

**Bonneville Power Administration Power Administration
Fish and Wildlife Program FY99 Proposal Form**

Acquire Fish and Wildlife Habitat in the McKenzie Watershed

Bonneville project number, if an ongoing project 9037

Business name of agency, institution or organization requesting funding
McKenzie Focus Watershed Council

Business acronym (if appropriate) _____

Proposal contact person or principal investigator:

Name	<u>John Runyon, Coordinator</u>
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Subcontractors.

List one subcontractor per row; to add more rows, press Alt-Insert from within this table

Organization	Mailing Address	City, ST Zip	Contact Name

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

2.2, 2.4A.3, 6.5

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

Other planning document references.

General habitat improvement needs are referenced in the McKenzie Watershed Council= Action Plan for Water Quality and Fish and Wildlife Habitat (1996), the Willamette Basin Task Force Recommendations (1997), the Draft Revisions to the Oregon Department of Fish and Wildlife=s McKenzie Sub-basin Fish Management Plan (1998),

and the Clinton Administration's Northwest Forest Plan (1993). The land acquisition is supported by the McKenzie Watershed Council and member organizations, including (see attached letters of support) Eugene Water & Electric Board, Oregon Department of Fish and Wildlife, U.S.D.I. Bureau of Land Management, and U.S.D.A. Forest Service.

Subbasin.

Willamette

Short description. Describe the project in a short phrase (less than 250 characters).

Protect and restore McKenzie River pool habitat by acquiring a key property. The project will maintain and improve watershed-wide connectivity and habitat for wildlife and resident fish, and rearing habitat for spring chinook.

Section 2. Key words

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

Other keywords.

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
9405300	Bull Trout Assessment Project	Monitors the distribution, population trends, and habitat use of bull trout populations in the Upper Willamette Basin
9206800	Willamette Basin Acquisition	Targets acquisition of critical fish and wildlife habitat in the Upper Willamette Basin

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Protect floodplain habitat and restore active channel movement and pool habitats at Flinstone Rock Quarry	a	Acquire Flinstone property
2	Restore fish and wildlife habitat features at the Flinstone Rock Quarry	a	Develop restoration plan
		b	Restore habitat features to Flinstone property
3	Develop ongoing protection and project evaluation strategies for the site through the development of operations/maintenance and monitoring plans	a	Develop operations and maintenance plan
		b	Develop monitoring plan
4	Implement habitat/population monitoring and operations and maintenance programs for the site	a	Monitor the maintenance and creation of fish and wildlife habitat features
		b	Implement operations and maintenance program

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1&2	10/98	09/99	100%
3	10/99	09/2000	0%
4	10/2000	ongoing	0%

Schedule constraints.

Difficult to determine the length of the land purchase negotiation process.

Completion date.

Fiscal year 1999 for acquisitions; restoration, and monitoring will be ongoing.

Section 5. Budget

FY99 budget by line item

Item	Note	FY99
Personnel		
Fringe benefits		
Supplies, materials, non-expendable property		
Operations & maintenance	O & M costs covered through in-kind contribution	
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	Acquisitions: Flinstone, \$250,000	220,000
PIT tags	# of tags:	
Travel		
Indirect costs	Administrative charge for fiscal management/accounting services through Cascade Pacific R. C. and D. (@5%)	11,500
Subcontracts	Environmental assessment (NEPA requirements)	10,000
Other		
TOTAL		\$241,500

Outyear costs

List budget amounts for the next four years, and the estimated percentage of those costs for operations and maintenance (O&M).

Outyear costs	FY2000	FY01	FY02	FY03
Total budget	0	0	0	0
O&M as % of total				

Section 6. Abstract

The goal of this project is to protect and restore pool and floodplain habitat in the McKenzie Watershed. The Council has prioritized one property for immediate acquisition: Channel and pool habitats were created on the 20-acre Flinstone property during the 1996 flood event when a dike was breached and the active channel moved into the active rock quarry. The property owner is proposing to restore the dike, and acquisition provides an opportunity to prevent loss of this pool habitat. This property currently provides high-quality pool habitat for resident fish and rearing habitat for spring chinook salmon. Wildlife values include habitat for western pond turtles and waterfowl. Protecting and restoring the area will allow movement of the active channel through the flood plain. In addition, this property is adjacent to the Eugene Water & Electric Board's (EWEB) Walterville Canal fish passage channel; public ownership will provide improved maintenance of the channel to aid in passage of spring chinook salmon. Oregon Department of Transportation (ODOT) habitat mitigation funds will be used in combination with BPA funding to purchase the site. A restoration and operations maintenance plan will be completed for each site. A monitoring plan will be developed and implemented to evaluate habitat/population protection and restoration success. All restoration, monitoring, and ongoing operations will be implemented through resources and personnel contributed by Oregon Department of Fish and Wildlife (ODFW) and EWEB. The land acquisition portion of the project will be completed in FY 1999.

Section 7. Project description

a. Technical and/or scientific background.

The McKenzie Watershed encompasses an area of approximately 1,300 square miles, occupying about 12 percent of Oregon's Willamette Basin. Bounded on the east by the crest of the Cascade Mountains, the McKenzie Watershed generally drains westward, joining the Willamette River just north of the Eugene-Springfield metropolitan area.

The status of the McKenzie Watershed has regional significance. The McKenzie River produces the highest water quality of any river in the Willamette Basin and is the sole source of drinking water to over 200,000 residents of Lane County (DEQ 1997). The McKenzie Watershed supports anadromous and resident fish species, including spring chinook and bull trout. Willamette Basin spring chinook and bull trout populations have declined to the point that federal listings are under consideration (Miller et al. 1997). Historical data show that the McKenzie River produced an estimated 40% of the run of spring chinook above Willamette Falls, but these runs have dramatically declined (Howell et al. 1988). The upper McKenzie Watershed is the last major refuge of wild bull trout in the Willamette Basin and now is considered the most important remaining area for the production of native spring chinook (Ratliff and Howell 1992; Howell et al. 1988).

The McKenzie Watershed represents the best opportunity in the Willamette Basin for the long-term persistence of native fish assemblages. The watershed supports continuous

blocks of high-quality fish and wildlife habitat. Nearly seventy percent of the watershed is in federal ownership, primarily concentrated in the upper portions of the drainage. In a recent survey, the quantity and quality of existing spring chinook spawning habitat in the upper watershed was found to be good, with little change from what was found historically (Sedell et al. 1992). Maintaining and expanding the connectivity of these areas is important to protect habitats that are large and well dispersed enough to be resilient in the face of large-scale catastrophic disturbance.

There has been loss of fish and wildlife habitat in the McKenzie Watershed over time, with most habitat degradation concentrated in the riparian areas and the lower basin. Reduced availability of some mainstem side-channel habitats and moderate channelization due to dam-related reductions in sediment and peak flows, near-channel roads, and riprapped banks has been observed in the upper forested portions of the watershed (Minear 1994).

The lower McKenzie River valley (beginning at RM 40) is increasingly in urban, residential, and agricultural land uses. Historically, this portion of the watershed was characterized by an unconfined valley, dynamic channel shifts, and abundant side-channel areas. Dikes and riprapping have confined large portions of the lower river to a set channel, with dramatic decreases in hydraulic complexity and loss of large areas of side-channel habitat. Between 1930 and 1990 the lower river experienced a 67 percent loss of large pools and over a fifty percent reduction in mid-channel islands (Ligon 1991). Loss of channel habitat structure, side channels, and islands reduces important chinook salmon rearing areas and wildlife habitat (McKenzie Watershed Council 1996). The majority of the riparian area along the river's mainstem, including the upper watershed, is privately owned and becoming increasingly fragmented through timber harvest, roads, and residential development (Minear 1994). Much of the floodplain area in the lower valley is occupied by residences and disconnected from the active river channel due to extensive diking and riprapping.

To address these challenges to watershed health, the McKenzie Watershed Council (Council) was convened and initiated by Lane County and EWEB in 1993. The Council acts as an advisory body with the purpose of helping to address management issues in the watershed and to provide a framework for coordination and cooperation among key interests. The mission of the 20-member council is to foster stewardship of McKenzie Watershed resources, deal with issues in advance of resource degradation, and ensure sustainable watershed health, function and uses.

The Council has developed a watershed planning framework to guide its future activities. Watershed analyses and other studies have been completed on over three-quarters of the watershed, including all federal lands and the large portion of the industrial forest land base under Weyerhaeuser ownership (Attachment A). Information from these assessments, and the scientific data and expertise gathered at the H.J. Andrews Experimental Forest, provide a rich store of information and expertise for guiding management strategies in the McKenzie Watershed. This knowledge base and advice

from the Aquatic Habitat/Water Quality Task Group (Attachment B) served as the foundation for the development of action plans to prioritize watershed projects. The Council is developing a coordinated strategy for re-establishing the historic mosaic of habitats in the watershed by protecting existing high-quality habitats and restoring watershed structure and function in areas where it is degraded.

In a separate project submitted for BPA funding in FY1999, the Council is proposing to conduct an assessment of the lower portions of the watershed and synthesize information from completed sub-watershed assessments to provide a watershed context for establishing fish and wildlife habitat protection, restoration, and monitoring strategies. Some habitat trends, however, are clear and do not require additional verification before targeting acquisition and restoration. There is a documented loss of pool and floodplain habitat in the lower McKenzie Watershed. Loss of these habitat features have reduced spring chinook rearing areas and habitat for resident fish. The Aquatic Habitat/Water Quality Task Group has prioritized one property for immediate acquisition to protect and restore critical habitat features:

Flinstone Rock Quarry

Description: RM 21. 20 Acres. Channel and pool habitats were created during the 1996 flood event when the dike was breached and the active channel moved into this rock quarry. The property owner is proposing to restore the dike. There is now an opportunity to protect this site before restoration of the dike and loss of pool habitat. Before development of the dike, this site was part of the active channel area (See Attachment C for map, delineation of historic channel changes, and photographs). This property currently provides habitat for resident fish and rearing habitat for spring chinook. Wildlife values include habitat for western pond turtles and waterfowl.

Acquisition Objective: Restoring and maintaining this area to continue to allow movement of the active channel through the floodplain, creating pool and side-channel habitats, and restoring wildlife values through re-vegetation and maintaining deep pools. In addition, this property is adjacent to the EWEB's WALTERVILLE CANAL fish passage channel; public ownership will provide improved maintenance of the channel to aid in passage of spring chinook salmon.

b. Proposal objectives.

1) Protect floodplain habitat and restore active channel movement and pool habitats at Flinstone Rock Quarry.

2) Restore fish and wildlife habitat features at the Flinstone Rock Quarry.

3) Develop ongoing protection and project evaluation strategies through the development of operations/maintenance and monitoring plans.

4) Implement habitat/population monitoring and operations and maintenance program.

c. Rationale and significance to Regional Programs.

The rationale for this land acquisition include protecting and restoring important habitat types in the McKenzie Watershed and taking advantage of current opportunities to obtain key properties. ODOT has \$150,000 in fish habitat mitigation funds for pool habitat acquisition in the McKenzie Watershed. These funds will be used to cover a portion of the costs for purchase of the Flinstone property. Purchase and restoration of this property is a high priority for the McKenzie Watershed Council because there is a convergence of several values in this area, including maintaining pool habitat created in the 1996 flood, restoring floodplain-channel connectivity, and improving maintenance of the EWEB fish passage channel.

The status of fish and wildlife populations in the McKenzie Watershed has regional significance. This project will assist in conservation efforts for Willamette Basin spring chinook and bull trout populations and have additional wildlife benefits. Acquiring these lands will complement current and planned conservation efforts under the Willamette Basin Acquisition Project.

d. Project history (for continuing projects).

e. Methods.

Objective 1 - Task a: Acquire Flinstone property

ODOT is currently negotiating the purchase of the Flinstone Property. The portion of the property targeted for acquisition is the 20 acres in the active floodplain. ODOT has completed an estimate (not a final appraisal) of the per acre range of values; the estimate is in the range of \$11,000 per acre, or approximately \$220,000 for the entire property. Unfortunately, ODOT has allocated \$150,000 for the purchase and the landowner is proposing a selling price that is significantly greater than this amount. The \$250,000 in BPA funds would provide significant negotiation room; it is not anticipated that the final purchase will require the full amount requested.

ODOT will continue to negotiate the purchase of the property and will fund the full appraisal. Because the property is within the active channel area, it is anticipated that the land would be turned over to the state with management shared by ODFW and EWEB.

Objective 2 - Task a: Develop restoration plan for the Flinstone property

The active channel and most of the McKenzie River's discharge is now moving through the quarry ponds, creating a deep pool. The restoration objectives include protecting and improving existing pool habitat, continuing to allow the movement of the active channel in the flood plain, and improving wildlife habitat. The development of the restoration plan for this site will involve developing a geomorphically sound approach for removing the remaining dike material while protecting the EWEB fish passage channel. When possible, restoration of the site will emphasize passive management by allowing natural processes, such as the channel migration across the flood plain, to proceed.

ODFW and EWEB have agreed to cooperate on development of a restoration plan for the

site. EWEB will provide in-kind assistance with restoration and maintenance of the site, because public ownership will improve access and the ongoing operation of the fish passage channel. Currently, EWEB must take on extra maintenance measures for the fish passage channel to protect the dike and rock quarry.

After completion of the restoration plan, an environmental assessment will be completed by a contractor. The EA work will be managed by ODFW.

Objective 2 - Task b: Restore habitat features to Flinstone property

Restoration activities will be based upon the completed restoration plan.

Objective 3 - Task a: Develop operations and maintenance plan

ODFW and EWEB have agreed to cooperate on development of a operations and maintenance plan for the Flinstone property. EWEB currently has responsibility for maintenance of their adjacent fish passage channel.

Objective 3 - Task b: Develop monitoring plan

ODFW and EWEB have agreed to cooperate on development of a monitoring plan for the Flinstone property. EWEB currently has responsibility for monitoring passage of spring chinook through their adjacent fish passage channel.

Objective 4 - Task a: Monitor the maintenance and creation of fish and wildlife habitat

ODFW and EWEB will cooperate on monitoring and evaluating the restoration success for the Flinstone property.

Objective 4 - Task b: Implement operations and maintenance program

ODFW and EWEB will coordinate and fund ongoing operations and maintenance for the Flinstone property.

f. Facilities and equipment.

The Watershed Council maintains office space and currently has sufficient equipment to complete all of the tasks outlined in this proposal. The Council also has acquired equipment for monitoring projects including: two ISCO automated water samplers (BPA equipment); turbidity meter; dissolved oxygen meter; eight automated water temperature gauges; pH meter; and a conductivity meter.

g. References.

Department of Environmental Quality. 1997. The McKenzie Basin Water Quality Report. Oregon Department of Environmental Quality, Laboratory Division, Portland, OR.

Howell, P., J. Hutchinson, and R. Hooton. 1988. McKenzie Subbasin Fish Management Plan. Oregon Department of Fish and Wildlife, Springfield, OR.

Ligon, F. 1991. The Fluvial Geomorphology of the Lower McKenzie River. EA Engineering, Science and Technology, 41 Lafayette Circle, Lafayette, CA.

McKenzie Watershed Council. 1996. Technical Report for Water Quality and Fish and Wildlife Habitat. Lane Council of Governments, Eugene, OR.

Miller, J.D., and others. 1997. Willamette Basin Task Force: Recommendations to Governor John Kitzhaber.

Minear, P.J. 1994. Historical Change in Channel Form and Riparian Vegetation of the McKenzie River Oregon. M.S. Thesis, Oregon State University, Corvallis, OR.

Ratliff, D.E. and P.J. Howell. 1992. The status of bull trout populations in Oregon. Pages 10-17 in Howell, P.J. and D.V. Buchanan, editors. Proceedings of the Gearhart Mountain Bull Trout Workshop. Oregon Chapter of the American Fisheries Society, Corvallis, OR.

Sedell, J.R., B.A. McIntosh, and P.J. Minear. 1992. Evaluation of past and present stream habitat conditions for the McKenzie River temperature control study. Pacific Northwest Research Station, Corvallis, OR.

Section 8. Relationships to other projects

This project will be integrated with the McKenzie Watershed Assessment proposed for BPA FY1999 funding, especially the development of the watershed monitoring and evaluation plan. It is anticipated that the development of monitoring and evaluation plans for these sites will serve as a model for evaluating the success of future land acquisitions and restoration activities in the watershed.

Section 9. Key personnel

John Runyon, the McKenzie Watershed Coordinator, will be responsible for managing this project and providing coordination between the Council and all agencies and organizations involved in the project.

Mr. Runyon has been employed as the Council Coordinator since March 1997 and his duties include coordinated project planning and management. Mr. Runyon has considerable expertise in planning and managing complex ecosystem research, assessment, and monitoring projects.

JOHN R. RUNYON **McKenzie Focus Watershed Coordinator**

EDUCATION

M.S., Forest Ecology, Oregon State University, 1992

M.S., Political Science, University of Oregon, Eugene, 1988

B.S., Environmental Biology, Oregon State University, Corvallis, 1983

CURRENT POSITION AND DUTIES

Coordinator, McKenzie Focus Watershed

Responsible for overall project management and coordination for the McKenzie Watershed Council. Duties include project planning, coordinated implementation, and monitoring; proposal preparation; fiscal management; public outreach and communication of council activities.

EMPLOYMENT HISTORY

Watershed Analysis Consultant, Corvallis, OR, 5/95 to 5/97

Senior Scientist, Dynamac, Inc., and ManTech Environmental Technology, Inc., research contractor for the US Environmental Protection Agency, Corvallis, OR, 5/95 to 7/96

Resource Monitoring Coordinator, Oregon Dept. of Forestry, Salem, OR, 7/92 to 5/95

Faculty Research Assistant, Forest Science Dept., Ore. St. Univ., 7/90 to 7/92

EXPERTISE

Mr. Runyon has expertise in planning and managing complex ecosystem research, assessment and monitoring projects. Mr. Runyon has experience in projects involving watershed analysis, stream habitat inventories, riparian assessments, and water quality monitoring.

SELECTED RECENT PUBLICATIONS / DOCUMENTS

Runyon, J.R. and K. Mattson. 1997. *Stream Habitat, Riparian and Fish Use Survey Summaries for Selected Streams in the Siuslaw, Alsea and Nestucca River Basins*, Final Report for the Siuslaw National Forest, Corvallis, OR.

Runyon, J.R., C. Andrus, and K. Mattson. 1996. *Mercer / Berry Watershed Analysis*, Final Report for the Siuslaw National Forest, Corvallis, OR.

Runyon, J.R. 1995. *Monitoring Forest Stream Enhancement Projects*. Oregon Departments of Forestry and Fish and Wildlife, Salem, OR.

Runyon, J.R., R.H. Waring, S.N. Goward, and J. Welles. 1994. *Environmental limits on net primary productivity and light-use efficiency across the Oregon transect*. *Ecological Applications* 4: 226-237.

Runyon, J.R. 1994. *Forest Practices Monitoring Program Strategic Plan*. Oregon Department of Forestry, Salem, OR.

Section 10. Information/technology transfer

All information generated through McKenzie Focus Watershed projects will continue to be shared through:

- 1) Participation in the Willamette Basin coordination process;
- 2) Production of monitoring and project reports;
- 3) Participation in Columbia Basin technical groups and review processes;
- 4) Presentations at conferences; and
- 5) Publication in peer-reviewed and other journals.

