NORTH FORK JOHN DAY RIVER BASIN ANADROMOUS FISH HABITAT

ENHANCEMENT PROJECT

Annual Report for April 2009 – January 2010

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Project No. 2000-031-00
Contract Number 46079

July 2010

ABSTRACT

The Confederated Tribes of the Umatilla Indian Reservation North Fork John Day Anadromous Fish Enhancement Project continued to develop and implement habitat improvements during 2008 using guidance from the John Day Subbasin Plan, Mid-Columbia Steelhead Recovery plan, and other plans or management documents which prioritized restoration efforts. Cooperative efforts between private landowners and public entities such as the North Fork John Day Watershed Council, Umatilla National Forest, Wallowa-Whitman National Forest, and Grant Soil and Water Conservation District prioritized, designed, and implemented specific habitat restoration efforts. During 2008 the project strengthened three stock watering ponds, one stock watering pond was constructed, one upland stock watering well developed, two channel surveys and permitting completed for three culvert replacements, and native vegetation planted on two sites. Noxious weeds were also controlled and monitoring data collected where applicable. Contributions to other cooperative efforts included financial and material support for riparian fencing construction and monitoring data collection for Cooperative efforts with the North Fork John Day Watershed Council.

ACKNOWLEDGMENTS

The Confederated Tribes of the Umatilla Indian Reservation wish to thank the Bonneville Power Administration for funding the project and its personnel Jason Karnezis, Nancy Weintraub and others for their assistance. We would also like to give thanks to the North Fork John Day Watershed Council for providing a forum for tribal input and promoting the Confederated Tribes of the Umatilla Indian Reservation's habitat recovery efforts; the Umatilla National Forest and its employees (Fishery Biologists Kathy Ramsey and Kristie Groves, Hydrologists Caty Clifton and Ed Farren, Range Managers Tom Thompson and Brad Lathrop) for assistance with cooperative restoration efforts and providing information, the Natural Resources Conservation Service's Chet Hadley, Colleen Winchester, and Lorraine Vogt, and Oregon Department of Fish and Wildlife's Jeff Neal, Tim Unterwegner and Josh McCormick. Thanks also to Confederated Tribes of the Umatilla Indian Reservation staff, whose cooperation and contributions are evident in this report. Special thanks to Delbert Jones, James Bill and Randy Bonifer in assisting with monitoring efforts and implementing and maintaining improvements, to Brandi Weaskus, Julie Burke Celeste Reeves, and Michelle Thompson for administrative support, and Gary James and Jim Webster for support and guidance. We would like to acknowledge cooperating landowners, Steve Berrey, Gene and Julia Engblom, Richard and Dorothy Allstott, Brian Prater, Bill Neal, Sheri Helms, Robin, Mary Lou, Andy and Bill Fletcher, and Forrest Rhinehart who supported our efforts by providing their properties for habitat enhancements.

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INTRODUCTION

The Confederated Tribes of the Umatilla Indian Reservation's North Fork John Day River Habitat project (the Project) has undertaken the task of protecting and enhancing habitat in the North Fork John Day (NFJD) basin to improve natural production of indigenous species in support of the Confederated Tribes of the Umatilla Indian Reservation's (CTUIR) First Foods. Our efforts are expected to increase juvenile and adult freshwater survival resulting in greater numbers of Endangered Species Act listed Mid-Columbia River Summer Steelhead trout (*Oncorhynchus mykiss*) and Bull trout (*Salvelinus confluentus*) in addition to Spring Chinook salmon (*Oncorhynchus tshawytscha*) and redband trout (*Oncorhynchus mykiss gairdnerii)*. Progress toward this goal can be difficult to ascertain due to existing habitat conditions across the basin, depressed aquatic populations relative to historic conditions, and habitat use at specific locations relative to population dynamics across the basin. In place of a baseline representing historic conditions or a particular state of a depressed population the relative productivity of less disturbed areas can be useful. Significant portions of the NFJD Mid-Columbia Steelhead trout (Carmichael, R.W., 2006), spring Chinook salmon, and Bull trout populations reside in the NFJD Wilderness area and other protected areas that are relatively unaltered or minimally altered; thus, habitat conditions throughout these populations could provide a suitable surrogate for identifying changes in life history strategies in other parts of the basin. Restoring degraded habitats and monitoring subsequent changes in habitat use and species should provide an estimate of our effect upon these species.

Restoration efforts benefiting these species and habitats primarily occur outside undisturbed or minimally disturbed areas, that is, lands managed by private or public entities. As such, cooperative partners are necessary to develop and implement effective restoration efforts within in-stream, riparian, and floodplain habitats. These efforts not only benefit threatened and non-threatened wildlife but protect or restore larger scale natural processes with sufficiently large processes and prioritize efforts according to needs, available funding and technical feasibility. Collaborative efforts reduce the burden upon a single entity and improve restoration efforts by providing additional scrutiny, cost share opportunities, and educational opportunities about the value of singular and cooperative habitat restoration efforts. Deficits in habitat are identified through review of priority area strategies outlined in the Columbia BM RC&DA (2005), Carmichael, R.W., 2006, forest and basin plans, and other documents created to direct program implementation or recovery efforts. From these designations, specific restoration efforts are developed during discussions with landowners.

To date, the Project has constructed approximately 34.7.4 Km of riparian fencing, 29 off-stream water developments, and reactivated two wells; enhanced approximately 20 Km stream, 850 acres of riparian and floodplain habitat, and 850 acres of upland habitat on private and public properties. Appendix I & II show sites where maintenance or restoration efforts were completed during 2008 on private and public lands. Private landowners who have entered into a Riparian Conservation Agreements with CTUIR include Forrest Rhinehart (Upper Camas Creek), Robin, Mary Lou, William, and Andy Fletcher (Lower Camas Creek), Gene and Julia Engblom (Owens Creek), Richard and Dorothy Allstott (Snipe Creek), Steve Berry (Deer Creek), and Billy Neal and Sheri Helms (NF John Day). Cooperative partners with whom CTUIR hasn't entered into a Riparian Conservation Agreement have included the North Fork John Day Watershed Council (NFJDWC), the Umatilla National Forest (UNF), Wallowa Whitman National Forest, Grant Soil and Water Conservation District, National Resource Conservation Service (NRCS), and the Farm Services Agency (FSA) among others. Conversations with these and other groups or agencies are proving useful for identifying additional restoration opportunities and dispersing information regarding the benefits of cooperative restoration efforts to develop trust with small rural communities within the NFJD Basin. For example, the NFJDWC has proven invaluable for reaching out to the 1200 people residing within the basin that would otherwise be reluctant to cooperate with a tribal or government entity.

Bonneville Power Administration (BPA) initially approved the Project in 2000 with on-the-ground actions following in 2001 to provide partial mitigation for the loss of native salmon and

steelhead resulting from the construction of dams on the Columbia River. Additional habitat restoration funds are secured through entities such as the FSA, NRCS, Oregon Watershed Enhancement Board (OWEB), Oregon Department of Fish and Wildlife (ODFW), U.S. Bureau of Reclamation (BOR), the U.S. Army Corps of Engineer (Corps) and other private or public. In an effort to reduce costs associated with overhead the UNF (North Fork John Day Ranger District) provides office and storage space while vehicles and equipment are shared with:

(1) BPA Project #198710001 – CTUIR's Umatilla River Basin Anadromous Fish Habitat Enhancement Project
(2) BPA Project #199604601 – CTUIR's Walla Walla Basin Habitat Enhancement Project
(3) BPA Project #199608300 – CTUIR's Grande Ronde Basin Habitat Enhancement Project
(4) BPA Project #200820100 – CTUIR's Protect and Restore the Tucannon Watershed

This annual report covers work accomplished from 1 April 2009 through 31 January 2010.

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SITE DESCRIPTION

The NFJD River (Figure 1.) is the largest tributary to the John Day River flowing westerly for 180 kilometers to join the mainstem John Day River near Kimberly, Oregon. The NFJD River's basin covers 47,885 square kilometers consisting of 37% private, 62% federal, and 1% state lands. The NFJD has been designated as a Wild and Scenic River from Camas Creek upstream to the head waters including one portion classified as "Wild," two as "Scenic," and two as "Recreational." These segments are primarily managed by the UNF and WNF. State Scenic Waterways designated by the State of Oregon, stretch from Monument, OR upstream to the NFJD Wilderness boundary and from the confluence with the North Fork John Day River upstream to the Crawford Creek Bridge on the Middle Fork John Day River. The Middle Fork John Day River (MFJD) (Figure I) flowing into the NFJD is generally considered and primarily managed as a separate system by ODFW, the Confederated Tribes of the Warm Springs Reservation of Oregon, and The Nature Conservancy.

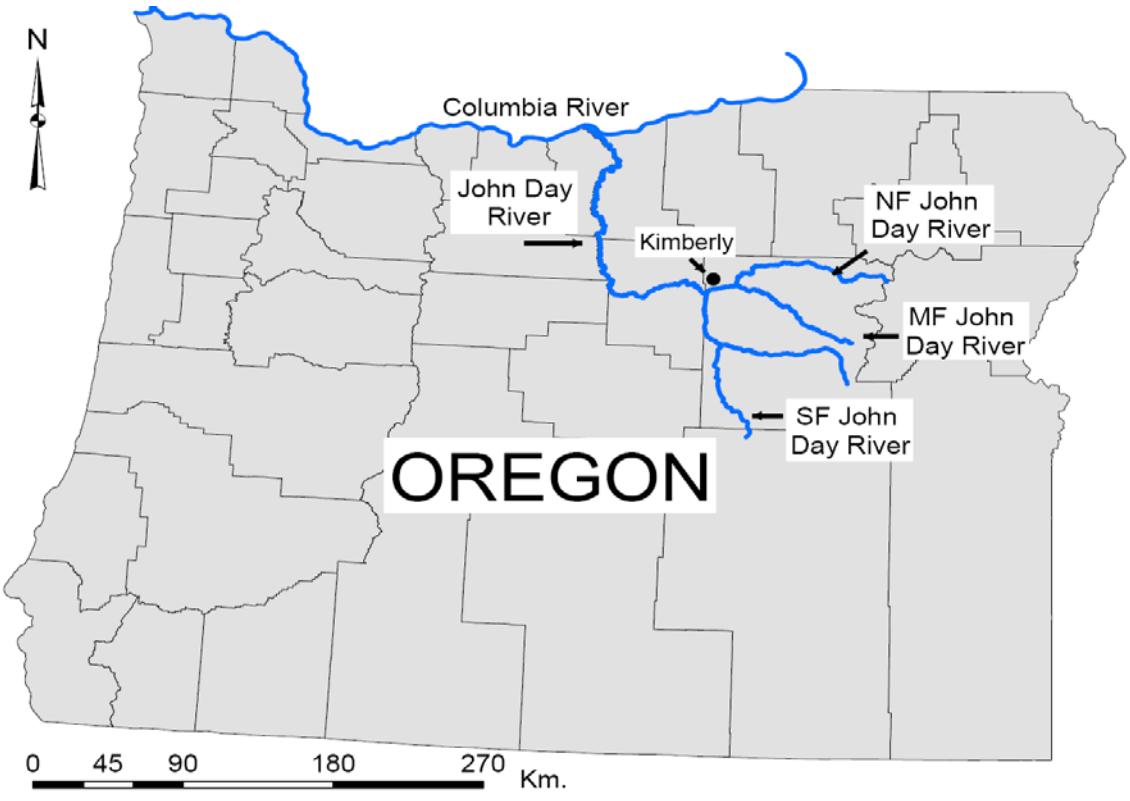

Figure I. Regional map showing the John Day Basin.

The NFJD contains fifteen 5th Field HUC's (Figure II) of which five, the Upper and Lower Camas Creek, Desolation Creek, Granite Creek, and North Fork/Potamas Creek units are considered 'priority' areas for the purpose of concentrating the Project's restoration efforts. The CTUIR currently maintains six Riparian Conservation Agreements with landowners on the NFJD, Deer, Camas, Owens, and Snipe Creeks (Figure III, Appendix I).

Diverse land forms and geology range from 558 meters at the mouth to 2530 meters in elevation in the headwaters and consist of Columbia River Basalts, oceanic crust, volcanic materials, historic river and lake deposits, and recent river and landslide deposits. The North Fork

John Day basin has a continental climate influenced by maritime weather patterns in the higher elevation areas which are characterized by low winter and high summer temperatures, low to moderate average annual precipitation and dry summers. Climate ranges from sub-humid in the upper elevations to semi-arid in the lower elevations with 0.33 to 0.5 meters annually contributing 60% of the flow in the lower John Day River, primarily through November and March. Mean annual temperatures are 3° C in the upper sub-basin and 14° C in the lower sub-basin and range from <-18^{o} C in the winter to over 38° C during the summer. The average frost-free period is 50 days in the upper sub-basin and 200 days in the lower sub-basin. The Blue Mountains in the basin's higher elevations produce a range of microclimates unlike the lower basins typical warmer and more stable patterns.

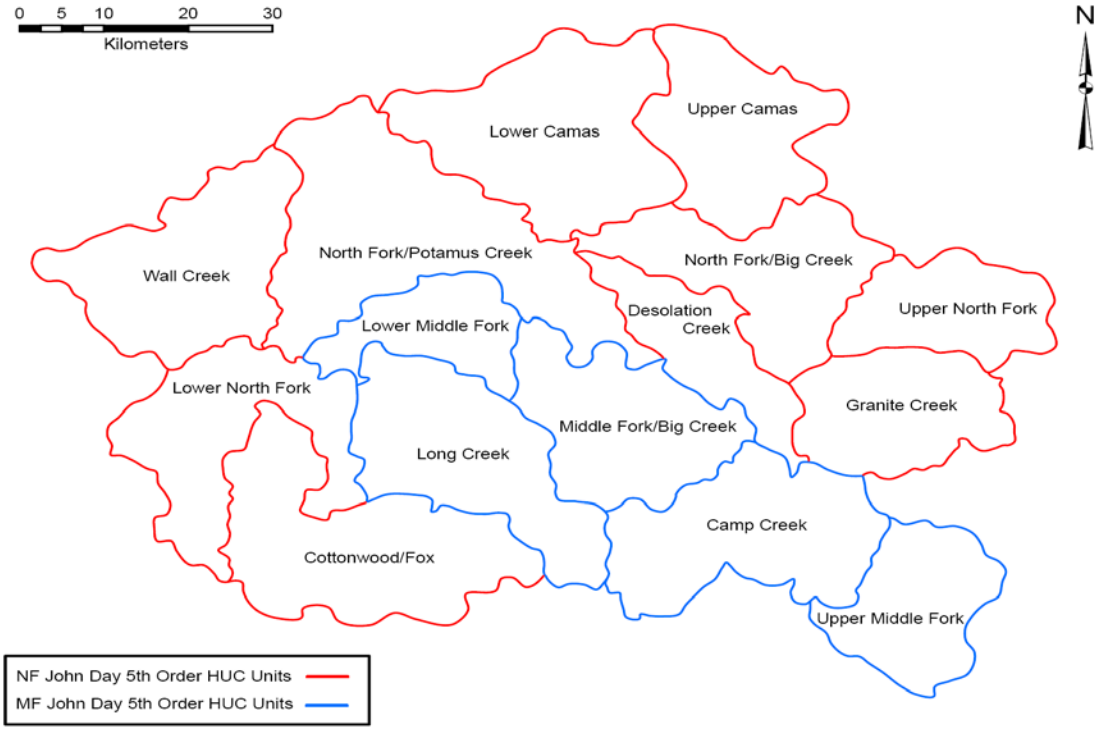

Figure II. NFJD 5th field HUC's

Historically, the John Day River was one of the most significant anadromous fish producers in the Columbia River Basin (CRITFC 1995) due to its stability, strong summer stream flows, high water quality, and heavy riparian cover. Riparian areas were densely populated with aspen, poplar, willow, and cottonwood and beaver were abundant. Large spring and fall Chinook salmon migrations and numerous beaver sightings indicated the John Day River contained extensive in-stream habitat diversity. Resident trout species including westslope cutthroat (*Oncorhynchus clarki lewisi*), interior redband and bull trout gave way as habitat changed in response to land management objectives. These changes favored introduced species such as brook trout (*Salvelinus fontinalis*), smallmouth bass (*Micropterus dolomieui*), and redside shiner (*Richardsonius balteatus*) in places historically dominated by native resident salmonids. The NFJD currently supports strong native runs of spring Chinook salmon and summer steelhead in the Columbia River Basin with minimal influence from hatchery stocks. Narum et al. 2008 confirmed the John Day River's status as a viable refuge for wild stocks with limited anthropogenic influence.

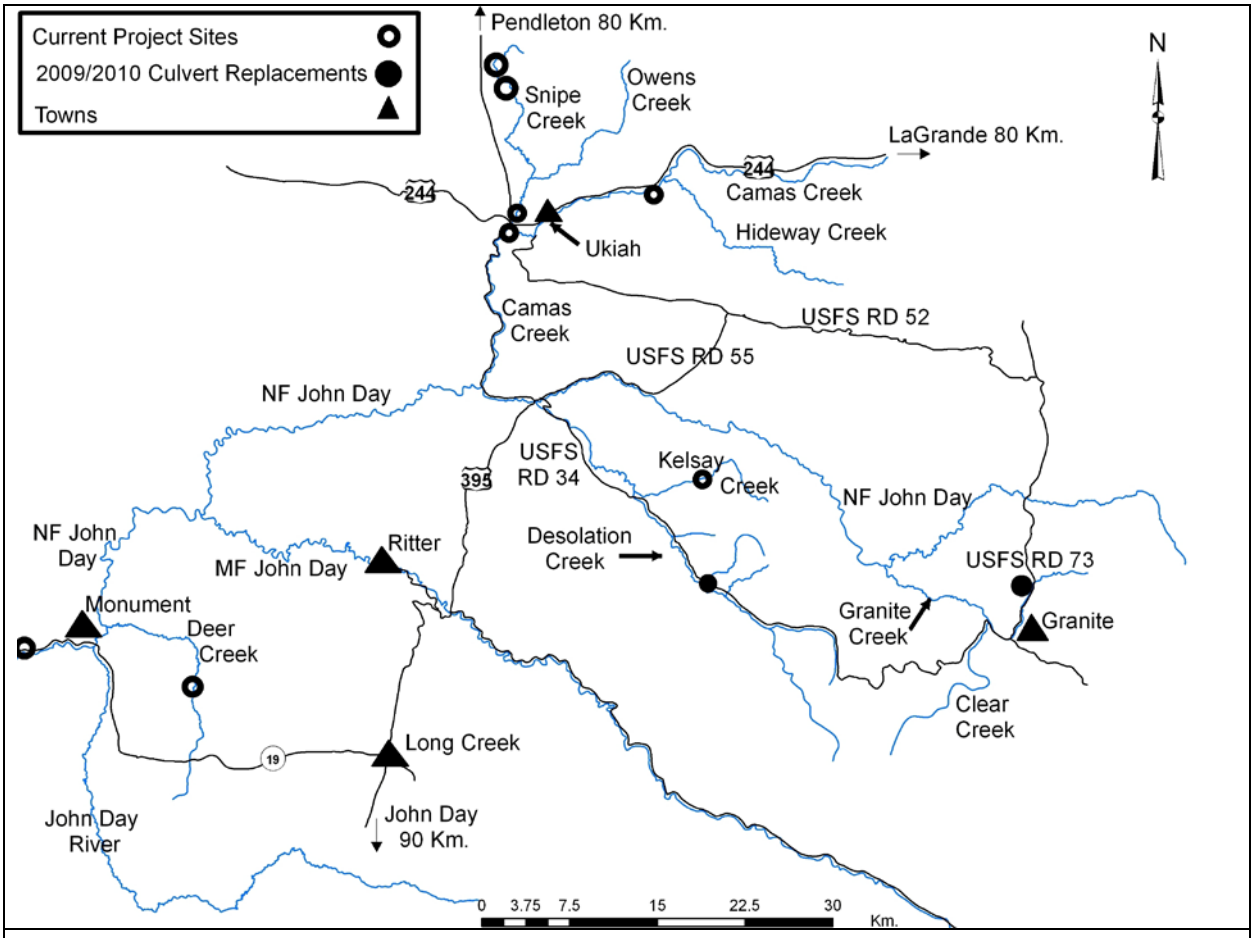

Figure III. Restoration and Protection Site Locations.

The NFJD steelhead population currently occupies ten major spawning areas (including Upper and Lower Camas, Owens, Granite, and Desolation Creek) and five Minor Spawning areas distributed throughout the basin (Carmichael, R.W., 2006). Surveys indicate approximately 1,400 kilometers of the NFJD (StreamNet, 2008) and its tributaries are currently used for spawning and rearing, with index surveys showing consistent use over time. Index area spawning surveys from 1965 to 2005 on NFJD tributaries indicate returning adult steelhead in natural production areas ranged between 369 spawners in 1990 to 10,235 spawners in 1965 (Carmichael, R.W., 2006). While these numbers are somewhat variable over time, current populations appear to be substantially less productive then historic populations (Columbia BM RC&DA 2005) and show a long term decreasing trend. Declines in the basin's summer steelhead population warranted a threatened listing under the ESA in 1999 (The North and Middle Forks John Day River Local Advisory Committee 2002).

Surveys indicate approximately 300 kilometers (approximately 57% of total stream kilometers; (StreamNet, 2008) of the NFJD and its tributaries provide spawning and rearing habitat for Spring Chinook salmon with relatively consistent use over time. However, due to run and spawn timing specific areas may not be used consistently in response to limiting factors. For instance, Granite Creek has shown a long term decline in use for unknown reasons, habitat use in Camas Creek is opportunistic and responds to available flows and water temperatures, and returning adults of the MFJD population died prematurely during 2007; likely due to elevated water temperatures (Unterwagner 2007).

Limiting habitat factors identified in the NFJD basin (Table 1) and designated in Carmichael (2006), Columbia BM RC&DA (2005), and various management plans include water quality (temperature, modified flows, nutrient input), in-stream habitat (structure, cover, sediment loading, channel morphology and processes,), and riparian health. Most streams in the NFJD basin are considered to be in relatively good condition, with the exception of elevated late summer water temperatures that exceed Oregon Department of Environmental Quality standards. In general, most indicators of channel condition within the NFJD suggest the basin is "functioning at risk".

Historic and current land use practices or threats (Table I) within the have reduced river stability, decreased high quality summer stream flows and water quality, reduced heavy riparian and floodplain cover, and compromised physical and biological processes related to these associations and structures. The loss of abundant riparian and flood plain vegetation, once robust beaver populations, and large spring and fall Chinook salmon migrations suggest the NFJD has lost a significant amount of in-stream habitat diversity and may now have an altered hydrologic cycle. Changes in the hydrologic cycle attributed to altered riparian and floodplain areas and stream morphology and processes can be indicated by increased runoff, altered peak flow regimes, reduced ground water recharge and soil moisture storage, and low late-season flow and elevated water temperatures. Historic and current land management strategies, in combination with possible changes in the hydrologic cycle, have contributed to stream channel instability (i.e., channel widening and downcutting) in some portions of the NFJD. Additionally, wildlife habitat has become increasingly fragmented, simplified in structure, and infringed upon or dominated by non-native plants (ICBEMP 2000).

Major Limiting Factors	**Threats**
Floodplain & Channel Structure In-Stream Habitat Sediment Routing Water quality	Riparian Disturbance Stream Channelization & Relocation Grazing Forest practices Roads Irrigation Withdrawals Mining & Dredging

Table I. Limiting factors and threats within the North Fork John Day Basin.

Changes in habitat have also resulted from a century of fire suppression activities and fire exclusion from the forest ecosystem resulting in greater forest stand densities than historic natural conditions. Dense stands are more susceptible to insect infestation, disease, and catastrophic stand replacement fires. Juniper encroachment into native grasslands resulting from altered an altered fire regime have served to increases evapotranspiration and reduce stream flows. Roads created to facilitate logging operations and fire suppression have increased in-stream sedimentation from road erosion and disturbed areas during logging operations. Culverts and other structures associated with road construction have fragmented existing in-stream and riparian, floodplain, and wetland habitats.

Altered native habitat conditions also facilitate the spread of non-native and highly adaptable species. Nonetheless, habitat conditions on public lands and some private lands are generally considered to be improving through cooperative efforts between public and private landowners, tribal programs, federal, and state agencies, and groups such as Soil and Water Conservation Districts and Watershed Councils.

2009 ACCOMPLISHMENTS

A description of individual Work Elements to which efforts were directed during 2008 include;

WE - Identify, Prioritize and Select Habitat Priority Areas

In an effort to identify and prioritize new habitat restoration efforts, we obtained background information from numerous sources (county records, previous contacts, sub-basin and recovery plans, and consultation with landowners) and coordinated with basin shareholders. This resulted in the Projects providing cost share towards two grant applications submitted by the NFJDWC supporting cooperative restoration efforts. Including; 1) to EcoTrust for noxious weed control and native vegetation plantings in the Granite Creek Watershed, 2) to American Rivers for three culvert designs on Ten Cent Creek. CTUIR contributed Letters of Support, cost share, or in-kind support to grant applications supporting a watershed assessment of Fox Creek and its surrounding riparian areas, Conversations with four landowners did not result in suitable cooperative efforts, however, discussions continue with several. Additional restoration opportunities have been identified in cooperation with the UNF, WNF, and NFJDWC during 2010 and beyond when funding becomes available. The continued longer range planning in an effort to streamline future cooperative effort development and implementation,

WE - Education and Outreach

A tour was given to residents of Ukiah and the surrounding area during July of 2009 on the Lower Camas Creek site. Educational opportunities related to the 2009 SOW were not identified and as such, coordination efforts with the Ukiah School. While this milestone was not included in the 2010 SOW, the Project shall participate in future educational opportunities as they are identified. Outreach also included attendance at monthly NFJDWC meetings, a poster at the Monument Resource Fair, coordination meetings for the NFJDWC's Coordinated Weed Management Area, and. attendance and comment at NF John Day TMDL meetings.

WE - Maintain Water Developments

Water developments were maintained throughout 2009 and we will continue to coordinate with landowners regarding maintenance. The Lower Camas Creek site stock watering ponds were modified in an effort to improve their long term stability by adding native clay to reduce leakage around a culvert drain and increasing the height of another impoundment. Leakage around the culvert drain of one impoundment noticed during the winter of 2008/09 was likely due to our inability to bring in a sufficient volume of native clays during construction. Impoundments were completed in late 2008 during late fall rains which restricted site access and our ability to bring in native clays. A sediment tolerant pump for the LNFJD site purchased during 2008 has been installed.

WE 26- Investigate for Livestock Trespass

Livestock trespass was investigated and rectified throughout the grazing season. Trespass occurred on several occasions.

WE 186- Maintain Fences

Fence inspections throughout 2009 did not identify damage that wasn't repaired in short order. Repairs were needed in response to fallen trees.

WE 22- Maintain Vegetation

A contract for noxious weed control efforts awarded in May 2008 used herbicides on Upper & Lower Camas, Owens, Snipe, and Deer Creeks and the NF John Day sites. Significant progress has been made on the Deer Creek and NF John Day River sites allowing the Project to concentrate on reseeding selected areas with native grasses. A cooperative agreement with the City of Ukiah provided weed control on Lower Camas Creek site.

WE 157- Collect Monitoring Data
Monitoring efforts during 2008 were undertaken to provide a baseline for future efforts since little information exists prior to cooperative efforts. Sampling efforts included longitudinal transects in the channel along with cross section transects reaching 10m on either side of the stream, and photopoints. A summary of the collected data (Appendix III) represents post-implementation data upon which we will elaborate during 2011.

Pre-implementation data collected on the Upper Camas Creek site included cross sections, flow measurements, and water temperatures. Cross sections and stream discharge estimates on the Upper Camas Creek site were taken to identify parameters such as channel roughness and water surface levels across different flows. A topographic survey and permanent cross sections have been located so that future conditions can be accurately compared to pre-implementation conditions. A portion of the collected data was provided to the selected in-stream design engineers for their use.

Monitoring in support of cooperative efforts on Kelsay Creek and the LNFJD sites consisted of temperature monitoring or cross sectional profiles and Greenline surveys. The Project also participated in spawner surveys for Spring Chinook salmon on Desolation Creek organized by ODFW who compiled and presented data from across the John Day basin.

WE – Acquire Stream Temperature Data
Temperature loggers were installed in June of 2008 and removed at the end of September 2008. Recovered files were subsequently passed on to Monument SWCD in early October.

WE – Rhinehart Upland Well
Cost share funds supporting a 2008 OWEB grant application were used to develop an upland stock watering well during 2008. During 2009 materials secured using grant and cost share funding allowed the installation of a solar pump and associated equipment and plumbing from the troughs to the pump. Shallow bedrock and boulders were used to support the pump house and cistern within. However, its presence also complicated burying water lines below the frost line and had to be blasted away. Water was successfully delivered to the troughs in July of 2009. Efforts in 2010 may include maintenance of these structures as the site stabilizes, however, significant alterations are not likely.

WE – Install Rhinehart Cross Fence
An Invitation for Bids sent to prospective contractors in February of 2009 produced an implementation contact in April. Construction began soon thereafter with completion in May. Fence lines were identified and marked by CTUIR personnel and followed by the selected contractor. Shallow bedrock posed problems in some locations which were overcome by altering the design within the confines of NRCS fence design specifications used to guide fence construction.

WE – Rhinehart Riparian Fence
An invitation for Bids sent to prospective contractors in early August of 2009 produced an implementation contract in September. Construction began shortly thereafter and was completed by late October. Personnel laid out the fence line prior to implementation with approval by the landowner with minor modifications during implementation approved by all parties. Water gaps consisting of cabled predation panels shall be installed after spring flows subside and removed after cattle are removed from the pastures in October. Portions of this fence that are disturbed during the 2010 in-stream restoration effort shall be replaced as needed.

WE – Complete Kelsay Creek Fence
A grant application submitted to the Oregon Watershed Enhancement Board in April of 2008 was approved for funding in October of 2008 followed by a signed agreement in November. The grant award provided funding for fence construction labor (a three wire New Zealand style fence) secured and administered by the NFJDWC with cost share by the UNF and the Project for materials and construction labor. During 2008 0.8 miles of fence were completed before weather

prevented finishing the fence when grant funding arrived in November. During 2009 the remaining 3.0 Kilometers of the fence line were completed as originally designed. Cost share contributions from the cooperators included $19,268.00 from OWEB through the NFJDWC, $8,711.00 from the UNF, $500.00 from the Permitee, and $5,284.00 from the Project.

WE – Ten Cent Creek Surveys
In an effort to support future passage barrier removals and replacements on Ten Cent Creek the Project outlined a survey in the 2009 Statement of Work using survey equipment CTUIR's Habitat Program secured during late 2008. Unfortunately, scheduling the equipment within the program and the learning curve associated with the new equipment precluded our completing the third survey before winter set in. Two surveys have been completed; the information of which shall be passed on to the Umatilla National Forest who shall complete the design work once the third survey has been completed in April or May of 2010 and a competitive grant application secured during 2010-11 shall partially support design efforts.

WE – Rhinehart Stream Survey
In an effort to support in-stream design efforts and provide baseline information to gauge restoration effectiveness the Project outlined a survey using survey equipment CTUIR's Habitat Program secured during late 2008. Unfortunately, scheduling the equipment within the program and the learning curve associated with the new equipment precluded our completing the survey prior to beginning the in-stream design. During October and November the Project was able to complete an entire topographic survey of the site and locate 12 permanent cross sections with the equipment.

WE – Rhinehart Restoration Design
During August the Project requested bids to complete an in-stream design with the primary goal of improving base flow width to depth ratios while increasing channel complexity and maintaining its ability to pass high flow events without damaging the channel or riparian and floodplain areas. Several meetings with the selected contractor and the landowner occurred before accepting a preliminary design that met the needs of the landowner, resource, and Project. The final design approved by both the land owner and the Project was secured in late January of 2010. Upon receipt of the final design permits could be secured in an attempt to implement during the 2010 in-stream work window.

WE – Battle & Granite Creek Culvert Replacements
During early 2009 efforts to secure contracts between BPA and CTUIR and agreements between cooperators (NFJDWC, UNF, CTUIR) prohibited the UNF's ability to obtain implementation contracts in time for the in-stream work window. As such, the Battle and Granite Creek culvert replacements were pushed back until 2010 and culvert replacements initially scheduled for 2010 shall occur during 2011. In an effort to avoid such an event in the future, the 2009 Performance Period was abbreviated so consecutive contracts would begin on I February thereafter. This allowed all cooperators to secure contracts and agreements once the 2010 contract between BPA and CTUIR had been secured which will enable the UNF to begin contracting proceedings for a 2010 implementation

WE – Remove Neal Push-up Dam
The 2009 Statement of Work outlined the removal of a push-up dam and the relocation of an irrigation pump into a natural scour hole to eliminate annual in-stream disturbances related to push-up dam maintenance. The Project worked with the NFJDWC to secure an appropriate design, coordinate with National Fish and Wildlife Foundation to secure applicable permits, and secure and administer an implementation contract. The final design called for removal of the existing push-up dam by natural forces, relocation of irrigation pumps and electrical service, placement of approximately 1,200 feet of eight inch irrigation line and associated pump pad, fittings, and thrust blocks and approximately 1,500 feet of 4 inch irrigation line and associated pump pad, fittings, and thrust blocks. The original landowner with whom the Project had a Conservation Agreement with sold a portion of the property which also required transferring water

rights to the new landowner. The effort was completed on time save the placement of irrigation pumps which will occur after spring runoff. In the future, the new eight inch water lines and additional work supported by the new landowner shall allow the placement of a pivot pump to significantly improve irrigation efficiency.

WE – Plant Native Vegetation (Lower Camas Creek)
During June of 2009 NRCS personnel surveyed the 2007 planting effort on the Lower Camas Creek site. Vegetation survival exceeded the 50% survival rate required by the CREP contract the landowner holds with FSA and as such, the plantings to meet that 50% survival rate were not required. Funding identified for this WE was used for maintenance on upland stock watering pond developed during 2008 to offset the loss of stock watering opportunities when the landowner entered into the CREP contracts.

WE – Produce Weed Control Documentation
Herbicide documentation required by BPA for 2009 and 2010 were submitted in January 2009 including 2009 actual and 2010 proposed application data. Information was subsequently passed on to BPA.

WE – Periodic Status Reports
Completed and submitted as required.

WE – Produce Deliverables
SOW and budget were submitted for approval in December 2008. Changes to the budget were in response to in-house and BPA comments.

WE – Produce Annual Report
See North Fork John Day River Anadromous Fish Habitat Enhancement Project, 2008 Annual Report.

DISCUSSION

Three properties (Snipe, Owens, Deer Creek) did not require any effort beyond regular communications with the landowner and monitoring efforts. Progress on other sites has been outlined in the 2008 Accomplishments section of this report; however, several aspects of the 2008 SOW require additional comment.

The start date of the Project was adjusted from 1 April to 1 February beginning with the 2009 performance period shortening the performance periods to 10 month term (April 1 2009 to 31 January 2010). Consecutive performance periods will cover 12 month terms (1 February to 31 January). This change was primarily instigated by the difficulty in getting contracts in place in time to control noxious weeds, secure designs, and implement other activities.

Monitoring data (WE 157) collected during 2008 has not been analyzed due to our inability to identify significant changes or trends with only two years of data. A more complete data analysis shall occur after data has been collected in 2011. Sampling frequency and methods will likely change to reflect stable channel and riparian conditions. Data collected throughout July and August 2009 followed protocols established prior to and during 2007. However, in several cases additional transects were added to fill in gaps identified in the 2007 data and 1/10 acre plots were moved to a 5 year rotational schedule to coincide with topographic surveys. The growth of woody vegetation over the past year did not appear to justify the effort required to collect data with other demands on the Projects time. These plots will be treated as 'permanent growth plots' and reflect the periodic rotational sampling schedule used by numerous agencies and groups.

Explicit baseline monitoring data protocols have not been outlined and at this time and currently depend upon the nature of an individual restoration effort. The Upper Camas Creek site allowed the Project to at least partially refine these protocols and at future efforts, where applicable, monitoring shall use a combination of substrate temperature monitoring, surface water temperature monitoring, the establishment of multiple permanent cross sections which can be supplemented by others once a design has been created, and if possible the installation of bank pins, scour chains, and piezometers. The Project recognizes this may not always be practical due to physical site limitations or land management practices. However, the establishment of some semblance of a base line must be established for each site.

Increased funding has also enhanced our ability to support the NFJDWC by providing technical and financial support for cooperative efforts on private and public lands. The new NFJDWC coordinator shall improve the NFJDWC's ability to develop and implement restoration efforts in the future. Thus far, the Project has cooperated or will cooperate with the NFJDWC on eight restoration efforts in the past several and next few years, contributed letters of support or cost share on several others, and supported the recent council support grant application. Several large efforts shall be pursued with private landowners around Ukiah, OR. during 2009 and should landowners agree to work with us we expect to partner with the NFJDWC during these efforts.

The Project will continue to develop and implement restoration efforts in our 'priority' basins (Camas, Desolation, and Granite Creek) and on the NFJD and Deer Creek near Monument, Oregon. Cooperative efforts outside these areas shall be considered on a case by case basis and depend on benefit to wildlife and available cost-share funds. Our approach shall continue to stress 'whole system or ridge to ridge' recovery practices, to address in-stream, riparian, floodplain, and upland components in a single effort or in cooperation with agencies or groups addressing basin-wide restoration. This approach will provide a greater long term benefit then singular efforts over a broad area.

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APPENDIX I

Sites maintained (Riparian Conservation Agreement exists) during 2009 by the CTUIR's NFJD Habitat Project. (Modified from Shaw, 2007)

Stream	Location	Stream (Km)	Riparian (Acres)	Upland (Acres)	Riparian Fence (Km)	Upland Fence (Km)	Water Gaps	Water Developments	Native Plantings
Camas Creek (Upper Camas Creek GA)	T5S R32E, Section 2 S1/2,	1.3	40	-	2.6	-	3	-	-
Camas Creek (Upper Camas Creek GA)	T5S R32E, Section 11 S1/2, Section 14	-	-	250	-	2	-	1	-
Camas Creek (Lower Camas Creek GA)	T5S R31E, Section 15 S½, Section 14 SW¼, SW¼	1.6	388	-	3.2	-	-	-	Approx. 16,000
Camas Creek (Lower Camas Creek GA)	T5S R31E, Section 15 S½, Section 14 SW¼, SW¼, Section 22 N½, Section 23 N1/2	-	-	600	-	-	-	5	-
Owens Creek (Lower Camas Creek GA)	T5S R31E, Section 10, Section 15	0.5	5.2	-	1.0	-	1	1	1800
Snipe Creek (Lower Camas Creek GA)	T4S R31E, Section 3, Section 4, T3S R31E, Section 32	1.3	34.4	-	2.3	-	2	2	Approx. 7,500
Snipe Creek (Lower Camas Creek GA)	T4S R31E, Section 3, Section 10	2.2	54	-	4.4	-	5	4	-
Deer Creek (Cottonwood Creek GA)	T8S R28E, Section 33, Section 34	0.8	22	-	8.4	-	5	4	-
	T9S R28E, Section 3, Section 4	3.4	90.2	-	-				
Deer Creek (Cottonwood Creek GA)	T8S, R28E, Sec. 32, Section 33	0.3	9	-	7.6	-	6	11	7500
	T9S, R28E, Sec. 3	3.5	98						
Lower NFJD (LNF John Day GA)	T9, R27E, Section 7	0.8	7.3	-	0.8	-	-	1	Approx. 4880

APPENDIX II

Restoration efforts undertaken by the Project and cooperative partners during 2009 where a Riparian Conservation Agreement did not exist.

Stream	Location	Stream (Km)	Riparian (Acres)	Upland (Acres)	Riparian Fence (Km)	Upland Fence (Km)	Water Gaps	Water Developments	Native Plantings
Kelsay Creek (Desolation Creek GA)	T7S R33E, Section 29	1.6	100	-	4.4	-	-	-	-

APPENDIX III

Results from cross section surveys extended 10 meters onto either bank.

Lower Camas Creek Untreated					
0 - Left	42% Cobble	35% Grass	23% Tree Mat		
0 - Right	65% Grass	35% Tree Mat			
70.5- Left	67% Grass	33% Tree Mat			
70.5 - Right	50% Cobble	37% Grass	13% Tree Mat		
Lower Camas Creek Treated					
39.6 Left	53% Cobble	36% Grass	5% Tree Mat	3.5% Sedge	2.5% Willow
39.6 - Right	96% Grass	4% Hawthorn			
150 - Left	81% Grass	14% Tree Mat	5% Cobble		
150 - Right	51% Grass	47% Cobble	2% Willow		
245 - Left	73% Grass	14% Cobble	13% Tree Mat		
245 - Right	37% Grass	27% Tree Mat	20% Spring Channel	10% Backwater	6% Cobble
Lower Snipe Creek Creek Untreated					
5.6 Left	84% Grass	15% Rush			
5.6 Right	100% Grass				
12 Left	100% Grass				
12 Right	75% Rush	25% Grass			
Lower Snipe Creek Creek Treated					
32 - Left	100%Grass				
32 - Right	100%Grass				
64 - Left	100%Grass				
64 - Right	100%Grass				
Upper Snipe Creek Untreated					
Water Gap #2 Left	88% Grass	12% Mud			
Water Gap #2 Right	100% Grass				
Water Gap #4 / 17 - Left	47% Sand	44% Grass	9% Mosses		
Water Gap #4 / 17 - Right	48% Grande Fir	40% Pondorsa Pine	6% Grass	6% Wild Rose	
Water Gap #4 / 32 - Left	100% Grass				
Water Gap #4 / 32 - Right	75% Grass	25% Grand Fir			
Upper Snipe Creek Treated					
29 - Left	64%Grass	30% Snowberry	6% Strawberry		
29 - Right	56% Grass	30% Snowberry	14% Alder		
91 - Left	40.5% Grass	37.5% Snowberry	13.5% Sedge	8.5% Grande Fir	
91 - Right	45.5% Snowberry	26.5% Grande Fir	29% Grass		
Owens Creek Treated					
0 - Left	100% Grass				
0 - Right	100% Grass				
1 - Left	100% Grass				
1 - Right	99% Grass	1% Willow			
2 - Left	100% Grass				
2 - Right	100% Grass				
Deer Creek Untreated					
9 - Left	100% Grass				
9 - Right	48% Grass	25.5% Dirt	25.5% Dry Grass	1% Willow	
Deer Creek Treated					
Below Untreated #8 - Left	80% Grass	20% Sage Brush			
Below Untreated #8 - Right	50% Dry Grass	39% Willow	11% Golden Horsetail		
Above Untreated #28 - Left	35% Dry Grass	35% Sage Brush	30% Grass		
Above Untreated #28 - Right	59% Golden Horse Tail	40% Grass	1% Willow		

Codes/metrics used for longitudinal and cross sectional transects.

Bank Stability
No vegetation, stable, no erosion - 1
No vegetation, unstable, actively eroding - 2
Vegetation, stable, no erosion - 3
Vegetation, unstable, actively eroding - 4
Substrate
Organics
Silt
Sand
Gravel = 6mm - 6.4cm
Cobble = 6.4cm - 15.3cm
Rubble = 15.3cm - 30.6cm
Boulder = 30.6cm - 91.5cm
Bedrock = > 91.5cm
Wood Class
1 - Absent
2 - Wood present
3 - Wood present, some cover
4 - Wood present, med. To large, good cover
5 - Large wood, large jams

Results from longitudinal habitat survey results for restoration sites and averaged across all measured habitats in a transect.

	Depth (m)	Width (m)	Length (m)	% Slope	Flood Prone Width (m)	Bank Full Width (m)	Right Bank Stability	Left Bank Stability	% Organics	% Silt	% Sand	% Gravel	% Cobble	% Rubble	% Boulder	% Bedrock	% Shade Left	% Shade Center	% Shade Left	Wood Class	Species
Lower Camas Creek Untreated																					
Riffle	0.10	6.3	11.7	3.20	> 100	34.8	1.0	1.0	10.0	2.5	5.0	56.3	26.3	0.0	0.0	0.0	0.0	0.0	0.0	1	-
Glide	0.29	5.2	37.9	<0.05	> 100	23.5	1.0	1.0	6.7	28.3	16.7	33.3	13.3	1.7	0.0	0.0	0.0	0.0	0.0	1	Z
Lower Camas Creek Treated																					
Riffle	0.15	5.7	20.8	0.90	> 100	19.4	3.1	3.4	4.4	5.0	0.0	42.2	44.0	4.4	0.0	0.0	0.0	0.0	4.0	1	Z/ST
Glide	0.28	6.8	40.4	< 0.05	> 100	18.1	3.0	3.2	4.4	5.0	0.0	42.2	44.0	4.4	0.0	0.0	5.7	2.8	10.0	1	Z/ST
Scour Pool	0.32	3.6	9.1	< 0.05	> 100	19.8	3.0	3.3	23.3	25.0	0.0	28.3	21.7	1.7	0.0	0.0	0.0	0.0	0.0	2	Z/ST
Back Water	0.18	2.7	11.5	< 0.05	> 100	23.6	2.0	3.0	57.5	23.8	1.3	12.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	1.25	Z
Side Channel	0.20	6.3	>40	< 0.05	> 100	39.1	3.0	3.0	70.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	80.0	1	Z/ST
Lower Snipe Creek Untreated																					
Lower Water Gap - Glide	0.19	2.0	3.1	<0.05	18.8	3.7	2.7	2.0	11.7	88.3	0	0	0	0	0	0	0	3.3	0	1	Z
Lower Water Gap - Riffle	0.03	1.3	1.4	<0.05	18.8	3.7	2.0	2.0	100.0	0.0	0	0	0	0	0	0	0	0	0	1	
Upper Water Gap - Glide	0.11	6.0	10.0	<0.05	20.7	6.0	4.0	4.0	90.0	90.0	0	0	0	0	0	0	0	5	5	1	ST/Z
Lower Snipe Creek Treated																					
Glide	0.11	1.0	52.2	<0.05	10.5	3.6	4	4	31.4	53.3	46.7	0	0	0	0	0	76.7	70	96.7	1	Z
Riffle Pool	0.09	0.6	13.0	<0.05	13.2	4.1	4	4	30	70	0	0	0	0	0	0	10	20	80	1	-
Riffle	0.35	0.3	41.6	<0.05	10.2	2.4	3	4	35	60	5	0	0	0	0	0	0	0	0	1	-
Upper Snipe Creek Untreated																					
Water Gap #2 - Glide	15.7cm	1.6m	4.67m	-	> 40m	2.8m	2.8	2.8	2.5	56.3	21.25	17.5	2.5	0	0	0	57.5	60	60	1.2	Z/St.
Water Gap #2 - Riffle Pool	8cm.	1.5m	1.7m	-	> 40m	2.1m	2	2	0	50	50	0	0	0	0	0	100	100	100	1	-
Water Gap #2 - Riffle	4cm	.8m	3.1m	-	> 40m	2.2m	2	2	5	5	20	65	5	0	0	0	0	0	0	1	Z/St.
Water Gap #4 Riffle	0.05	0.9	3.6	6.5	19.7	2.9	2.7	3.3	16.7	6.6	50.0	15.0	10.0	1.7	0.0	0.0	83.3	73.3	60.0	1.7	-
Water Gap #4 Glide	0.12	1.1	3.4	1.3	18.6	2.7	1.7	2.7	8.3	40.0	25.0	11.7	13.3	1.7	0.0	0.0	80.0	80.0	90.0	1.3	Z/ST
Water Gap #4 Riffle Pool	0.08	1.2	13.7	4.2	17.2	1.6	3.0	3.0	17.5	15.0	20.0	20.0	20.0	5.0	2.5		50.0	55.0	60.0	1.0	-
Upper Snipe Creek Treated																					
Glide	0.10	1.2	3.6	1.0	16.1	2.1	3.1	2.7	5.0	29.5	42.7	18.2	3.6	0.9	0.8	0.0	91.8	85.5	92.7	1.5	ST

Riffle	0.04	0.9	6.2	5.0	16.7	1.9	2.8	2.8	13.5	6.5	43.0	24.0	11.0	2.0	0.0	0.0	91.0	89.5	97.0	1.9	ST
Side Channel	0.06	1.0	2.0	<0.05	13.4	3.6	4.0	4.0	5.0	35.0	50.0	10.0	0.0	0.0	0.0	0.0	100.0	100.0	100.0	4.0	
Deer Creek Untreated																					
Riffle Pool	0.09	1.5	19.9	0.9	10.5	2.3	3.0	3.0	60.0	0.0	0.0	10.0	30.0	0.0	0.0	0.0	80.0	50.0	80.0	1.0	-
Deer Creek Treated																					
Below Water Gap - Glide	0.3	1.7	17.5	0.3	17	1.8	3	3	70	20	5	5	0	0	0	0	100	50	100	1	-
Below Water Gap - Riffle	0.125	1.35	14.85	0.8	19.7	1.75	3	3	55	0	0	2.5	37.5	5	0	0	100	15	100	1	-
Above Water Gap - Riffle	0.12	1	15	1.9	10.2	1.7	3	3	50	0	0	5	35	10	0	0	100	20	100	1	-
Above Water Gap - Dry Channel	-	2.3	4.8	0.4	27.7	2.3	3	3	90	0	0	10	0	0	0	0	100	90	100	1	-
Above Water Gap - Glide	0.375	1.85	10	0.2	25.3	2.1	3	3	25	65	0	10	5	0	0	0	100	55	100	1	-
Above Water Gap - Side Channel	0.11	0.6	7.1	2.3	10.2	0.6	3	3	50	0	0	5	40	5	0	0	100	30	100	1	-
Above Water Gap - Back Water	0.25	1.8	7.6	0.1	10.6	1.8	4	3	50	45	0	0	5	0	0	0	80	0	100	1	-

Results from cross section habitat surveys for restoration sites. Data was averaged where multiple habitat types existed within a reach.

	Habitat Type	Land Use	Right Bank Stability	Left Bank Stability	Wet Width (m)	Bank Full Width (m)	Flood Prone Width (m)	% Organics	% Silt	% Sand	% Gravel	% Cobble	% Rubble	% Boulder	% Bedrock	% Shade Right	% Shade Center	% Shade Left	Wood Class
Upper Camas Creek																			
XS - 1	Glide	Riparian	3	3	15.25	21	> 50	5	0	0	45	40	10	0	0	0	0	0	1
XS - 2	Riffle	Riparian	3	3	12.5	35.9	> 50	5	0	0	50	35	10	0	0	0	0	0	1
XS - 3	Riffle	Riparian	1	1	11.8	21.8	> 50	5	0	0	50	40	5	0	0	0	0	0	1
XS - 4	Riffle	Riparian	3	3	9.2	24.4	> 50	0	0	0	50	40	10	0	0	0	0	0	1
XS - 5	Riffle	Riparian	1	3	9.5	31.7	> 50	0	0	0	15	35	50	0	0	0	0	0	1
XS - 6	Riffle	Riparian	3	3	12.6	24.9	> 50	5	0	0	35	40	20	0	0	0	0	0	1
XS - 7	Riffle	Riparian	4	3	16.45	24.4	> 50	0	0	0	45	40	15	0	0	0	0	0	1
XS - 8	Glide	Riparian	3	1	10.7	18.3	> 50	0	0	0	40	35	25	0	0	100	0	100	1
XS - 9	Riffle	Riparian	3	3	14.4	21.1	> 50	0	0	0	40	50	10	0	0	0	0	100	1
XS - 10	Riffle	Riparian	4	3	12.6	21.2	> 50	5	0	0	30	40	20	5	0	100	0	100	1
XS - 11	Riffle	Riparian	3	3	12.8	26.7	> 50	5	0	0	20	50	20	5	0	0	0	100	1

XS - 12	Glide	Riparian	3	3	14.2	18.9	> 50	10	0	0	35	30	20	5	0	0	0	0	1
Lower Camas Creek Untreated																			
0	Riffle	Riparian	3	1	16.7	32.05	> 100	10	20	0	50	20	0	0	0	0	0	0	1
70.5	Glide	Riparian	3	2	8.1	21	> 101	10	30	0	50	10	0	0	0	0	0	0	1
Lower Camas Creek Treated																			
39.6	Riffle	Riparian	2	3	5	33.6	> 100	0	0	0	70	30	0	0	0	0	0	0	1
150	Scour Pool	Riparian	3	2	74	17.35	> 100	0	40	0	40	20	0	0	0	0	0	0	1
245	Riffle	Riparian	3	3	15.65	18.15	> 100	20	20	0	35	25	0	0	0	0	0	0	1
Lower Snipe Creek Untreated																			
5.6	Glide	Water Gap	4	4	4	5.2	20.7	10	90	0	0	0	0	0	0	0	30	0	1
12	Glide	Water Gap	2	2	2.4	3.7	18.8	0	100	0	0	0	0	0	0	0	0	0	1
Lower Snipe Creek Treated																			
32	Glide	Riparian	4	4	0.7	4.1	15.1	40	40	20	0	0	0	0	0	90	0	100	1
64	Glide	Riparian	4	4	1.1	1.5	16.5	90	10	0	0	0	0	0	0	70	10	40	1
Upper Snipe Creek Untreated																			
Water Gap #2	Glide	Heavy Grazing	2	2	1.5m	3m	> 40m	15	85	0	0	0	0	0	0	40	10	0	1
Water Gap #4-17	Glide	Heavy Grazing	1	1	1.2	4.4	33	0	60	30	0	10	0	0	0	100	30	0	2
Water Gap #4-32	Riffle	Heavy Grazing	4	4	1.3	1.75	19.5	30	0	20	10	30	10	0	0	90	50	0	2
Upper Snipe Creek Treated																			
29	Riffle	Riparian	3	3	0.6	2.1	23.3	10	5	0	85	0	0	0	0	100	100	100	1
91	Glide	Riparian	3	3	1.35	1.6	9	5	75	10	0	10	0	0	0	90	30	90	1
Owens Creek Treated																			
0	Glide	Riparian	3	3	7	9.1	>40	10	20	5	50	15	0	0	0	0	0	0	1
1	Riffle	Riparian	4	3	4.5	5.6	>40	50	5	0	40	5	0	0	0	0	0	0	1
2	Glide	Water Gap	4	3	2.5	31	>40	60	0	0	30	10	0	0	0	0	0	0	1
Deer Creek Untreated																			
9	Riffle Pool	Water Gap	3	3	1.6	2.6	10.8	50	5	0	10	35	0	0	0	80	50	80	1
Deer Creek Treated																			
Below Untreated #8	Riffle	Riparian	3	3	1.55	2.6	10.2	10	0	0	30	30	30	0	0	80	40	70	1
Above Untreated #28	Riffle	Riparian	3	3	0.9	1.6	17	30	0	0	70	0	0	0	0	100	5	100	1

N.F. John Day																			
30 East	Glide	Riparian	3	3	53.9	65.7	87	0	0	0	30	70	0	0	0	0	0	0	1
130.5 East	Riffle/Glide	Riparian	3	3	47.3	65.6	81	0	0	0	20	80	0	0	0	0	0	0	1
35 West	Glide	Riparian	3	3	26.3	68.1	78	0	0	10	10	80	0	0	0	0	0	0	1
36 West	Glide	Riparian	3	3	11.4	68.1	78	10	0	0	90	0	0	0	0	0	0	0	1
100 West	Glide	Riparian	4	3	33.5	61.2	74	40	0	0	60	0	0	0	0	0	0	0	1
100 West	Glide	Riparian	3	4	20.7	61.2	74	0	0	0	70	30	0	0	0	0	0	0	1