Basin over the last 100-200 years. Since the 1860's, when mining and farming boomed, wetlands in Idaho have decreased 56%, from 879,000 acres to approximately 386,000 acres (Dahl 1990). Most major rivers in northern Idaho are impacted by water development for hydroelectricity and recreation. Agriculture and urbanization account for additional significant wetland losses. Most wetlands in northern Idaho that have been impacted by human influences have resulted in shifts of wetland functions (Jankovsky-Jones 1997). Currently, the primary threat to wetland and riparian systems surrounding Lake Pend Oreille is the continuing increase in recreational home development. The 1992 National Resource Inventory indicates that 30% and 29% of nonfederal wetlands in the Kootenai-Pend Oreille-Spokane sub-basin are used for cropland and pastureland respectively (Soil Conservation Service 1992 in Jankovsky-Jones 1997).

In the *Conservation Strategy for Northern Idaho Wetlands* (1997), Jankovsky-Jones reported that wetlands, including deepwater habitat, represent approximately 11% of the 1.4 million acres of land area in northern Idaho. Wetlands (excluding deepwater habitat) represent approximately 4% of the total land area in northern Idaho (Jankovsky-Jones 1997). In a survey area encompassing most of Boundary and Bonner counties as well as a small portion of Kootenai county, Jankovsky-Jones found that nearly 1/4 of the wetlands are in private ownership. Approximately 5,362 acres of wetland and deepwater habitat are currently protected, representing less than 3.3% of the wetland and deepwater habitat in the survey area. This equates to approximately 0.2% of the total land base in the survey area. An estimated 1,598 acres of a total 22,443 acres (7.1%) of emergent wetlands are protected or administered to maintain natural resource values. Of the estimated 9,920 acres of scrub-shrub wetlands in the survey area, approximately 441 acres (4.4%) are protected. A total of 5.8% of the forested wetland cover type is protected (471 acres of an estimated total of 8,011 acres).

The public recognized that the obvious cost of the Columbia Basin hydropower system was not only the impact on wild salmon and steelhead runs, but also the cumulative impacts to wildlife. The Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Public Law 96-501) directed that measures be implemented to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of hydroelectric projects in the Columbia River system. The Northwest Power Planning Council (Council) implemented the Columbia River Basin Fish and Wildlife Program (Program) to address fish and wildlife impacts and to ensure that wildlife receive equitable treatment in matters concerning the hydropower system.

Lake Pend Oreille is the largest natural lake in Idaho. Completion of the Albeni Falls hydroelectric facility in 1955 permanently affected lake level fluctuations. Construction of the dam also flooded shallow water areas known to produce high concentrations of waterfowl food plants, both emergent and submerged (USFWS 1960 in Martin *et al.* 1988). The Idaho Department of Fish and Game (IDFG) formed the Work

Group in 1986 and calculated the wildlife impacts caused by Albeni Falls Dam. Today, the Work Group includes the IDFG; the U.S. Fish and Wildlife Service; the Kalispel Tribe of Indians; the Coeur d'Alene Tribe; the Kootenai Tribe of Idaho; the U.S. Forest Service; the U.S. Army Corps of Engineers; and the Natural Resources Conservation Service. Using the standardized HEP process (USFWS 1980), the Work Group estimated a net loss of 28,587 HUs for a variety of target species (Martin *et al.* 1988). Construction of the dam resulted in the loss of 6,617 acres of wetland habitat and the inundation of 8,900 acres of deep water marsh. The Project is designed to mitigate those losses, in addition to protecting and enhancing critical wildlife habitat for a wide variety of species depending on wetland and riparian habitats.

Today, the Work Group's priority for mitigation implementation is habitat protection and enhancement in the Clark Fork and Pack River deltas and pre-dam areas adjacent to Lake Pend Oreille directly impacted by construction of the dam (elevations below 2,070'). The Clark Fork and Pack River deltas are high-priority areas for protecting critical wetland plant communities such as black cottonwood. Jankovsky-Jones (1997) reported deciduous forested wetlands have seen significant declines in areal extent due to inundation and land clearing. The islands at the mouth of Lake Pend Oreille represent one of the highest quality cottonwood and shrubland occurrences in the state (Jankovsky-Jones 1997). The location and popularity of these areas as home sites makes protection of wildlife habitat a priority for wildlife managers and county planners. Another focus area within the Pend Oreille drainage includes sites with a hydrologic connection to Lake Pend Oreille between Cabinet Gorge and Box Canyon Dams. The Work Group also evaluated areas in the Kootenai River drainage between the Montana and Canadian border and the Spokane River drainage upstream of the Idaho/Washington border as potential mitigation sites and will pursue implementation opportunities as they become available.

The plant community is used as an indicator of difficult-to-measure or poorly understood environmental or site attributes such as hydrologic functions. Community level conservation promotes protection of a more thorough range of biotic elements including rare, little known, or cryptic species whose priority for conservation has not been documented (Jankovsky-Jones 1997). With less than 4% of wetlands in the survey area currently protected within established managed areas, projects which promote the conservation of all intact wetland habitats should be of high priority. The *Albeni Falls Wildlife Management Plan Final Environmental Assessment* (BPA 1996) addressed the potential environmental effects of a proposed wildlife habitat protection and enhancement program. Based on the analysis in the environmental assessment, the Bonneville Power Administration (BPA) issued a Finding of No Significant Impact (1996). BPA concluded that funding the development and implementation of the Project would enable the Work Group to protect and enhance a variety of wetland and riparian habitats, restore 28,587 HUs lost as a result of construction of Albeni Falls Dam, and implement long-term wildlife management activities.

b. Rationale and significance to Regional Programs

The goal of the 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 the construction and operation of the Federal and non-Federal hydroelectric system (NWPPC 1995). The specific objectives of the Project are to 1) protect 6,323 acres of high-quality wetland habitat and provide 7,778 Hus through 2004; 2) enhance 2,240 acres through 2001; 3) maintain 962 acres and 1,413 HUs using appropriate management actions; and 4) monitor and evaluate habitat/species response to management techniques.

The specific objectives of the Project further the Program goal by mitigating the loss of wetland habitats due to the construction of Albeni Falls Dam with the permanent protection of in-place/in-kind, high quality wetland and riparian habitat in the Lake Pend Oreille vicinity. The objectives meet the preferred alternative in the *Wildlife Mitigation Program Final Environmental Impact Statement* (BPA 1997) and are consistent with the *Albeni Falls Wildlife Management Plan Environmental Assessment* (BPA 1996). The Project objectives are also aimed at habitat types and target species mitigation priorities identified in the Council's Program (NWPPC 1995) for the Upper Columbia sub-basin.

The Work Group has steadily progressed toward the goal of achieving a level of self-sustaining habitat productivity equal to that which was lost (28,587 HUs) due to the development and operation of Albeni Falls Dam.

During the project period, the Work Group will identify areas in the Lake Pend Oreille vicinity where cost-efficiencies can be realized through effective partnerships with non-profit organizations. The Work Group is also dove-tailing with other watershed efforts, including the Federal Energy Regulatory Commission relicensing process for Washington Water Power projects on the lower Clark Fork River.

c. Relationships to other projects

The Project is closely related to two other wildlife mitigation projects being implemented in the Upper Columbia sub-basin. The Pend Oreille Wetlands: Flying Goose Ranch and the Lake Creek Land Acquisition and Enhancement projects, currently being implemented by the Kalispel Tribe of Indians and the Coeur d'Alene Tribe, respectively, have been credited against Albeni Falls Dam construction losses. Both tribes are members of the Work Group, and both projects are on-going.

The Project is also closely related to the Federal Energy Regulatory Commission relicensing process for the Cabinet Gorge and Noxon Rapids hydroelectric projects owned and operated by Washington Water Power (WWP). The Draft Clark Fork Settlement Agreement (WWP 1998) includes a specific protection, mitigation, and enhancement (PM&E) measure designed by the Wildlife, Wetlands, and Botanical Work Group for the Clark Fork Delta (Appendix P). The purpose of the PM&E is to prevent the loss of wildlife habitat in the Clark Fork Delta, or mitigate for that loss, to an extent comparable to the loss of habitat that would result from the continued operation of the Cabinet Gorge and Noxon Rapids Projects. Concerns specific to the Clark Fork Projects focused on the

influence of peaking operations on the erosion processes and erosion rate and the effect that sediment deposition in the reservoirs was having on bedload availability and new land/island formation in the Delta. The PM&E measure calls for coordination with and potential funding from the Albeni Falls Interagency Work Group for implementing possible erosion control measures in the Delta.

d. Project history (for ongoing projects)

The Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Public Law 96-501) directed that measures be implemented to protect, mitigate, and enhance fish and wildlife to the extent affected by development and operation of hydropower projects on the Columbia River System. This act created the Council, which in turn developed the Program. This Program established a four-part process that includes the completion of 1) wildlife mitigation status reports; 2) wildlife impact assessments; 3) wildlife protection, mitigation, and enhancement plans; and 4) implementation of protection, mitigation, and enhancement projects. The IDFG, under contract with BPA, began the planning process in 1985 and has completed the first three steps. Completion of the Project (project no. 9206100) will complete the final step mitigating construction losses for Albeni Falls Dam. Costs for the Project from 1985 through FY1999 total approximately \$3,800,000.

The purpose of the Project is to implement measures to mitigate the loss of wildlife habitat impacted by the 1955 completion of Albeni Falls Dam. Martin *et al.* completed the status report, *Status Review of Wildlife Mitigation at 14 of 27 Major Hydroelectric Projects in Idaho*, and the loss assessment and mitigation plan, the *Albeni Falls Wildlife Protection, Mitigation, and Enhancement Plan*, in 1985 and 1988, respectively. The Albeni Falls Interagency Work Group determined that the largest impacts to wildlife habitat (52% of the total acres impacted) on Lake Pend Oreille occurred in the Clark Fork and Pack River deltas. The Work Group also determined that habitat losses resulting from the construction of Albeni Falls Dam are on-going as shoreline erosion and the subsequent loss of native shoreline vegetation have been exacerbated by sustained high water levels. Consistent with Section 1003(7) of the Program Wildlife Mitigation Rule, the Council reviewed and approved the Project in 1990.

In 1994, the Council adopted a wildlife program strategy designed to achieve and sustain levels of habitat and species productivity as a means of fully mitigating wildlife losses caused by the construction and operation of the Federal and non-Federal hydroelectric system (NWPPC 1995). In conjunction with the regional wildlife mitigation criteria developed by the Caucus, most projects proposed for Albeni Falls wildlife mitigation are in-place/in-kind and all have addressed HUs for target species. (Table 11-4 in NWPPC 1995).

Construction of Albeni Falls Dam impacted 6,617 acres of wildlife habitat (Martin *et al.* 1988). The impacts were assessed using HEP (USFWS 1980), a standardized process to determine the quality and quantity of habitat impacted. Martin *et al.* (1988) outlined several priorities for where potential mitigation actions might take place. The Caucus, in the regional Implementation Planning Process, ranked the (then-called) Clark Fork/Pack River Project as one of the highest priority mitigation implementation projects

for the Columbia Basin. In 1996, BPA took a programmatic approach toward analyzing the impacts of implementing Albeni Falls wildlife mitigation activities when it wrote the *Albeni Falls Wildlife Management Plan Final Environmental Assessment* (BPA 1996) and issued a Finding of No Significant Impact. The IDFG has submitted progress reports to BPA since 1993.

The BPA adopted a set of prescriptions (goal, strategies, and procedural requirements) that apply to wildlife mitigation projects it funds. The standardized mitigation planning and implementation process is described in the *Wildlife Mitigation Program Final Environmental Impact Statement* (BPA 1997) .

Since 1991, a total of 2,707.53 baseline HUs have been credited to BPA for Albeni Falls wildlife mitigation, and an additional 400 HUs are anticipated to be credited during FY1999. The Coeur d'Alene Tribe is expected to credit BPA with baseline HUs for the Lake Creek Acquisition (project no. 9004401) when the HEP is completed. Total enhanced HUs credited to BPA thus far total 167 for the Flying Goose Ranch. Target species benefited include bald eagle, black-capped chickadee, mallard, Canada goose, white-tailed deer, and muskrat.

e. **Proposal objectives**

Objective 1. Protect 6,323 acres and provide 7,778 HUs through acquisition of fee-title and/or conservation easements through FY2004: The Work Group is confident it can protect 2,323 acres and provide 1,778 HUs in FY2000 based on available opportunities, a flat real estate market, and on-going negotiations with local landowners. The Work Group assumed this proposal will be evaluated as a multi-year funding proposal and, therefore, designed five-year objectives with annual milestones. However, the Work Group also assumed construction losses for Albeni Falls Dam will not be fully mitigated until 2020 and will submit a new proposal every five years for on-going Albeni Falls wildlife mitigation implementation. For FY2000, the Work Group will direct its mitigation effort at several key focus areas: Lower Pack River, the Pend Oreille River, and the Cocolalla Lake watershed. With continued funding, the Work Group intends to meet a five-year goal of protecting 6,232 acres and provide 7,778 HUs by the end of FY2004. The annual milestone by which the Work Group's progress can be measured will be the protection of 1,500 HUs. The amount of HUs protected in a given year will vary depending on the quality of available protection opportunities. However, assuming the Work Group maintains its current level of effort, the Work Group assumes it can protect an estimated 1,000 acres of habitat (valued at 1.5 baseline HUs per acre) per year. At this pace, Albeni Falls will be fully mitigated by 2020. All easement and fee-title acquisitions will be consistent with federal appraisal standards and agency/tribal land acquisition policies. In addition, the implementation process will be consistent with the eight-step process outlined in the *Wildlife Mitigation Program Final Environmental Impact Statement* (BPA 1997).

Protection of mitigation lands is a process unto itself and requires considerable time to complete all of the tasks required. Looking for landowners willing to participate in the mitigation program and determining appropriate protection measures can take several months. The requirements of the mitigation program, e.g., appraisals, property surveys, environmental surveys, cultural resource surveys, and title searches are all necessary components of any protection program. Agencies and tribes often cannot secure option agreements on a parcel until many of the pre-acquisition requirements are met. For properties that are listed on the open market, landowners often will not wait for an organization to complete its tasks before deciding to sell to another willing buyer. Depending on season and schedule, subcontractors at this step in the process can delay not only the protection of a site but further management activities as well.

Where human encroachment and habitat development are out-pacing mitigation implementation and precluding opportunities to protect and enhance wildlife habitat on-site, it becomes necessary to broaden the areas in which prospective mitigation implementation takes place. The local wildlife managers, in the form of the Work Group, have assumed local control of the Albeni Falls mitigation process and will provide documentation of its progress by providing BPA with annual reports and HEP reports.

Objective 2. Enhance 2,240 acres: With continued funding, the Work Group intends to meet a five-year goal of enhancing an average of 900 acres per year. The amount of acreage enhanced in a given year will vary depending on 1) the quality of new habitat protected, and 2) on-going enhancement activities on existing mitigation lands. For FY2000, the Work Group will implement enhancement activities on lands acquired in 1997-1999: Henderson Ranch (240 acres), Denton Slough (16 acres), Carter's Island (96 acres), Ginter (110 acres), Perkins Lake (100 acres), and Everett Island (400 acres). The IDFG implemented an emergency fencing project (enhancement action) in June 1998 after the Henderson Ranch had been vandalized and several trees cut down. For FY2001, the Work Group will enhance 1,278 acres as it continues enhancement activities on Henderson Ranch, Ginter, Everett Island, and projects protected in FY2000. The annual milestone by which the Work Group's progress can be measured will be the enhancement of an average of 900 acres. The Work Group cannot anticipate the number of acres it will enhance after FY2001 due to the uncertainty of what kind of lands will be protected and the rate of success for on-going enhancement activities on existing mitigation lands.

Specific enhancement activities will be identified in site-specific wildlife management plans prior to the end of FY1999. The Work Group assumes the Caucus will approve the management plans. Enhancement activities will include vegetation planting to improve scrub-shrub habitat suitability for nesting waterfowl and migratory birds; controlling public access to prevent degradation to wetland habitat; property cleanup and burial of open silage pits; fence removal; and perimeter fencing to prevent trespass cattle grazing. All enhancement activities and techniques will be consistent with the *Albeni Falls Wildlife Management Plan Final Environmental Assessment* (BPA 1996); the *Wildlife Mitigation Program Final Environmental Impact Statement* (BPA 1997); and the *Guidelines for Enhancement, Operation, and Maintenance Activities for Wildlife Mitigation Projects* (CBFWA 1998). The Work Group will provide documentation of its progress by providing BPA with annual reports and completed wildlife management plans.

Objective 3. Maintain 962 acres and 1,413 HUs: The Work Group assumes 1) BPA will fund operations and maintenance (O&M) activities for projects implemented by the Work Group; 2) if BPA does not fund O&M activities, the protected and enhanced habitat values will deteriorate over time; and 3) lands will continue to be protected on an annual basis and will, therefore, require O&M funding.

The IDFG will have completed wildlife management plans for the Henderson Ranch (240 acres), Denton Slough (16 acres) and Carter's Island (96 acres) prior to April 1999. The IDFG will also complete management plans for Perkins Lake (100 acres) and Ginter (110 acres) by the end of FY1999. In addition, the Kalispel Tribe will have completed a wildlife management plan for Everett Island prior to the end of FY1999. The Work Group assumes the Caucus will have approved these plans prior to beginning any enhancement activities.

Specific O&M activities and costs will be identified in each wildlife management plan. However, several O&M activities have been on-going since the properties were acquired: access site maintenance, fence repair and maintenance, and noxious weed control. All of these activities are necessary to maintain the current and enhanced habitat suitability of each property. For FY2000, a total of 1,413 baseline HUs will be maintained on 962 acres. All operations and maintenance activities will be consistent with those outlined in the *Guidelines for Enhancement, Operation, and Maintenance Activities for Wildlife Mitigation Projects* (CBFWA 1998). The Work Group will provide documentation of its progress by providing BPA with annual reports and completed wildlife management plans.

Objective 4. Monitor and evaluate wildlife habitat and management activities on 3,285 acres : Limited monitoring and evaluation activities begin on all parcels as soon as they are protected. The IDFG is currently monitoring wildlife activities on 562 acres. The Kalispel Tribe has already conducted random monitoring on Everett Island (400 acres). The Work Group plans to protect an additional 2,323 acres in FY2000 and will implement minimal monitoring and evaluation activities on those properties until the management plans are complete and approved by the Caucus. At that time, site-specific wildlife management plans with detailed monitoring and evaluation measures and time tables will be followed. Currently, the Caucus is developing standardized methods for monitoring and evaluation activities. Monitoring and evaluation activities for all Albeni Falls wildlife mitigation projects will be consistent with those developed by the Caucus.

f. Methods

The Work Group has used a variety of scientific principles to select focus areas as mitigation projects. Potential mitigation sites in the Lake Pend Oreille vicinity were initially prioritized by Martin *et al.* (1988). Since then, the Work Group has incorporated contemporary conservation site planning in Idaho, including *Conservation Strategies for Northern Idaho Wetlands* (Jankovsky-Jones 1997) and the *Ecosystem Conservation Strategy for Idaho Panhandle Peatlands* (Bursik and Moseley 1995).

Project Selection: Project implementation begins with the Work Group and is consistent with the eight-step process outlined in the *Wildlife Mitigation Program Final Environmental Impact Statement* (BPA 1997). Work Group members identify potential mitigation sites and complete the “Instructions for Completing Albeni Falls Project Proposals” form. Members of the public and non-profit organizations can also propose projects, but they must introduce it with the assistance of at least one Work Group member. The proponent presents the project, and each Work Group member scores the parcel using the CBFWA regional wildlife criteria to ensure regional wildlife program standards are met. The highest and lowest point totals for each project are discarded and the remaining totals are averaged. Albeni Falls projects must meet a minimum required score of 18 points to be recommended by the Work Group for funding consideration. All projects are then packaged into one funding request to be considered by the Council and the Caucus.

Land Acquisition: Prior to the acquisition, in an intergovernmental contract between an agency/tribe and BPA, BPA is credited with an estimated number of baseline HUs in exchange for funds to protect the site. The expected outcome of protecting land is that high quality cottonwood forests, emergent wetlands, and active floodplain habitats will be perpetually protected from the threat of development. Habitat quality of the additional wetlands will dramatically improve within five years.

Habitat Evaluation: The Work Group conducts an evaluation of available wildlife habitat quality and quantity using the standardized methods described in the HEP process (USFWS 1980). Habitat measurements are made either visually or are consistent with methods outlined in *Estimating Wildlife Habitat Variables* (Hays *et al.* 1981). The managing agency/tribe completes a HEP report in which recommendations are made for improving habitat quality.

Site-Specific Wildlife Management Plan: The managing agency/tribe prepares a site-specific wildlife management plan. The management plan outlines the goals and objectives for the protected site and includes a desired future condition, projection of enhanced value (HUs), enhancement activities, operations and maintenance activities, monitoring and evaluation activities, a five-year budget, and the baseline HEP report.

Enhancement Activities: After the agency/tribe protects a site, conducts the baseline HEP, and writes the wildlife management plan, the managing agency/tribe begins its enhancement activities. Habitats are enhanced to maximize HUs using techniques and methods consistent with those outlined in *Techniques for Wildlife Habitat Management of Wetlands* (Payne 1992); the *Wildlife Mitigation Program Environmental Impact Statement* (BPA 1997); and the *Guidelines for Enhancement, Operation, and Maintenance Activities for Wildlife Mitigation Projects* (CBFWA 1998). The expected outcome of enhancement activities is that there will be an increase in wetland acreage within five years. In the long-term, wetland enhancements would result in an increase of wetland plant and animal diversity, and vegetative cover types that range from freshwater deep marsh to seasonally flooded wet meadows. Under ideal conditions, habitat quality and diversity of lacustrine and shoreline areas could improve at a rapid pace and be restored within 1-2 years. Restoration of native plant cover types in riverine or creek bank zones could improve habitat quality to the point of observable results within five years.

The Work Group anticipates that by controlling livestock grazing in riparian scrub-shrub habitats which are heavily degraded, the native shrub and grass communities will improve within a single growing season.

Operations and Maintenance Activities: O&M activities are necessary to maintain current and future habitat values. Specific O&M activities will be clearly identified in each site-specific wildlife management plan and consistent with those outlined in the *Guidelines for Enhancement, Operation, and Maintenance Activities for Wildlife Mitigation Projects* (CBFWA 1998). The Work Group anticipates O&M activities on Albeni Falls mitigation sites will include fence repair and maintenance, controlling noxious weeds, controlling and maintaining public access, managing vegetation through controlled burning, and maintaining water structures. Protocols for controlling noxious weeds could be adapted from the *USFS Final Environmental Impact Statement for Managing Competing and Unwanted Vegetation* (USFS 1988 in BPA 1997). For controlled burns, the managing agency/tribe may implement the recommended goal and actions outlined in the *Federal Wildland Fire Management Policy and Program Review* (USDI and USDA 1995 in BPA 1997).

Monitoring and Evaluation: Monitoring and evaluation consists of assessing changes in habitat that test the effectiveness of mitigation measures. Adaptive management is the process of linking management with monitoring. The Caucus is developing standardized methods for monitoring and evaluation activities. Monitoring and evaluation activities associated with the Project will be consistent with those developed by the Caucus. The Work Group anticipates a HEP will be conducted on a five-year basis to monitor progress and track not only enhanced HUs but also the effectiveness of on-site management activities. Low-level aerial photographs will be taken of each site so that the managing agency/tribe can complete a thorough evaluation of the habitat quality and quantity available on site. Techniques for photo interpretation will be consistent with those identified in *Forester's Guide to Aerial Photo Interpretation* (USDA 1979). Public response to mitigation activities and management actions will be monitored by a public involvement process. Public involvement is essential for a successful mitigation program. Work Group members work closely with one another and hold periodic public open houses. Work Group members also coordinate on an on-going basis with local governments, non-governmental organizations, and interested citizens.

g. Facilities and equipment

Existing equipment will be used when possible. Enhancing and maintaining existing Albeni Falls mitigation sites will require vehicles, sprayers, fencing equipment, tractors, tree and shrub planters, hand tools, etc. All of this equipment is currently provided by agencies and tribes. Additional equipment will be needed as existing equipment wears out. Currently, vehicles used in connection with the Project are below standard (>120,000 miles) and will need to be replaced.

h. Budget

This year's funding request for the Albeni Falls Wildlife Mitigation Project is significantly higher than requests in previous years. In 1998, the IDFG led a consensus-based process culminating in the formalization of the Albeni Falls Interagency Work Group. The IDFG drafted an agreement, *The Albeni Falls Interagency Work Group Operating Guidelines and Guiding Principles for Mitigation Implementation*, to which several tribes and agencies committed and later signed. As a result of this agreement and after consultation and coordination with the Work Group, IDFG submitted this proposal with the "Albeni Falls Interagency Work Group" as the project sponsor. Project funding needs are not solely those of IDFG but are now reflective of the needs of the Work Group.

A significant proportion of funding (95%) is going directly toward the acquisition and protection of wetland habitat. The remaining portion of the funding request is tied directly to site-specific enhancement activities and maintenance needs on lands acquired in 1997-1999.

Personnel: Costs include one IDFG wildlife mitigation specialist (1.0 FTE), a Kalispel Tribe wildlife biologist (0.6 FTE), a Coeur d'Alene Tribe wildlife biologist (0.6 FTE), and a Kootenai Tribe wildlife biologist (0.6 FTE). Primary responsibilities of these staff include finding willing sellers and available mitigation opportunities; administrative tasks (contracting surveys, closing real estate transactions, budget administration); conducting baseline HEP inventories; conducting habitat enhancement activities; writing management plans; maintaining and monitoring habitat conditions; and attending Work Group meetings and public open houses.

Fringe Benefits: Include health and retirement benefits for personnel. Fringe benefit rates vary by individual and by agency/tribe but do not exceed 33%.

Supplies and Materials: Does not include those needed for O&M. Most of the supplies are used in conjunction with the identification, analysis, and presentation of mitigation opportunities. Continuous communications/postage costs are also included.

O&M: Includes technician salaries for time directly related to maintenance activities, equipment rental, fuel, herbicide, fencing materials, signs, and other non-capital supplies and materials.

Capital Acquisitions: Includes fee-title acquisition costs for protecting 2,323 acres.

NEPA: Includes costs associated with conducting cultural resources surveys on 2,323 acres. The survey work is subcontracted, with the contract awarded to the lowest bidder. Based on the per-acre average of actual cultural resource costs for past projects, the estimated cost for cultural resources is \$50/acre.

Travel: Includes per diem and mileage costs for staff to travel to Work Group meetings and open houses; to specific sites to perform HEP surveys; and to coordinate with each other on on-site enhancement activities and monitoring and evaluation activities.

Indirect Costs: Include overhead costs. The rate is determined independently of the CBFWA, NWPPC, or BPA. The overhead rate often varies year-to-year.

Subcontractors: Includes all costs associated with pre-acquisition requirements. Appraisals, environmental surveys, and property surveys are contracted to the lowest bidder. Title search fees, closing costs, and recording fees are also included. The total cost

is based on the acquisition of 2,323 acres. The per-acre average of actual pre-acquisition costs for past projects is \$100/acre.

Other: Includes all enhancement costs associated with projects protected from 1997-1999 as described in Section 8e (Obj. 2). Costs include native plants, plant fabric, fencing material, and equipment rental.

Section 9. Key personnel

Key personnel for the Albeni Falls Wildlife Mitigation Project work for three different tribes (Kalispel Tribe, Kootenai Tribe of Idaho, and the Coeur d'Alene Tribe), and one state agency (Idaho Department of Fish and Game). Personnel meet the minimum requirements for the positions held at each organization.

Minimum qualifications of key personnel include:

- 1) Some knowledge of: wildlife ecology and habitat requirements; farming practices and procedures; wildlife habitat management; and populations dynamics.
- 2) Experience: recording, summarizing or analyzing biological data; operating and performing minor equipment maintenance; using small hand and power tools; supervising others; evaluating and developing management plans or projects on wildlife populations or habitats; conducting wildlife field research including research design and the collection and analysis of wildlife data; writing technical reports; evaluating habitat manipulations on wildlife; evaluating and reporting on land and water acquisitions as wildlife areas.
- 3) Physical ability to: walk in rugged terrain for several hours at a time; carry tools and equipment weighing up to 80 pounds; work in extreme weather conditions; fly in small airplanes and helicopters.

Principle accountabilities of key personnel include:

- 1) Consult with federal and state agencies and tribes to identify and quantify wildlife habitat losses resulting from hydroelectric projects.
- 2) Design and develop wildlife mitigation plans.
- 3) Prepare documentation and develop work plan to secure funding for wildlife mitigation projects.
- 4) Estimate cost to develop mitigation and enhancement projects that replace wildlife impacts through land acquisition and land management projects.
- 5) Conduct baseline habitat evaluations using HEP.
- 6) Determine benefit of mitigation proposals through habitat modeling and estimate current and future habitat value.
- 7) Explore potential land purchases with landowners.
- 8) Evaluate impacts of habitat manipulation.
- 9) Conducts wildlife counts and collects and compiles wildlife census data.
- 10) Maintain fences, roads, dikes, pumps.

Section 10. Information/technology transfer

The Work Group will provide annual reports to BPA detailing its progress. Periodic open houses will be held to inform the public of on-going management and mitigation activities.

Information on long-term species/habitat relationships will be compiled and presented at professional meetings such as The Wildlife Society and to GAP personnel at IDFG to help validate modelled species distribution. Information on habitat response to a variety of management techniques, including biological control of noxious weeds, will be provided to other wildlife and land managers in the region through publications, presentations, and personal communications.

The IDFG has the infrastructure for handling data *via* tabular and spatial databases. The Idaho Conservation Data Center (CDC) inventories and monitors plant and animal occurrences at many Wildlife Management Areas. Much of the information contained in the *Conservation Strategy for Northern Idaho Wetlands* (Jankovsky-Jones 1997) is GIS-compatible and already in the IDFG system. Data collection for mitigation sites would be most useful if compatible with the CDC and GIS standards.

Congratulations!