ALBENI FALLS WILDLIFE MITIGATION IMPLEMENTATION 9206100

SHORT DESCRIPTION:
Develop and implement the Programmatic Albeni Falls Wildlife Management Plan / Environmental Assessment. Implement habitat protection and enhancement activities described in the Plan to mitigate loss of habitat from the development of Albeni Falls Dam.

SPONSOR/CONTRACTOR: IDFG
Idaho Department of Fish and Game
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SUB-CONTRACTORS:
Ducks Unlimited, Natural Resources Conservation Service

GOALS

GENERAL:
Supports a healthy Columbia basin, Maintains biological diversity, Provides needed habitat protection, Adaptive management (research or M&E)

WILDLIFE:
Habitat

NPPC PROGRAM MEASURE:
11.3D.4, 11.3D.5

TARGET STOCK	LIFE STAGE	MGMT CODE (see below)
White-tailed deer		
Yellow warbler		
Black-capped chickadee		
Wintering Bald eagle		
Breeding Bald eagle		
Redhead		
Canada goose		
Muskrat		
Mallard		

AFFECTED STOCK	BENEFIT OR DETRIMENT
Westslope Cutthroat trout	Beneficial
Bull trout	Beneficial
Common loon	Beneficial

BACKGROUND

LAND AREA INFORMATION
Subbasin:
Upper Columbia
Land ownership:
public and private

Hydro project mitigated:
Albeni Falls

Acres affected:
7,300-25,000

Habitat types:
Herbaceous wetland, deciduous scrub-shrub wetland, deciduous forested wetland.

HISTORY:
In 1955, Albeni Falls Dam was completed. Construction and operation of the dam resulted in the loss of 6,617 acres (28,658 Habitat Units) of wetland habitat and the inundation of 8,900 acres of deep water marsh. In August 1988, the Albeni Falls Loss Assessment and Mitigation Plan was completed. The largest impacts to wildlife habitat occurred in the Pack River and Clark Fork River deltas. These areas were ranked as the highest priority for mitigation implementation in the 1992 BPA project rankin g process. Habitat losses resulting from the construction and operation of Albeni Falls Dam are ongoing as shoreline erosion and the subsequent loss of native shoreline vegetation have been exacerbated by sustained high water levels. This project was developed to address the need to protect and enhance the long-term quality of wetland, riparian, and upland wildlife habitat in the two largest tributaries of Lake Pend Oreille as well as other identified areas surrounding the lake. The indirect effects of seasonally sustained lake levels including shoreline development, rising land values and the subsequent loss of wildlife habitat are permanent and have resulted in fewer opportunities to implement cost-effective mitigation.

BIOLOGICAL RESULTS ACHIEVED:
The project has been in the planning phase, so no biological results have been achieved prior to FY 96. The IDFG has an option to purchase one parcel in FY 97 and is currently working on the acquisition of a second parcel in the Clark Fork Delta. Several other parcels have been identified for protection and enhancement in FY 97-98.

PROJECT REPORTS AND PAPERS:
Two reports have been completed for the Albeni Falls Wildlife Mitigation Project: the Mitigation Status Report (1985) and the Albeni Falls Wildlife Protection, Mitigation and Enhancement Plan (1988). A Finding of No Significant Impact (FONSI) was released in November 1996 for the Programmatic Albeni Falls Wildlife Management Plan / Environmental Assessment. Progress reports have been submitted on a monthly basis since September 1993.

ADAPTIVE MANAGEMENT IMPLICATIONS:
It is helpful if project planning is broadly based and is not overly restricted to a particular geographic area. As long as mitigation implementation is in-place and in-kind to the extent it is achievable, then planning targets and mitigation goals can be met. However, in project areas where human encroachment and habitat development are out-pacing mitigation implementation and precluding opportunities to protect and enhance wildlife habitat, it becomes necessary to broaden the area in which prospective mitigation implementation takes place.
Early and frequent discussions with county commissioners, state legislators, and local land trust organizations has helped ensure those members of the public sector are aware of project goals and objectives. In addition, monthly updates with Northwest Power Planning Council (NPPC) staff have provided for the integration of problem solving and program direction. Suggested changes in future planning would include involving the state, tribes, State Historic Preservation Office (SHPO) and BPA in early discussions regarding cultural resource protection measures on future mitigation lands. Such discussions should begin early in the process so that habitat protection activities are not unduly delayed.
Monitoring and evaluation activities should be designed to incorporate adaptive management principles. Changes in wildlife habitat trends and species response to habitat manipulations should be documented through time to the extent possible. An effective monitoring program will ensure that projected benefits to wildlife are achieved and mitigation activities are adjusted as new technologies are developed and as mitigation objectives are revised.

PURPOSE AND METHODS

SPECIFIC MEASUREABLE OBJECTIVES:
Implementation of the Albeni Falls Wildlife Management Plan includes the protection and enhancement of up to 28,658 Habitat Units (HUs) lost as a result of the construction and operation of Albeni Falls Dam. Objectives for target species include 5,985 mallard HUs; 4,699 Canada goose HUs; 3,379 redhead HUs; 4,508 breeding bald eagle HUs; 4,365 wintering bald eagle HUs; 2,286 black-capped chickadee HUs; 1,680 white-tailed deer HUs; and 1,756 muskrat HUs. Specific goals for the Pack River and Clark Fork River deltas include the development of 11,580 HUs, through the protection and enhancement of at least 2,100 acres.

CRITICAL UNCERTAINTIES:
On-going impacts due to erosion and the subsequent loss of shoreline and island habitat are exacerbating the habitat losses already incurred by the project. Further funding delays or a lack of funding to complete project implementation will be detrimental to BPA, NPPC, and agency credibility. Annual funding for the project has become more vulnerable due to the lack of BPA budget certainty within the state of Idaho.

BIOLOGICAL NEED:
The Pend Oreille watershed is a 24,000-square mile ecosystem that centers around one of the largest and deepest natural lakes in the western United States. Lake Pend supports a variety of native fish species including bull trout and westslope cutthroat trout. Project impacts to bald eagle include a reduction in suitable nesting and perching habitat and an increase in project-related human disturbance. Bald eagle impacts total approximately 8,900 Habitat Units. The Pack River and Clark Fork River deltas once supported extensive herbaceous wetlands, wet and dry meadows, and shallow and deep marshes. The construction and operation of Albeni Falls Dam has changed the natural hydrograph of the lake. The extensive wetlands and marshes are now open water areas during the summer and mudflats during the winter. Wave and wind erosion have had dramatic effects, particularly in areas where shoreline vegetation has been lost. Lake shorelines are continuing to erode at a rate of about 30 percent per year. Half of that, 15 percent, occurs in the Clark Fork delta alone.

Several tributaries to Lake Pend Oreille provide spawning and rearing habitat for bull trout. Protection and restoration of wetland and riparian habitats in the larger tributaries of the lake will protect and improve wetland function and improve water quality. In the long-term, enhancement activities outlined in the Programmatic Albeni Falls Wildlife Management Plan will not only provide numerous benefits to wetland-dependent wildlife species, but also will increase fish habitat structure and quality. Enhancements such as subimpoundments may significantly improve the health of overwintering habitat for a variety of fish species. Protection and restoration of high quality native aquatic and emergent wetland plant communities will be essential to the restoration of resident salmonid rearing habitat; restored rearing habitat is necessary to maintain healthy resident fish population levels.

HYPOTHESIS TO BE TESTED:
This project is based on, and supported by, the best available scientific knowledge. The project has been developed, evaluated, and approved by an interagency team of biologists representing state and federal agencies and tribes.

ALTERNATIVE APPROACHES:
N/A

JUSTIFICATION FOR PLANNING:
N/A

METHODS:
Habitat will be protected through conservation easement, lease, or purchase of fee-title from willing sellers at fair market value. Enhancement activities may include vegetation planting; control of noxious weeds through the use of chemical and/or biological control agents, prescribed burns or livestock grazing; construction of breakwaters and subimpoundments to protect shorelines from erosion and manipulate water levels for wildlife. The Habitat Evaluation Procedure (HEP) will be used and Habitat Units (HUs) will be used to quantify the wildlife benefits of enhancement activities. Adaptive management principles will be used to modify mitigation objectives according to species and habitat response to management techniques.

PLANNED ACTIVITIES

SCHEDULE:

Planning Phase	**Start** 1993	**End** 1996	**Subcontractor**

Task Develop a programmatic management plan for mitigation, including protection and enhancement options. Conduct public meetings in local areas to discuss project activities in the proposed management plan. Develop map of project area to include land ownership information and vegetation cover types. Develop draft conservation easement terms and conditions. Estimate wildlife benefits for potential protection and enhancement areas, and prioritize those areas in coordination with the Albeni Falls Interagency Work Group.

Implementation Phase **Start** 1996 **End** On-going **Subcontractor** Partners (?)

Task FY 1997 Develop Memorandum of Agreement (MOA) to establish the basis for funding and mitigation credits. Purchase easements, leases and/or fee-title on critical wetlands, riparian areas, associated uplands and rare plant communities. Conduct hazardous waste surveys, appraisals, and cultural resource surveys. FY 1998-2001 - Continue establishing protection and enhancement projects and conduct initial baseline surveys. Develop site-specific management plans, and initiate and/or continue enhancement activities on lands protected in FY 1997. Implement monitoring and evaluation program. Implement information and education program. Distribute an increasing proportion of funds to operation and maintenance funding, which will be required on lands as soon as enhancement / restoration projects are established.

O&M Phase **Start** 1998 **End** On-going **Subcontractor** Partners (?)

Task FY 1998-2001 - Maintain fences and water structures. Enforce fishing and hunting regulations and easement terms. Maintain property and habitat improvements. Identify on-going access issues. Control noxious weeds. Maintain information and education facilities. Monitor budget. Continue to coordinate with various user groups, governmental and non-governmental entities.

CONSTRAINTS OR FACTORS THAT MAY CAUSE SCHEDULE OR BUDGET CHANGES:

A delay in the completion of the Cultural Resources Programmatic Agreement will potentially delay on-the-ground enhancement activities on mitigation lands acquired in FY 97 and future project planned for implementation in FY 98. Implementation of Albeni Falls wildlife mitigation activities is dependent on opportunities presented by willing sellers and on local support. Lack of project funding will negatively affect the credibility of BPA, the Council's Fish and Wildlife Program, and the IDFG staff involved with the Program is at risk if this project is terminated.

OUTCOMES, MONITORING AND EVALUATION

SUMMARY OF EXPECTED OUTCOMES

Expected performance of target population or quality change in land area affected:

We expect to protect and enhance up to 28,658 Habitat Units (7,300 - 25,000 acres) over the next 10-15 years. High quality cottonwood forests and emergent wetlands will be protected from the threat of development in perpetuity. Habitat quality of the additional wetlands will dramatically improve within 2-3 years. Enhancement activities, such as construction of subimpoundments to stabilize water levels, will allow for an increase in wetland acreage within 3-5 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. Under ideal conditions, habitat quality and diversity of the 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 2-5 years. Native plant communities would be replanted on most agricultural croplands. Depending on the site, improved habitat conditions may be expected within 3-7 years. We anticipate 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. Bull trout and other resident salmonid habitat will be protected and enhanced.

Present utilization and convservation potential of target population or area:

Bonner County has undergone tremendous population growth and expanded development during the last several years. The conservation potential in the county will be dependent upon willing participants. Development of shoreline property and good wildlife habitat is increasing. Property values are extremely high and continue to increase, so habitat protection may be constrained by skyrocketing land values.

Assumed historic status of utilization and conservation potential:

Dahl (1990) reports a 56% loss of wetlands in Idaho between the 1780's and 1980's. Probably 80-90% of lower-elevation wetlands were lost and most of the rest wert degraded (Moseley in Noss et al. 1995).

Long term expected utilization and conservation potential for target population or habitat:

The long-term conservation potential for the project is protection of existing high quality wetland habitat and associated target spe

cies. Ecological restoration plans must be a primary component of protecting wetland habitats negatively affected by land use practices.

Contribution toward long-term goal:

The primary objective of the project is to secure and improve wetland and riparian habitat conditions sufficient to increase wildlife numbers. The project will contribute toward the permanent protection of wildlife habitat and an increase in habitat quantity and quality (measured in HUs).

Securing and enhancing land for wildlife purposes would provide immediate and long-term benefits to wildlife populations. Immediate benefits would be realized by the protection of habitat qualities present at each site, and by the termination of agricultural and other land use practices that decrease wildlife habitat value. Protection and enhancement of habitats adjacent to riverine areas would contribute to increased water quantity and quality. In the long-term, waterfowl and other avian species that feed on submerged macrophytes and invertebrates would benefit in direct proportion to the amount of food supply available. It is anticipated that as vegetation on mitigation lands becomes more mature and increasingly dense, the availability of deer browse would increase, and nongame birds would benefit in proportion to the increase in structural diversity. Over time, structural improvements in the forest canopies could increase the quality and number of bald eagle nests, perch trees, and roost areas. A variety of other riparian-dependent species would benefit in direct proportion to increased diversity in forest layers. Increases in the availability of good quality habitat for upland and waterfowl species would insure that food is available for wildlife during the reproductive season and other critical periods of the year.

Indirect biological or environmental changes:

Vegetation (Wildlife Habitat): The restoration and re-establishment of native vegetation communities, combined with the control of domestic livestock grazing would provide the greatest habitat value possible and long-term benefits to wildlife and fish populations.

Threatened or Endangered Species: By protecting the riparian forested wetlands from further development and competing land management activities, the existing hunting perches and roost sites for bald eagles could be either maintained or increased over time. Securing and enhancing wetland habitat would enhance habitat diversity and directly benefit waterfowl populations and increase bald eagle and peregrine falcon foraging and feeding opportunities.

Fisheries: Protection and enhancement of wetland and riparian habitat would help to increase fish habitat structure and quality over existing conditions. Enhancement activities are expected to expand a critical food source for aquatic insects that are consumed by fish, improve the health of over-wintering habitat for warmwater fish species, and create additional shading essential for lowering summer water temperatures.

Physical products:

When fully implemented, the project would secure approximately 15 to 20 parcels of high priority lands, or approximately 7,300 to 25,000 acres. In the long-term, it is expected that long-term funding would enable the development of 28,587 habitat units over the next 10-15 years.

Environmental attributes affected by the project:

Wetlands: Wetland restoration activities would result in the re-establishment of wetland structures, processes, and functions in areas where wetlands have been altered, degraded, or destroyed. Protection of existing wetland and riparian systems and restoration of habitat values to benefit wildlife species would increase bank stabilization, increase shading and lower stream temperatures, and reduce inputs of sediment and nutrients into streams and Lake Pend Oreille.

Water Quality: Wildlife habitat and restoration of wetlands would be beneficial for water resources in the long-term. Protection of existing riparian systems and restoration of damaged riparian areas would increase bank stabilization, increase shading, reduce stream temperatures, and contribute locally to an increase in ground and surface water quality, raise groundwater levels, and buffer the effects of adverse drawdown and wave action effects. Due to the physical effects of sediment settling, uptake of nutrients in vegetation, stream shading, and other natural wetland processes, the quality of wetland return flows in expected to equal or exceed existing water quality conditions.

Soils: Re-establishment of wetlands, riverine, and lacustrine shoreline areas for wildlife habitat purposes would be beneficial in reducing the present high rate of soil erosion and sedimentation.

Changes assumed or expected for affected environmental attributes:

Wetlands: Potential near term effects to existing wetland or floodplain sites may include varying degrees of increased soil compaction, water turbidity, impacts to existing vegetation, and disturbance to existing wildlife populations. Because native vegetation restoration activities would take place in areas that have been disturbed in the past or contain non-native plant communities, negative effects to native vegetation are not predicted. In the long term, wetland improvements 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.
Water Quality: Although turbidity criteria may be temporarily exceeded, adverse water quality effects resulting from enhancement activities are expected to be local and of short duration because of the large volume of water in Lake Pend Oreille and tributaries. Protection and enhancement of wildlife habitat would be beneficial for water resources in the long term. Wetland surface return flows are expected to equal or exceed existing levels of water quality parameters, including temperature, dissolved oxygen, nutrient concentrations, and turbidity.
Soils: In the near term, timing of construction activities is required to minimized adverse soil compaction, erosion, and stream sedimentation effects. In areas where re-establishing native vegetation could temporarily disturb and/or exposed poorly drained upland or riparian soils, erosion risks would be reduced by planting cover crops, applying ground mulch, and irrigating newly established plantings appropriate. In the long term, re-establishment of wetlands, riverine, and lacustrine shoreline areas for wildlife habitat purposes would be beneficial in reducing the present high rate of soil erosion and sedimentation.

Measure of attribute changes:
In the long-term, it is expected that long-term funding would enable the development of 28,587 habitat units over the next 10-15 years.

Assessment of effects on project outcomes of critical uncertainty:
A monitoring and evaluation plan will be developed to monitor activities on mitigation lands. Activities may include continuing HEP analysis to determine changes in target wildlife species population trends and associated habitat quality, site-specific monitoring and/or sampling of terrestrial vegetation, public use, and habitat use. Adaptive management principles will be used to adjust mitigation activities as new technologies are developed and as biological objectives are revised.

Information products:
Products to be initiated in this phase include 1) individual site plans for each mitigation area acquired, and 2) a long-term management plan that will include, but not be limited to, the following components: fish and wildlife habitat, recreation and access, fire protection, noxious weeds, information and education, operations and maintenance, and monitoring and evaluation.

Coordination outcomes:
On-going coordination will continue throughout the life of the project with the Albeni Falls Interagency Work Group, the NPPC Wildlife Working Group, local governments and members of the public.

MONITORING APPROACH
The region should evaluate whether there is steady progress being made toward the protection and enhancement of wildlife habitat by evaluating the number of habitat units protected or enhanced. Annual reports should sufficiently describe environmental and biological changes that are occurring as the project develops. Effective follow-up with agencies and tribes on contractual obligations would also be required.

Provisions to monitor population status or habitat quality:
The Idaho Department of Fish and Game routinely monitors wildlife species populations through annual surveys. Project staff will develop a monitoring and evaluation program as a component of the long-term management plan for all mitigation lands secured for the project.

Data analysis and evaluation:
Data resulting from the project will be analyzed and evaluated by project staff in coordination with the Albeni Falls Interagency Work Group.

Information feed back to management decisions:
Annual reports will be developed that will include monitoring and evaluation data and results.

Critical uncertainties affecting project's outcomes:
A thorough investigation of erosion and sedimentation effects on the islands in the Clark Fork Delta would be beneficial to determine whether erosion can be prevented in a cost-effective manner. Upstream hydroelectric projects continue to exacerbate the on-going loss of island habitat in the delta.

EVALUATION
Number of Number of Habitat Units protected or enhanced each year. Number of local governments and members of the public aware of and supportive of the project . Number of potential sites assessed for protection or enhancement each year. Enhancement activities performed on each site. Is the agency or tribe staying within budget? Agencies and tribes must demonstrate staying on task as per work statements developed for BPA.

Incorporating new information regarding uncertainties:
Any problems that arise will be presented to the Albeni Falls Interagency Work Group and the NPPC's Wildlife Working Group.

Increasing public awareness of F&W activities:
The local public is continually made aware of progress on the project through various user group meetings and local community events. As habitat areas are secured and protected for the public, an information and education program will be initiated and will include development of interpretive sites, signs, brochures, educational site tours, and production of audio-visual programs.

RELATIONSHIPS

RELATED BPA PROJECT	RELATIONSHIP
9106100	There are no related mitigation projects in Idaho currently funded by BPA. The Kalispel's Pend Oreille Wetlands project was implemented in Washington adjacent to the Tribe's reservation as partial mitigation for construction and operation of Albeni Falls Dam.

RELATED NON-BPA PROJECT	RELATIONSHIP
Habitat Improvement Program (HIP) IDFG	Habitat enhancement cost-share partnership.
Wetland Reserve Program (WRP) and Wildlife Habitat Incentive Program (WHIP) USDA NRCS	Habitat protection and enhancement cost-share partnership.

OPPORTUNITIES FOR COOPERATION:
Potential cost-share partnership opportunities exist with Ducks Unlimited, the Natural Resources Conservation Service, the Nature Conservancy, the Kalispel Tribe of Indians, Rocky Mountain Elk Foundation, and the Army Corps of Engineers.

COSTS AND FTE

1997 Planned: $800,000
1996 Unobligated: $500,000

FUTURE FUNDING NEEDS:

FY	$ NEED	% PLAN	% IMPLEMENT	% O AND M
1998	$1,510,000		86%	15%
1999	$790,000		82%	18%
2000	$800,000		78%	22%
2001	$810,000		71%	29%
2002	$900,000		70%	30%

PAST OBLIGATIONS (incl. 1997 if done):

FY	OBLIGATED
1993	$89,899
1995	$48,961
1997	$428,298

TOTAL: $567,158

Note: Data are past obligations, or amounts committed by year, not amounts billed. Does not include data for related projects.

OTHER NON-FINANCIAL SUPPORTERS:
The local chapter of Ducks Unlimited, The Nature Conservancy, the Natural Resources Conservation Service, the Rocky Mountain Elk Foundation, and the Pend Oreille Shoreline Property Owners Association.

LONGER TERM COSTS:
Annual costs are expected to be approximately $ 1 million with an increasing proportion of the annual budget allocated toward operation and maintenance costs.

1997 OVERHEAD PERCENT: 24.6%

HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:
Does not apply to capital outlay.

SUBCONTRACTOR FTE: None