## Bonneville Power Administration
## Fish and Wildlife Program FY99 Proposal

## Section 1. General administrative information

# Methow Tributaries Fish Passage

**Bonneville project number, if an ongoing project** 9024

**Business name of agency, institution or organization requesting funding**
USDA Forest Service, Okanogan National Forest, Methow Valley Ranger District

**Business acronym (if appropriate)** FS

**Proposal contact person or principal investigator:**


| | |
|---|---|
| **Name** | Jennifer Molesworth |
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**Subcontractors.**

| Organization | Mailing Address | City, ST Zip | Contact Name |
|---|---|---|---|
| none | | | |
| | | | |
| | | | |
| | | | |

**NPPC Program Measure Number(s) which this project addresses.**
please insert correct numbers here

**NMFS Biological Opinion Number(s) which this project addresses.**
Project will help recover habitat for endangered upper Columbia steelhead and proposed bull trout.

**Other planning document references.**
Okanogan Forest Plan Standards and Guidelines 3-8, page 4-32 (Forest Service, Okanogan National Forest 1989); “Structures, such as bridges, culverts, end dams, placed in fsh bearing streams should be designed to allow upstream and downstream passage of both adult and juvenile fish.”

**Subbasin.**
Methow River Subbasin

**Short description.**
Evaluate barriers to fish passage (mainly culverts) in main tributaries tothe Methow River, and prioritize some barriers for removal.

## 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 | X | Monitoring/eval. | | Flow/survival |
| | Other | | Resource mgmt | | Fish disease |
| | | | Planning/admin. | | Supplementation |
| | | | Enforcement | | Wildlife habitat en- |
| | | | Acquisitions | | hancement/restoration |

**Other keywords**.
fish passage

## Section 3. Relationships to other Bonneville projects

| Project # | Project title/description | Nature of relationship |
|---|---|---|
| | not applicable | |
| | | |
| | | |
| | | |

## Section 4. Objectives, tasks and schedules

### *Objectives and tasks*

| Obj 1,2,3 | Objective | Task a,b,c | Task |
|---|---|---|---|
| 1 | find culverts, other constructions that block fish passage in tributaries of the Methow River on national forest lands | a | drive all ranger district roads that cross major fish-bearing Methow tributaries, inventory and inspect culverts, other constructions for fish passage |

| | | | |
|---|---|---|---|
| 2 | ensure that bull trout are protected from brook trout invasion | b | snorkel for brook trout, bull trout (and other species) above and below fish barriers that sit downstream from bull trout habitat |
| 3 | prioritize fish barriers for removal and stream restoration | c | coordinate/meet with engineers, fish biologists, NEPA experts, forest road managers, etc. decide which barriers should be removed and in what order |
| | | | |
| | | | |
| | | | |

### *Objective schedules and costs*

| Objective # | Start Date mm/yyyy | End Date mm/yyyy | Cost % |
|---|---|---|---|
| 1 | 6/1999 | 7/1999 | 60.00% |
| 2 | 7/1999 | 7/1999 | 25.00% |
| 3 | 8/1999 | 8/1999 | 15.00% |
| | | | |
| | | | TOTAL 100.00% |

**Schedule constraints.**
Deep snows and high stream flows could slow inventory start, move project completion back. Project would still be completed in 1999.

**Completion date.**
1999

## Section 5. Budget

### *FY99 budget by line item*

| Item | Note | FY99 |
|---|---|---|
| Personnel | | $4,442 |
| Fringe benefits | | |
| Supplies, materials, non-expendable property | snorkeling gear, flow meter, measure tapes, and miscellaneous | $ 800 |
| Operations & maintenance | | |
| Capital acquisitions or improvements (e.g. land, buildings, major equip.) | | |
| PIT tags | # of tags: | |

| | | |
|---|---|---|
| Travel | 15 days of 4-wheel drive truck time | $ 458 |
| Indirect costs | | |
| Subcontracts | | |
| Other | | |
| **TOTAL** | | $5,700 |

***Outyear costs***

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

## Section 6. Abstract

Culverts and other human constructions are blocking fish passage in some tributaries of the Methow River. Summer steelhead (endangered) and bull trout (proposed) as well as other fish cannot move through the streams as they once did. We must inventory the obstructions, report on them, and then prioritize restoration of fish passage in the streams, where appropriate. We believe this could be accomplished in 1999, with actual restoration in subsequent years as funding allows.

## Section 7. Project description

**a. Technical and/or scientific background**.

In the earlier parts of this century, national forest roads were built without a thorough understanding of or much concern for fish populations. Drainage systems did not adequately consider fish passage. This is now viewed as a problem in the current culture of the Forest Service: land managers recognize the need for fish passage in streamsto fully exploit historically available habitat. The managers of the Methow Valley Ranger District, who have responsibility for most of the tributaries of the Methow River, have tackled the problems in a piecemeal fashion, as the opportunities have arisen, and have been able to correct some fish passage problems. However, there has never been money or time for a detailed survey of human-caused fish passage blocks, and no prioritized plan for their eradication has evolved to date.

A complicating factor for some of these blockages to fish passage is that they may actually be protecting remnant populations of bull trout (proposed for listing) from invasion by brook trout in some places (Molesworth, 1997). A careful survey of surrounding fish populations and a thorough discussion among biologists must take place before a decision is made about these more sensitive blockages to fish passage.
Reference: Jennifer Molesworth, Methow Valley Ranger District fish biologist. 1997. Personal conversation, Winthrop Work Station

**b. Proposal objectives**.

1. Complete hysical field inventory and measurement of barriers to fish passage in the tributaries of the Methow. (Field notes and maps)
2. Inventory fish populations (especially bull and brook trout) around barriers that may be protecting bull trout from brook trout invasion. (Field notes and maps)
3. Report on above findings. (For Forest Service files and to any interested parties)
4. Reach multi-disciplined consensus about which barriers should be removed and in what priority. (This would be used to prioritize restoration funding as it became available)

**c. Rationale and significance to Regional Programs**.

Restoring fish passage in the upper reaches of the Methow fits with virtually every official plan that addresses region-wide habitat needs for anadromous fish in the northwest. For example:

The project ties directly to the Northwest Forest Plan (USDA, April, 1994 page B-11) Aquatic Conservation Objectives Number 1 “maintain and restore the distribution, diversity and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted”; Number 2 “maintain and restore spatial and temporal connectivity within... watersheds.... ..These network connections must provide...physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species”; and Number 3 ”maintain and restore the physical integrity of the aquatic system...”

PACFISH ( USDA, February 1995 page C-4) calls for preservation and restoration of “(7) riparian and aquatic habitats necessary to foster the unique genetic fish stocks that evolved within the specific geo-climatic region” and “(8) habitat to support populations of well-distributed native and desired non-native plant, vertebrate, and invertebrate populations .....”

The September 10, 1996 ‘Return to the River--Restoration of Salmonid Fishes in the Columbia River Ecosystem’ report by the Independent Scientific Group (p354)states that “ The most urgent priority for active intervention is to implement selected restoration measures necessary to prevent further ecological damage in...relatively intact areas” and that “comprehensive ecological assessment is necessary to successfully identify and establish priorities (among sites and activities) for...interventions, and such assessments must be a principle objective in watershed analysis projects of state and federal agencies.” This project fits that recommendation exactly: the Methow tributaries are relatively intact. Removing fish-blocking culverts would move the tributaries a long way toward complete restoration and redevelopment of habitat diversity.

The Summary of Findings of the Columbia Basin Project (USDA, November,1996) recognizes that "The composition, distribution, and status of fishes within the Basin is very different than it was historically" (page 106) and that "aquatic habitat fragmentation....and simplification ....have resulted in a loss of diversity within and among native fish populations." (page 107) Barriers to fish passage are examples of how this has occurred.

**d. Project history**

This project is not continuing from previous years. Within Forest Service planning, some culvert problems have been identified and dealt with. However, a comprehensive inventory is missing, as is prioritization of restoration efforts.

**e. Methods**.

Two qualified fish biologists (GS-9 and GS-7) will drive all forest roads that cross main tributaries of the Methow River. Each crossing will be assessed for stream flow, culvert gradient, culvert size, drop at the outflow, depth of outflow pool, culvert condition, assessment of habitat immediately above and below the culvert. If any barriers exist, biologists would assess how much habitat would be made accessible if the pipe is replaced (other parameters, such as soils, road corss-sections etc. will be taken in the design phase for planned removals).

In addition, the biologists will snorkel to find the presence or absence of brook trout and bull trout near appropriate barriers. They would inventory all other fish species at the same time.

Finally, an interdisciplinary Forest Service team including biologists, engineers, fiscal people, roads specialists, etc. will meet to decide which barriers should be removed and in what order.

Taking inventory of problems would not pose any risks to habitats or other organisms. The risks to humans would be standard and acceptable: risks to the two biologists who would be driving on mountain roads and snorkeling in wild streams.

**f. Facilities and equipment**.

All incidental equipment, such as a radio, forms, measuring tools, etc. would be provided by the Forest Service. The vehicle needed would be provided by the Forest Service, with costs charged to the project. The only equipment needed and provided specifically for the project is some snorkeling gear ($800). The small amount of snorkeling gear owned by the forest is under high demand during the summer season, and would likely not be available for this project.

**g. References**.

Independent Scientific Group. September 10, 1996. Return to the River. Restoration of Salmonid Fishes in the Columbia River Ecosystem. Development of an Alternative Conceptual Foundation and Review and Synthesis of Science underlying the Columbia River Basin Fish and Wildlife Program of the Northwest Power Planning Council. (prepublication copy)

USDA. April, 1994. Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl.

USDA. February, 1995. Environmental Assessment for the Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH)

USDA. November, 1996. Status of the Interior Colmbia Basin, Summary of Scientific Findings General Technical Report PNW-GTR-385

Forest Service, Okanogan National Forest. 1989. (as amended) Land and Resource Management Plan (called Okanogan Forest Plan).

## Section 8. Relationships to other projects

This project does not directly relate to collaborative projects directly funded under the FWP.

## Section 9. Key personnel

Jennifer Molesworth, Methow Valley Ranger District fish biologist, would be in charge of the whole project, including inventory, reporting, and the prioritizing process. Jennifer Molesworth earned a bachelor's degree in biology and aquatic ecology in 1981 from the State University of New York at Plattsburg. She has been a fish biologist in the Forest Service since 1989, and has served as the Methow Valley District fish biologist since 1992, bearing the responsibility for the district's fish program. As part of her work, she has completed a habitat assessment for all anadromous fish-bearing streams on the district.

## Section 10. Information/technology transfer

Information gathered during the project would be compiled into a report which would be distributed inside the Forest Service and made available to all other interested parties,

including the public.  Findings would be used in subsequent watershed analyses on project, district, forest or regional levels.