# Q'E'YMINN HE 'ULHNSIKWE'N WATERSHED WRAP

*The Watershed Wrap is now the q'e'ymiṇn he 'ulhnsikwe'n. The translation in the Coeur d'Alene language is, "about the Watershed". The term for watershed means literally everything belonging to the watershed: the water, people, plants, fish, wildlife, cultural uses and air, as well as the impact of our activities!

SPRING/SUMMER 2019 VOL. 21 NO. 1

Semi-annual newsletter from the Coeur d'Alene Tribe's Natural Resources programs describing watershed management efforts. Offering readers food for conversation and paper for wrapping.

## CDA Tribe eagle aviary project update

***By Nathan Albrecht, Wildlife Biologist***

This past fall, our goal of establishing a Tribal facility to house non-releasable eagles was finally achieved. Prior to this, the Wildlife Program had been working with the US Fish and Wildlife Service (USFWS) and Birds of Prey Northwest (BOPNW), the local raptor rehabilitation facility near St. Maries, to get permitted to obtain eagle feathers for Tribal members. A Native American Tribal Eagle Aviary Permit was secured in October of 2016. We then built two enclosures on BOPNW property, and brought them to capacity, housing 8 eagles (4 bald and 4 golden). In November of 2018, we moved the eagles to our new facility and held a grand opening celebration with members of the community and local media.

A mature bald eagle sunning on a perch in the tribal aviary

Aerial view of the tribal aviary, shop, and classroom

A substantial amount of work was required to convert an old homesite into an aviary facility. First, we needed a building that could be used to store food for the eagles, while also serving as a classroom and exam room. With the help of staff from Tribal Facilities, we refurbished an existing shop building to suit these needs. Next came the design and construction of the aviary itself, which would house the eagles. This process was completed by Tribal Fisheries and Wildlife Staff over the course of the summer and fall.

Now that the eagles are home, we are responsible for their daily care. Over the course of last winter, we have had assistance from a group of volunteers from the tribal community that have helped with these daily tasks. We will still partner with BOPNW for routine eagle exams, but the process of gathering food, daily feedings, cage

cleaning, and other tasks will be coordinated by the Wildlife Program. We also began distributing feathers, with over 150 being handed out to tribal members so far. With the eagles shedding over 200 feathers annually, there is ample opportunity for tribal members to acquire feathers. While the management and care of the eagles is a significant responsibility, it is certainly one that is very rewarding to all those involved. ↕

## Improving habitat for native fish in the North Fork Rock Creek

***By Gerald I. Green, Wildlife Biologist***

When was the last time anybody caught a trout in the North Fork Rock Creek? So far the Tribal Wildlife and Fisheries programs can't find an answer to this question. Fisheries Program staff have talked with individuals that saw trout in the North Fork during the spring spawning season near the state line some twenty-five years ago. Sometimes during spawning, trout lose their way and are spotted in unexpected places. The Fisheries Program conducted surveys in the North Fork Rock Creek in 2003 and 2004. Only redside shiners and speckled dace, small fish capable of living in poor quality waters, were found. There are no records of any trout residing in the North Fork Rock Creek in recent decades.

Owing to the lack of a written and oral history related to trout in Rock Creek, as well the warm, turbid waters and the lack of flow during late summer, the North Fork Rock Creek has not been on anybody's radar as a trout stream. But a few bits of information have come to the attention of the Wildlife Program that indicates the North Fork Rock Creek has a potential that is unappreciated.

The Upper Columbia United Tribes (UCUT) have been at the forefront of working to return salmon and steelhead to the streams and rivers above Chief Joseph and Grand Coulee dams along the Columbia River. The Coeur d'Alene Tribe has been active in this process from the beginning. In 2018, UCUT completed an assessment of streams in the Spokane Basin for their intrinsic potential to support steelhead, an anadromous, ocean going, fish. According to this assessment, the North Fork Rock Creek in Washington has a high potential to support steelhead. Inside the Reservation, however, the North Fork has a low potential for steelhead habitat. Marginal habitat for steelhead could easily equate to quite adequate habitat for the resident, native redband trout. As an example, Indian Creek in the southern portion of the Coeur d'Alene Reservation is rated as marginal steelhead habitat; however, it is the current stronghold of resident redband trout populations on the Reservation.

The second promising piece of information is that the Coeur d'Alene Tribe and individual tribal members own, or otherwise have management authority over 9.2 miles of the North Fork Rock Creek from near Conkling Park Road to over a mile downstream from where Highway 95 passes over the stream. In addition, there are two more segments of stream within trust properties that are disconnected from this contiguous 9.2 miles of stream ownership, totaling 0.85 miles. This 10+ miles of the North Fork Rock Creek is the longest stretch of stream within tribal ownership on the Coeur d'Alene Reservation.

In recent years, the Wildlife and Fisheries programs have adopted an approach to stream restoration that emphasizes partnering with beaver as a primary means of restoring fish habitat. Beaver dams are known to slow the loss of water from the landscape and have revived streams from intermittent flow to permanent annual flow. Pools behind beaver dams reduce stream temperatures, remove sediment and promote shade, which greatly improves fish habitats. In general, beaver dam complexes are known for their fish productivity.

The Tribal businesses located along the North Fork Rock Creek present a unique opportunity to experiment with this restoration process. The Tribe's GIS Program recently completed drone flights over the central portion of the continuous 9.2 miles of stream in order to map potential floodplain habitats through the Circling Raven Golf Course and near the Casino. If we can identify where beaver dams can persist without causing trouble, and where their presence is likely to interfere, then the vegetation along the North Fork can be managed accordingly. Since aspen is the highly favored food of beaver, aspen can be allowed to grow where beaver dams won't interfere. Where beaver dams could present a problem, other species such as pine or cedar can be favored to dominate the streamside vegetation. Wildlife Program staff have also been gaining experience using pond levelers that limit the depth of beaver ponds, and exclusionary devices that prevent beaver from plugging stream culverts. With long term planning and near term problem management strategies, fish habitat improvement does not have to conflict with business endeavors.

There are no guarantees. But the outlook is promising enough that the Coeur d'Alene Tribal Council has agreed to allow the Wildlife Program to pursue improving floodplain and streamside habitats along the North Fork Rock Creek through the establishment of Conservation Reserve contracts administered by the Farm Service Agency. Currently, we are only in the second year of efforts to improve riparian/floodplain habitats for native fish in the North Fork Rock Creek. Our general strategy is to proceed slowly and watch closely for conflicts and problems. ↕

## Heroes don't always wear a cape! Teamwork pays off to rescue *doldolq'wt he tt'mikhw*, a great horned owl.

***By Bruce Kinkead, Fisheries Biologist***

Ordinary people working as a team often accomplish extraordinary things simply by caring and doing what they can. Such was the case this past July when a Great-horned owl was seen in distress one Friday afternoon with the weekend approaching.

Andre Walker, a Utility Systems Operator, and Desi Seyler, a Utility Systems Technician, who were working for the Coeur d'Alene Tribe's Public Works Department, observed and approached an owl sitting in a sewer lagoon. Andre and Desi attempted to reach the owl, but the slick black plastic lining the lagoon prevented that and also kept the owl from walking up the bank. While attached to a rope so he did not end up sliding into the pond, Desi placed a branch into the water, then a ladder. Although it did work to get the owl out of the water onto the stick, it remained in need of help. Desi slowly pulled the branch away from the pond, only to have the owl jump off and run into a chain link fence, repeatedly. With the bird unable to help himself, his human rescuers risked their fingers, or worse, and used a jacket, welder's gloves and a rope to immobilize the bird.

Now what to do with the injured bird? Tribal offices referred the rescuers to Birds of Prey Northwest, but no answer from their phone numbers. So Andre and Desi transported the bird down to the Felix Aripa Building in Plummer just as everybody was leaving for the weekend. Bruce Kinkead volunteered to become the ambulance driver for the owl, not knowing if anybody was home at Birds of Prey Northwest. In route, his phone call was returned by Janie and Don Veltkamp and a meeting was set up at Rose Lake for the exchange. This was their seventh rescue of the day!

The Birds of Prey Northwest ranch in St.

Maries is a US Fish & Wildlife Service permitted facility. Janie and Don have been making this huge commitment to saving large birds for the past 25 years. Over the years they have obtained through donations a specialized van for transport, food and building materials for the facility. Injured raptors like this owl often need skilled rehabilitation to get back on the wing. This includes rest and proper food that would have been available to the bird in the wild. Injuries that happen in the wild can take weeks to recover from, and more complicated ones can take months for a full recovery.

The bird was cared for over the weekend and transported to a veterinarian for evaluation and treatment. As it turns out, the owl had a bruised shoulder needing treatment and rest. After nearly a month of rest the owl was ready to be returned to the wild. It was during this time that he was given the Coeur d'Alene name **Doldolq'wt he tt'mikhw,** meaning "Strong Bird", by Dixie Stensgar.

On August 14th **Doldolq'wt he tt'mikhw** was released by Andre Walker at the old tribal courthouse. It was an amazing experience for Desi, Andre, and Bruce, who are anxious for their next opportunity to help out. Birds of Prey Northwest can be found on the internet @ *birdsofpreynorthwest.org* ↕

Andre Walker, Janie Veltkamp and Bruce Kinkead with a healthy "Doldolą'wt he tt'mikhw" ready for release.

## Fisheries technicians at work in the watershed!

***By Mark Stanger, Fisheries technician***

I would like to talk a little about what the Fisheries technician staff has worked on throughout the early field season. Each spring we have several crews that are active on the Reservation, and especially in the Lake, Benewah, and Hangman creek watersheds and on Coeur d'Alene Lake.

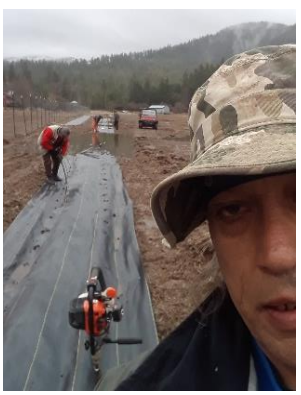
In the beginning of the year we started out doing some restoration plantings at several sites. We planted some hardwood species, including Drummond, Pacific and Coyote willow as well as mountain alder, black cottonwood and quaking aspen. Also included were a few conifers like cedar, spruce, ponderosa pine and lodgepole pine. These plants mainly consist of live cuttings and some saplings/seedlings in 1 and 5 gallon pots. We fenced many planting areas to keep the cattle and wildlife out, giving the plants a chance to grow up and provide the needed shade to keep the temperature in the steams cooler for fish.

Something new for us this year was establishing a 17-acre native plant nursery at Hepton Lake. We planted 16,000 willows consisting of seven different species that will provide live cuttings for restoration projects in the future.

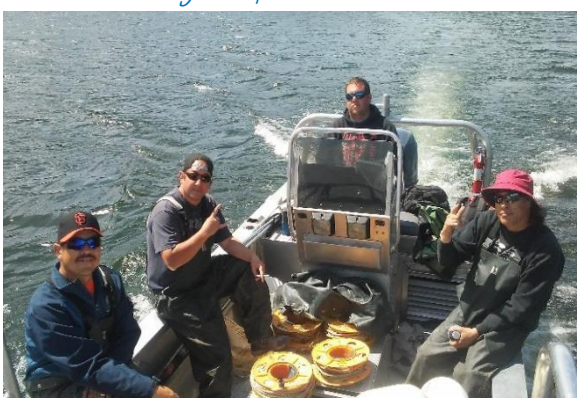
Our crew also worked on pike removal in Coeur d'Alene Lake. This selective netting occurred in Windy Bay and the south end of the lake over a period of about eight weeks. Surplus pike are being donated to local foodbanks.

During this time we also set up our traps to catch spring spawning trout, including cutthroat and redband. During this time of year, these fish migrate up and down the creeks allowing us to catch some in our traps to be tagged, measured and weighed. All of these projects will keep us busy until mid-July, and from there we will begin transitioning to other new projects thought out the summer months. ↕

Technical staff (pictured from left to right) Eric Hendrickson and Mark Stanger launch a screw tap in Lake Creek for the purpose of capturing and monitoring cutthroat trout.



Technicians have been busy this spring planting 16,000 willow saplings to create a tribal nursery at Hepton Lake



Technical staff (pictured from left to right) Glen Lambert, Gene James, Bryan Harper and Todd Johnson

# Spring plantings

***By Gerald I. Green***

**Stream + Aspen + Beaver = Salmonid**

The above formula was first presented in a 2017 Watershed Wrap article and represents a simplified version of one of the Wildlife and Fisheries Programs' strategies for restoring fish habitat on the Coeur d'Alene Reservation. To quickly review: it's not beaver per se that contributes to improvements in trout habitats, but beaver dams impound water upstream that cool water temperatures and store water for the dry season. And while aspen bark may provide the beaver's preferred food and dam building material, beaver will readily forage on the bark of any plant that is a member of the Saliaceae family, which also includes not only aspen but also willows, poplars and cottonwoods. Beaver can also use chokecherry trees, serviceberry trees, hawthorns, and even pine in some circumstances. And the term "stream" implies water flow throughout the year, even if it requires beaver to hold enough water on the landscape to provide that flow.

On the right side of the formula, the term "Salmonid" is preferred because it encompasses the species of fish that traditionally provided an abundance of food to the Discovered Ones (*Schitsu'umsh*). The term includes the redband trout in the Hangman Watershed, which is in the west and southern portions of the Coeur d'Alene Reservation, and the cutthroat trout within the Coeur d'Alene Basin, which make up the north and eastern portions of the Reservation. These are the two resident species of Salmonid fishes that the Coeur d'Alene Tribe's Fisheries and Wildlife Programs work to restore. The term Salmonid also includes the chinook salmon and the steelhead that once returned from the ocean to spawn in at least some of the Hangman streams of the Reservation. If the waters can be improved enough for redband and cutthroat to flourish, then the landscape will be prepared for the return of the larger ocean-going species to their former spawning grounds within the Coeur d'Alene Reservation.

The "Aspen" element of this formula is the focus of the Wildlife Program's restoration efforts during the spring season. This May in the Hangman Watershed alone, Coeur d'Alene Tribal Natural Resource Staff are planting 6,160 native deciduous trees and shrubs grown in tall-one gallon containers. These tall-one plantings were spread over 75.9 acres and were dispersed such that they will contribute to riparian/floodplain habitats along just over 3 miles of stream channel. Tall-one containers are specialized one-gallon pots that are tall and narrow. They are widest at that top but even at that point they are no wider than 4 inches. These tall-ones provide extended root systems that can reach deeper into soils than standard one-gallon containers. We find that plants with these deeper roots can more readily reach water and are more likely to survive through the dry season. Tall-ones also have the added advantage of fitting easily into a hole dug by a 4-inch auger, which makes for relatively quick planting.

Aspen make up a quarter of the plantings. The closely related cottonwood and willow make up another quarter. The remaining tall-ones are made up of alder, serviceberry, birch, and chokecherry. While the favored foods make up the bulk of those plantings, beaver use of the others species has also been documented.

We have discovered that nursery stock is particularly appealing to rodents, deer, elk and beaver. While we are planting in order to provide habitat for these species, they must survive the initial browsing in order to achieve that goal. Heavy browsing in the first couple of years will kill the plants, which eliminates any long-term benefit. Our early planting efforts were always accompanied by fencing to keep the elk, deer and beaver away from the new plantings. The plan was to remove the fencing as soon as the plants were above elk and deer browsing height, which is about 6 feet. But recently we've found that establishing and maintaining ever expanding fencing exclosures also slows our progress as it overwhelms both our available manpower and budgets. Also, fencing does nothing to deter girdling of freshly planted tall ones by deer mice and voles. This girdling damage has been as damaging as browsing from the deer, elk or beaver. Loss of planted tall ones to browsing and summer drought delays establishment of native habitats. We have added plant protectors, which are plastic tubes that encircle the first two feet of the stems to deprive the small rodents access to the base of the plants.

We still loose plants despite the deeper root system, fencing and plant protectors and browsing and continually search out ways to maximize plant survival and establishment. Most recently, we have experimented with a product called Repellex, which

contains capsaicin, a hot chili compound. Since the plants from the nursery seem so appealing to browsers, we've asked the nursery to add Repellex to the growing medium in the nursery. Plus we add a couple of tablets at each planting. It is too early to state definitive results, but we are hoping this increases the survival rates for our plantings.

We find that a sustained planting effort each year yields results. Each year we lose plants, but some portion of the plantings survive. Continued effort, year after year, will result in a greater diversity of woody species along the stream channels, which will in turn allow beaver to build dams, which will improve habitat for the Salmonids, which will provide nourishment for the Discovered Ones and their neighbors. ↕

## History of Lovell Valley

***By Barb Scaroni***

If you drive through Lovell Valley today, you will see vast stretches of crop fields in the low lying areas grading into timber up along the ridges that define the valley. Many years ago, this was not the quiet, peaceful place it is today.

Camas ovens and occasional blooms from a few remaining populations indicate that the valley supported large quantities of roots for Tribal gatherers in the distant past. The bunchgrass prairie would have supplied forage for the legendary herds of horses owned by Tribal members. Following the Tribe's decision to leave the Silver Valley and move to the Palouse, small Indian farms began to appear in Lovell Valley. A surveyor in 1871 mentioned that the Coeur d'Alene Indians farmed a considerable portion of the Township. A surveyor in 1905 noted that "the soil of the mountainous portions is a clay loam, free from stones, and capable of producing crops of grain and grass without irrigation; while that of the farming lands is a black loam of great fertility, producing immense crops of wheat and oats, year after year without irrigation, as farmed by Indians and their renters.

By the early twentieth century, two separate railroads ran through Lovell Valley. The lower grade was constructed in the 1880s by the Oregon Railroad and Navigation Company (ORNC). It crossed the Reservation and ended at Burke, built to haul out the rich ores from the Silver Valley. Tribal members rode free on this train within the Reservation. A station at Lovell was a main boarding place. Grain and even sugar beets were shipped from Lovell to market. All evidence of the once-busy Lovell Station is gone. A second railroad, the Chicago, Milwaukee and St. Paul RR was built around 1910. This railroad was constructed higher on the slopes than the ORNC. It crossed high over Tekoa on a trestle and tunneled through a mountain south of Plummer. At the tunnel site, the two railroads intersected; the ORNC crossing above the Milwaukee Road. It must have been a sight to see the two trains there at the same time, one passing over the other. There was a stop for this train too, called Sorrento. If you see this place name, it refers to the area by the old Agency. It must have been exciting to see and hear the daily trains go by.

Many Indian families lived in Lovell Valley. A sampler of family names contains Adrian, Squanquan, Garry, Gates, Paul, Skanen, Nozer, Williams, Moses Brookentooth, Sciattoco, SiJohn, Anasta, Whistocken, Garrick, Ike, Bazil, Polotkin, and Peone. Houses and farms or ranches dotted the valley. Some of the families owned sleighs for winter travel. It must have been difficult to travel the roads in the spring and winter months. In 1907, the road to DeSmet went from Lovell south over the mountain into the Moctelme Creek valley. Possibly that was to avoid the wet lowlands, but it must have been a hard pull for a horse and wagon. Felix Aripa was known to say that families never missed Sunday mass in DeSmet. Today, all but a few of the native people are gone. Think of the stories that the trees and the creeks could tell. ↕

Mary Ann Gates, nearly 100 years old, still produces her own vegetables.

## Fisheries and Water Resources Programs team up for a "Hat Trick" of EPA grants.

***By Bruce Kinkead, Fisheries Biologist***

A third grant has been awarded by the Environmental Protection Agency to help restore riparian communities on the k'wne' 'ulchiyark'wmtsut project located on upper Hangman Creek.

You might occasionally hear a hockey or soccer player scoring three goals in one game referred to as a hat trick. In the dictionary a hat trick is also defined by *a clever or adroitly deceptive maneuver*. Both definitions accurately describe the joy felt last fall in receiving news of an award for $90,000 for plant materials, plant protection, and salaries.

Adaptive management techniques have defined several treatments that have been the most successful: 1) trenching four feet down and placing live willow poles down to ground water level; 2) planting fewer but larger hardwood trees; and 3) using a variety of protective measures including fencing exclusion areas and treating plants with natural deterrents to minimize browse; all to keep the ever hungry populations of elk, moose, deer, and beaver from destroying their future sources once fully established along Hangman Creek. ↕

*Lower reach of k'wne' 'ulchiyark'wmtsut project, Hangman Creek, showing fencing, willows, and (in distance) coned hardwoods planted in the fall of 2018.*

## Coeur d'Alene Tribe Partners with Spokane Falls Chapter of Trout Unlimited to restore Hangman Creek

***By Bruce Kinkead, Fisheries Biologist***

Ordinary people often think, "What can I do, I am only one person? But the Spokane Falls Chapter of Trout Unlimited (SFTU) is showing that one person can make a difference.

Each year they do a Spokane River cleanup, plant willows on Hangman Creek out of canoes, and on this occasion in April, came up to the k'wne' 'ulchiyark'wmtsut project in upper Hangman Creek to plant 600 conifers - both cedar and ponderosa pine. Not only did they plant future shade for Hangman Creek, but they were able to witness a landscape being transformed back into a semblance of its historical condition, and soak up a little tribal culture along the way.

An announcement was made on local news media calling for volunteers, and a dozen people - including some that were not even members of Trout Unlimited - showed up to help. The day started out with a prayer and a dance done by Coeur d'Alene Tribal elder Mark Stanger and his granddaughters. After planting trees in two separate areas the group assembled for a barbecue and a viewing of the Tribal aviary. Another day is planned in the fall for planting large potted hardwoods which SFTU has generously donated to the project. ↕

*Mark Stanger and his granddaughters perform a traditional dance for tree planting volunteers.*

# Momentum building for salmon passage and reintroduction

***By Angelo Vitale, Fisheries Manager***

At the turn of the 20th century, salmon runs into the upper Columbia River watershed supported the culture and livelihood of indigenous peoples and provided an immeasurable ecological benefit throughout the region. Upon completion of multiple hydroelectric facilities including Grand Coulee Dam in 1941 and Chief Joseph Dam in 1961, salmon runs were extirpated from the upper Columbia River and sovereign tribes experienced a complete loss of their way of life and a cultural genocide.

These are the opening words for a ground breaking new report prepared by the Upper Columbia United Tribes (UCUT) that was recently released to state and federal agencies and the public. The complete report, entitled, "Fish Passage and Reintroduction Phase 1 Report: Investigations Upstream of Chief Joseph and Grand Coulee Dams", provides a comprehensive picture into the pre-assessment planning for reintroduction of salmon into the blocked areas of the upper Columbia River and the benefits of providing fish passage at these particular facilities. The release of the report is garnering a lot of attention in the region and marks a groundswell of momentum that is building behind the efforts to bolster the dwindling stocks of pacific salmon that are a cultural icon for the entire Pacific Northwest.

This momentum has been building at least since 2015 when the Columbia Basin Tribes and Canadian First Nations developed a joint paper to inform the federal governments, and other sovereigns and stakeholders on how anadromous salmon can be reintroduced into the upper Columbia River Basin. This paper outlined a phased approach to reintroduction which was further refined and then adopted by the Northwest Power and Conservation Council (NPCC) in the 2014 Columbia River Basin Fish and Wildlife Program. The intent of this approach is to pursue reintroduction using the knowledge gained and successful outcomes derived from sequential phases of research and evaluation.

The recently released UCUT Phase 1 report provides new information related to a number of the key considerations necessary for informing the next phase of salmon reintroductions. This includes information on donor stocks, habitat conditions upstream of the dams, fish survival and production potential in the blocked area, and the effectiveness of fish passage technologies.

The report identified potential donor stocks of fish which would be readily available and have the highest potential for successful reintroduction. Multiple sources of Chinook and Sockeye salmon are available, with Chief Joseph Hatchery summer/fall Chinook and Okanogan River natural-origin Sockeye salmon ranking among the best candidates.

An evaluation of habitat availability and its suitability for salmon spawning, rearing and migration are foundational in assessing the feasibility of reintroducing anadromous species to the waters upstream of Chief Joseph and Grand Coulee dams. In this regard, the report revealed

### *Salmon Reintroduction FAQs*

*Q: Why do Tribes want to bring salmon back?*

A: Restitution. Since time immemorial, indigenous people sustained a way of life dependent on salmon. The Kettle Falls fishery was the second largest Native American fishing site on the Columbia River. Reintroduction will provide mitigation for dams to the area most affected, and will also benefit downstream fisheries and ecosystems.

*Q: Does the State of Washington support this effort?*

A: The State of Washington supports the phased approach for reintroduction of salmon and steelhead above Chief Joseph and Grand Coulee dams. The Washington Department of Fish and Wildlife has been working with the UCUT for several years to complete the feasibility assessment for reintroduction.

*Q: Is there good habitat for them in the blocked area?*

A: The work done so far shows that there are hundreds of miles of streams with habitat that is available and suitable to support tens of thousands of adult salmon and millions of rearing juveniles.

*Q: When will reintroduction occur?*

A: Reintroduction is expected to occur in phases and at various scales over time to meet different purposes. Small ceremonial releases could happen as soon as 2019. Larger experimental pilot releases may not happen for several more years. Reintroduction on a grand scale is dependent upon successful feasibility tests and funding, so it will take much longer.

significant amounts of habitat within the U.S. portion of the blocked area, totaling 711 miles for spring Chinook and 1,610 miles for summer steelhead.

Modeling was used to summarize the potential performance of Chinook and steelhead in select tributaries that are currently accessible above the dams. These results suggest that tributary habitats may produce 2,300 natural origin adult steelhead, 600 spring Chinook and 8,500 summer/fall Chinook. In addition, large river habitat in Rufus Woods Lake (sandwiched between Chief Joseph and Grand Coulee dams) and the free-flowing reach upstream of Lake Roosevelt that extends into Canada, could support 800-15,000 and 5,000-61,000 adult spawners, respectively. Sockeye spawning habitat available in the Sanpoil River drainage alone could support production of well over 34,000 adult fish.

The report also details the results of life cycle modeling that tracks fish numbers from egg to smolt to adult while incorporating survival rates expected during migration through the many hydro projects on the river. Results from one modeling scenario estimate an additional 41,000 summer/fall Chinook and 76,000 Sockeye. These estimates represent increases in adult production of 37% and 24%, respectively, compared to current run conditions in the Upper Columbia River during 2007-2016. The reintroduction effort also has the potential to increase the number of summer/fall Chinook harvested in all fisheries by 24,000 fish, and for Sockeye the number is 21,000 fish

The authors believe the operational and structural conditions at both Chief Joseph Dam and Grand Coulee Dam are conducive for a system that provides safe, timely and effective fish passage. Current and upcoming technologies are available and could lead to low long-term costs. There is a need to investigate all options for efficient and cost-effective passage of adults across these dams and the report outlines multiple options.

The UCUT Phase 1 report confirms that the reintroduction of salmon to the United States portion of the upper Columbia River upstream of Chief Joseph Dam is likely to achieve identified tribal goals given current dam operations, existing riverine and reservoir habitat conditions, donor stock availability, risks to resident fish species, and the likely effectiveness of state-of-the-art juvenile and adult passage technology that could be built at both Chief Joseph Dam and Grand Coulee Dam. Results from the investigations have shown that reintroduction is viable for these species of salmon.

The UCUT and their partners are anxious to proceed to a second phase of research where field studies will be implemented to address key assumptions and, with Federal Action Agency involvement, interim passage facilities will be built, operated and tested to further evaluate the reintroduction effort. The UCUT will be presenting the findings of this report to the NPCC in early June and looks forward to discussions regarding next steps and a timeline for federal partners to join us in future studies. ↕

### *Salmon Reintroduction FAQs*

*Q: How will it affect landowners and businesses upstream?*

A: The presence of salmon in the watersheds upstream of Chief Joseph and Grand Coulee dams won't add any new regulatory burden that is not already in place. The primary guiding document to the reintroduction recommended not using fish listed under the Endangered Species Act. By not using ESA-listed fish the tribes and other partners will have an easier path for obtaining fish to supply the efforts. Finally, we expect the reintroduction effort to have a positive benefit to local businesses in the form of jobs, contracts, fishing and tourism.

*Q: Who benefits from the reintroduction?*

A: When salmon are returned to the Upper Columbia Region after an 80-90 year absence the local tribes who have an ancient and spiritual connection with salmon will feel the immediate benefit. The returning salmon will replenish the streams with nutrients that are important for ecosystem health. With successful reproduction, there will be more juvenile salmon entering the estuary and more adult salmon in the ocean to feed Orcas, seals, seabirds, and entering human fisheries. With larger run sizes there will be local sport fishing opportunities that would increase recreation and tourism.

*Q: Where can I get more information?*

A: https://ucut.org/fish/restoring-salmon-upper-columbia-river-basin/

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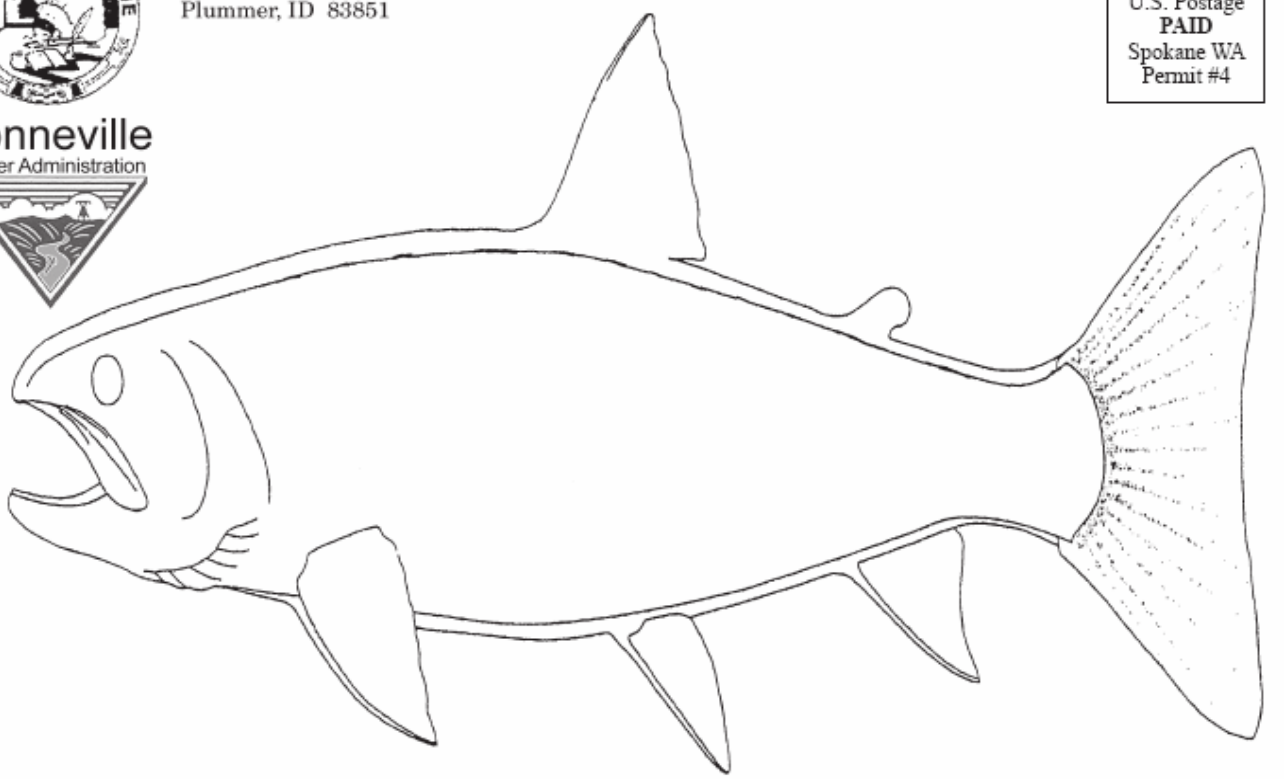

The Coeur d'Alene Tribal Fish and Wildlife Programs work in a variety of cooperative, governmental and educational arenas in efforts to protect enhance and restore our fish and wildlife resources. This publication is intended to provide all people interested in Fish and Wildlife of the Coeur d'Alene Reservation information about our program, and to solicit your support as well as constructive criticism. Thank you for your interest.

*To see more photos and to be the first to know about events happening in our community follow us on the Fish & Wildlife Facebook page @cdatribe.fishandwildlife*