Bonneville Power Administration
Fish and Wildlife Program FY98 Watershed Proposal Form

Section 1. General administrative information

Title **CTUIR Grande Ronde Subbasin Watershed Restoration (FY98-99)**

Bonneville project number, if an ongoing project **8069**

Business name of agency, institution or organization requesting funding

Business acronym (if appropriate) **Confederated Tribes of the Umatilla Indian Reservation**

Proposal contact person or principal investigator:

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Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name
Grande Ronde Model Watershed (Habitat and Watershed Restoration Projects #9402700, 96608300)	Island City Avenue	LaGrande, OR 97850	Lyle Kuckenbecker
ODFW (#8402500) Grande Ronde Habitat Enhancement/O&M	107 20th Street	LaGrande, OR 97850	Vance McGowan/Tim Walters
NRCS (Dept Agric. Anadromous, Wetland Reserve Program	Pocahontas Road	Baker, OR	Alan Bahn

USFS, LaGrande Ranger District, Wallowa-Whitman NF	3502 Hwy. 30	LaGrande, OR 97850	Jim Webster

NPPC Program Measure Number(s) which this project addresses.

7.6B.3; 7.6B.4; 7.6C; 7.6C.5; 7.7; 7.8A.5 (See Section 7)

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

CTUIR projects proposed are located in the Upper Grande Ronde Subbasin which is critical habitat for Threatened Snake River spring chinook salmon and summer steelhead.

Other planning document references.

If the project type is "Watershed" (see Section 2), reference any demonstrable support from affected agencies, tribes, local watershed groups, and public and/or private landowners, and cite available documentation.

The Grande Ronde River Basin is identified in Wy Kan Ush Me Wa Kush Wit which identifies water quality, riparian restoration, range management, forest management, and mining as key issues for the Grande Ronde River Watershed. Spring Chinook salmon adult return goal is 16,000. Estimated adult returns averaged less than 900/year during the period 1986-1990. Adult return goal for summer steelhead is 27,500.

Subbasin.

Upper Grande Ronde River Subbasin

Short description.

The following presents an overview of two primary, FY98-99, CTUIR/BPA projects the CTUIR presents for funding consideration

McCoy Meadows Meadow Restoration Project:

The McCoy Meadows Project is an ongoing, multi-year watershed restoration effort initiated in 1995 under a Federal Clean Water Act 319 Grant sponsored by the Oregon Department of Environmental Quality (ODEQ) and U.S. Environmental Protection Agency. The project involves the private landowner, Confederated

Tribes of the Umatilla Indian Reservation (CTUIR), EPA, ODEQ, Natural Resource Conservation Service (NRCS), Oregon Department of Fish and Wildlife (ODFW), U.S. Forest Service (USFS), Union County Soil and Water Conservation District (USWCD), Union County Public Works, and Grande Ronde Model Watershed Program (GRMWP).

The multi-year effort, initiated by the CTUIR, NRCS, and landowner is specifically designed to address limiting habitat parameters for salmonid fish species including water quality (primarily temperatures), instream habitat conditions, and floodplain/geomorphological stability and productivity. The approximate 2,800 McCoy Meadows Ranch includes about 5 miles of tributary habitat in the Upper Grande Ronde subbasin (Meadow, McCoy, and McIntyre Creeks). A resource management team comprised of the landowner and agency/tribal staff are working cooperatively to develop restoration designs, implement construction activities, and develop and implement a permanent resource conservation and management plan under the Department of Agriculture Wetland Resource Program. Fiscal Year (FY) 1997 project implementation resulted in the reactivation of historic meander channels with approximately 0.72 miles of new channel length. Additional detail is provided below.

Mainstem Grande Ronde Habitat Restoration Project:

Design and implement instream structural habitat enhancement, streambank stabilization, riparian and wetland plant community restoration (collection of source materials, site preparation, and planting), development of conservation easement/range mangement plan to address restoration/domestic livestock issues. Project development is currently underway and involves two private landowners, CTUIR, U.S. Forest Service, Wallowa-Whitman National Forest, Natural Resource Conservation Service, Oregon Department of Fish and Wildlife, and Grande Ronde Model Watershed Program.

Landowners are expected to contribute inkind contributions with the five agencies/organizations cost-sharing expense of restoration project. Project (construction portion) is scheduled to be implemented over a two year period beginning in FY98 and concluding in FY99.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish	X	Construction	X	Watershed
	Resident fish	X	O & M		Biodiversity/genetics
	Wildlife		Production		Population dynamics

____	Oceans/estuaries	____	Research	____	Ecosystems
____	Climate	____	Monitoring/eval.	____	Flow/survival
____	Other	X	Resource mgmt	____	Fish disease
		X	Planning/admin.	____	Supplementation
		____	Enforcement	____	Wildlife habitat en-
		____	Acquisitions		hancement/restoration

Other keywords.

Water Quality, Groundwater/floodplain function, ESA Snake River spring chinook salmon and summer steelhead

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
8402500	ODFW Grae Ronde Habitat Enhancement-Implementation/O&M	ODFW is a partner on both the McCoy Meadows and Mainstem Grande Ronde Project. ODFW responsibilities on McCoy - riparian pastures (fencing); Grande Ronde - riparian pastures, cost share on instream habitat
9402700, 96608300	Grande Ronde Model Watershed Program (Habitat and Watershed Restoration Projects)	GRMWS is involved in both McCoy and Mainstem Grande Ronde restoration projects as cooperative project sponsors. Project proposals for GRMWP are currently in development.
**		

****See Section 8. Additional partners and cooperators involved in the McCoy Meadows and Mainstem Grande Ronde River Restoration projects include the U.S. Environmental Protection Agency, Oregon Department of Environmental Quality, Natural Resource Conservation Service, Union County Soil and Water Conservation District, Union County Road Department, and U.S. Forest Service. Partnership funding which is helping augment BPA funds includes 319 ODEQ funds under Clean Water Act, salmon and wetland reserve program funds directed by NRCS, and inkind services provided by local municiples and the USFS.**

Section 4. Objectives, tasks and schedules

Briefly describe measurable objectives and the tasks needed to complete each objective. Use Column 1 to assign numbers to objectives (for reference in the next table), and Column 3 to assign letters to tasks. Use Columns 2 and 4 for the descriptive text.

Objectives do not need to be listed in any particular order, and need only be listed once, even if there are multiple tasks for a single objective. List only one task per row; if you need more rows, press Alt-Insert from within this table.

Overall project objectives include improving water quality and increasing productivity of spring chinook salmon and summer steelhead trout by restoring and enhancing spawning, incubation, and juvenile rearing habitat (summer and winter). Specific measurable project objectives may include miles of restored stream segments, changes or moderation of water quality parameters (particularly temperatures), miles of riparian pasture fence and size of pastures, acreage of riparian shrub and tree plantings, acreage of restored wetlands, number of instream structures installed, etc.

Obj 1,2,3	Objective	Task a,b,c	Task
1.	Improve stream channel geometry and geomorphic stability, reduce sediment transport and erosion, improve surface-groundwater interaction. Develop site-specific restoration designs	a. b. c.	Survey/Design: conduct total station surveys of project reaches identified for restoration projects Prepare engineering designs Prepare, administer/implement, and inspect project construction (see below)
2	Restore and enhance riparian/wetland tree, shrub, grass, and forb communities	a. b.	-collect/propagate/secure appropriate native riparian tree, shrub, and grass stock -install riparian tree, shrub, and grass species
3	Perform Post-Construction Activities and Monitor Habitat Restoration/Enhancement Structures and Riparian Recovery*		-conduct ongoing M&E Program

The following provides a more detailed description of tasks necessary to accomplish project objectives. The information provided is in the same format as our current BPA contract. The FY97 Scope of Work provides a good basis for expanding and building on previous efforts and continuing into the millennium

Task 1 Pre-Construction Preparation:

A. Continue coordination for project development, including private landowners,
Lead: CTUIR; USFS, NRCS, USWCD, ODOT, ODEQ, ODFW, NMFS
Duration: February, 1997 - July, 1997

B. Coordinate engineering survey/designs
Lead: NRCS
Duration: Jan-March 1998
Product: Engineering Surveys and Designs

C. Prepare subcontracts for construction contract (equipment/operator)
Lead: CTUIR/NRCS
Duration: February, 1998, - May, 1998
Product: Construction contracts

D. Prepare purchase requisitions for materials
Lead: CTUIR/NRCS
Duration: February, 1998, - May, 1998
Product: Materials

E. Coordinate necessary permitting and consultations with appropriate federal, state, and local authorities (NMFS, DSL/Corps).
Lead: ODFW/NRCS
Duration: 4/98-6/98.
Product: 404 permits, Biological Opinion

F.Collect approximately 15,000 indigenous tree and shrub cuttings (cottonwood, predominantly willow, dogwood, hawthorn) to grow-out as bareroot stock at theCTUIR Native Plant Nursery for fall 1998/spring 1999 planting activities (plant 2,800 - 3,400 trees/stream mile to provide shade, insect drop, improve streambank stability and riparian shade, and provide a future large woody debris source).
Lead: CTUIR
Duration: Fall, Winter, Spring 1998/99
Product: native riparian tree and shrub stock

Task 2 Project Construction

A. Implement instream project in upper portions of meadow including installation of instream structures, construction of streambank stabilization/bioengineering structures/techniques.
Lead: NRCS/CTUIR
Duration: Phase 2 scheduled to begin July 1 - August 1, 1998
Product: Instream design construction

B. Begin revegetation efforts based on changes in meadow hydrology. Efforts include site preparation, planting stock, constructing small exclosures (where appropriate),manual watering (volunteer effort).
Lead: CTUIR/ODFW
Duration: Spring, 1998 - Spring, 1999
Product: Initial riparian restoration

C. Fence Construction. Construct and relocate riparian pasture fences to meet resource and landowner objectives. Cost share as inkind, if possible. ODFW to provide fencing contribution under existing BPA contract (ODFW Grande Ronde Habitat)

Lead: CTUIR/ODFW
Duration: Summer 1998/99
Product: Expanded/new riparian pasture with conservation easement

Task 3 Perform Post-Construction Activities and Monitor Habitat Restoration/Enhancement Structures and Riparian Recovery*

A. Conduct post-construction final review (check completed work).
Lead: NRCS/CTUIR/ODFW
Duration: August 1998
Product: FY97 Summary Report in Progress, FY98 Report

B .Continue groundwater and photo point monitoring to document changes in groundwater, channel morphology, and riparian vegetation.
Lead: CTUIR/NRCS
Duration: Groundwater - Ongoing, Monthly basis, 10 Years; Photo Points - Ongoing, Yearly basis
Product: photo point record of restoration measures/response

C. Coordinate with Oregon Department of Environmental Quality (ODEQ) regarding water quality monitoring.
Lead: ODEQ/EPA
Duration: ongoing basin-wide*
Product: Yearly monitoring report

D. Coordinate proposed and other ongoing research conducted by Oregon State University/others in relation to juvenile salmonid life history and establishment of permanent vegetation transects/plots.
Lead: Landowners/CTUIR
Duration: ongoing
Product: published articles in scientific journals

Task 4 Mainstem Upper Grande Ronde River Enhancement Project Development:

A. Continue detailed design development, coordination with landowners and multiple project sponsors
   Lead: NRCS
   Duration: ongoing, Jan 1 - April 98 (phase I)
   Product: Restoration Design

B. Coordinate with landowner on development of range management strategies (development of riparian pastures/grazing systems
   Lead: NRCS
   Duration: ongoing
   Product: Conservation Easement (potentially through Fed. WRP), improve grazing strategies

C. Conduct collection/procurement of riparian tree and shrub for restoration design
   Lead: CTUIR/USFS
   Duration: ongoing
   Product: collection and propagation of 15,000 stems (in conjunction with McCoy Meadows effort described above.

*Long-term effects of habitat restoration/enhancement activities in project areas (changes in channel morphology, riparian vegetation, stream temperatures, sediment loads and macroinvertebrate populations) are part of the ODEQ water quality monitoring program in the Grande Ronde River Basin which is currently funded.

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	ongoing 1/98; 9/98	4/98 4/99	54%
2	ongoing	7/2001	15%
3	ongoing	ongoing (min. 10 year monitoring plan)	<3% M&E is largely funded under other programs

Schedule constraints.

Major Milestones: Project designs, permitting/consultation (NMFS, Corps 404), construction/professional service contract preparations, project construction, ongoing M&E.

Constraints: consultations, instream work window (July 1-31 McCoy Meadows; July 1-October 15, Mainstem Grande Ronde.

Completion date.

Completion dates are estimated for construction only

McCoy Meadows: FY2000, O&M 2001-2003

Upper Mainstem Grande Ronde River Enhancement: FY2001, O&M 2002-2003

Section 5. Budget

List FY98 budget amounts for each category. If an item needs more explanation, provide it in the Note column. If the project uses PIT tags, include the cost ($2.90/tag). **Be sure to enter a total on the last line: this is the amount of your budget request.**

Item	Note	FY98
Personnel		$26,695
Fringe benefits		$7,742
Supplies, materials, non-expendable property	includes construction materials (rock, large wood)	$42,500
Operations & maintenance	repairs/maintenance, office opps.	$4,450
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		$0
PIT tags	# of tags:	$0
Travel	vehicle rental, mileage	$2,048
Indirect costs	34%	$28,368
Subcontracts		40,197
Other		
TOTAL	Budget based on FY97 and 98	$152,000

Outyear costs

Outyear costs	FY99	FY00	FY01	FY02
Total budget	200,000	200,000	200,000	200,000
O&M as % of total	(25%) 50K	(25%) 50K	(10%) 20K	(10%) 20K

Section 6. Abstract

The CTUIR Grande Ronde Subbasin Watershed Restoration Project (5507000) is an ongoing, multiple cooperator/partner effort with key objectives of restoring and enhancing water quality, instream structural diversity, floodplain/geomorphological functions, riparian/wetland quality and quantity, and rearing and spawning habitat for anadromous fish including threatened Snake River Spring chinook salmon and summer steelhead trout. Key NPPC FWP Measures addresss include: 7.6B.3; 7.6B.4; 7.6C.5; 7.7; 7.8A.5.

The CTUIR propose to focus FY98 and 99 NPPC funding on the ongoing restoration efforts on the McCoy Meadow Ranch and continue detailed designs and preparations for project construction on the Mainstem Upper Grande Ronde Enhancement project involving the Stone and Kunha Ranches in the middle Upper Grande Ronde subbasin.

Methods involve state-of-art bioengineering techniques that embrace the scientific principles of watershed and floodplain morphological processes. The two project areas considered in this proposal exhibit severe instability primarily as a result of past land use practices such are agriculture, ranching, channelization, and transportation system development.

Project development and implementation is phased in over a period of an estimated 3-4 years on the McCoy Creek Ranch and 2-3 years on the Mainstem Grande Ronde Enhancement Project. Expected outcomes include: increased geomorphic stability and more natural channel forming/maintenance process; increased instream habitat and structural diversity including approximately 3 miles of reestablished stream channel/holding, rearing, and spawning habitat in McCoy, McIntyre, and Meadow Creeks, restoration of 300-500 acres of mid-montane wetland habitat, and enhanced holding and rearing habitat along approximately 10 miles of mainstem Upper Grande Ronde River. Benefits such as increased channel length and enhanced structural additions will be, and have been, realized immediately following construction. Benefits such as reestablishing riparian and wetland habitats will likely require over a decade to become fully realized.

Monitoring and evaluation includes groundwater, fish habitat and populations survey/sampling, and photo point monitoring. An extensive water quality monitoring network is maintained by ODEQ and includes temperature and chemistry as well as macroinvertebrate community monitoring. Additional M&E includes coordination with ongoing and planned research by Oregon State University.

Section 7. Project description

a. Technical and/or scientific background.

McCoy Meadows Meadow Restoration Project:

The McCoy Meadows Meadow Restoration Project a multiple year, multi-funded effort designed to address limiting factors for salmonid fish species including water quality (primarily temperatures), instream habitat conditions, and floodplain/geomorphological stability and productivity. Project co-sponsors include the private landowner, CTUIR, U.S. Environmental Protection Agency, Oregon Department of Environmental Quality, Natural Resource Conservation Service, Oregon Department of Fish and Wildlife, U.S. Forest Service, Union County Soil and Water Conservation District, Union County Public Works, and Grande Ronde Model Watershed.

The project involves the lower portions of three major tributaries in the Upper Grande Ronde subbasin (Meadow Creek, McCoy Creek, and McIntyre Creek). The mainstem project has multi-agency (NRCS, ODFW, USFS, and CTUIR) support which was identified by the CTUIR in the FY97 NPPC prioritization process. Implementation of Phase I of the project (see FY97 NPPC Criteria for project number 5507000) was completed during FY97. Additional funds are programmed to conduct operations and maintenance on Phase 1 and proceed with development of restoration designs and construction on Phase 2 of the project. Phase 2 involves similar activities to Phase 1 but encompasses approximately twice as much meadow habitat along the lower portions of McCoy Creek and Meadow Creek. The McCoy Meadows Meadow Restoration Analysis (CTUIR et al., 1997) with accompanying restoration designs for the Phase 1, FY97 component of this project is on file at the CTUIR, DNR Wildlife Program Office.

FY98 and 99 project development includes: 1) design and implementation of restoration actions that directly address geomorphologic conditions, functions, and desired future conditions of the McCoy Meadows complex (e.g., channel configuration and natural stability), 2) restoration of the quality and quantity of native riparian and wetland habitat conditions through reestablishment of natural hydrological processes (increased groundwater storage in mid-montane wetland/meadow complex) which is anticipated to moderate water temperatures over time (temperature is currently a limiting factor); 3) incorporation of the McCoy Meadows Ranch under the U.S. Department of Agriculture's Wetland Reserve Program (perpetual resource conservation easement and mechanism to protect investments made by project partners; and 4) implementation and expansion, where practicable, of an ongoing monitoring and evaluation program to assess project effectiveness and to track meadow recovery over time (ongoing monitoring includes ODEQ, CTUIR, NRCS, ODFW, and landowners.

Overall project objectives include improving water quality and increasing productivity of spring chinook salmon and summer steelhead trout by improving spawning, incubation, and juvenile rearing habitat. Specific measurable project

objectives may include miles of riparian corridor fencing, miles of riparian planting, acres of wetland/riparian restoration, number of instream structures installed, etc. Specific measurable project results include increased instream structural diversity (adult holding, juvenile overwintering habitat), improved channel morphology (decreased width:depth, decreased gradient, increased channel length), improved stream shade and riparian/wetland structure/composition, improved streambank stability, decreased water temperature, and decreased sediment transport compared to existing channelized condition.

General project tasks include: preparing surveys and designs, preparing for project construction (contracts and permitting), coordinating with multiple partners including private landowners, conducting riparian vegetation restoration activities (collection, propagation, site-preparation, and planting), and monitoring and evaluation.

Additional tasks associated with this project are intended to augment onging efforts to truly conduct restoration actions on a watershed scale. Although the majority of the efforts identified relate specifically to the McCoy Meadows Ranch, CTUIR and other agency staff are engaged in a wide variety of watershed level landuse issues, Current and ongoing watershed-based efforts include development of partnerships with USFS on the McIntyre Road Obliteration and Relocation Project, government to government consultation between the CTUIR and USFS on timber, range, and transportation systems on National Forest System lands in the headwaters of these tributaries, and coordination with local municipals on transportation system issues (i.e., replacement of existing culvert/road crossing on McIntyre Road within project reach (ongoing CTUIR/USFS/Union County/Landowner effort). Additional detail is provided in the Methods section below.

Mainstem Grande Ronde Habitat Restoration Project:

The conceptual design for this project includes installation of floodplain and instream large wood, construction of rock structures, riparian tree and shrub plantings, and development of range management strategies with the landowner (development of riparian pastures, upland water developments, etc.). The reach under review encompasses nearly 10 miles of mainstem in the vicinity of Bear, Jordan installation of large woodrearing conditions NPPC FY97 encompassing approximately 10 miles of mainstem Grande Ronde. Landownership includes National Forest System and private lands. The project reach extends from Birdtrack Springs downstream to the LaGrande Gun Club. These projects address the following NPPC Fish and Wildlife Program Measures:

Tasks include design and implement instream structural habitat enhancement, streambank stabilization, riparian and wetland plant community restoration (collection of source materials, site preparation, and planting), development of

conservation easement/range mangement plan to address restoration/domestic livestock issues. Project development is currently underway and involves two private landowners, CTUIR, U.S. Forest Service, Wallowa-Whitman National Forest, Natural Resource Conservation Service, Oregon Department of Fish and Wildlife, and Grande Ronde Model Watershed Program.

Landowners are expected to contribute inkind contributions with the five agencies/organizations cost-sharing expense of restoration project. Project (construction portion) is scheduled to be implemented over a two year period beginning in FY98 and concluding in FY99.

b. Proposal objectives.

Project Objectives

McCoy Meadows Meadow Restoration Project:

Restoration objectives identified in the Multi-agency Restoration Analysis (CTUIR et al., 1997) include:

- Increase stream channel sinuosity
- Improve instream, riparian, floodplain/meadow conditions and functions, including improved quality and utilization of riparian and meadow areas for native plant communities and wildlife. Encourage beaver recolonization and high quality habitat for other riparian-dependant native species
- Improve/increase vegetative cover/shade to decrease summer stream temperatures and increase winter temperatures
- Improve/increase streambank stability
- Improve water chemistry
- Improve surface water and groundwater interaction
- Improve productivity of coldwater fish habitat and terrestrial and aquatic macroinvertebrate production
- Improve utilization of new stream channel segments by steelhead
- Provide watershed restoration educational opportunities

Design and implement restoration actions that directly and indirectly lead to improving trends in key limiting factors in the subbasin, including but not limited to: 1) water quality (temperatures, point and non-point sources of pollution; 2) reestablishing large pool habitat for adult holding and juvenile rearing/overwintering; 3) increasing instream structural diversity; and 4) promoting healthy riparian/wetland resources.

c. Rationale and significance to Regional Programs.

The rationale and significance to regional programs for FY98 and 99 CTUIR funding for the Upper Grande Ronde Subbasin is embedded in the FWP criteria as follows:

7.6B.3 - The projects are focused on restoring key, limiting habitat components within the Grande Ronde subbasin where current poor instream habitat and water quality conditions limit productivity of suppressed, ESA listed salmon and steelhead stocks (CTUIR et al., 1996).

7.6B.4 - Restoration activities in the McCoy Meadows area represent what many believe to be an important opportunity in the Upper Grande Ronde subbasin to restore critical juvenile salmonid rearing habitat and improved spawning and holding conditions for adults (summer steelhead, resident) which has been significantly altered by past practices on the property (i.e., farming, ranching, channelization. Meadow Creek is historic Endangered Snake River spring chinook and summer steelhead while McCoy and McIntyre Creeks are summer steelhead and resident tributaries.

7.6C - Ongoing project planning and development has and continues to be coordinated with the Grande Ronde Model Watershed Program and other cooperating agencies/individuals (USEPA, ODEQ, ODFW, NMFS, USFWS, NRCS, USWCD, and private landowners). Project designs are currently in process for both the McCoy Meadows and Mainstem Grande Ronde Enhancement Project. Meadow, McCoy, and McIntyre Creeks are priority subwatersheds for providing quality water and threatened Snake River summer steelhead spawning and rearing habitat. The Mainstem Grande Ronde River project is located in the middle portions of the Upper Grande Ronde that provides poor quality overwintering habitat. Project identification and design is being accomplished consistent with subbasin plans and overall direction in regards to priorities as identified under the model watershed program (i.e., rearing/overwintering juvenile habitat).

7.6C.5 - Protection of existing habitat and restoration of historic habitat conditions suitable for aquatic and terrestrial organisms is the focus of the Tribes Grande Ronde Subbasin restoration effort. Efforts are currently underway to permanently protect McCoy Meadows through the Federal Wetlands Reserve Program (sponsored by NRCS). Discussions with landowners involved in mainstem Upper Grande Ronde River Enhancement Project are also ongoing in regards to conservation easements.

7.7 - The Tribal restoration effort is focused on addressing habitat priorities and developing site-specific projects in areas that have not previously had the needed

focus or funding levels required to restore Grande Ronde River fish habitat. Planning, and most importantly, project development and implementation, is and will be focused on filling gaps in specific reaches of the subbasin, particularly in the middle, upper portions of the basin on both public and private lands. Primary focus areas include mainstem river segments and tributaries primarily in private ownership. Cooperative projects and planning with other agencies/entities is ongoing and being improved upon currently in an attempt to develop and implement a systematic restoration strategy in the subbasin.

7.8A.5 - Improved livestock management on current and conceptual future projects in the subbasin are integral components of restoration project design, implementation, and end result. Cooperative efforts on the McCoy Meadows and mainstem Grande Ronde Enhancement Projects include development of an updated range management plan (in progress by NRCS) consistent with the goals and objectives of the restoration effort. Existing livestock exclosure fencing is planned for relocation to better accommodate riverine and wetland habitat restoration, range improvements are planned to address distribution, and a grazing system is being developed to meet the objectives of the landowner.

d. Project history

The CTUIR Grande Ronde Subbasin Watershed Restoration Project (5507000) is an ongoing, multiple cooperator/partner effort with key objectives of restoring and enhancing water quality, instream structural diversity, floodplain/geomorphological functions, riparian/wetland quality and quantity, and rearing and spawning habitat for anadromous fish including threatened Snake River Spring chinook salmon and summer steelhead trout. Key NPPC FWP Measures addresss include: 7.6B.3; 7.6B.4; 7.6C.5; 7.7; 7.8A.5.

The CTUIR propose to focus FY98 and 99 NPPC funding on the ongoing restoration efforts on the McCoy Meadow Ranch and continue detailed designs and preparations for project construction on the Mainstem Upper Grande Ronde Enhancement project involving the Stone and Kunha Ranches in the middle Upper Grande Ronde subbasin.

The project number for the CTUIR, Upper Grande Ronde Subbasin Restoration effort has not changed from previous Fiscal Years (5507000). However, it needs to be noted that the FY98 line item has been erroneously excluded from the FY98 funding matrix included as part of the NPPC Fish and Wildlife Program Summary of Obligations. Anadromous efforts in the Upper Grande Ronde Subbasin on ongoing and expected to continue into FY2003 and beyond.

e. Methods.

SUMMARY OF PROBLEM

General

Former and current detrimental land use practices have historically impacted watershed conditions and continue to affect anadromous and resident fisheries production in the Grande Ronde River Basin. Instream habitat and riparian/wetland cover types in the upper portions of the basin have been affected by a wide variety of activities, including: logging; mining; road and railroad construction; dredging and channelization; livestock grazing; and splash dam logging. In 1990, McIntosh (1992) conducted an analysis comparing existing large pool habitat conditions in the middle and upper mainstem Grande Ronde River and several tributaries with conditions documented in 1941 by the Bureau of Fisheries (precursor to the National Marine Fisheries Service). McIntosh documented a 43-89% (65% mean) loss in total pools and a 20-89% (68% mean) reduction in large pool habitat in a period of just under 50 years, demonstrating a substantial loss in instream structural diversity.

In addition, the Grande Ronde River has been determined water quality limited by the Oregon Department of Environmental Quality. High summer stream, low winter temperatures, nonpoint and point sources of sediment, and low or intermittent base flows limit aquatic resource productivity.

Habitat restoration, focusing on improving water quality and instream habitat conditions, identified in this proposal include a combination of activities. Development of restoration agreements with private landowners, development and implementation of instream and riparian/wetland restoration/enhancement projects, and improving/building education as it relates to watershed restoration are key elements of the CTUIR's Grande Ronde River Basin Watershed Restoration Program under the Northwest Power Planning Council (NPPC) Fish and Wildlife Program.

McCoy Meadows Existing Conditions

Fish Habitat

Impaired water quality and severely reduced area and quality of rearing habitat are currently severely limiting anadromous fish production in McCoy Creek, Meadow Creek, and in the Grande Ronde River downstream of the project area. The ODFW 1992 Stream Report describes the project area reach, "[t]here is a high proportion of units with actively eroding stream banks. Stream shading is very low." The report further indicates little to no large wood interacting with the channel, that 73.4 percent of the banks are actively eroding and the average open sky is 90 percent. Stream surveys conducted by CTUIR fisheries staff in the fall of 1995 documented

similar conditions with about 40 percent glide habitat, 35 percent riffle habitat, and 25 percent pool habitat. Ground cover in the riparian area was estimated at about 2 percent shrubs and included 13 percent bare soil. Canopy closure ranged from 1-3 percent and open sky averaged 91 percent. Large wood averaged 0.8 pieces per 100 meters (about 12 pieces per mile).

Fish Populations

McCoy Creek currently supports summer steelhead spawning and rearing habitat and juvenile spring chinook salmon rearing habitat. Both spring chinook salmon and summer steelhead utilize McCoy Creek, currently for passage, but, historically, most likely for rearing and possibly spawning as well, in the project area

Wildlife Habitat

Existing wildlife habitat conditions in the McCoy Meadows area are thought to be much different that historic conditions. Historic accounts of the McCoy Creek drainage as described in the Stuart Journals suggest that McCoy Creek contained such a high level of sinuosity that early explorers commonly became confused as to which streams they were following. Records maintained by early explorers and trappers also record the abundance of beaver commonly observed in the Grande Ronde River basin. Today, many streams in the basin contain primarily riffles and shallow glides, poor riparian habitat conditions with minimal overstory riparian tree and understory riparian shrub, very little structural diversity, and a notable absence of beaver, except for small, isolated colonies (CTUIR et al., 1997). Because of historic land uses, once abundant wetland resources in the McCoy Meadows areas have been altered by various land uses such as agriculture and channelization. Alterations have disrupted groundwater and surface water regimes and associated riparian/wetland vegetation, and decreased suitability for beaver. The meadow area, portions of which historically contained a large, montane wetland complex, is currently grassland pasture with limited riparian/wetland complexity.

Water Quality

Water quality and biological resource monitoring in the project area was initiated by ODFW in 1988 and by ODEQ in 1993. Examination of ODFW data collected between 1988 and 1994 reveals that mean weekly maximum temperatures exceeded the new Oregon Stream Temperature standard (64^{o} F/17.8^{o} C: salmonid rearing) from the start of monitoring each year (about May 15) through the end of October. Hourly temperature data from

thermographs showed that summer mean weekly maximum temperatures were consistently higher in the lower portions of the meadow compared to the upper meadow where McCoy Creek enters the meadow floodplain. This demonstrates that, though summer stream temperatures consistently exceed state water quality standards as a result of upstream activities and conditions, additional thermal loading occurs within the project area.

In addition, data collected by the Oregon Department of Environmental Quality in 1992 and 1993 illustrate that in 1993 the highest seven-day average of daily maximum temperatures were 25.8, 24.9, and 26.1 degrees Celsius for Middle McCoy, Lower McCoy, and Lower McCoy, respectively. It is notable that there is little difference in water temperatures between the three sites, which suggests that water temperatures in this reach are in equilibrium with air temperature during this time of year.

PROPOSED SOLUTION

Restoration efforts undertaken as part of this contract will be designed to complement ongoing and planned efforts of multiple agencies and address both short and long-term issues associated with poor instream and riparian/wetland habitat conditions. Overall project objectives include improving water quality and increasing productivity of spring chinook salmon and summer steelhead trout by improving spawning, incubation, and juvenile rearing habitat. Specific measurable project objectives may include miles of riparian corridor fencing, miles of riparian planting, acres of wetland/riparian restoration, number of instream structures installed, etc. Specific measurable project results would include increased instream structural diversity (adult holding, juvenile overwintering habitat), stream shade, improved riparian structure/composition, improved streambank stability, and decreased water temperature and erosion.

Resource restoration activities began in the McCoy Meadows area in 1988 with construction of several miles of livestock exclosure fence and associated monitoring by ODFW under contract with BPA to protect streambanks and riparian vegetation. In 1995, a cooperative watershed restoration project with the landowners began take form with goals of restoring water quality, fish and wildlife habitat, and wetland function. A restoration analysis and detailed restoration design plans are currently being developed with implementation of Phase 1 scheduled for the summer of 1997.

The project proposal is to reestablish natural sinuosity within McCoy Meadows and restore hydrologic function of the floodplain and wet

meadow complex. Project designs are specifically guided by geomorphic scientific principles with the ultimate goal of reestablishing a more natural and functioning mid-montane wetland complex. Increased stream channel sinuosity and beaver recolonization is projected to improve instream habitat conditions and summer/winter stream temperatures by slowing water velocities and increasing water storage in the meadow complex. Beaver dams and side channels are expected to lead to increased bank storage, pool habitat quantity and quality, and riparian/wetland vegetation. Protecting wet meadow areas from livestock use is planned and expected to increase the rate of recovery of wetland habitats and their watershed function.

Phase 1 of the project, implemented during FY97 included reintroducing the upper portion of McCoy Creek into historic channels, preparing engineering design to address an existing triple culvert and associated icing and water passage limitations, relocating portions of existing livestock exclosure fences to better accommodate meadow restoration efforts, conducting groundwater, water quality, and photo-point monitoring to record pre- and post-project conditions, collection, propagation, procurement of riparian vegetation stock, and initial implementation of a public education effort on watershed restoration strategies.

Phase 2 includes assessing effectiveness of Phase 1 project implementation, incorporating adaptive management, and development of a restoration action plan for the lower portions of meadow. Project construction would conceptually begin in 1998 with additional restoration measures and monitoring being conducted as needed or annually depending on site-specific circumstances.

Bioengineering treatments (where appropriate) will be implemented to minimize erosion, increase/maintain streambank stability, and provide suitable sites for riparian vegetation propagation. Salvage of existing shrubs, where possible, will be incorporated into project construction phase. Native, riparian tree, shrub, sedges, and forbs (cottonwood, alder, willow, dogwood, hawthorn, etc) will be planted along restored meander channels. An effort will be made to acquire and propagate local indigenous plant species, due to their adaptability to the region and also to address concerns regarding gene pool contamination of existing plant communities. Disturbed areas will also be seeded with native grass mixtures, where available.

f. Facilities and equipment.

Equipment and facilities necessary to implement the scope of work described above generally exists currently. The vast majority of equipment needed to implement

instream restoration activities will be contracted under professional service agreements on equipment rental contracts.

g. References.

CTUIR, Tipperman, USEPA, ODEQ, NRCS, ODFW, UCSWCD. 1997. McCoy Meadows Restoration Analysis. Watershed Restoration and Phase I Project Design. CTUIR, Pendleton, Oregon..

McIntosh, Bruce., 1992. Historic Changes in Pool Habitat in the Upper Grande Ronde River Basin…..

Section 8. Relationships to other projects

As noted earlier, the CTUIR's Grande Ronde Subbasin Watershed Restoration efforts under the NPPC Fish and Wildlife Program have been intentionally focused on developing multi-cooperator/partnership projects. Private landowners, federal and state agencies, GRMWP staff, and the CTUIR have consulted on the McCoy Meadows and Mainstem Grande Ronde projects to coordinate matching funds and inkind contributions as well as on technical approaches of individual restoration components planned under individual projects in order to develop effective and cost-efficient restoration activities that address key limiting factors in the Upper Grande Ronde Subbasin.

The McCoy Meadows Meadow Restoration effort involves the components detailed above, but also includes several related aspects. The NRCS and CTUIR, in cooperation with the landowers, have formally submitted McCoy Meadows as a candidate for the Federal Wetland Reserve Program to secure matching restoration funds as well as to purchase a perpetual resource conservation easement. The easement is planned to encompass approximately 1,500 acres of riparian, wetland, and associated upland habitats and provide a financial resource to the landowner that will allow significant protections for fish and wildlife resources. The WRP component to the project is currently under consideration at the Oregon Regional Offices and is competing in the State with other project proposals. We anticipate the project will rank high with a projected completion date of 1998.

Section 9. Key personnel

All CTUIR Department of Natural Resource staff funded under this project are professionally trained and meet standard job descriptions (professional and technical grade and series requirements) es tablished under the CTUIR Policy and Procedures Manual

(under current revision, 1998). Technical staff involved in implementing the work identified under this proposal includes biological and administrative staff.

Section 10. Information/technology transfer

Under the McCoy Meadows Meadow Restoration Project, the CTUIR, landowners, and project partners have committed to preparing year-end reports to document post-project (as-built) conditions, summarize monitoring data, and identify additional or ongoing activities undertaken on the project. The restoration analysis developed during 96/97 is intended to be a "living document' whereby we can append additional restoration design elements to the plan as an adaptive management tool.

Monitoring and evaluation is a key component to the restoration effort. The area is a subject of ongoing and planned research including a basin-wide ODEQ water quality monitoring program, juvenile salmonid life history reasearch and riparian plant community succession (PNW), and specific monitoring components designed by project cooperators and the landowners (groundwater, fish populations, permanent photo-points. Information and technology transfer is planned to be accomplished through yearly reports, documentation of research in scientific journals, and presentations at appropriate symposiums.