Bonneville Power Administration
Fish and Wildlife Program FY99 Proposal

Section 1. General administrative information

O & M Funding Of Wildlife Habitat On Stoi Reservation For Grand Coulee Dam

Bonneville project number, if an ongoing project 9800300

Business name of agency, institution or organization requesting funding
Spokane Tribe of Indians, PO Box 100, Wellpinit, WA, 99040

Business acronym (if appropriate) STOI

Proposal contact person or principal investigator:

Name	Chris Merker
Mailing Address	STOI, PO Box 100
City, ST Zip	Wellpinit, WA 99040
Phone	509-258-7055
Fax	509-258-9600
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Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name

NPPC Program Measure Number(s) which this project addresses.
11.2E.1, 11.3A.1

NMFS Biological Opinion Number(s) which this project addresses.
NA

Other planning document references.
NA

Subbasin.
Upper Columbia River

Short description.
Operate, maintain and continue to enhance benefits of partial wildlife habitat mitigation for losses due to flooding of tribal land (3900 acres) due to Grand Coulee Dam. Currently 1065 acres are protected. By FY99, complete expected goal of 1768ac.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
	Anadromous fish		Construction		Watershed
+	Resident fish	X	O & M		Biodiversity/genetics
X	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate		Monitoring/eval.		Flow/survival
	Other		Resource mgmt		Fish disease
			Planning/admin.		Supplementation
			Enforcement	X	Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.
HEP/Population correlation

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	measure value of baseline condition of habitat protected in	a	apply Habitat Evaluation Procedures (HEP) post-protection using indicator

	mitigation program		species models according to protocols as set by NPPC Wildlife Plan
		b	measure baseline indicator species
			population/use; correlate to HEP results
2	continue long-term enhancement of habitat to capture increased Habitat Unit (HU) credit	a	using HEP, identify and address limiting factors first for most cost effective enhancement
		b	determine site specific opportunities for enhancement beyond HEP models; prioritize
		c	complete management plans for each existing parcel in program, and as new ones enter
		d	create budget by management
		e	solicit cost share/work share opportunities from Tribe, BIA, USFWS and others
		f	implement highest priorities from a and b above
3	continue enhancements, apply O&M	a	continue seasonal/cyclic/rotational techniques (e.g., fire in pine forest) to reach future desired long-term condition
		b	maintain improvements by regular site visits (e.g., trespass grazing, vandalism, wetland structure and fence repair, etc.)
4	determine enhancement credits	b	measure animal population/use response post-enhancement; correlate with HEP results and habitat improvements

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	10/1998	9/1999	10.00%
2	10/1998	9/1999	10.00%
3	10/1998	9/1999	5.00%

4	10/1998	9/1999	75.00%
5	10/1999		0.00%
			TOTAL 100.00%

Schedule constraints.
Protection of habitat acreage goal; application of management methods to reach stable, late successional, low maintenance state; correlation of HEP results with population responses.

Completion date.
2057

Section 5. Budget

FY99 budget by line item

Item	Note	FY99
Personnel		$34,500
Fringe benefits		$9,315
Supplies, materials, non-expendable property		$16,000
Operations & maintenance		
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		
PIT tags	# of tags:	
Travel		$3,660
Indirect costs	21.6% on salaries/benefits	$9,464
Subcontracts	equipment lease/rental	$24,000
Other		
TOTAL		$96,939

Outyear costs

Outyear costs	FY2000	FY01	FY02	FY03
Total budget	$84,000	$86,500	$89,115	$23,772
O&M as % of total	10.00%	20.00%	30.00%	90.00%

Section 6. Abstract

Efforts of the Spokane Tribe Grand Coulee Wildlife Mitigation project are a portion of the Northwest Power Planning Council's overall **Wildlife Mitigation Program Goal**. This is to achieve and sustain levels of habitat and species productivity in order to fully mitigate for the wildlife losses that have resulted from construction and operation of the federal and non-federal hydroelectric system. Grand Coulee Dam is the largest storage facility in the federal Columbia River power system. It flooded over 80,000 acres of floodplain wildlife habitat. The Spokane Tribe lost 3,900 of these acres within their reservation. The Tribal **project goal** is to partially mitigate for the 3,900 acres. The project finds **relevancy** under the interim 1993 Washington Wildlife Coalition Agreement signed between Bonneville Power Administration and tribes and agencies having wildlife management responsibilities in Washington (see Section 11.3D.2 in the 1994 NPPC Fish and Wildlife Program). A loss statement was completed and accepted into the 1994 FWP (see Table 11-4). **Methods** applied are/will follow accepted protocols as defined by the NPPC/CBFWA Wildlife Working Group, including that defined under the Wildlife Plan (Appendix G of FWP). The latter is the standard operating procedure for wildlife projects. **Expected Outcomes** include protecting up to 1,768 acres of wildlife habitat as prioritized under guidelines developed under the 1996 Spokane Tribe – BPA Agreement. Limiting factors to preferred future habitat condition will be addressed and improved. Indicator wildlife species response will be measured and correlated with habitat improvements measured using Habitat Evaluation Procedures (HEP). This will be accomplished under a **Timeframe** of 5 years post-protection for enhancement practices, then in perpetuity/life of Grand Coulee project for Operations & Maintenance activities. **M&E** will be conducted using the Wildlife Plan guidelines.

Section 7. Project description

a. Technical and/or scientific background.

Grand Coulee Dam flooded over 80,000-acre floodplain/riverine habitat. The Spokane Tribe lost 3,900 of these acres, which once were a central part of their hunter/gatherer culture. Habitat Evaluation Procedures (HEP) were applied to the impact, and methodology and losses were documented (see Creveling and Renfrow 1986) and accepted into the NPPC Wildlife Program in 1989. This is an ongoing Land/Habitat-based project proposal first approved by the Implementation Planning Process (IPP) in 1991 under the 1989 Wildlife Program.

Goal of this project is to partially mitigate for the inundation losses on the reservation. Wildlife losses will be mitigated on reservation, and measured using HEP models based on a subset of species used in the 1986 loss assessment. They will therefore be in-place and in-kind. **Techniques** to mitigate were explained in Merker 1993. An Environmental Assessment was drafted for public review, and completed with a FONSI in 1994 (BPA 1994). As part of the 1993 Washington Wildlife Coalition Agreement with BPA, the Spokane Tribe was reserved a

share of funding to implement the approved project. A contract was signed between the Tribe and BPA in 1996 and funds transferred to begin implementation. This is an ongoing project.

Bonneville Power Administration. 1994. Blue Creek Winter Range: Wildlife Mitigation Project Final Environmental Assessment. DOE/EA-0939, USDOE/BPA, Portland, OR.

Creveling, J. and Renfrow, B. 1986. Wildlife protection, mitigation and enhancement planning for Grand Coulee Dam. Wash. Dept. Game, Olympia. Funded by USDOE/BPA, Portland, OR as Project No. 86-74.

Merker, C. 1993. Wildlife mitigation and restoration for Grand Coulee Dam: Blue Creek Project Phase 1. Prepared for USDOE/BPA Portland, OR as Project No. 91-062.

b. Proposal objectives.

OBJECTIVES:

1. Protect in perpetuity no less than 1,768 acres of wildlife habitat as partial mitigation for Grand Coulee Dam losses.

   TASKS

   a. Locate suitable lands and rank as to wildlife value, present and future condition (see enclosed criteria);

   b. Negotiate with willing sellers using standard real estate techniques;

   c. Place purchased lands under tribal land protection covenants.

2. Protect and/or create 1,697 white-tailed deer Habitat Units (HUs) on lands permanently dedicated to wildlife habitat.

   TASKS

   a. Apply HEP to measure before and after condition of habitat; identify limiting factors to indicator species; apply population indexing techniques to compare/correlate with HEP results;

   b. Create management plans and budgets;

   c. Identify partnership opportunities for cost share;

   d. Implement improvement techniques approved by Interdisciplinary Team process of Tribe;

   e. Maintain benefits through long-term Operation & Maintenance efforts.

3. Report Results

   a. Compile Land Protection, HEP and Population results, and correlate the latter two;

   b. Report in standard format on an annual basis.

c. Rationale and significance to Regional Programs.

Grand Coulee Dam flooded over 80,000-acre floodplain/riverine habitat. The Spokane Tribe lost 3,900 of these acres, which once were a central part of their hunter/gatherer culture.

Habitat Evaluation Procedures (HEP) were applied to the impact, and methodology and losses were documented (see Creveling and Renfrow 1986) and accepted into the NPPC Wildlife Program in 1989. This is an ongoing Land/Habitat-based project proposal first approved by the Implementation Planning Process (IPP) in 1991 under the 1989 Wildlife Program.

Goal of this project is to partially mitigate for the inundation losses on the reservation. Wildlife losses will be mitigated on reservation, and measured using HEP models based on a subset of species used in the 1986 loss assessment. They will therefore be in-place and in-kind. **Techniques** to mitigate were explained in Merker 1993. An Environmental Assessment was drafted for public review, and completed with a FONSI in 1994 (BPA 1994). As part of the 1993 Washington Wildlife Coalition Agreement with BPA, the Spokane Tribe was reserved a share of funding to implement the approved project. A contract was signed between the Tribe and BPA in 1996 and funds transferred to begin implementation. This is an ongoing project.

Furthering Program Goals:
Credit – The HUs gained from protecting existing values, or from creating new through enhanced habitat condition, will be credited against the losses identified in Table 11-4 of the 1994 FWP. Credits have already accrued for losses to the indicator species white-tailed deer, grouse, and beaver (riparian forest losses).

Contributions – Past impact assessments have used levels of animal populations as the standard by which impacts and benefits of a hydro or mitigation project were measured. Problems with this approach include the great variability of uncontrollable factors such as weather-induced migration patterns, annual productivity cycles, temporal disturbance factors (e.g., adjacent timber sales, road construction, etc.). Only by collecting a great quantity of data over several years could variability be reduced through averaging. This is very expensive, time-consuming and not very efficient.

The next generation measurement technique was habitat-based using HEP. It is an accepted tenet in biology that habitat is the most important factor in determining long-term population status. However, this method is based on creating somewhat subjective models.

A way of correlating the results of one to the other is needed to improve mitigation science. By establishing HEP transects and other data collection techniques, in conjunction with direct or indirect accounting of population levels, this correlation can be achieved. As a result, all Spokane habitat purchased now have both HEP and deer use transects established in conjunction. Results will be correlated pre- and post-enhancement.

References
Bonneville Power Administration. 1994. Blue Creek Winter Range: Wildlife Mitigation Project Final Environmental Assessment. DOE/EA-0939, USDOE/BPA, Portland, OR

Creveling, J. and Renfrow, B. 1986. Wildlife protection, mitigation and enhancement planning for Grand Coulee Dam. Wash. Dept. Game, Olympia. Funded by USDOE/BPA, Portland, OR as Project No. 86-74.

Merker, C. 1993. Wildlife mitigation and restoration for Grand Coulee Dam: Blue Creek Project Phase 1. Prepared for USDOE/BPA, Portland, OR as Project No. 91-062.

d. Project history

Project Number: 5509500
Project Reports:
Bonneville Power Administration. 1994. Blue Creek Winter Range: Wildlife Mitigation Project Final Environmental Assessment. DOE/EA-0939, USDOE/BPA, Portland, OR

Creveling, J. and Renfrow, B. 1986. Wildlife protection, mitigation and enhancement planning for Grand Coulee Dam. Wash. Dept. Game, Olympia. Funded by USDOE/BPA, Portland, OR as Project No. 86-74.

Merker, C. 1993. Wildlife mitigation and restoration for Grand Coulee Dam: Blue Creek Project Phase 1. Prepared for USDOE/BPA, Portland, OR as Project No. 91-062.

Summary of Major Results:
1. Purchased 1,045 acres as of 1/98 of goal of 1,768.
2. Established HEP and population index transects on all separate parcels.
3. Wrote/writing management plans and budgets, HEP baseline results, identified/ Identifying limiting factors for prioritization of implementation.
4. Planted 13,000 trees on 43 acres of "old field" using 58% cost share from separate Program grant.
5. Entered cooperative wetlands agreement with USFWS to cost share wetlands restoration.
6. Drafting 1997 report for BPA at this writing.

Adaptive Management Implications:
Contributions – Past impact assessments have used levels of animal populations as the standard by which impacts and benefits of a hydro or mitigation project were measured. Problems with this approach include the great variability of uncontrollable factors such as weather-induced migration patterns, annual productivity cycles, temporal disturbance factors (e.g., adjacent timber sales, road construction, etc.). Only by collecting a great deal of data over several years could variability be reduced through averaging. This is very expensive, time-consuming and not very efficient.

The next generation measurement technique was habitat-based using HEP. It is an accepted tenet in biology that habitat is the most important factor in determining long-term population status. However, this method is based on creating somewhat subjective models.

A way of correlating the results of one to the other is needed to improve mitigation science. By establishing HEP transects and other data collection techniques, in conjunction with direct or indirect accounting of population levels, this correlation can be achieved. As a result, all Spokane habitat purchased now have both HEP and deer use transects established in conjunction. Results will be correlated pre- and post-enhancement.

Years Underway/Past Costs:
1991 -- $22,000 for Phase 1 project planning purposes: wrote management plan and projected budget for enhancement.

1992 -- BPA purchase of 77.5 acres for $42,000. Title to Tribe in 1994.

1996 – Grant to Tribe under 1996 STOI/BPA Agreement for remaining lump sum owed for partial Grand Coulee Dam wildlife mitigation land protection of $1,778,000.

e. Methods.

OBJECTIVES
1. Protect in perpetuity no less than 1,768 acres of wildlife habitat as partial mitigation for Grand Coulee Dam losses.
   TASKS
   a. Locate suitable lands and rank as to wildlife value, present and future condition (see enclosed "Wildlife Mitigation Ranking Protocol" criteria);
   b. Negotiate with willing sellers using standard real estate techniques; c. Place purchased lands under tribal land protection covenants.
2. Protect and/or create 1,697 white-tailed deer Habitat Units (HUs) on lands permanently dedicated to wildlife habitat.
   TASKS
   a. Apply HEP to measure before and after condition of habitat; identify limiting factors to indicator species (for HEP methods see Merker 1993); apply population indexing techniques to compare/correlate with HEP results (this to include standard line transect pellet group counts to compute deer and elk use days by habitat type before and after implementation enhancement; b. Create management plans and budgets; c. Identify partnership opportunities for cost share;
   d. Implement improvement techniques approved by Interdisciplinary Team process of Tribe; e. Maintain benefits through long-term Operation & Maintenance efforts.

3. Report Results
    a. Compile Land Protection, HEP and Population results, and correlate the latter two;
    b. Report in standard format on an annual basis.

Methods have been described elsewhere, including in NPPC Wildlife Plan.

f. Facilities and equipment.

Equipment on hand within the tribal Wildlife Program, or available within other programs, and donated **without charge** to the effort include:
-- two PC computers
-- color scanner and printer for producing maps
-- digitizer
-- GIS software ARC/VIEW
-- silvicultural equipment/tools for forest mensuration (i.e., color aerial photos, densiometers, clinometers, stereo photo pair viewer, light table for photo interpretations, etc.)
-- fence repair includes stretchers, wire spools, clamshell digger, chainsaw, etc.
-- two storage buildings
-- two-year-old office facility

Cooperative Programs/Agencies include:
-- Bureau of Indian Affairs Realty Branch for assistance in ownership/title, land descriptors, principle contacts
-- Tribal legal assistance for recording of purchases under the 1996 STOI/BPA Mitigation MOA
-- Tribal Forestry and Tribal Range for donation/cost share of heavy equipment and qualified operators.
-- Local school district to contract growing and planting native plants.

No purchase of durable capital equipment is expected at this time. Costs for equipment listed in budget are for rental. Funds are dedicated to land protection, enhancement and O&M of benefits.

g. References.

Bonneville Power Administration (BPA). 1994. Blue Creek Winter Range: Wildlife Mitigation. Project Final Environmental Assessment. DOE/EA-0939, USDOE/BPA, Portland, OR

Bonneville Power Administration (BPA). 1997. Wildlife mitigation program final environmental report statement. DOE/EIS – 0246. Portland, OR

Creveling, J. and Renfrow, B. 1986. Wildlife protection, mitigation and enhancement planning for Grand Coulee Dam. Wash. Dept. Game, Olympia. Funded by USDOE/BPA, Portland, OR as Project No. 86-74.

Merker, C. 1993. Wildlife mitigation and restoration for Grand Coulee Dam: Blue Creek Project Phase 1. Prepared for USDOE/BPA, Portland, OR as Project No. 91-062.

Section 8. Relationships to other projects

This project is for partial mitigation for Grand Coulee Dam. Other projects in this effort include Colville Confederated Tribes Hellsgate, State of Washington Swanson Lakes, and Nation Park Service Peregrine Falcon Reintroduction. All these projects were measured against the NPPC program criteria, as well as additional criteria as defined by the Wildlife Work Group. They were ranked and funded in order, along with many other projects outside the Grand Coulee impact area. They will be credited against the losses in Table 11-4.

Section 9. Key personnel

Principle Investigator: Christopher Merker – see enclosed resume

Section 10. Information/technology transfer

1. Annual Reports to BPA.

2. Annual CBFWA Project Presentation

3. Through NPPC Wildlife Work Group/CBFWA Wildlife Caucus