

United for the benefit of all





UCUT... dedicated to the ______ restoration and best management practices for the ecosystem as a whole.



he Upper Columbia United Tribes–comprised of the Coeur d'Alene Tribe, Confederated Tribes of the Colville Reservation, Kalispel Tribe of Indians, Kootenai Tribe of Idaho, and the Spokane Tribe of Indians–unify in a cost-effective and efficient de-centralized manner on issues of common concern: to protect, preserve, and enhance Treaty and Executive Order tribal rights, sovereignty, culture, fish, water, wildlife, habitat and other interests and issues for the benefit of all people.

The UCUT associate with nearly 20,000 enrolled tribal members with management authority and responsibility of approximately 2 million acres of reservation land, 14 million acres of aboriginal territories, over 500 miles of waterways, 40 interior lakes, and 30 dams and reservoirs.

The natural resources managed by the UCUT yield millions of dollars annually to the fishing, hunting, sustainable forestry, and recreation economies in North Idaho and Eastern Washington, and directly provide hundreds of jobs.

Over the past 20 years, the UCUT have developed and implemented hundreds of projects. The sum of all these projects' metrics are depicted in the following table that aggregate the accomplishments of many activities.

The Metrics Table combines anadromous fish, resident fish and wildlife projects, and includes BPA, NRDA, PCSRF, BIA, PUDs, tribal, and other funding sources:

Metric	Unit	Coeur d'Alene Tribe	Confederated Colville Tribes	Kalispel Tribe of Indians	Kootenai Tribe of Idaho	Spokane Tribe of Indians
Instream Habitat	Stream Miles Enhanced	13.5	28.6	27.2	15	9.8
Terrestrial Habitat Projects	Acres Enhanced	1,715	183	780	250	2,300
Land Acquisition Projects	Acres Protected (Acquired)	5,646	66,730	4,937	1,101	11,505
Fish Passage Projects	Number of Barriers Removed	4	22	16	3	4
	New Stream Miles Accessible	7.24	74.7	44.7	3	2.5
Hatchery Projects	Number of Fish Released	7,300	200-500,000	40,000	38,000	2,606,600
Non-native Fish Removed	Number of Fish Removed	8,202	NA	42,384	NA	NA
Planning/ Management Documents	Number of Documents Developed	21	22	23	32	14
Reasearch, Monitoring & Evaluation Projects	Miles of Stream Monitored	280	735	655.7	248	326.2
	Number Lakes (Acres) Monitored	7 (13,499)	6 (6,338)	33 (28,786)	4 (96,498)	5 (258)
	Number Acres Monitored	334,471	66,300	5,000	1,101	2,000

Glossary:

- In-stream Habitat this work includes stream-bank restoration; fencing; re-vegetation; creation of large, deep sturgeon pools; and piscicide treatments for native fish re-introduction.
- Terrestrial Habitat Projects wetland, riparian, and upland work; invasive weed control (eradication); upland afforestation and other forestry actions; native grass, tree, shrub, and cover crop plantings and exclusionary fencing.
- Hatchery Projects the average annual number of fish released. This fish production includes kokanee, rainbow trout, white sturgeon, large-mouth bass, and burbot and is used for harvest and conservation purposes.

- Non-native Fish Removed this metric includes mechanical removal, creel, fishing derbies, bag limits, gear and other restrictions. NA means "Not Available" at this time.
- Planning/Management Documents the full list of documents can be found at each tribe's web site.
- Reasearch, Monitoring and Evaluation Projects includes survey methodologies for large game movement and population dynamics; waterfowl migration, pair and brood counts; osprey, herpetology, beaver, gastropod, and wolf and other forest carnivore surveys; fish population, genetics, passage, and migration monitoring; habitat and water quality surveys.

Coeur d'Alene Tribe

Developing Whole Watershed Restoration Approaches The Coeur d'Alene Tribe has implemented an ambitious monitoring and evaluation program for large-scale restoration completed in the upper Benewah Creek watershed. The Tribe is seeking a long-term approach to:

- Better inform management decisions
- Validate assumptions associated with ecological restoration
- Demonstrate outcomes to stakeholders
- Contribute to the understanding of landscape-scale ecological restoration.

The Tribe identified critical ecological and habitat factors limiting the recovery of native westslope cutthroat trout and wildlife species with cultural significance to the Tribe within



the 39,000 acre watershed. With funding provided through the Bonneville Power Administration, the Tribe was able to purchase high priority properties for conservation and restoration.

Conservation and recovery of native trout species is a primary concern for the Coeur d'Alene Tribe. Within priority areas, the Tribe wants to address all of the impairments that have been identified as a means of moving aquatic and terrestrial habitats toward a re-expression of their natural potential.

Rehabilitation of these and adjacent lands has resulted in significant improvement to habitats for fish and reconnection of the channel and floodplain over more than 3.5 miles. Importantly, intensive monitoring informed an

adaptive approach to restoration that began with reconstruction of the degraded channel. This gave way to a less intrusive and more cost effective approach emulating the hydraulic effects of in-channel wood and beaver dams to simultaneously restore riparian plant communities,

Benewah Creek



Case Studies

In the following section, each of the Upper Columbia United Tribes provide individual case studies of projects that illustrate some of the many and varied successes of their work to enhance, protect, and restore natural resources in and around their reservations. Also included are a couple of the UCUT unified projects that all five of the tribes work on collectively.

Restoration Project Category

fish and beaver habitat. Continued monitoring seeks to evaluate the seasonal use of these improved habitats and the relationship between restoration and changes in trout growth and survival. Simultaneously, the Tribe has taken additional steps including:

1. Analyzing ecosystem processes likely to influence the productivity of fish communities, and

2. Identifying and scaling restoration actions to match the geographical distribution of fish populations.

The Tribe created a system to prioritize each of the sub-basins within the watershed. A set of measurable objectives was developed, and each tributary was assessed related to several ecosystem processes. A comprehensive list of actions was then developed to improve habitat, such as:

- Culvert replacements
- Adding wood to streams
- Managing sensitive riparian areas
- Upgrading forest roads

Finally, the Tribe came up with a prioritized project list, and is looking to various partners to fund the work. This has set the stage for the implementation of a closely reasoned program of watershed rehabilitation to take place over the next decade or longer.



Confederated Tribes of the Colville Reservation

Confederated Tribes of the Colville Reservation Memorandum of Agreement (MOA) with the Federal Action Agencies

The Confederated Tribes of the Colville Reservation (CTCR) and the Federal Action Agencies have agreed to a 10-year agreement that will provide funds to implement 31 critical salmon and steelhead, resident fish and wildlife projects



Subbasin and above Chief Joseph and Grand Coulee

The identified fish and wildlife projects are designed to restore health, sustainable salmon and steelhead, resident fish and wildlife populations to the upper

Columbia River basin. These projects were developed to complement restoration efforts underway by other regional groups, agencies and local citizens.

The MOA is designed to direct actions that aggressively address factors which limit anadromous fish, resident fish and wildlife populations. Of particular importance are the actions regarding reversing the trend toward extinction of the Upper Columbia summer steelhead.



Core anadromous, resident fish and wildlife programs slated for implementation include:

Salmon and Steelhead Projects:

- Implement Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan
- Omak Creek Fish Passage
- Salmon Creek Project
- Okanogan River Habitat Improvement
- Okanogan River Water Acquisition
- Land and Water Acquisition
- Develop Locally Adapted Okanogan Steelhead Broodstock and Recondition Steelhead Kelts
- Chief Joseph Hatchery
- Selective Harvest Gear Evaluation
- Selective Gear Deployment
- ESA Fish and Wildlife Law Enforcement
- Okanogan Basin Monitoring and Evaluation
- FCRPS Water Management Studies
- Adult Salmon and Steelhead Passage Investigations
- **Resident Fish and Wildlife Projects:**
- Chief Joseph Kokanee Enhancement
- Lake Roosevelt Rainbow Habitat Improvement
- Colville Hatchery
- Resident Fish Research-Monitoring and Evaluation
- Bridge Creek Water Rights Transfer
- Twin Lakes Enhancement
- Resident Fish Loss Assessment
- Rufus Woods Harvest Augmentation with Feminized Triploid Rainbow Trout and Creel
- Lake Roosevelt Habitat Enhancement Structures
- Lake Roosevelt Burbot Population Assessment
- White Sturgeon Enhancement
- Rufus Woods Redband Rainbow Trout Broodstock Net Pens
- Lake Roosevelt Floating Habitat Enhancement Structures
- Colville Tribes Wildlife Land Acquisition
- Wildlife Mitigation, Hellsgate Project, Operation and Maintenance
- Omak Lake Parcels Acquisition

This Tribal-Federal partnership will ensure committed resources to address the Endangered Species Act requirement for Upper Columbia River salmon and steelhead associated with the operation of the Federal Columbia River Power System.

Okanogan Subbasin **Colville Reservation** North Half

Kalispel Tribe of Indians

Rrook Trout Fradicat

Westslope cutthroat trout (WCT) are culturally significant to the Kalispel Tribe and recovery of extirpated (locally extinct) populations is a major program goal. In the 1990s, WCT were extirpated in upper Cee Cee Ah Creek due to displacement by brook trout. Natural re-invasion of the treatment area is impossible due to Cee Cee Ah Falls. To combat this problem, the Tribe:

- Applied rotenone (a piscicide) to 5.2 miles of Cee Cee Ah Creek between 2008 and 2010.
- Successfully eradicated 6,000 non-native brook trout.
- Translocated 100 adult WCT from neighboring tributaries.
- Incubated 2,000 eggs in remote site incubators (RSIs).
- Successfully produced swim-up fry in RSIs.
- Documented natural reproduction of translocated adults.

Northern Pike Suppression

Illegally introduced northern pike have become established in Box Canyon Reservoir (BCR) of the Pend Oreille River, Washington, and have expanded exponentially. While this exciting new fishery produced a 20-fold increase in angler effort, northern pike threaten recovery of Endangered



Species Act (ESA)-listed bull trout and conservation of WCT, other native species, and declining populations of gamefish. In addition to posing a risk to the ecological health of the Pend Oreille watershed and resources important to the Kalispel Tribe, pike emigration and establish-

ment in downstream reservoirs also pose significant risks to the anadromous fisheries of the Columbia River and ESA recovery efforts.

After extensive study of distribution, movement and habitat use, reproduction, diet, growth and population structure, resource managers developed biological objectives and measures to reduce the adult



BCR pike population by 87%. These include: Public education and outreach, regulation changes,

- fishing derbies and mechanical suppression.
- 3-year mechanical suppression program using gill nets (2012-2014).
- Kalispel Natural Resource Department (KNRD) set 1,031 overnight gill nets in targeted spawning locations and removed a total of 5,808 pike.
- PikePalooza fishing derbies; 68 anglers harvested 233 pike.
- Reduced mean catch-per-effort from 13.2 northern pike (NP)/net to 1.2 NP/net in two seasons.
- A reservoir-wide warmwater fisheries survey will take place in 2014 and when compared to previous surveys, will illustrate the changes to the fish assemblage in BCR.



Kootenai Tribe of Idaho

Kootenai River Native Fish Conservation Aquaculture Program

The Kootenai Tribe's aquaculture program began in 1989 as a small experimental hatchery for Kootenai River white



sturgeon. The program has since evolved to include many aspects of native fish restoration and aquaculture. The primary purpose of the aquaculture program is to prevent extinction of Kootenai sturgeon and reestablish a native burbot population. The Tribe will begin facility upgrades at

the existing Tribal Hatchery and construction of a new Twin Rivers Hatchery in 2013. The new Twin Rivers Hatchery will include sturgeon and burbot conservation aquaculture.

Kootenai River Ecosystem Restoration Project

The Ecosystem Improvement Project includes nutrient restoration and extensive biomonitoring. This project addresses nutrient losses associated with elimination of large



loss of floodplain and side channel connectivity. The goal of the project is to recover a productive, healthy and biologically diverse Kootenai River ecosystem. The Tribe implements this project in collaboration with Idaho Department of Fish and Game.

Kootenai River Habitat Restoration Program The Kootenai River Habitat Restoration Program is a large-



scale, ecosystem-based habitat restoration program designed to restore and maintain Kootenai River habitat conditions that endangered Kootenai River white sturgeon, burbot and

include planning, data collection and analysis, design, and phased implementation of multiple habitat restoration projects.

Albeni Falls Wildlife Mitigation

The purpose of Albeni Falls Wildlife Mitigation Project is to protect, enhance, and maintain wetland and riparian wildlife habitats as part of ongoing impacts associated with the Albeni Falls hydroelectric project, within the Kootenai Tribe's lands (i.e., Pend Oreille and Kootenai Subbasins). Wildlife impacted by the Albeni Falls Project include migratory waterfowl, raptors, deer, bear and moose, which are all significant species to the Kootenai tribal community.

Kootenai River Floodplain Ecosystem Operational Loss Assessment, Protection, Mitigation and **Rehabilitation Project**

The Operational Loss Assessment and Mitigation Project developed a set of tools to assess and monitor abiotic and biotic changes in the ecosystem and the overall condition of the floodplain ecosystem. These tools allow for

prioritization, monitoring, and cumulative assessment of potential mitigation projects and enhance our understanding of their contribution to ecosystem restoration.

Reconnect Kootenai River with Historic

Floodplain Project The primary goal of the Reconnect Project is to restore floodplain habitats and functions, depressional wetlands,

stream channels, and riparian areas to support critical life stages for species and populations dependent on floodplain productivity. Sustainable, long-term benefits to the Kootenai subbasin include reconnecting tributaries to the mainstem Kootenai River, restoring lentic/wetland environments, and improving the natural cycling of carbon and related nutrients.



Spokane Tribe of Indians

McCov Lake Watershed Stream Reconnect Project McCoy Lake was a culturally significant gathering place for the Spokane Tribe. Historically, much of the stream had been channelized to support early land use practices such as raising livestock and farming. This altered the stream's



vegetative structure and wetland function. The **McCoy Watershed Stream Reconnect Project offered** a holistic, ecosystem approach to natural resource restoration on the Spokane Indian Reservation with the goal to restore wetland function and recharge

purchase, consolidation and restoration efforts. The McCoy Lake Watershed Stream Reconnect Project activities were funded through Bonneville Power Administration, Environmental Protection Agency, Natural Resource Conservation Service, and Northwest Indian Fisheries Commission.

Lake Roosevelt Artificial Production Program

Construction of Grand Coulee Dam and the creation of Franklin D. Roosevelt Lake blocked waters historically used by anadromous fish and greatly altered the natural ecology



of the upper Columbia River. Fishing opportunities in Lake Roosevelt were seriously diminished by the changes. In the late 1980s, stakeholders around Lake Roosevelt collected money to buy net pens to raise rainbow trout for release into Lake Roosevelt. Using a small number of net

pens, volunteers successfully raised rainbow trout for release in Lake Roosevelt. These early volunteer efforts developed into the Lake Roosevelt Artificial Production Program that operates today. The rainbow trout net pen program is one of the largest volunteer driven artificial production programs in the U.S. with two hatcheries supplying 65 net pens located at seven sites along the 130 mile long lake.



support all life stages of other native fish in a 55mile reach of the Kootenai River in Idaho. Activities

The Lake Roosevelt Fisheries Evaluation Program

McCoy Lake through land

The Lake Roosevelt **Fisheries Evaluation** Program, led by the Spokane Tribe of Indians, is a multiagency collaborative project that works cooperatively with fisheries co-managers (Spokane Tribe of Indians, Confed-



erated Tribe of the Colville Reservation, and Washington Department of Fish and Wildlife), and other project partners to monitor the artificial production program, the native and resident fish community, and the lower trophic levels of Lake Roosevelt. Together the program has established a recreational and subsistence mitigation fishery for hatchery kokanee and rainbow trout that contributes about \$1.8 million annually in local revenue. The suite of projects is funded by Bonneville Power Administration as partial mitigation for anadromous fish loss.



Upper Columbia United Tribes

UCUT Wildlife M&E Program

Using the Albeni Falls Dam Wildlife Monitoring and Evaluation Plan as guidance, the UCUT have pooled 5% of their individual contract resources to initiate the regionally-coordinated and cost efficient UCUT Wildlife M&E Program (UW-MEP). The UWMEP has been endorsed by the Independent Scientific Review Panel (ISRP) and is closely linked to work completed between 2001 and 2006 by the Kalispel Tribe.

The UWMEP objective is to conduct wildlife and habitat monitoring to assess the effectiveness of restoration activities across the ownerships of the five UCUT in northeastern Washington and northern Idaho and on approximately 70,000 acres and over 60 units.

UWMEP uses a habitat-based approach comparing species guild and vegetation data to determine habitat quality

based upon a reference site or desired future condition. Small mammal, breeding bird, amphibian, and vegetation are the four areas of data collection used to build a description of the reference site over a three year period. Once the baseline is completed, permanent sites are selected on each of the managed parcels and data from them is compared against the reference. Each permanent sample point is revisited on varying time frames to track changes toward the reference site.

Once habitat types show strong similarity to the reference condition, actions are considered a success. Information from this analysis will be stored in a common database and accessible online. This information will be used to adaptively manage each project and the techniques used to restore, enhance, or manage each area and habitat type. This approach reduces costs, increases continuity of data collection, data interpretation, data presentation, and data collection methods.





Drumheller Springs

The economy and quality of life for Spokanites and residents of the greater Inland Northwest region are directly tied to our natural environment. With this in mind, the UCUT formally adopted an urban, north-side Spokane Park called Drumheller Springs in 2005. This 10-acre area is owned by the City of Spokane and remains a historic tribal landmark of cultural significance, especially to the Spokane Tribe of Indians. Spokane Chief Garry spent considerable time teaching his people on the land and some native-first foods continue to grow in the highly urbanized environment.

The UCUT staff and tribal members conduct clean up days in the spring and fall to enhance and preserve this beautiful natural area for the benefit and use of all people at no cost to the City. Maintenance efforts include donation of materials, tools, landscaping, installation of park infrastructure, and time and labor as in-kind contributions. In 2011, the UCUT secured funding for and completed a 100-foot long tribal mural on the retaining wall at the eastern boundary of the park.







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