



**Yakama Nation**  
**Upper Columbia Habitat Restoration Project**  
**ANNUAL REPORT**

NOVEMBER 1<sup>ST</sup>, 2008 THROUGH OCTOBER 31<sup>ST</sup>, 2009

*BPA Project #2009-003-00-Contract #125967*

**Table of Contents**

<b><i>Introduction</i></b> _____	<b>2</b>
<b>Project Overview</b> _____	<b>2</b>
<b><i>Wenatchee Subbasin</i></b> _____	<b>3</b>
<b>Restoration Projects</b> _____	<b>3</b>
Goodfellow/Chotzen Floodplain Reconnection _____	3
Chumstick Culverts _____	3
<b>Reach Assessments</b> _____	<b>3</b>
Lower Peshastin Assessment _____	4
Upper Wenatchee Reach Assessment _____	4
<b>Land Acquisitions for Long Term Protection</b> _____	<b>6</b>
Dryden Property Purchase _____	6
<b><i>Entiat Subbasin</i></b> _____	<b>7</b>
<b>Restoration Projects</b> _____	<b>7</b>
Keystone Canyon _____	7
<b>Reach Assessments</b> _____	<b>7</b>
Entiat D3 Reach Assessment _____	7
<b><i>Methow Subbasin</i></b> _____	<b>8</b>
<b>Restoration Projects</b> _____	<b>8</b>
Water Quality Improvement Through Beaver Restoration in the Methow River Watershed _____	10
<b>Reach Assessments</b> _____	<b>12</b>
Twisp / Chewuch Rivers Reach Assessments _____	12
<b>Land Acquisitions for Long Term Protection</b> _____	<b>13</b>
Methow Conservancy Conservation Easements and Land Acquisitions _____	13
<b><i>List of References</i></b> _____	<b>16</b>

## **Introduction**

### ***Project Overview***

In June, 2008 the Yakama Nation (YN) began work on what is now known as the Upper Columbia Habitat Restoration Project (UCHARP or Project.) This project stems from the Columbia Basin Fish Accords (Accords) and is conducted in the Wenatchee, Entiat and Methow Subbasins. The work performed by the UCHARP is part of the Federal Columbia River Power System (FCRP) biological opinion. The UCHARP has a simple goal, to restore salmonid habitat in order to allow wild stock of salmonids to become more abundant.

This report covers the very beginning of what will likely be one of the largest single-proponent restoration projects in the history of Columbia River habitat restoration. In November of 2008 the Project had one full time staff person, no field offices, no completed or engineered restoration projects, and in general was in its infancy. By the end of October 2009 the Project had completed its first instream restoration project and had contracts for design on three more, hired two new full time staff members with two more on the way within 60 days, acquired two field offices, was conducting three separate Reach Assessments and was in general moving toward a robust second full year of operation in 2010.

# Wenatchee Subbasin

## Restoration Projects

**Comment [BWR1]:** If you have a Restoration Projects header, you need to have a header for each other type of work we're doing (reach assessments etc) and have reports for that work under those headers

### Goodfellow/Chotzen Floodplain Reconnection

#### Overview

The Goodfellow Project Site is located approximately one mile from the mouth of the Wenatchee River. The primary goal of this project is to allow the Wenatchee River to access its natural flood plain. A backwater channel will be excavated to increase the ease of water flow onto the floodplain. The channel will serve as high water refuge for juvenile salmonids. At the finalization of this project the area will be revegetated with native plants.

#### Project Update

Currently a contracted environmental engineering firm is collecting sediment samples to complete a HecRas model of the river flows to determine the size and amount of sediment transport within the project area. This model will be useful in determining channel gradient and structure placement necessary to support a successful and lasting project.

During the winter of 2010 we will be stockpiling logs at the site. Project construction is anticipated to take place during the summer of 2010.

#### Chumstick Culverts

See Chumstick Culverts Report, uploaded concurrently with this report.

## Reach Assessments

**Comment [BWR2]:** For projects and assessments that are underway but not completed, let's have a very distinct overview section and an update section

Reach-scale assessment relies on existing detailed information and oftentimes additionally collected information to characterize specific attributes such as physical habitat, geomorphology, fish use, and reach-level land-use impacts:

**Physical habitat** – a stream habitat survey conducted using the USFS Level II survey or similar protocol. The methodology employs a habitat unit survey along with general characterization of substrate, large woody debris, and riparian conditions. These surveys help to characterize stream channel and riparian habitat conditions. Existing stream habitat data may already exist for some reaches.

**Geomorphology** – a geomorphic analysis identifies channel types, sediment transport and response conditions, floodplain, channel migration zones, and off-channel connectivity, and the impacts of adjacent land-use. Trends in channel and planform evolution are often characterized. These evaluations rely on site observations, GIS analysis, and aerial photo analysis. Hydraulic modeling is often utilized where it is already available

and may be conducted anew if deemed necessary based on site objectives and uncertainties.

Fish use and distribution – species life-stage uses and limiting factors should be summarized in order to inform the selection of enhancement projects that address the key issues facing fish populations. For many areas, existing data may be available from WA Department of Fish & Wildlife, Yakama Nation Fisheries, USGS-Biological Resources Division, US Forest Service, Ecosystem Diagnosis & Treatment analysis, or other sources. These data typically include spawning surveys, juvenile surveys, adult counts, and modeled information.

Land-use conditions and site constraints – The condition and impact of land uses (historic and current) on reach-scale processes and habitat should be determined/described.

Risks and constraints associated with existing or planned land-uses should be documented.

## Lower Peshastin Assessment

### Overview

The Lower Peshastin reach assessment encompasses the section of Peshastin Creek from approximate river mile (RM) 9 down to the mouth (RM 0). The professional firm contracted to complete this reach assessment has spoken with the Bureau of Reclamation personnel responsible for previous reach assessments in the Wenatchee, Entiat, and Methow watersheds to assure that this assessment is similar in form to previous reach assessments. The overall task list concerning the reach assessment contracts along Peshastin Creek are as follows:

Comment [HS3]: Who is it?

<ul style="list-style-type: none"><li>• Task 1 – Initiation meeting</li><li>• Task 2 – Acquisition and Review of Tributary Assessment Data</li><li>• Task 3 – Reach assessment</li><li>• Task 4 – Evaluation of Project Opportunities</li></ul>	<ul style="list-style-type: none"><li>• Task 5 – Preliminary Conceptual Designs</li><li>• Task 6 – Stakeholder Meetings</li><li>• Task 7 – Project Management</li><li>• Task 8 – Interface with Watershed Action Team</li></ul>
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### Project Update

The data collection is near completion, and the Lower Peshastin Reach Assessment document is expected in March 2010.

Comment [HS4]: As stated by Brandon in comments above – should be an overview section – then an update on project status. See Chewuch/Twisp River Reach Assessment description in Methow Subbasin section as a good example...

## Upper Wenatchee Reach Assessment

### Overview

The Upper Wenatchee reach assessment encompasses the section of the Wenatchee River from Lake Wenatchee down to the Tumwater Bridge located on US Highway 2.

The professional firm contracted to complete this reach assessment has spoken with the Bureau of Reclamation personnel responsible for previous reach assessments in the Wenatchee, Entiat, and Methow watersheds to assure that this assessment is similar in form to previous reach assessments. The overall task list concerning the reach assessment contracts along Upper Wenatchee are as follows:

<ul style="list-style-type: none"> <li>• Task 1 – Initiation meeting</li> <li>• Task 2 – Acquisition and Review of Tributary Assessment Data</li> <li>• Task 3 –Reach assessment</li> <li>• Task 4 –Evaluation of Project Opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• Task 5 – Preliminary Conceptual Designs</li> <li>• Task 6 – Stakeholder Meetings</li> <li>• Task 7 – Project Management</li> <li>• Task 8 – Interface with Watershed Action Team</li> </ul>
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### Project Update

Data collection is scheduled to begin in the summer of 2010.

**Comment [HS5]:** Ditto my comment above (HS9)

### Road Assessments

#### Overview

**Comment [HS6]:** Again, use Overview and Project Update heading structure...

This year UCHRP personnel completed road assessments of forest service roads within the Peshastin Watershed, a tributary of the Wenatchee River, and the Chewuch Watershed, a tributary of the Methow River. These assessments were conducted to identify and prioritize current and future fish habitat enhancement projects in these watersheds. Specifically, the goal of the UCHRP is to develop and complete projects for the purpose of anadromous fish restoration.

**Comment [BWR7]:** We refer to ourselves as the YN

Following collaboration with the Forest Service to develop a consistent assessment protocol, UCHRP personnel drove along Forest Service roads within each watershed to collect data and take photographs of current conditions. This information was then used to identify roads that are currently causing or are at risk for causing detriment to salmon habitat.

### Project Update

Data collection was completed. Currently it is being analyzed to identify specific action necessary to remedy any immediate concerns and also address any future concerns. One outcome of this project may be to discuss the closing of certain forest service roads that may no longer be necessary for travel within the area and/or are determined to be the cause of silt and gravel sediment washing into the creek creating the high risk for suffocation of anadromous fish redds. Future projects arising from this data may include replacing culverts that are fish barriers, and bank stabilization, among others.

## ***Land Acquisitions for Long Term Protection***

### **Dryden Property Purchase**

**Comment [HS8]:** Insert Overview and Project Update headings in appropriate places...

#### **Overview**

The Dryden property is located at the confluence of Peshastin Creek and the Wenatchee River. It is currently owned by the Washington Department of Transportation (DOT). The property surrounds the west side of Chelan County PUD's (CCPUD) Dryden Dam. The Washington Department of Fish and Wildlife (WDFW) has voiced intent to purchase the boat launches located upstream and downstream of the Dam as well as areas for parking and picnic tables. The Yakama Nation would purchase the remaining property.

#### **Project Update**

UCHRP would like to restore the natural processes on much of the property. Peshastin Creek has been straightened or channelized along much of its length and this property is no different. UCHRP would like to return the creek to its original channel on the Dryden property. One issue that requires further investigation and may need to be addressed prior to restoring the property is possible lead contamination from the nearby gun range. The Dryden Property acquisition is currently under negotiation.

## Entiat Subbasin

### Restoration Projects

#### Keystone Canyon

##### Overview

The Keystone Canyon Project site is located on the Entiat River Watershed approximately two miles from the mouth of the river. The primary goal of the Keystone Canyon Project is fish habitat enhancement aimed at providing cover and habitat diversity to the Entiat River. It will include placing three large woody debris (LWD) structures along the left bank of the river.

##### Project Update

In the winter of 2010 we are planning on delivering logs with root wads to the Keystone site in preparation for this project. Due to the narrow roads along the orchards, as well as concerns related to sprinkler lines located within the orchards we will need to dump the logs off near the Entiat River Road and transport them one by one down to the river. We anticipate project construction to take place during the summer of 2010.

### Reach Assessments

#### Entiat D3 Reach Assessment

##### Overview

The Entiat D3 Reach Assessment is a part of the Entiat Intensively Monitored Watershed (IMW). The idea behind this reach assessment is to identify how the river is improperly functioning and design projects to treat the entire reach with the idea that all the projects for the entire reach will be constructed in 2011. The overall task list concerning the reach assessment contracts along the Entiat River are as follows:

**Comment [HS9]:** Insert Project Update heading where appropriate

<ul style="list-style-type: none"><li>• Task 1 – Initiation meeting</li><li>• Task 2 – Acquisition and Review of Tributary Assessment Data</li><li>• Task 3 – Reach assessment</li><li>• Task 4 – Evaluation of Project Opportunities</li></ul>	<ul style="list-style-type: none"><li>• Task 5 – Preliminary Conceptual Designs</li><li>• Task 6 – Stakeholder Meetings</li><li>• Task 7 – Project Management</li><li>• Task 8 – Interface with Watershed Action Team</li></ul>
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##### Project Update

The data collection for the Entiat D3 Reach Assessment is currently underway and the document is due in March 2010.

## **Methow Subbasin**

### ***Restoration Projects***

#### **Wolf Creek Road Bank Stabilization and Habitat Enhancement Project**

##### **Project Description**

The Wolf Creek Road project was conducted to create salmonid habitat and stabilize a river bank when the existing rip-rap began to fail. This project was identified in the US Bureau of Reclamation's Big Valley Reach Assessment. A portion of the river bank along Wolf Creek Road is armored with rip rap. At the downstream end, the rip rap failed, and the stream began to erode the bank. If no action had been taken, the Methow River would have eventually washed out Wolf Creek Road. Prior to this, local agencies would have added more rip-rap.



Eroding Bank

The UCHRP personnel contracted an environmental engineering firm to produce technical plans for stabilizing the stream bank and providing fish habitat. Engineered plans were produced for a log crib structure. The crib was constructed of logs 18 to 24 inches in diameter incorporating root wads extending into the river to provide cover and form a scour pool. The root wads extended for 250 feet along the bank in lieu of rip-rap.

A construction contractor was contracted by UCHRP personnel to install the log crib. At the onset of construction a coffer dam was built to isolate the construction area. The coffer dam consisted of 3ftx3ft sandbags (super sacs) filled with 5/8ths minus stream gravel. The sacs were placed in stream and covered with plastic sheeting. As a further



barrier to the active channel a sump was excavated at the downstream end of the coffer dam and a pump was installed to remove sediment laden water from the construction area. In constructing the log crib, the end of the logs were sharpened with a chain saw and driven into the stream bank. Rock was used as ballast for the logs to provide long term stability.



Coffer Dam Being Constructed



Sump For Pumping Water From The Coffered Area

### **Discussion**

The construction went as planned, aside from challenges with sediment seeping up through the gravel on the river side of the coffer dam. This issue was quickly and effectively addressed by turning up the pump used to remove river water from the

construction side of the coffer dam. The area was revegetated with native plants to complete the construction in autumn of 2009. Overall, project construction lasted approximately one month.

## **Water Quality Improvement Through Beaver Restoration in the Methow River Watershed**

### **Overview**

Project partners (Methow Conservancy in cooperation with USFS, WDFW, and Pacific Biodiversity Institute) improve tributary water quality, water quantity, and habitat for listed fish species by restoring beavers to places where they historically occurred in the Methow Subbasin. Beavers traditionally captured on private lands that are considered nuisance and destroyed are kept temporarily at the Winthrop National Fish Hatchery while identification and site preparation of tributary release sites is completed. Once completed, captive beavers are aggregated into release colonies and put out in strategic reaches to re-populate habitat areas. Studying of the release effects of beaver colonies is conducted to design more effective release site models and to better understand the cost/benefit structure of using beaver re-introduction as a fish habitat restoration tool.



Beaver captured in a non-lethal trap from Moccasin Lake in 2009



The beaver storage facility at the Winthrop National Fish Hatchery.



New beaver dam complex created in 2009 by beavers released in Ben Canyon in 2008 (Libby Creek Subwatershed)

## **Project Components funded by UCHRP**

*Capture/care/release*

- Remove beavers in locations where beaver problems result in loss of large tree shade along main river courses.
- Care for and ear-tag beavers at the holding facility daily, including feeding and pen cleaning, house maintenance, and provision of shade.
- Deliver those groups to suitable prioritized headwater release sites.

**Monitoring**

Establish baseline conditions at and near the beaver release locations for stream flow, temperature, sediment, and riparian shade in three subwatersheds **Upper Beaver, Buttermilk, and Falls Creeks** (10 sites; 5 control and 5 introduction sites) using a paired watershed approach.

**Project Update**

In 2009 non-lethal beaver traps were set at 28 locations where beavers were reported to be causing problems. 31 beavers were captured – 3 released immediately – and 28 transferred to the holding facility for care and staging for later release. 24 beavers were released at 8 locations in six subwatersheds (Upper Beaver, Cub, Upper Middle Methow, Little Bridge, Falls, and Lower Beaver). As of this writing 6 of this year’s sites are known to be active (Lightning Creek, Falls Creek, Lower Bear Mountain, Upper Bear Mountain, Middle Cub, and Little Bridge Creek). Beavers are at least present, and have built some stick dam structures at most of these sites. Most dam construction happens late fall and early spring. We established the framework for a significant water quality and water quantity monitoring effort in cooperation with US Forest Service Wenatchee Forestry Sciences Lab.

**Reach Assessments**

**Twisp / Chewuch Rivers Reach Assessments**

**Overview**

UCHRP has initiated Reach Assessments on 11.7 miles of the lower Chewuch River from river mile (RM) 2.2 to 13.9; and on 7.8 miles of the lower Twisp River from the mouth (RM 0) to RM 7.8. Inter-Fluve has been contracted to conduct the overall assessment and to provide reports and data products back to the Yakama Nation regarding assessment results. The overall task lists concerning the Reach Assessment contracts with Inter-Fluve along the Twisp and Chewuch Rivers are as follows:

<ul style="list-style-type: none"> <li>• Task 1 – Initiation meeting</li> <li>• Task 2 – Acquisition and Review of Tributary Assessment Data</li> <li>• Task 3 –Reach assessment</li> <li>• Task 4 –Evaluation of Project Opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• Task 5 – Preliminary Conceptual Designs</li> <li>• Task 6 – Stakeholder Meetings</li> <li>• Task 7 – Project Management</li> <li>• Task 8 – Interface with Watershed Action Team</li> </ul>
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Specifically, stream habitat surveys consistent with USFS Level II protocols and geomorphology surveys using standardized geomorphic field forms are being conducted to meet assessment needs. Information derived from these assessments are then used to identify and prioritize restoration and habitat enhancement projects within the two reaches using restoration objectives developed as part of the Methow Subbasin Geomorphic Assessment. Further evaluation and prioritization of restoration project opportunities is then conducted considering a larger matrix of criteria, including the species addressed, habitat limiting factors addressed, compatibility with geomorphic setting, costs, feasibility, and risks to infrastructure.

Once the assessments and project prioritizations are completed, preliminary conceptual designs shall be produced, including design drawings and a planning-level cost estimate. Throughout the Reach Assessment process and tasks, stakeholder meetings and coordination with the Methow Restoration Council (Watershed Action Team) will take place. The final project prioritization list and resulting preliminary conceptual plans will be evaluated and utilized by Action Team members to create an implementation strategy that most efficiently restores habitat for listed species within these specific reaches.

### **Project Update**

Inter-Fluve has completed the field work for the assessment. Currently the data is being compiled and added to the various reports that will comprise the final assesment document. The final assesment is due in late April of 2010 and we plan to construct restoration projects from the assessment in 2011.

**Comment [HS10]:** Brandon, you can provide the update based upon the task list above.... I'm not sure where everything is at...

### ***Land Acquisitions for Long Term Protection***

#### **Methow Conservancy Conservation Easements and Land Acquisitions**

##### **Overview**

UICRP has provided funding to the Methow Conservancy for pre-acquisition activities associated with several riparian land acquisition projects in the Methow Watershed aimed at both protecting existing high quality habitat for listed fish and enhancing and restoring habitat conditions in riparian areas currently degraded by land use and/or historical development activities. These projects include:

##### ***Marracci Conservation Easement (Beaver Creek)***

Obtaining an approximately 80-acre conservation easement on the Marracci property. The property includes an approximately 4,100-ft section of Beaver Creek.

The creek area contains portions with high-quality forested riparian habitat, as well as an approximately 1,600-ft section of channelized creek. USBR intends to conduct restoration work on the channelized section of creek. The restoration will include establishing meanders, planting riparian vegetation, and removing a fish barrier. The conservation easement will provide permanent protection of both the existing high-quality riparian habitat and the riparian habitat that will be restored by USBR. In addition, with inclusion of adjacent uplands in the conservation easement, the landowner would be amenable to working with the Washington Rivers Conservancy to divert less water from Beaver Creek by utilizing irrigation efficiency and split season lease. The conservation easement and USBR restoration work would benefit bull trout, steelhead, coho, and possibly spring chinook.

#### ***Canan Conservation Easement (Upper Methow)***

This project includes an approximately 35-acre conservation easement on the Canan property, located in the Upper Methow. The property includes 4,280 ft of Methow riverfront and provides spring Chinook spawning habitat.

#### ***Epps Conservation Easement (Mid-Methow)***

This project would include a conservation easement on a 48-acre property that spans both sides of the Methow River upstream of the town of Twisp. The property includes 2,800 ft of riverfront and extensive wetlands and floodplain habitat. USBR is interested in conducting restoration work on the property and will evaluate specific restoration needs during its 2009 Mid-Methow Reach Assessment.

#### ***Cedarosa Riparian Habitat Protection (Upper Methow)***

There is an opportunity to proactively purchase a number of small recreational camping lots along the Methow River upstream of Mazama. The lots of interest contain extensive floodplain and wetland habitat and are adjacent to a recently completed conservation easement. The lots are subject to increasing development pressure as owners have increasing incentives to find and exploit loopholes in county zoning. Once protected, the opportunity exists for a significant restoration project involving the removal of a dike. This dike was constructed following the high flow event of 1972 that washed away several properties.

### **Project Update**

- Beaver Creek (Marracci): appraisal and draft CE complete, waiting on BPA review appraisal
- Hancock Springs II: appraisal and draft CE complete, waiting on BPA review appraisal

- Cedarosa Phase I: appraisals, draft CEs, and BPA review appraisals complete; currently, making offers to landowners
- Cedarosa Phase II: beginning discussions with landowners
- Lower Chewuch II (Parrington): draft CE in process
- Risley: waiting on appraisal
- Sugar Dike Outreach: some preliminary landowner outreach has occurred; waiting on results on Yakama dike-alteration modeling before can have further discussions with landowners.

## List of References