12c. Evaluation Proposal
In-Stream Passage

Applicants must respond to the following items. The local citizen and technical advisory groups will use the evaluation proposal to evaluate your project. Applicants should contact their lead entity for additional information that may be required.

Up to eight pages may be submitted for each project evaluation proposal.

(SUBMIT INFORMATION VIA PRISM ATTACHMENT PROCESS OR ON PAPER)

For prioritization questions or technical assistance, contact Dave Caudill at Department of Fish and Wildlife (WDFW) at (360) 902-2486 or at caudidsc@dfw.wa.gov. For engineering design questions or technical assistance, contact Pat Klavas at WDFW at (360) 902-2606 or at Klavajpk@dfw.wa.gov

NOTE: This information, along with information provided in Section 12d-WDFW Fish Passage Data Forms will be evaluated by WDFW and comments forwarded to the Review Panel for consideration.

I. BACKGROUND

Describe the fish resources (number of species or unique populations), the current habitat conditions, and other current and historic factors important to understanding this project. Be specific—avoid general statements. When possible, document your sources of information by citing specific studies and reports.

The Upper Wenatchee Passage Program (UWPP) is a collaborative effort between Chelan County, the U.S. Forest Service (USFS), and the Bureau of Reclamation (Reclamation) to acquire funds to replace nine barrier culverts that interrupt adult and juvenile salmonid passage in the Chiwawa and Middle Wenatchee subwatersheds. The biological goal of the UWPP is to increase fish passage into Alder Creek, Clear Creek, Beaver Creek and Skinney Creek. The objectives include replacing 9 barrier culverts with fish-friendly structures to provide over 11 RM of additional spawning and rearing habitat for Upper Columbia steelhead, spring Chinook and bull trout.

The Clear Creek Passage Program addresses 3 passage barriers within a 2.0 mile reach of the Clear Creek subbasin. Chelan County Natural Resources Department proposes to replace the three passage barrier culverts with modular steel bridge structures. These three barrier culverts occur in Clear Creek and are passage barriers to juvenile and adult ESA listed Upper Columbia summer steelhead (WDFW 2005) and by replacing culverts barriers #1, #2 and #3 will provide approximately 2.7 additional linear miles of stream habitat. The first site is located on private property with the following two on Forest Service lands. The third culvert has failed due to excessive loading. The Forest Service is to provide surveying and designs for all three structures as part of the "Economy Act" agreement with the Bureau of Reclamation (discussed in detail in the Project Report page 26).

Removing barriers to fish passage and enhancing habitat in the Chiwawa drainage is directly outlined in the strategies and recommendations of the major salmon recovery documents guiding restoration efforts within the Wenatchee subbasin. Clear Creek culverts #1, #2 and #3 were given a "high" priority for replacement by the Upper Columbia Regional Technical Team (UCRTT 2006). In addition, Beaver Creek culverts are included in the Implementation Schedule for construction in years 1-3 (UCSRB 2006).

II. PROBLEM STATEMENT

Concisely describe the passage problem (outfall, velocity, slope, etc). Describe the current barrier (age, material, shape, and condition). Is the structure a complete or partial barrier? Describe the amount and quality of habitat to be opened if the barrier is corrected.

When possible, document your sources of information by citing specific studies, reports, or personal communication.

Adult listed steelhead currently reach the first barrier culvert (**Clear Creek #1**) on private land at RM 0.5 (WDFW 2004) but are obstructed by a slope and velocity barrier, and an outfall vertical drop of approximately 8". This is a complete barrier and up to 30 redds a year have been found below culvert #1 located on private land. Approximately 1 mile upstream of the Clear Creek #1 are two Forest Service culverts. Both culverts pass under FS Road 6105 and are adjacent to a swampy valley bottom in Clear Creek. The second barrier is a FS culvert and is located at RM 1.5 (**Clear Creek #2**). This culvert is functioning appropriately from a transportation standpoint since it passes water and the road prism is intact; however, it is a velocity barrier to juveniles, contains no substrate in the culvert, and completely blocks access to a stream wetland complex that could provide up to a half mile of over-wintering habitat for juvenile steelhead Clear Creek is low gradient at this crossing and has a bankfull width of 10 feet. The third barrier (**Clear Creek #3**) at RM 1.7 is approximately 300 meters upstream of the first barrier and it completely blocks juvenile upstream migration. This pipe is upstream of a second order tributary to Clear Creek. Clear Creek has a bankfull width of 4 feet at this point. The existing spiral 48" round CMP (corrugated metal pipe) has failed at this location and a hole approximately 1' wide has opened in the side of the road prism. The pipe placement and subsequent outlet drops 2 to 3 feet over small boulders that appear to have been used in the construction of the road prism (See Clear Creek Project Report for Figures and Tables) (Barrier information in this section obtained from USFS 2000, Personal communication, Cameron Thomas 2006).

III. PROJECT OBJECTIVES

List the project's objectives. Objectives are statements of specific outcomes that typically can be measured or quantified over time. Objectives are more specific than goals (visions of the desired future condition) and less specific than tasks (the specific steps that would be taken to accomplish each of the objectives). For example, the objectives of a barrier removal project might be to provide fish passage, restore natural

stream function, and riparian revegetation in the treated area. Explain how achieving the objectives will address and help solve the problem identified in II above.

Chelan County Natural Resources Department proposes to replace the three passage barrier culverts within a 2.0 mile reach of the Clear Creek subbasin with modular steel bridge structures. These three barrier culverts occur in Clear Creek and are passage barriers to juvenile and adult ESA listed Upper Columbia summer steelhead (WDFW 2005). The Clear Creek Passage barrier replacement Program will provide approximately 2.7 additional linear mile of stream habitat.

Removing barriers to provide unobstructed passage is an important step toward restoring listed fish populations. Activities undertaken in this project will increase available tributary habitat and provide year-round passage to all species at all life stages for ESA listed summer steelhead, but may also benefit coho, endangered spring Chinook and threatened bull trout. In addition to the correction of barriers, second and third year activities will include riparian plantings to restore and enhance habitat.

IV. PROJECT APPROACH

- ω Has the project received a Priority Index (PI) Number? If yes, provide the PI number and indicate the method used: Physical Survey, Reduced Sample Full Survey, Expanded Threshold Determination, or WDFW Generated PI (list source, such as a study or inventory).

No

- ω Identify if there are additional fish passage barriers downstream or upstream of this project.

There are no other fish passage barriers downstream or upstream of the 3 Clear Creak barrier culverts.

- ω Briefly describe the location of the project within the context of the watershed (estuary, main stem, tributary, etc) and the life cycle stage(s) affected.

Clear Creek is a 2nd order stream with an average gradient of 3% that enters the Chiwawa River at RM 1.6 (Harza/BioAnalysts 2000). Clear Creek contains steelhead spawning grounds and potential steelhead, spring Chinook, and bull trout rearing area.

- ω List the individuals and methods used to identify the project and its location.

Both Chelan County and the Forest Service have completed fish barrier inventories within the Wenatchee and Stemilt/Squilchuck watersheds to identify priority barriers for correction. The barriers identified in these inventories along with other indicators described below were used to

prioritize passage barriers that, if corrected, have a high likelihood of providing benefits to salmonids. Chelan County contracted Harza/BioAnalysts to produce the "Chelan County Fish Barrier Inventory" in 2000.

Clear Creek was identified in the Forest Service culvert inventory. In 2000 and 2001, the Forest Service completed a culvert survey on fish bearing streams in the Wenatchee Watershed on National Forest Lands. Results from that survey identified a total of 104 culvert crossings that blocked passage for at least one fish life stage. An additional 15 culverts were identified as potentially blocking at least one fish life stage. Since that survey, 7 culverts on National Forest lands in the Wenatchee watershed have been replaced by the Forest Service to meet Washington State standards for fish passage. Two more culverts were re-surveyed and found not to require fish passage. Another 2 culverts were replaced by a Forest Service Cost-share partner.

Prioritization of limiting factors is occurring within the State Salmon Recovery and local 2514 Watershed Planning processes for the Wenatchee River. The barrier prioritization was determined using multiple indicators as described below and was based heavily on priorities set in the Subbasin Plan and the presence of ESA-listed species within a sub-watershed and priorities set in the Subbasin Plan. Indicators used to prioritize barriers included:

1. Chelan County and Forest Service Fish Barrier Inventories
2. Subbasin and regional plans
3. Location in high priority Category 1 watersheds
4. Major and minor spawning areas
5. WDFW Priority Index Score
6. County or USFS road maintenance schedules
7. "Small stream prioritization index" which considers; a) the number of listed species affected; b) life history stage affected; c) spread of exotic species (e.g. brook trout; d) the linear distance of potential stream above the culvert (metric goals); and e) condition of habitat upstream of the barrier
8. Upper Columbia Regional Technical Team Barrier Prioritization Draft Report (UCRTT 2006)

Of the USFS and County culvert barriers analyzed, 9 culverts in two Category I watersheds (Middle Wenatchee and Chiwawa) were identified to be replaced for this program. Culverts were selected in groups or complexes to be replaced concurrently in order to increase the potential increment of habitat gain with each barrier correction. The 4 complexes are termed the Alder Creek, Beaver Creek, Clear Creek and Skinney Creek Complexes.

- ω Describe the project design and how it will be implemented.

Chelan County Natural Resources Department proposes to replace the three passage barrier culverts with modular steel bridge structures. The Washington Department of Fish and Wildlife "Design of Road Culverts for Fish Passage Manual" will be applied in designing the replacement structures. Engineering designs will reflect the most current research regarding replacement of barrier culverts and will be designed for the 100 year flow event. The proposed design concept for the Wenatchee Passage Program is to utilize

modular steel bridge super structures set in place on pre-cast concrete abutments. The decision to use bridges was based on discussions with Washington State Department of Fish and Wildlife personnel and WAC 220-110-070 which states in part "***In fish bearing waters, bridges are preferred as water crossing structures by the department in order to ensure free and unimpeded fish passage for adult and juvenile fishes and preserve spawning and rearing habitat."***

The construction and planting work will be accomplished through the combined efforts of the Forest Service, Chelan County Natural Resource Department and private contractors. The Wenatchee Passage Program contains commonly accepted designs**,** materials and qualified construction contractors that are available locally. Typical construction after requirements for all permitting and contracting documents have been secured would proceed in accordance with the contract plans. Use of heavy construction equipment such as a track hoe, small dozer, road grader and dump truck can be assumed. Road closures of no more than three (3) days are expected. Construction staking and inspection would be provided by the Chelan County Natural Resources Department. Chelan County Natural Resources Department and the Forest Service will apply for all necessary permits.

Bridge abutments and steel superstructure are delivered by truck to the project site and are set in the dry. All components are off loaded and set in place with a track hoe, then are bolted together as per the manufacturer's instructions. Guardrail is included. New stream channel will be constructed in accordance with the approved Bureau of Reclamation design. Construction activities will be accomplished during low flow periods to reduce the potential impacts to juvenile fish. On-site sediment mitigation measures could include silt fencing where necessary, isolating and/or diverting the stream around the work site, using pre-cast footings. Native riparian vegetation will be planted in the disturbed sites to restore and enhance riparian habitat as well as minimize erosion and noxious weed establishment.

- ω Explain how the project's cost estimates were determined.

Engineer's Estimate (See Project Report Page 23 for the itemized project budget)

- ω Describe other approaches and opportunities that were considered to achieve the project's objectives.
  - List project partners. When appropriate, include a letter from each participating partner briefly outlining its role and contribution to the project. (See Section 15 for a sample format.)

The Clear Creek culvert replacement project is a cooperative effort between the Chelan County Natural Resource Department and the US Forest Service.

- List all landowner names. Include a signed form from each landowner acknowledging their property is proposed for SRFB funding consideration. (See Section 16 for a sample format.)

Jim Adamson owns Clear Creek #1 (See Project Report Appendix A) and the US Forest Service manage Clear Creek #2 and #3.

- Describe your approach to the long-term stewardship of the facility.

The new bridge will be included in routine maintenance activities conducted by Chelan County Public Works and the US Forest Service.

When known, identify the staff, consultants, and subcontractors that will be designing and implementing the project, including their names, qualifications, roles and responsibilities. If not yet known, describe the selection process.

Chelan County will be responsible for the administration of the project. Design, permitting, implementation and monitoring will be done in coordination with Forest Service engineers and biologists. Chelan County Natural Resources Habitat Project Manager and staff will obtain permits and put construction contracts out to bid while our Natural Resource Specialists will be involved in fish removal and habitat restoration. Our chief accountant will manage grants and all fiscal responsibilities. See the Clear Creek Project Report page 21 for a detailed description of the names and qualifications of the CCNRD staff.

V. TASKS AND TIME SCHEDULE

List and describe the major tasks and time schedule you will use to complete the project. Describe your experience with managing this type of project.

PROJECT TIMELINE

Describe the general terms when you expect project milestone to be complete and the overall completion date of the specific project work.

Item/Milestone	Outcome	Target Date (Month/Year)
Quarterly Reports		Quarterly
Surveys completed		7/2006 to 10/2006
Draft Project Design	~60% project design	10/2006 to 1/2007
Reclamation and USFS Meetings	Coordination and design input	2/2007
Landowner Access Agreements		4/2007 to 6/2007
Construction Access Agreements		4/2007 to 6/2007
Final Project Design	~75% project design will be submitted with permit (expect it will change during permitting process)	4/2007 to 7/2007
Permits submitted and obtained	HPA and other permits obtained	4/2007 to 7/2007

Pre-Construction Implementation Monitoring	Photograph and document barrier culvert	7/2007
Pre-Construction Effectiveness Monitoring	Determine baseline biological information using monitoring protocol developed by Hillman (2005)	7/2007
Develop bid package and award to contractor		8/2007
Remove culvert and install bridge	Fish-friendly structure installed	8/2007 to 9/2007
Riparian planting	Replant disturbed area around culvert to minimize erosion and eventually provide bank stability and shade	9/2007
Final Checklist		9/2007
Completion Report		9/2007
Turnover Agreement		10/2007
Post-Construction Implementation Monitoring	Ensure that work was completed	10/2007
Post-Construction Effectiveness Monitoring	Determine biological impacts of culvert replacement using monitoring protocol developed by Hillman (2005)	10/2007, then once a year for 5 years

VI. CONSTRAINTS AND UNCERTAINTIES

State any known constraints or uncertainties that may hinder successful completion of the project. Identify any possible problems, delays, or unanticipated expenses associated with project implementation. Explain how you will address these constraints.

There are no apparent constraints or uncertainties at this time.

Please find all references cited in this document in the Clear Creek Project Report