PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Yakama Nation - Riparian/Wetlands Restoration

BPA project number: 9206200
Contract renewal date (mm/yyyy): 10/1999 ☐ **Multiple actions?**

Business name of agency, institution or organization requesting funding
Yakama Indian Nation

Business acronym (if appropriate) YIN

Proposal contact person or principal investigator:

Name	Tracy Hames
Mailing Address	P. O. Box 151
City, ST Zip	Toppenish, WA 98948
Phone	(509) 865-6262
Fax	(509) 865-3619
Email address	tracyhames@yakama.com

NPPC Program Measure Number(s) which this project addresses
11.3D.5 - Ongoing Wildlife Mitigation Projects, 11.3F.3 - Snake River Compensation Program, 7.6 - Habitat Goal, Policies and Objectives

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

Other planning document references
Wy-Kan-Ush-Mi Wa-Kish-Wit Spirit of the Salmon (1995), Yakima Watershed Council 20/20 Vision for the Yakima Basin (1997), Plan for the Intermountain West Joint Venture of the North American Waterfowl Management Plan (Ratti and Kadlec 1997), Yakama Nation Wetlands/Riparian Plan (1994), Yakama Nation Mitigation Plan (1991), Yakama Nation Waterfowl Management Plan (1989)

Short description
Continue implementation of YIN Wetlands/Riparian Restoration Project by protecting and restoring riparian and wetland habitat along anadromous fish bearing rivers and streams in the agricultural area of the Yakama Indian Reservation (~2,500 acres/year).

Target species

All wildlife species affected by the hydro development of the lower Columbia and Snake Rivers.

Section 2. Sorting and evaluation

Subbasin
Yakima Subbasin

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
☐ Anadromous fish ☐ Resident fish ☒ Wildlife	☒ Multi-year (milestone-based evaluation) ☐ Watershed project evaluation	☐ Watershed councils/model watersheds ☐ Information dissemination ☒ Operation & maintenance ☐ New construction ☐ Research & monitoring ☒ Implementation & management ☒ Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

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

Project #	Project title/description
20547	Yakima Subbasin Habitat/Watershed Project Umbrella
9206200	Yakama Nation Riparian/Wetlands Restoration (this proposal)
9603501	Satus Watershed Restoration
9803300	Restore Upper Toppenish Creek Watershed
9705300	Toppenish-Simcoe Instream Flow Restoration and Assessment
9705100	Yakima Basin Side Channels
9803400	Reestablish Safe Access Into Tributaries of the Yakima Subbasin
9901300	Ahtanum Creek Watershed Assessment
9705000	Little Naches Riparian and In-Channel Restoration

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1991	Completed initial project plan including Habitat Evaluation Procedures (HEP) estimates for the project area.	N/A
1992	Obtained predesign funding for implementation plan.	N/A
1993	Developed implementation plan and identified 15 priority areas for inclusion into the project (total of 27,000 acres).	N/A
1993	Project progrommatic NEPA work completed, FONSI signed.	N/A
1994	Obj. 1: Secured Priority Area 1 (430 ac).	Yes
1994	Objs. 3 and 4 are ongoing each year and are completed as each property is secured and restored.	Yes
1995	Obj. 1: Secured Priority Area 2 (3,800 ac).	Yes
1995	Obj. 2: Restored wetlands on Priority Area 1.	Yes
1995	Objs. 3 and 4 are ongoing each year and are completed as each property is secured and restored.	Yes
1996	Obj. 1: Secured Priority Area 3 (660 ac).	Yes
1996	Obj. 2: Began restoration activities on Areas 2 and 3, began native grass restoration on Area 1.	Yes
1996	Objs. 3 and 4 are ongoing each year and are completed as each property is secured and restored.	Yes
1997	Obj. 1: Began land securing process for all or portions of Priority Areas 4, 5, 10, 11, 12 and 15.	Yes
1997	Obj.2: Finished restoration of Priority Areas 1 and 3, continued restoration of Priority Area 2.	Yes
1997	Objs. 3 and 4 are ongoing each year and are completed as each property is secured and restored.	Yes
1998	Obj. 1: Secured portions of Priority Areas 5, 10, 11, 12 and 15 (total of 3,415	Yes

	acres).	
1998	Obj. 2: Completed wetlands restoration on Priority Area 2.	Yes
1998	Objs. 3 and 4 are ongoing each year and are completed as each property is secured and restored.	Yes
1999	Obj. 1: Will complete land securing procedures on Priority Area 4 (~2,500 acres).	Yes
1999	Obj. 2: Restoration will begin on Priority Areas 5, 10, 11, 12 and 15.	Yes
1999	Objs. 3 and 4 are ongoing each year and are completed as each property is secured and restored.	Yes

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Secure available restoration priority area properties (2,000 - 3,000 acres per year).	a	Determine land ownership (YIN or non-YIN). This task was completed in 1994.
		b	Secure land in perpetuity with appropriate procedure outlined in project implementation plan (purchase, easement or lease).
2	Protect, restore and/or enhance secured lands to realize a net increase in wildlife habitat values.	a	Develop site-specific restoration plan for secured property according to procedures outlined in Project implementation plan.
		b	Implement site-specific restoration activities identified in Task 2a.
3	Adaptively manage properties to ensure permanent wildlife habitat value.	a	Develop site-specific operations and management plans.
		b	Manage habitats according to site-specific plans.
		c	Adjust management according to results achieved in monitoring activities.
4	Monitor wildlife habitat conditions to ensure the desired mitigation level is reached and maintained.	a	Perform baseline and periodic HEP analyses to measure habitat responses to management activities and to monitor mitigation levels achieved.

		b	Develop and perform habitat response monitoring according to restoration goals set out in the site-specific management plans.
		c	Perform wildlife surveys on selected populations to ensure that habitat responses are resulting in wildlife responses.

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	10/1992	9/2020	Acres of land protected.	27,000 acres	60.00%
2	6/1993	9/2022	Habitat acres restored.	27,000 acres	25.00%
3	6/1993	12/2052	Habitat values maintained.	27,000 acres	8.00%
4	6/1993	12/2052	Habitat values and use documented.	Documentation of above objectives.	7.00%
				Total	100.00%

Schedule constraints
The level of funding achieved has been the only constraint on this project. Presently there is more land available for inclusion into the project than there are funds allocated on an annual basis.

Completion date
This project is defined as ongoing in perpetuity (for the life of the hydroprojects).

Section 5. Budget

FY99 project budget (BPA obligated): $1,600,000

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel	2 Professional FTEs, 6 Technician FTEs, 1 Office Support FTE	%16	275,000
Fringe benefits	25% of Personnel	%4	68,750
Supplies, materials, non-expendable property	Office supplies, computers, building lease, etc.	%0	6,000
Operations & maintenance	Fence repair, tools, etc.	%5	85,700

Capital acquisitions or improvements (e.g. land, buildings, major equip.)	Land purchase, farm equipment	%68	1,184,045
NEPA costs	Completed	%0	0
Construction-related support		%0	5,000
PIT tags	# of tags: 0	%0	0
Travel		%0	5,000
Indirect costs	23.5% of budget, excluding capitol purchases and construction	%6	103,505
Subcontractor	Ducks Unlimited, Engineering design, etc.	%1	10,000
Other	M&E, Insurance	%0	7,000
TOTAL BPA FY2000 BUDGET REQUEST			$1,750,000

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount ($)
Americorps	Labor for Restoration Activities	%10	200,000
Pheasants Forever	Native grass seed	%1	20,000
National Resource Conservation Service	Wetlands restoration and commodity credit funds	%2	50,000
		%0	
Total project cost (including BPA portion)			$2,020,000

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	$1,750,000	$1,750,000	$1,750,000	1,750,000

Section 6. References

Watershed?	Reference
☐	Beak Consultants, Inc. 1993. Audit of wildlife loss assessments for Federal dams on the Columbia River and its tributaries. Proj. No. 73485, Prepared for Northw. Power Plan. Coun., Portland, Ore. 70pp.
☐	Bonneville Power Administration. 1994. Lower Yakima Valley wetlands and riparian restoration project final environmental assessment, DOE No. 0941. 58pp.
☐	Columbia River Intertribal Fish Commission. 1995. Wy-Kan-Ush-Mi Wa-Kish-Wit (Spirit of the Salmon): The Columbia River anadromous fish

	restoration plan of the Nez Perce, Umatilla, Warm Springs, and Yakama Tribes. Vols. 1-2. CRITFC, Portland, Ore.
☐	Meuth, J. 1989. Yakama Indian Nation waterfowl management plan. Preparred by the U. S. Fish and Wildlife Service for the Yakama Indian Nation. 190pp.
☐	Northwest Power Planning Council. 1989. Wildlife mitigation rule and response to comments. Publ. No. 89-35.
☐	Rassmussen, L., and P. Wright. 1990a. Wildlife impact assessment, Bonneville Project, Oregon and Washington. U. S. Fish and Wildlife Service, Portland, Ore. 37pp.
☐	Rassmussen, L., and P. Wright. 1990b. Wildlife impact assessment, John Day Project, Oregon and Washington. U. S. Fish and Wildlife Service, Portland, Ore. 27pp.
☐	Rassmussen, L., and P. Wright. 1990c. Wildlife impact assessment, The Dalles Project, Oregon and Washington. U. S. Fish and Wildlife Service, Portland, Ore. 24pp.
☐	Rassmussen, L., and P. Wright. 1990d. Wildlife impact assessment, McNary Project, Oregon and Washington. U. S. Fish and Wildlife Service, Portland, Ore. 28pp.
☐	Ratti, J., and J. Kadlec. 1992. Concept plan for the preservation of wetland habitat of the intermountain west. Preparred for the North American Waterfowl Management Plan. U. S. Fish Wildl. Serv. rep., Portland, Ore. 164pp.
☐	U. S. Fish and Wildlife Service. 1980. Habitat evaluation procedures (HEP). Ecol. Serv. Manual 102. Div. Ecol. Serv., Washington D. C.
☐	Yakama Indian Nation. 1991. The Yakama Indian Nation wildlife mitigation plan. YIN Wildl. Resour. Manage., Toppenish, Wash. 62pp.
☐	____. 1994. Yakama Indian Nation lower Yakima Valley wetlands and riparian restoration plan. YIN Wildl. Resour. Manage., Toppenish, Wash. 62pp.
☐	Yakima River Watershed Council. 1997. A 20/20 vision for a viable future of the water resources of the Yakima River Basin. Publ. by YRWC. Yakima, Wash.

PART II - NARRATIVE

Section 7. Abstract

This project has been designed to restore wetlands and riparian habitats along anadromous fish-bearing streams in the agricultural portion of the Yakama Indian Reservation. Overall goals include the protection, restoration and management of 27,000 acres of floodplain lands along the Yakima River, Satus and Toppenish Creeks. Direct mitigation is being realized for losses identified in the 1994 Columbia Basin Fish and

Wildlife Program relating to the construction of the lower Columbia and Snake River Dams. Extensive partnership and cost-share components provide savings to this Project.

Land securing methods include purchase, easement, or long-term lease depending on the nature of the land ownership and the cost-effectiveness of the activity. Approximately 2,000 - 3,000 acres are secured each year. By the end of FY99 over 11,000 acres will be secured into the Project. Restoration activities seek to restore historic conditions. Land disturbing activities are subject to cultural and archaeological surveys, and are used only on properties which have suffered past disturbances. Native vegetation re-establishment, and a return to some semblance of historic hydrology are the goals on the restoration sites. Restoration efforts are designed to be as self-sustaining as possible to minimize the O&M needed to maintain habitat values.

The outcomes of the project are native riparian and wetland floodplain complexes along the anadromous fish-bearing streams on the Yakama Indian Reservation. Results are monitored using HEP to account for the direct mitigation earned toward the construction losses of the Columbia River hydropower system. Specific vegetational, population and hydrologic results are also monitored at each property to ensure that restoration goals are being met in a cost-effective manner.

Section 8. Project description

a. Technical and/or scientific background

Background The 1980 Northwest Electric Power Planning and Conservation Act (Power Act) charged the Northwest Power Planning Council (NPPC) to protect, mitigate and enhance fish and wildlife populations that have been impacted by the hydroelectric development in the Columbia Basin. With the passage of the Wildlife Mitigation Rule (NPPC 1989), wildlife issues began to receive the attention necessary to develop and implement mitigation measures.

Lower Columbia Wildlife Loss Assessments Wildlife losses due to inundation have been documented for the Lower Columbia and Snake River Dams (Rassmussen and Wright 1990 a, b, c, d). Losses of over 74,000 Habitat Units (HUs) were measured using the Habitat Evaluation Procedures (HEP) developed by the U. S. Fish and Wildlife Service (1980). The inundation loss assessments were subject to an independent audit in 1993 (Beak, 1993). The results of the audit showed that these losses may be have been greatly underestimated. HU losses for the operational and cumulative effects of the hydrosystem have not been determined as of this date.

In response to the Wildlife Mitigation Rule and loss assessments, YIN developed a generic mitigation plan (YIN 1991) to partially offset losses previously identified in wildlife impact assessments for the Columbia and Snake River Dams. These dams negatively impacted YIN interests in its Ceded Area and “usual and accustomed places”. Because reservoir conditions and operations limit opportunities for on-site mitigation, YIN chose an off-site mitigation study area in high quality wildlife habitat on the

Yakama Reservation. Wildlife restoration activities were planned to occur in watersheds which either contain important anadromous fish production or have restorable runs.

The YIN mitigation plan (1991) defined the project area in which the restoration activities would occur (Figure 1). Estimates of the amounts of the various cover types were determined, and a HEP analysis was performed by a multiagency team at multiple locations in the project area representative of each cover type identified in the loss assessments. It was determined through this analysis that a project totaling approximately 27,000 acres could produce over 30,000 HU credits toward the documented wildlife losses on the lower dams.

With the generic plan and assessment completed at the expense of the YIN, the project was submitted for funding by BPA. In 1992 the project was ranked as one of the highest priority proposals by the Implementation Planning Process (IPP) utilized at the time by BPA and the Columbia Basin Fish and Wildlife Authority (CBFWA). YIN entered into a contract with BPA in 1992 to develop the implementation plan. The implementation plan (YIN 1994) outlines 15 priority areas within the project boundary. These areas were prioritized according to their importance from a wetlands and riparian restorability perspective. The majority of the implementation work completed to date is the result of BPA funding.

An Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) (BPA 1994) was completed, and a Finding of No Significant Impact (FONSI) was signed in FY94. Project implementation began immediately afterward. The implementation history is included in Section 8 d. of this proposal.

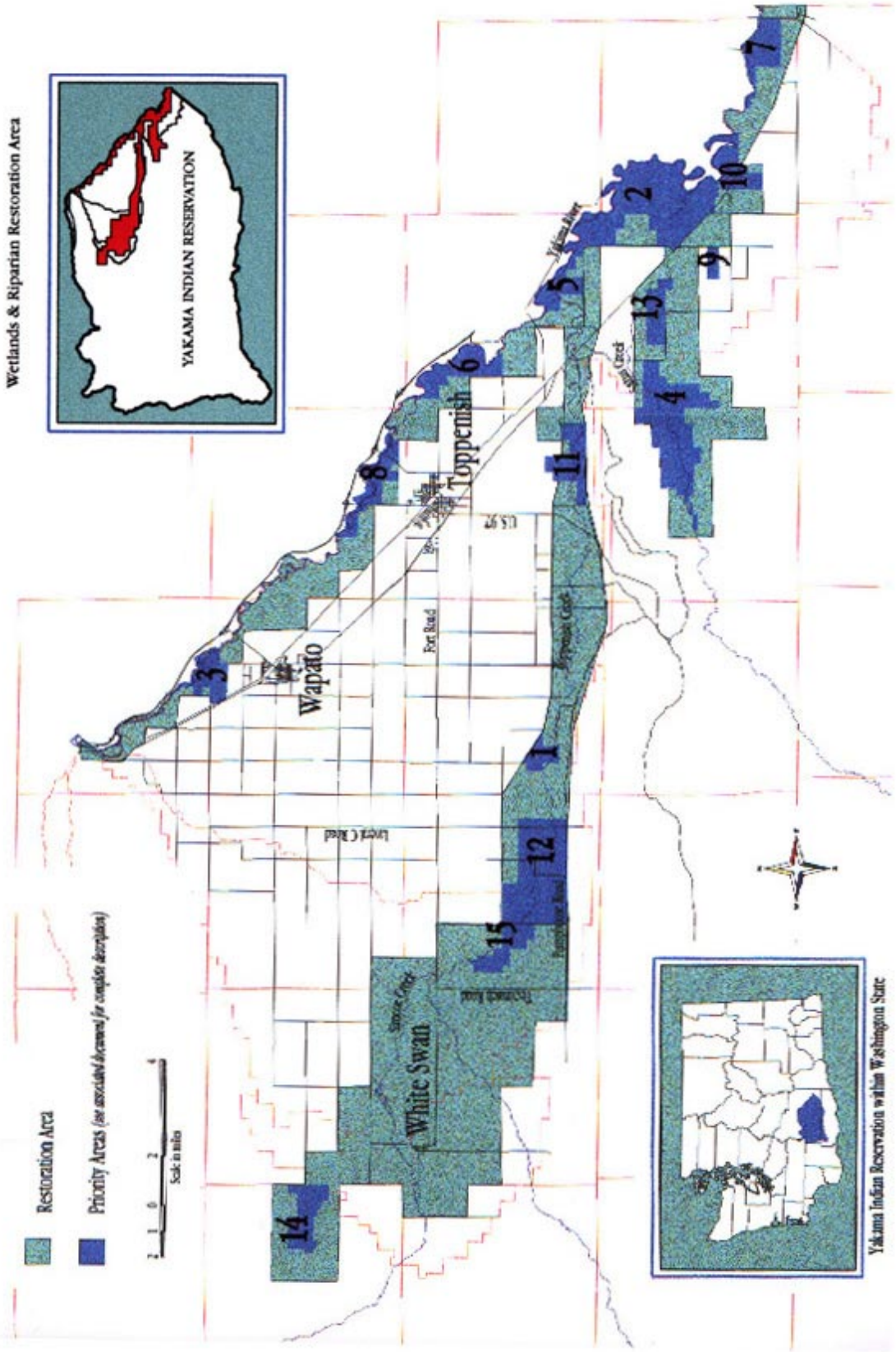

Figure 1. Wetlands/Riparian Restoration Project boundary lines and Priority Areas.

b. Rationale and significance to Regional Programs

The YIN Riparian and Wetlands Restoration Project is directly tied to mitigating for the losses identified in the FWP resulting from the construction of the Columbia River Hydropower System. This Project has also has been instrumental in the design and implementation of a diverse assemblage of plans and programs throughout the Yakima River Watershed, and in the Columbia Basin as well. The original intent of the Project was to provide a comprehensive vision toward watershed-style restoration not only for the YIN, but also as a guide for other governmental and non-governmental entities in the basin. To this extent the Project has been extremely successful in many ways not measurable by Habitat Units. Additionally, this Project was the first to integrate the wildlife restoration activities with the efforts being spent on anadromous fish, thereby ensuring an interdisciplinary approach to salmonid restoration.

The following paragraphs describe the significance of the Project to the various regional plans and programs:

Yakama Nation Programs and Plans In the Treaty of 1855 between the U. S. Government and the Confederated Tribes and Bands of the Yakama Nation, the area of land known as the Yakama Indian Reservation was reserved by the YIN for the exclusive benefit of its members. The restoration of native wetland and riparian habitats along the anadromous fishery waterways on the Reservation directly benefits the YIN in accordance with the Treaty. To further guide activities conducted by the YIN, the Natural Resources Department of the YIN developed a Land and Natural Resources Policy Plan (1987). The wetlands and riparian restoration project was constructed on this foundation. In 1989 the YIN Wildlife Program contracted with the U. S. Fish and Wildlife Service to develop a YIN Waterfowl Management Plan for the agricultural portion of the Reservation (Meuth, 1989). The Wildlife Mitigation Plan (YIN 1991) immediately followed and built upon this effort. Since the development of the wetlands and riparian restoration project, the YIN has developed several other projects to compliment these activities.

Yakima River Basin Water Enhancement Plan (YRBWEP) The YRBWEP legislation (P.L. 96-182) administered by the Bureau of Reclamation (BOR), is a comprehensive attempt to restore the agricultural, natural resources and instream flows of the Yakima Basin watershed. All irrigation projects within the Basin are required to develop and implement water conservation plans with water savings directly tied to baseline instream flow goals developed for the basin. The Toppenish Creek Corridor Plan was included in the YRBWEP legislation specifically to build upon and compliment the YIN Wetlands and Riparian Project. The Toppenish Creek Corridor plan is presently in the implementation planning phase. The implementation plan will outline the activities necessary to restore cultural and natural resource values within the Toppenish and Simcoe Creek floodplains within the agricultural portion of the Yakama Reservation.

North American Waterfowl Management Plan The YIN has been an original partner in the development of goals, objectives and plans for activities conducted in the Intermountain West Joint Venture under this international effort to restore continental waterfowl populations. YIN is the lead agency in the Yakima Basin Focus Area, a subset of the Eastern Washington Subregion of the Joint Venture. The Yakima Basin Focus Area Plan identifies the priorities for waterfowl and wetlands restoration in the Yakima Basin. The North American Wetlands Conservation Act (NAWCA) was developed to provide funding for activities associated with the implementation of the Joint Venture Focus Area plans. In 1996 funding ($~1,000,000) was secured by YIN in accordance with the Yakima Basin Focus Area plan to implement restoration activities on properties within or adjacent to the Project area.

Other Programs that have assisted with this effort This Project has worked cooperatively with many other organizations toward the original goal of 27,000 acres of restored wetland and riparian habitat. The following is a list of cooperators and their contributions:

Salmon Corps Program of the Americorps The Yakama Nation has participated in the Americorps effort for several years. Each year the Salmon Corps employs 15-20 young people to work on projects relating to anadromous fish and natural resources restoration. The YIN Salmon Corps have contributed countless hours on the restoration properties within this Project. Fencing, cultural and archaeological preservation, and riparian plantings have been among the many activities the Salmon Corps has been involved in. The labor provided by the Salmon Corps alone has saved this Project >$200,000 annually over the past 5 years.

Pheasants Forever The Yakima Chapter of PF has been extremely active in contributing toward the restoration efforts of this Project. Nearly all of the native grass seed purchased for this Project is now provided by PF. The overall savings to the project exceed $200,000 at this point.

Federal Emergency Management Agency (FEMA) FEMA has been cooperating in assistance with flood damage repair resulting from 2 near record flood events that have occurred in the project area during 1996-7. A spillway system was installed on the South Lateral A property in 1996, and the Satus wildlife Area received funds for water control structure replacement in FY99. Total savings to the project through FEMA funds exceeds $150,000.

Bureau of Indian Affairs Flood Mitigation Project Funding was secured by the BIA to mitigate potential flood damages which could occur on-Reservation within the project area. The total fund is $6,000,000. These funds are being spent to restore the flood passage and floodwater-holding capacities of the valley. All activities performed with these funds will directly compliment the activities performed by this Project. Floodplain restoration is a key component to the watershed approach this Project is pursuing.

c. Relationships to other projects

Section 8 a.-b. contains information pertaining to the extensive coordination and cooperation this Project employs with YIN and other programs and planning efforts. The following information will relate to the FWP activities related to this project. Further information pertaining to these projects is included in the Yakama Nation Habitat Projects Umbrella Proposal.

Satus Watershed Restoration (9603501) The Satus Watershed is located totally within the boundaries of the Yakama Reservation. This watershed is responsible for up to 50% of the wild steelhead production in the Yakima Basin. This project has the ability to conduct watershed restoration literally from the headwaters to the mouth of the creek. This restoration effort will be used as a pattern for other restoration efforts on the Yakama Reservation and elsewhere. The YIN Wetlands and Riparian Restoration Project includes the agricultural portion of the Satus watershed.

Yakima/Klickitat Fisheries Project (8812001) This Project will compliment the activities of the YKFP by providing habitat restoration within the waterways served by the YKFP. The YKFP goal of enhanced anadromous fish production in the Yakima Basin is dependent upon a return to normative river systems. This Project provides a piece of the puzzle toward such a system in the Yakima Basin.

Restore Upper Toppenish Creek Watershed (9803300) Like the Satus watershed, the Toppenish Creek watershed in located totally within the Yakama Reservation. The 2 watersheds combined make up 20% of the Yakima Basin land base. Also like the Satus Watershed Restoration Project, this projects is designed to restore the watershed from the west end of the agricultural area to the headwaters. Again total headwaters to mouth restoration will be possible with the combined projects.

Toppenish-Simcoe Instream Flow Restoration and Assessment (9705300) The Toppenish-Simcoe project provides restoration work in the area directly west of this Project and east of the Upper Toppenish Creek watershed restoration project. The combination of these three projects will allow restoration of the total Toppenish Creek watershed.

Ahtanum Creek Watershed Assessment (9901300) The Ahtanum watershed is located directly adjacent to the Project area to the north. In a similar manner to this Project, the Ahtanum analysis will target activities in the agricultural portion of the creek. The upper watershed analysis has previously been completed.

Yakima Basin Environmental Education (9405900) This project provides school children with environmental education opportunities. Its success is known throughout the Northwest. The governor of the state of Washington highlighted this project in his state of the state address in January of 1998. Wetlands science training for the teachers in the education project is conducted annually by the staff, and at the property locations, of this Project.

d. Project history (for ongoing projects)

The background and planning history of the project is included in Sections 8 a.-b. This history will include the implementation phase of the Project.

Since the conclusion of the NEPA activities, the Project has secured over 11,000 acres of habitat along Toppenish Creek, Satus Creek, and The Yakima River. The following narrative will outline the activities related to these properties.

Priority Area 1 - South Lateral A This 430 acre property is located along Toppenish Creek. The property was secured into the Project in 1994. Restoration activity occurred in the fall of 1995. Restoration included creek reestablishment, development of emergent marsh habitat associated with the north channel, and the restoration of floodplain grasslands. Record flooding in early 1996 damaged some of the restoration work. In light of this flood damage, a spillway system was designed and installed in 1996. The return of historic hydrologic conditions and native vegetation has resulted in an immediate wildlife response. Waterfowl production surveys indicate some of the densest production recorded in the valley. This property now contains one of only two known nesting colonies of bobolinks in eastern Washington.

Priority Area 2 - Satus Wildlife Area This property, located at the confluence of Satus Creek and the Yakima River, is comprised of 3,800 acres. In combination with the North Satus and Mosebar Pond Units (see below) this area now protects over 5,500 contiguous acres along the Yakima River. These properties represent some of the highest quality oxbow slough wetland and gallery riparian forest habitats on the Yakima River. The property was secured in 1995. Wetland restoration was completed in FY99. Wetland restoration activities were funded through the NAWCA project described above with some FEMA funds used for water control structure purchases. This property is among the best examples of broad, flat, meanderbealt floodplain habitat in central Washington. The wildlife diversity is equally represented on the property.

Priority Area 3 - Wapato Wildlife Area This property, located along the Yakima River north of the city of Wapato, is comprised of 660 acres of braided Yakima River habitat, gallery cottonwood forest, and grassland areas which had been converted to agriculture. Restoration of this property is complete as of 1997. Most of the restoration consisted of reestablishing great basin wild rye grasslands and natural hydrology on the converted farmland (~160 acres). The riparian areas have been protected from grazing and are relatively undisturbed. Hydrologic restoration of the converted agricultural areas has resulted in cottonwood and willow recolonization.

Priority Area 4 - Lower Satus Creek Funding secured in FY99 is being targeted toward the inclusion of this area into the Project. The Lower Satus Creek unit consists of approximately 2,500 acres of floodplain habitat in the west portion of the Satus Valley. This portion of Satus Creek was once comprised of a multiple-channeled riparian/wetland complex. Today only one channel remains; downcut through years of abuse. Restoration

of channel complexity will be accomplished through reconnection of the old channels. This property also provides the link between this Project and the Satus Creek Watershed Project (see Section 8 c.) being implemented throughout the non-agricultural portion of the Satus Creek watershed.

Priority Area 5 – North Satus Unit This 927 acre property was secured in FY98. It borders the Satus Wildlife Area (Priority Area 2) to the north and follows the Yakima River nearly to the city of Granger. It includes the confluence of Toppenish Creek and the Yakima River. Its qualities and restoration plans are similar to those of the Satus Wildlife Area.

Priority Area 10 – Mosebar Pond This 728 acre property was secured in FY98. It connects to the south boundary of the Satus Wildlife Area (Priority Area 2). The property is composed of a large oxbow slough wetland complex, riparian shrub, riparian forest and upland grass habitat types. Activities on this property will include grass and wetland hydrology restoration.

Priority Area 11 – Mouth of Wanity Slough This property, secured in FY99, consists of 400 acres of wetland habitat along Toppenish Creek. This location is the historic confluence of Wanity Slough, cut off from Toppenish Creek during the irrigation development of the area in the early part of the century. Restoration will consist of reconnecting the hydrology to the wetlands complex, and restoring the grass and riparian areas.

Priority Areas 12 and 15 This 1,400 acre property consists of a large wetlands complex amid a multichannelled portion of Toppenish Creek. Restoration efforts will target wetland hydrology, native grasslands, and Russian olive removal. NAWCA funding of $200,000 is being used in FY99 to begin the wetlands restoration component of this property.

e. Proposal objectives

The objectives of this project were originally outlined in the Project Implementation Plan (YIN 1994).

1. Secure available restoration priority area properties (2,000 - 3,000 acres per year) until 27,000 acres are included in the Project.

2. Protect, restore and/or enhance secured lands to realize a net increase in wildlife habitat values.

3. Adaptively manage properties to ensure permanent wildlife habitat value.

4. Monitor wildlife habitat conditions to ensure the desired mitigation level is reached and maintained.

f. Methods

The following methods have been described in detail in the YIN Project Implementation Plan (YIN 1994) and the Project Environmental Assessment (BPA 1994). These methods have been successfully applied since Project implementation began in 1994.

Task 1.a - Determine Land Ownership Land ownership within all Priority Areas was completed in the predesign planning activities during 1993. YIN, BIA and Yakima County records were used to complete this task.

Task 1.b - Secure lands in perpetuity All lands included in the Project are dedicated to wildlife management in perpetuity. This is accomplished through a Government to Government document between YIN and BPA for each property inclusion. The actual securing of the lands which leads to the Government to Government agreement depends on the original ownership of the property in question. If the parcel is owned in Fee Title by an entity other than YIN, Fee purchase of the property is required. Federal appraisals are used to ensure cost-effectiveness. If the parcel is held in Trust for an individual Yakama Tribal member, the property can be purchased or a long-term lease can be utilized depending on the cost comparison between the 2 methods and the desires of the landowners. If the property is held in Trust for the Yakama Nation, an easement for the assessed purchase price of the property, or a long-term lease can be used depending on the cost-effectiveness of the action. Cost effectiveness of purchase/easement versus long-term lease is measured by comparing the purchase price of the property to the development of a perpetual trust fund the interest from which will be used to pay annual lease dues. Currently the trust fund approach has reduced the land securing cost of Tribal land by 50% compared to the purchase price of the properties.

Task 2.a - Site-specific Restoration Plans After a property is secured, a site-specific restoration plan is developed. This document guides the restoration activities on the property. The planning process includes cultural and archaeological surveys to ensure that these resources are protected or enhanced when possible. Historical information is used to obtain an indication of predevelopment conditions. Land disturbing activities are only used on areas that have been altered in the past to such an extent that earth moving is needed to return the functional processes necessary for habitat restoration. Engineering surveys and designs are developed at this stage if the plans call for landscape alteration. Vegetation plantings or restoration activities are usually identified at this time, however they may be changed according to the implementation of the restoration activities. All restoration plans are subject to interdisciplinary review by the Natural Resource Programs of YIN.

Task 2.b - Implement Site-specific activities Engineered plans have been contracted to Ducks Unlimited (DU) on certain projects. These projects include those that require intensive engineering. DU-engineered projects include the survey, design and implementation of the earth work. Less intensive plans are completed by the YIN habitat

restoration technicians and the Salmon Corps crew. These activities include water control structure placement, fencing, vegetation restoration, and small earth work operations. Restoration of each property is designed to result in simple, cost-effective management.

Task 3.a - Site-specific O&M Plans These plans are developed after the restoration activities are completed. They include annual schedules for vegetation or water manipulation, fence repair, or other annual activities necessary to maintain the habitat benefits realized by the restoration activities. O&M activities are designed to be as nonintrusive as possible because these activities can often cause disturbance to the wildlife populations.

Task 3.b - Manage habitats according to O&M plans Habitat crew meetings are conducted biweekly to set schedules and plan activities. Because the properties are often separated from each other by several miles, coordination among crew members and property activities is paramount. A well organized O&M schedule can save money and time.

Task 3.c - Adjust management according to monitoring results O&M activities are only as good as the habitats they are maintaining. Feedback from habitat crew members regarding the success or failure of certain activities is an important component of management. The results of habitat and population monitoring activities described in Task 4 are used to adjust annual O&M activities. Flexibility in management is critical when managing dynamic habitats such as wetlands and river corridors.

Task 4.a - Baseline HEP After each property is included into the Project, but before the initial restoration activities have begun, a baseline HEP analysis is performed to measure the initial habitat acreage and values. To facilitate the accounting of mitigation achieved, cover types and species used match those used in the Columbia River Loss Assessments (Rassmussen and Wright 1990a,b,c,d). Future benefits due to restoration and O&M activities will be compared to the baseline HEP analyses.

Task 4.b - Site-specific habitat response monitoring The site specific restoration plans contain habitat goals to be achieved through restoration and O&M activities. The progress toward these goals will be monitored annually. Methods employed will vary according to habitat type and property. Habitat type acreage, vegetation composition, hydrologic characteristics necessary to maintain specific habitats, grassland density and height, cavity availability and riparian vegetation health are examples of parameters measured. All habitat monitoring is specifically tied to restoration goals and future management.

Task 4.c - Wildlife use of habitats Because this Project is designed to restore habitat types inundated by the construction of the Columbia River hydropower system, wildlife population monitoring is not as high a priority as habitat monitoring. The restoration of habitats, however, is much less meaningful if not put in a wildlife population perspective. To date, most wildlife monitoring has consisted of waterfowl production, migration and

wintering surveys. Non-waterfowl species are recorded during spring and summer duck production surveys. Waterfowl summer banding activities are conducted to determine survival rates and migrational areas for locally-produced ducks. Migration and wintering surveys are conducted using a fixed-wing aircraft monthly from October through February.

g. Facilities and equipment

The YIN employs one of the largest tribal natural resources programs in the nation. Office space, administrative support and facilities available are extensive. Ground moving equipment such as bulldozers, front-end loaders, backhoes, graders and dump trucks are available from the YIN wildlife, roads, and facilities management programs. Vegetation restoration equipment including tractors, seeders, mowers, discs, and sprayers are available from the YIN wildlife, weed control and facilities management programs. Equipment that is used rarely or that is too large to justify from a cost-effective perspective is leased or the activities are contracted.

h. Budget

The FY00 budget is similar to the FY99 budget. The following is a line by line discussion of the amounts requested.

Personnel $275,000
Fringe $68,750
These items include the salaries and fringe benefits (@25% of personnel) for the equivalent of 2 FTE professional positions. The professional positions are involved in the land securing activities, the restoration and management planning, and the monitoring aspects of the Project. An archaeologist is also used to survey and monitor the restoration efforts because the restoration sites contain many cultural and archaeological resources.

Six Technician FTEs are also included in the budget. These technicians are responsible for most of the restoration activities as well as the operation and maintenance. The habitat technicians are required to be skilled in the use of a large variety of farm and earthmoving equipment. Though the habitat technicians are mostly involved in restoration activities, as the Project nears its goal of 27,000 restored acres, a crew this size will likely be required to perform operation and maintenance on such a large area.

One FTE Office Support is included. This position is responsible for the personnel records, the billings, the quarterly budget reports and other office-related activities.

Supplies, Materials, etc. $6,000
This item includes office materials such as paper, computers, and office space rent.

Operations and Maintenance $85,700
This item includes the materials necessary for the habitat restoration, management and monitoring activities. Items such as fencing supplies, small hand tools, chain saws, etc.

These are the everyday items used in project implementation. Repairs and maintenance of Project equipment are funded under this item. GSA vehicle leases are also included in this item.

Capitol Acquisitions $1,184,045
This item is used for land securing activities. Each year approximately 3,000 acres are added to the Project's land base. Properties are secured through lease, easement or purchase depending on the nature of the property and the cost-effectiveness of the method. All properties included in the Project are protected in perpetuity. A portion of this item is also used to purchase equipment such as tractors, seed drills, etc. Annual purchase of farm machinery is subject to the future needs of the Project.

Construction-related Support $5,000
This item is used to contract for restoration activities which are larger than the habitat technicians can accomplish effectively, or those which require equipment larger than is owned by the Project. An example is the renting of a track excavator to remove Russian olive from extremely dense areas.

Travel $5,000
This item is used to fund travel necessary for efficient Project implementation and dissemination of Project information. Requests are often received for presentations at conferences and workshops.

Indirect Cost $103,505
The Yakama Nation's indirect cost rate is 23.5% of all budget items excluding capitol purchases and construction. Because these items make up a large portion of the budget, the indirect cost rate is relatively small (6% of total budget).

Subcontractor $10,000
This item is used mainly for engineering design contracts for wetland restoration projects. The engineering services of Ducks Unlimited, Inc. are used for most restoration activities involving design work.

Other $7,000
This item is used for vehicle insurance and aerial surveys. Insurance is used for the Project's farm equipment. The aerial surveys are used to monitor habitat conditions and waterfowl use of the Project area.

Section 9. Key personnel

Tracy Hames - Project Manager
Employed by YIN since 1989
Master of Science in Natural Resources, 1990
Univ. Wisconsin - Stevens Point
Bachelor of Arts, 1984
Macalester College, St. Paul, Minnesota

Dr. William P. Bradley – Administrative Manager
Employed by YIN since 1978
Ph.D. in Wildlife Ecology, 1982
Univ. Wash., Seattle, Wash.
Bachelor of Science, 1968
Univ. Montana, Missoula, Mont.

Don Larsen - Habitat Restoration Biologist
Employed by YIN since 1993
Master of Science in Fisheries and Wildlife Science, 1992
South Dakota State Univ.
Bachelor of Science, 1990
Univ. of Nebraska - Lincoln

Dr. Gordon Lothson – Archaeologist
Employed by YIN since 1993
Ph.D. in Anthropology, 1989
Washington State Univ., Pullman
Master of Science in Anthropology, 1972
Univ. of Minnesota
Bachelor of Arts, 1966
Univ. of Minnesota

Section 10. Information/technology transfer

Information and results of the activities resulting from this project are shared with all of the projects and entities referred to in this proposal. An important component of this Project is to gain knowledge of habitat and watershed restoration techniques and approaches that can be utilized in other contexts. Presentations at symposiums have occurred in the past and are scheduled in FY98 at the National Native American Fish and Wildlife Society's annual meeting in North Carolina. Wetland restoration in the Yakima Basin, as well as in much of the arid west, is a relatively new concept. Much is being learned as this Project continues its work. This information is continuously being shared with interested tribes, agencies and private citizens. As the Project matures, results will be shared with the scientific/professional community in the appropriate journals, symposia and workshops. The Yakima River Watershed Council as well as the local school system (ESD 105) aid in the dissemination of this information to promote Yakima watershed restoration activities.

Congratulations!