

Upper Chumstick Barrier Removal

12th Round Funding Cycle

June 30, 2011

Request from Tributary Committee:	\$ 0
Request from SRFB:	\$332,713
Total Request:	\$332,713
Other Contributions/Match:	\$ 58,714
TOTAL Project Budget:	\$391,428

Proposal Checklist/Table of Contents

Project Title: **Upper Chumstick Barrier Removal**

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Summary of Project Changes

- The project budget for each bridge has been reduced based on feedback on Omak Creek projects and a line item budget was developed for each site.
- Costs per culvert include construction, design, permitting and administration.
- Of the 4 culverts included in this proposal, the Ott and Baumann are the worst passage barriers followed by Cann and last Saliby.

Responses to SRFB Comments:

- Please provide conceptual site plans (if available)

Conceptual site plans will be developed as part of project design; these are not available yet.

- Please provide Barrier Evaluation Forms for the four proposed project sites

Barrier Evaluation Forms will be included with the SRFB final proposal

- Please clarify the discrepancy in the pre-application budget for the “bridge installation” item that suggests that two bridges will be built, at \$66,000 each, rather than four bridges.

Please see final proposal with separate budgets for each bridge.

- Include a landowner acknowledgement form for the Baumanns, which wasn’t included with the pre-application material.

The Baumann landowner acknowledgement form from the Family Forest Fish Passage Program is included in the final proposal (I apologize for the smear as it was in my notebook when I took a swim in the Chum).

- Add a riparian revegetation component beyond the bridge sites.

Revegetation is a component of the project design for each site. See Section 2A in the final proposal. In addition, Mr. Baumann has agreed to work with us on fencing out his cows and planting native vegetation on the banks.

Responses to RTT Comments:

- What is the furthest upstream location of steelhead in Chumstick Creek? Have you had passage beyond the upper 2009 barrier removal?
Fish have been seen as far as RM 5.7, but extensive surveys have not been conducted.
- Include in final proposal overall habitat quality upstream from these barriers.
Habitat quality upstream of Baumann and Cann above confluence with the Little Chumstick is over 1 mile of heavily vegetated habitat without adjacent homes or crossings. This is the most pristine habitat in the lower 10 miles of Chumstick Creek with the most consistent mature riparian cover. A detailed habitat survey will be conducted this summer as flows come down to a safe level and more information will be provided.
- Fish use: North Road pit tags detected the following between 3/11/11 and 6/23/11:

Species	Code	Total	Adult	Juvenile
Hatchery Summer Steelhead	32H	35	20	15
Wild Summer Steelhead	32W	19	19	
Unknown Summer Steelhead	32U	2	2	
Hatchery Spring Chinook	11H	3		2
Wild Spring Chinook	11W	1		1
Hatchery Coho	25H	5		4

- Can you break these out on a cost/culvert basis?
See individual budgets for each crossing.

- Include details about the culverts (flow, velocity, drop, etc).
See attached barrier evaluation forms for details.

Saliby is 67% passable due to a slope of 1.25%

Ott is 33% passable due to a water surface drop of .6m and issues with one of the tree culverts being blocked.

Baumann is 33% passable due to water surface drop of .28m and a slope of 3.2%.

Cann is 67% passable based on slope of 1.3% (water surface drop at time of spring flow measurement was only .037m).

Upper Chumstick Barrier Removal

1. Project Overview

A. Provide a brief summary of the project

This project involves replacement of four fish passage barriers and replace them with channel spanning structures in Chumstick Creek near Leavenworth, WA. Specific locations include:

1. Chumstick #18 Alex Saliby
15195 Chumstick Highway, Leavenworth, WA 98826
T 25 N, R18E, NE ¼ in Section 6, Lat: 47° 41' 43.39", Long: -120° 38' 18.46"
2. Chumstick #19 Johnson/Ott
15950 Chumstick Highway, Leavenworth, WA 98826
T 26 N, R 18 E, NE ¼ Sec. 31, Lat: 47 42' 38.44", Long: 120 38' 21.88"
3. Chumstick #20 Judith Baumann
16238 Chumstick Highway, Leavenworth, WA 98826
T 26 N, R 18 E, NW ¼ Sec. 31, Lat: 47 42' 51.61", Long: 120 38' 12.56"
4. Chumstick #21 Michel Cann
16350 Chumstick Highway, Leavenworth, WA 98826
T 26 N, R 18 E, NW ¼ Sec. 31, Lat: 47 42' 51.61", Long: 120 38' 12.56"

The objective of the Upper Chumstick Barrier Removal project is to improve migration of salmonids to and from historical spawning and rearing habitat along the upper portion of Chumstick Creek (RM 7.3-9.8), thus completing a 15+ year effort to remove 30+ barriers within the first 9.8 miles of Chumstick Creek. This effort will increase spatial structure, abundance, and productivity of salmonids in the Wenatchee watershed. Due to development along the creek a high concentration of stream crossings exist, some of which are barriers to salmonid migration. Barrier removal will address two habitat limiting factors including up/downstream passage, and riparian habitat.

Saliby is 67% passable due to a slope of 1.25%

Ott is 33% passable due to a water surface drop of .6m and issues with one of the tree culverts being blocked.

Baumann is 33% passable due to water surface drop of .28m and a slope of 3.2%.

Cann is 67% passable based on slope of 1.3% (water surface drop at time of spring flow measurement was only .037m).

- #### B. Has any part of this project been previously reviewed or funded by the SRFB?
- No

2. Salmon Recovery Context

- #### A. Describe the fish resources present at the site and targeted by this project.

Species of salmonids present in the Chumstick sub-watershed include Chinook salmon (*Oncorhynchus tshawytscha*), steelhead salmon (*O. mykiss*), rainbow trout (*O. mykiss*) and coho. Historically, steelhead used the Chumstick Creek drainage for spawning and rearing. Mainstem Chumstick Creek was a meandering channel with beaver ponds, backwater areas and side channels; habitats that favor spring Chinook and steelhead rearing. Historically, bull trout may have been located in Chumstick Creek and it is hoped that they will re-establish in the watershed now that the lower barriers have been removed. Coho salmon, which may have historically been the most populous in Chumstick Creek, may also benefit from this project.

Species	Life History Present (egg, juvenile, adult)	Current Population Trend (decline, stable, rising)	ESA Coverage (Y/N)	Life History Target (egg, juvenile, adult)
Spring Chinook	Egg, juvenile, adult	At risk*	Y	Egg, juvenile, adult
Steelhead	Egg, juvenile, adult	At risk*	Y	Egg, juvenile, adult
Bull trout	Egg, juvenile, adult		Y	Egg, juvenile, adult
coho	Egg, juvenile, adult		N	Egg, juvenile, adult

*NOAA Fisheries is currently evaluating the status of Upper Columbia runs and that data is not available yet.

- B. Describe the nature, source, and extent of the problem that the project will address. Include a detailed description of site conditions and other current and historic factors important to understanding the need for this project. Be specific – avoid general statements. (acquisition, fish passage, diversions, and screening projects should refer to the supplemental questions later in this worksheet for information to include in their problem statement.)

The US Fish and Wildlife Service (USFWS) and Natural Resources Conservation Service (NRCS) completed a passage barrier inventory and stream survey of Chumstick Creek in 1996. Numerous culverts were identified that were at least partial barriers from RM 0.28 to RM 8.5. The barrier at RM 0.28 (The North Road Culvert) was installed in 1957 and blocked access to the rest of the creek. In some years, favorable flows allowed a few steelhead to get past the outfall drop and high velocities at the North Road crossing, but for most species and most of the time, it was a complete barrier. In 2001, seven fish passage barriers were removed from Chumstick Creek by the local Conservation District. In 2009, funding became available from BPA, Yakama Nation and the USBOR to remove an additional 17 culverts which were replaced with bridge crossings, including the North Road

Culvert (see attached map of barriers). During the 2009 field construction season, USFWS and the Chelan County Natural Resource Department (CCNRD) were granted access to survey for potential fish passage barriers on properties where access had been denied during the 1996 surveys. During the 2009 survey, a complete fish passage barrier was identified on the Cahail property at RM 5.7, three complete fish passage barriers were found on the Scheibler property near RM 8 and a partial barrier culvert at RM 8.7 on the Baumann property. The barrier at the Cahail property was replaced with rock weirs in 2010 by CCNRD. The three barriers on the Scheibler property will be replaced with rock weirs and roughened channel in 2011.

By removing the 4 remaining partial barrier culverts (3 of which identified in 1996 survey) at the Saliby, Ott/Johnson, Baumann and Cann properties, a 15 year long effort to create unobstructed fish passage from the mouth to RM 9.8 mile on Chumstick Creek will be completed.

- C. Discuss how this project fits within your regional recovery plan or local lead entity strategy to restore or protect salmonid habitat in the watershed

Improving fish passage in Chumstick Creek has been identified as a high priority action in regional planning documents such as the Wenatchee Subbasin Plan (National Power and Conservation Council 2004) and the Upper Columbia Salmon Recovery Plan (Upper Columbia Salmon Recovery Board 2006). The Wenatchee Subbasin Plan identified a need to improve fish passage in the Wenatchee subbasin and replacing culverts in the Chumstick Assessment Unit was listed as having a high effect on addressing the access limiting factor in this watershed.

The Upper Columbia Salmon Recovery Plan (UCSRB 2007) indicates that the short-term recovery actions for the Chumstick Creek Assessment Unit include re-establishing connectivity throughout the assessment unit by removing, replacing, or fixing artificial barriers (culverts and diversions). The Wenatchee Watershed Detailed Implementation Plan (DIP) also identifies barrier removal as the top priority for the Chumstick Sub-watershed. In addition, the Upper Columbia River Regional Technical Team finalized a fish passage barrier prioritization in 2008 which identified culvert replacement on Chumstick Creek as a high priority.

- D. Describe the consequences of not conducting this project at this time.
Consider the current level and imminence of risk to habitat in your discussion.

In the last 10 years, 24 barriers to fish passage have been removed on the lower 8 miles of Chumstick Creek. Three complete barriers will be removed in 2011 at RM 8-8.2, leaving 4 partial barriers remaining from river mile (RM) 7.3 to 9.8. Once these final 4 barriers are replaced, there will be unobstructed fish passage to the lower 9.8 miles of Chumstick Creek.

CCNRD has invested a lot of time in gaining the trust of landowners in the Chumstick Valley in order to remove barriers and improve habitat conditions. We have managed to get landowners on board to remove barriers on three separate parcels where a few years prior they did not allow federal or any government folks access. In the case of Mr. Baumann, we

have met with him for over a year before mentioning that we would like to find a way to keep his cows out of the creek and replant the denuded banks along with replacing the barrier culvert. By not conducting this project at this time, we lose some of that trust that takes time to develop.

3. Project Design

- A. Provide a detailed description of the project size, scope, design, and how it will address the problem described in Section 2B. Describe specific restoration methods and design elements you plan to employ.

Each project site will include removing the existing partial barrier culvert and replacing it with a pre-cast concrete slab bridge. The engineering designs for each site will reflect the most current research regarding replacement of barrier culverts and designed for the 100 year flow event. The Washington Department of Fish and Wildlife “Design of Road Culverts for Fish Passage Manual” will be applied in designing the replacement structures. Each bridge will be constructed using pre-cast concrete slabs which will be placed on top of concrete abutments. A combination of rip-rap and live stake cuttings will be used to protect the abutments. A simulated streambed channel will be constructed under each bridge and will include the placement of streambed gravels. 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.

Each site will have less than .25 acres of land disturbance. Approximately 200 feet of stream bank will be re-vegetated at each site. Each bridge will be sized based on the 100 year flow event but will be in the range of 12ft wide by 39 ft long.

In addition, some of the Bauman property will have additional planting and livestock fencing proposed to improve riparian cover and reduce bank instability.

- B. Describe the long-term stewardship and maintenance obligations for the project or acquired land.

Implementation monitoring will be conducted by the CCNRD to ensure that the project is implemented as designed. Post construction monitoring will include pre- and post-construction photos to document project completion, fish surveys, and vegetation monitoring. Photographs of each culvert (taken upstream, downstream and at each barrier) will be collected during high-flow and low-flow periods before and after construction. Photographs will be taken from the same locations during each survey period. Vegetation will be monitored to document installed plant survival and establishment. If there are high plant mortality rates, supplemental plantings will be installed to ensure that native tree and shrub cover becomes established in the work area. CCNRD will educate the private landowners about long term site stewardship and how to care for the riparian vegetation installed.

WDFW installed a multi-directional pit tag array in Chumstick Cr. at North Road to monitor fish passage. Since installation (March 1st 2011) 18 tagged adult steelhead have migrated past North Road. WDFW does not currently have plans to further monitor Chumstick creek;

however analysis of the data collected at the array will influence whether or not future surveys will be conducted. CCNRD will continue to receive updates on fish passage from WDFW. Funding for an array is secured through 2021, additional funding will be sought out at that time.

4. Project Development

A. Explain how the project's cost estimates were determined.

Cost estimates were based on the actual costs for the 16 bridges that were installed on Chumstick Creek in 2009. Costs were adjusted to reflect increases in fuel, materials, concrete, etc.

B. Describe other approaches, opportunities, and design alternatives that were considered to achieve the project's objectives.

We asked Baumanns/Canns to consider consolidating their driveways to avoid replacing one of the barriers, but they were not interested. Two of these projects were submitted to the FFFPP program for consideration based on encouragement from WDNR staff but then it was determined they did not qualify.

C. Have members of the community, recreational user groups, adjacent landowners, or others been contacted about this project?

Based on the efforts of the local citizens and agencies involved in watershed planning and habitat recovery, community support has increased in this area in the last 15 years. In 1996, access to USFWS/NRCS surveyors was denied to the Cahail, Scheibler and Baumann parcels. In 2009, CCNRD was able to gain access to these parcels to survey for passage while replacing 17 barriers on other parts of the stream and found barriers in all three parcels. When efforts were made in 2001 to replace barriers identified in the 1996 surveys, three of the landowners were not interested in participating. In 2008, when CCNRD staff began discussions with landowners about barrier replacement, we were able to engage all the landowners, including the three who were previously not interested. This cooperation reflects a significant change in local attitudes toward working with local agencies to improve salmon habitat. In 2010 the diversion dam structure was removed and in 2011 the 3 rock check dams will be removed on the Schiebler property (See attached map).

D. See attached signed Landowner Acknowledgement Forms (Appendix K)

E. Describe your experience managing this type of project.

In 2009, CCNRD staff successfully replaced 17 fish passage barriers in the Chumstick watershed. In 2010, CCNRD completed another fish barrier removal in Chumstick Creek. In 2011, CCNRD will remove another 3 fish passage barriers in Chumstick Creek. CCNRD has also completed successful culvert replacement projects in Alder, Beaver, and Clear creek.

5. Tasks and Schedule

PROJECT TIMELINE		
Item/Milestone	Outcome	Target Date (Month/Year)
Landowner Outreach	Written landowner support	January, 2012
Final Design	100% Engineering design	January, 2012
Compliance/permitting	Environmental permits	January, 2012
Contracting	Secure contractor(s)	May, 2012
Implementation	Project Construction	August, 2012
Post-project monitoring	Implementation Monitoring	October, 2012
Re-veg Establishment	Vegetation re-established	October, 2015

6. Constraints and Uncertainties

Each project should include an adaptive management approach that provides for contingency planning. State any constraints, uncertainties, possible problems, delays, or unanticipated expenses that may hinder completion of the project. Explain how you will address these issues as they arise and their likely impact on the project.

We do not expect to see any significant constraints or uncertainties with this project. The culvert owned by Lisi Ott and Jeff Johnson is in very poor shape and has an easement for BNSF railroad to access their tunnel. It also is near the corner between 4 property owners, so this site will require more attention to easement and access details. We do have the property lines surveyed.

7. Detailed project cost estimate. – See Attached

Supplemental Questions

1. Fish Passage Projects – Answer the following questions:

NOTE: For fish passage design and evaluation guidance, applicants should refer to the Washington Department of Fish and Wildlife's *Fish Passage Barrier and Surface Water Diversion Screening Assessment and Prioritization Manual* at <http://wdfw.wa.gov/hab/engineer/fishbarr.htm>, and the *Design of Road Culverts for Fish Passage* manual at <http://wdfw.wa.gov/hab/engineer/cm/>. For prioritization questions or technical assistance, contact Dave Collins at Department of Fish and Wildlife at (360) 902-2556 or david.collins@dfw.wa.gov. For engineering design questions or technical assistance, contact Michelle Cramer at (360) 902-2610 or cramemlc@dfw.wa.gov.

- A. Information to include in item 2B: 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 open if the barrier is corrected.

See Section 2B

B. Project Design

- i. If a culvert is proposed, does it employ a stream simulation, no slope, hydraulic, or other design? Bridges are proposed
- ii. Has the project received a Priority Index (PI) Number? If so, provide the PI number and indicate the method used: Physical survey, reduced sample full survey, expanded threshold determination, or Washington Department of Fish and Wildlife generated PI (list source, such as a study or inventory).

There is no priority index for this site

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

All downstream barriers have been addressed by previous projects. The next upstream barrier is 1 mile above the most upstream site.

- iv. Complete and attach the Barrier Evaluation Form and Correction Analysis Form.

See attached form which will be completely filled out for the final August proposal, but all the barrier information is complete.

References:

Northwest Power and Conservation Council, 2004. Wenatchee Subbasin Plan.

Regional Technical Team, 2008. A Biological Strategy To Protect And Restore Salmonid Habitat In The Upper Columbia Region. A Report to the Upper Columbia Salmon Recovery Board from the Upper Columbia Regional Technical Team.

Upper Columbia Salmon Recovery Board (UCSRB), 2007. Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan. Appendix H. August 2007.

Upper 4 Chumstick Culverts

Saliby-2 (4' dia) culverts, need to keep the driveway wide (>12') to allow truck passage. East bank is dominated by reed canary grass, owners are open to planting native shrubs (~30'x200')



Johnson/Ott-3 (2' dia) culverts, flood often



Bauman one (4' dia) culvert for main flow and one partially buried 4' dia culvert for overflow.
Need to keep driveway wide (>12' to allow farming equipment). Riparian vegetation altered.





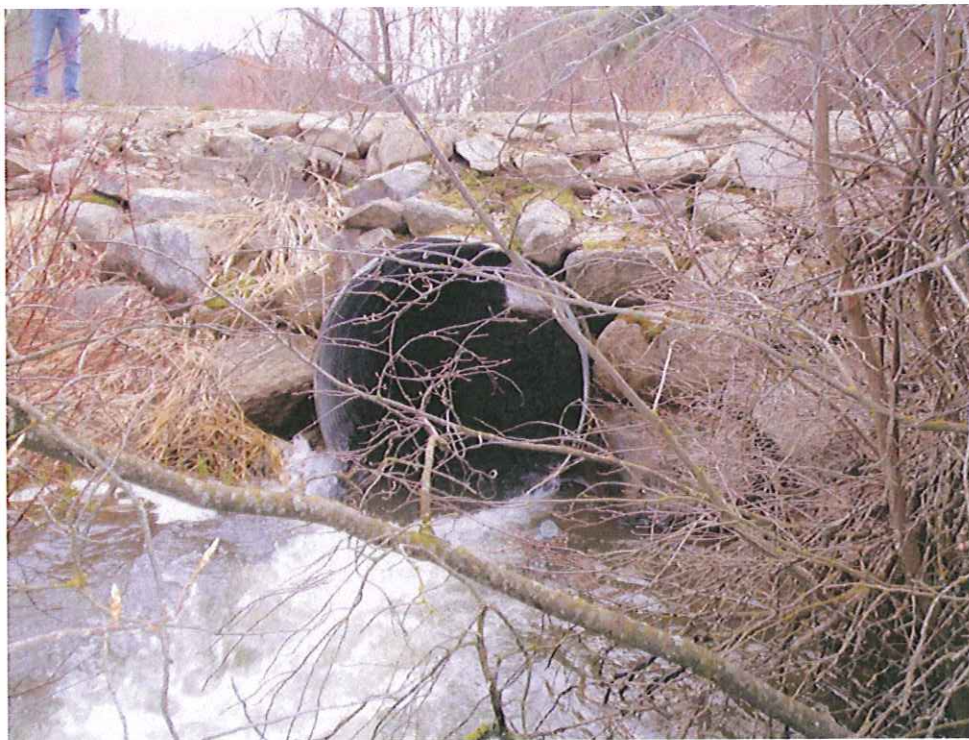
Baumann Driveway



Cann Driveway



Cann inlet



Cann outlet

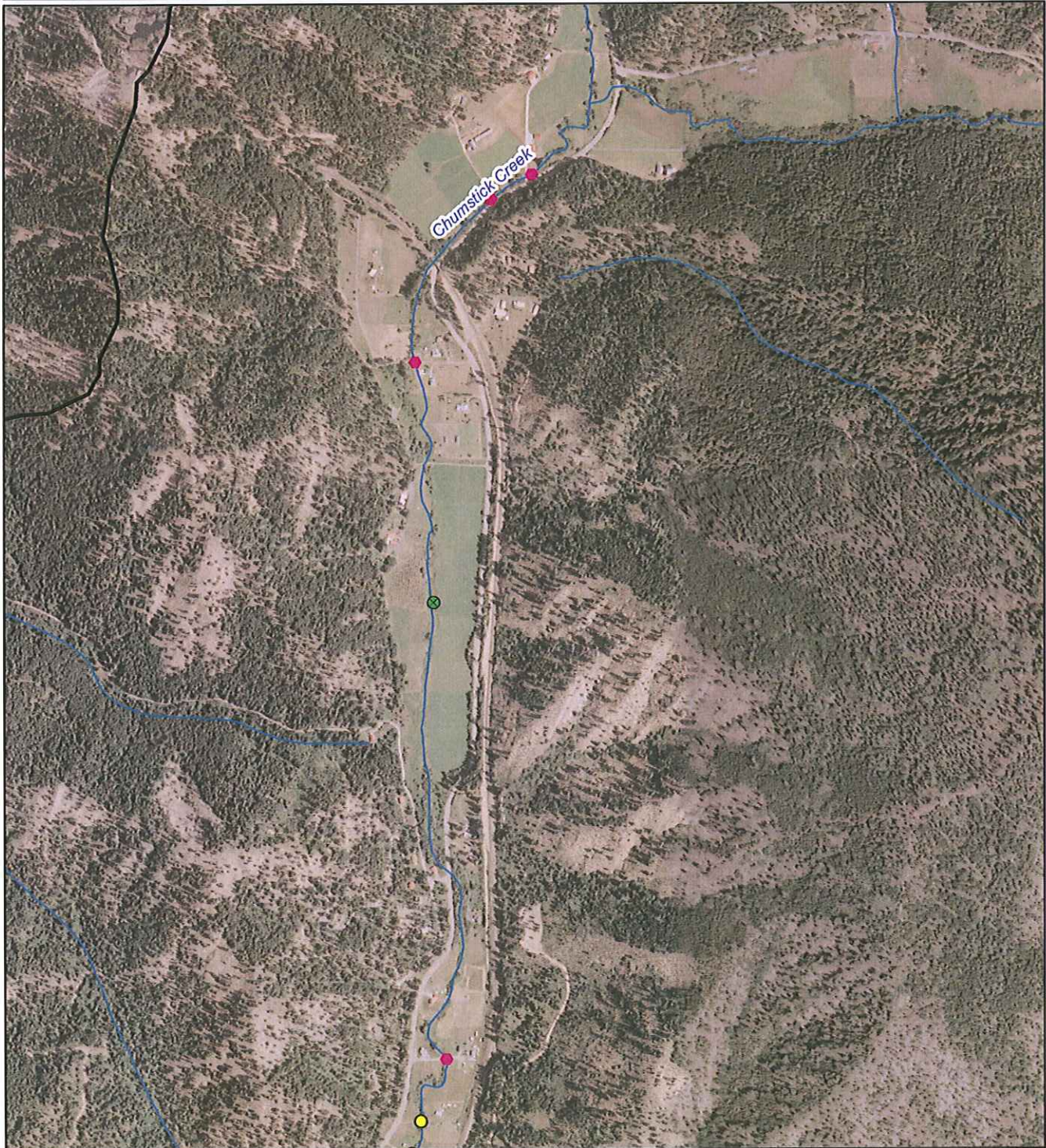


Baumann inlet



Baumann outlet

Proposed Chumstick Creek Barrier Removal Locations

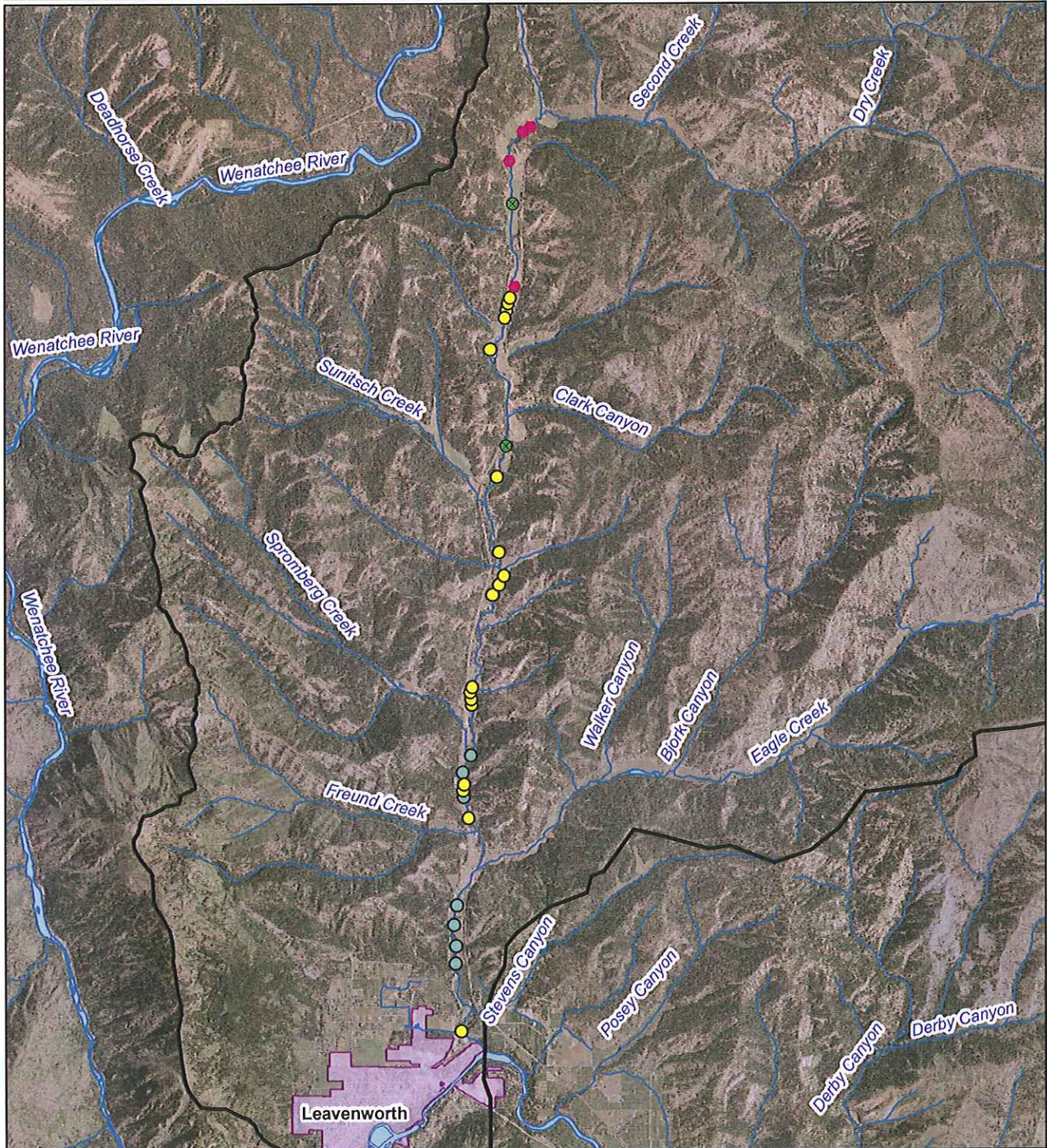


Legend

- 2012 Proposed Barrier Removal
- 2011 Barrier Removal
- 2009 Barrier Removal
- Chumstick Watershed
- Streams
- Water Bodies



Chumstick Creek Barrier Removal Locations



Locator Map



1 0.5 0



Legend

- 2012 Proposed Barrier Removal
- 2011 Barrier Removal
- 2009 Barrier Removal
- 2001 Barrier Removal
- ▭ Chumstick Watershed
- Streams
- Water Bodies
- City Limits

1 Miles

LANDOWNER ACKNOWLEDGEMENT FORM

Landowner Information:

Name of Landowner: Mike Cann

Landowner Contact Information:

☒ Mr. ☐ Ms. Title

First Name: Mike Last Name: Cann

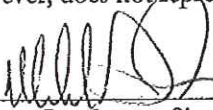
Contact Mailing Address: 16350 Chumstick Highway, Leavenworth, WA 98826

Contact E-Mail Address:

Property Address or Location: 16350 Chumstick Hwy. Leavenworth, WA 98826

I certify that Michael D. Cann is the legal owner of property described in this grant
(landowner or organization)

application to the National Oceanic and Atmospheric Administration. I am aware the project is being proposed on my property. My signature authorizes the applicant listed below to seek funding for project implementation, however, does not represent authorization of project implementation.



Landowner Signature

4/10/09
Date

Project Applicant Information

Project Name: Chumstick Passage Project

Project Applicant Contact Information:

☒ Mr. ☐ Ms. Title: Natural Resource Specialist

First Name: Mike Last Name: Kane

Mailing Address: Chelan County Natural Resource Department, 316 Washington St, Suite 401,
Wenatchee, WA 98801

E-Mail Address: mike.kane@co.chelan.wa.us

Lead Entity Organization: Chelan County

LANDOWNER ACKNOWLEDGEMENT FORM

Landowner Information:

Name of Landowner: Jeff Johnson

Landowner Contact Information:

☒ Mr.

☐ Ms.

Title

First Name: Jeff

Last Name: Johnson

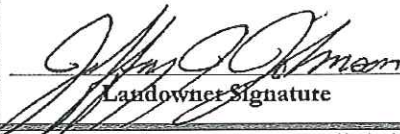
Contact Mailing Address: 15950 Chumstick Hwy., Leavenworth, WA 98826

Contact E-Mail Address:

Property Address or Location: 15950 Chumstick Hwy. Leavenworth, WA 98826

I certify that Jeffrey J. Johnson is the legal owner of property described in this grant
(landowner or organization)

application to the National Oceanic and Atmospheric Administration. I am aware the project is being proposed on my property. My signature authorizes the applicant listed below to seek funding for project implementation, however, does not represent authorization of project implementation.


Landowner Signature

4/2/2009
Date

Project Applicant Information

Project Name: Chumstick Passage Project

Project Applicant Contact Information:

☒ Mr.

☐ Ms.

Title: Natural Resource Specialist

First Name: Mike

Last Name: Kane

Mailing Address: Chelan County Natural Resource Department, 316 Washington St, Suite 401,
Wenatchee, WA 98801

E-Mail Address: mike.kane@co.chelan.wa.us

Lead Entity Organization: Chelan County



Apr-06-09 11:13P
Apr. 6. 2009 9:03AM

Chelan County Natural Resource Department

P.01

LANDOWNER ACKNOWLEDGEMENT FORM

Landowner Information:

Name of Landowner: Alex Saliby

Landowner Contact Information:

☒ Mr. Ms. Title

First Name: Alex

Last Name: Saliby

Contact Mailing Address: 15195 Chumstick Hwy., Leavenworth, WA 98826

Contact E-Mail Address: alex39@msn.com

Property Address or Location: 15195 Chumstick Hwy. Leavenworth, WA 98826

I certify that Alex Saliby is the legal owner of property described in this grant
(landowner or organization)

application to the National Oceanic and Atmospheric Administration. I am aware the project is being proposed on my property. My signature authorizes the applicant listed below to seek funding for project implementation, however, does not represent authorization of project implementation.

Alex Saliby
Landowner Signature

04-06-09
Date

Project Applicant Information

Project Name: Chumstick Passage Project

Project Applicant Contact Information:

☒ Mr. ☐ Ms.

Title: Natural Resource Specialist

First Name: Mike

Last Name: Kane

Mailing Address: Chelan County Natural Resource Department, 316 Washington St, Suite 401,
Wenatchee, WA 98801

E-Mail Address: mike.kane@co.chelan.wa.us

Lead Entity Organization: Chelan County