

# Q'E'YMINN HE 'ULHNSIKWE'N

## THE WATERSHED WRAP

\*The Watershed Wrap is now the q'e'yminn he 'ulhnsikwe'n. The translation in the Coeur d'Alene language is, "about the Watershed". The translation 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 2020

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*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.*

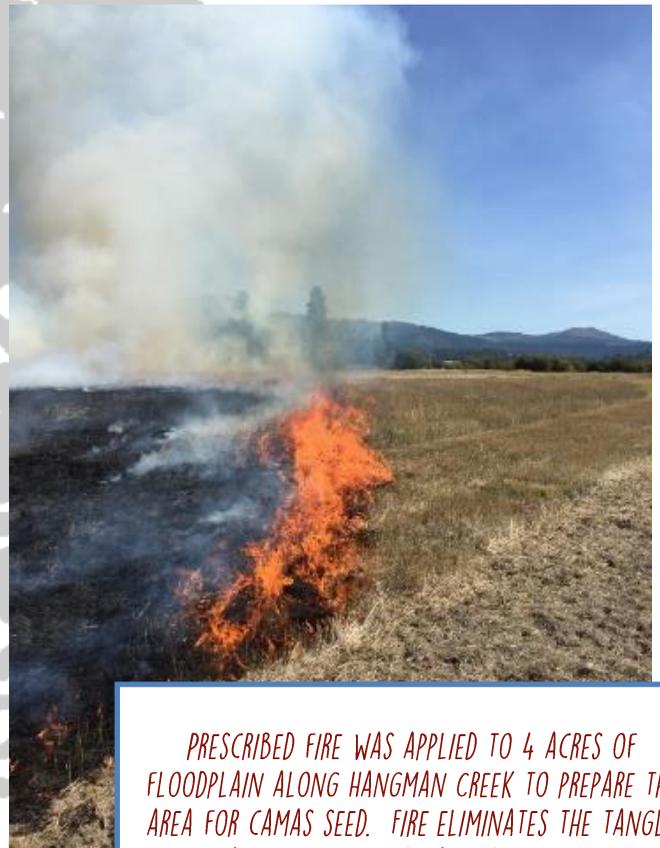
### CAMAS RESTORATION ALONG HANGMAN CREEK

By Gerald I. Green, Wildlife Mitigation Biologist

Last fall, the Wildlife Program spread approximately 60 pounds of camas seed over nearly four acres of Hangman Creek Floodplain. The seed dispersal was a small step toward re-establishing the camas resource along Hangman Creek. It is no secret that, at one time, the floodplains of the Hangman Watershed, and particularly those flats along Hangman Creek up and down valley from DeSmet, were known throughout the region for their camas production.

The restoration of camas meadows along Hangman Creek is a priority for the Wildlife Program. Camas meadows are an important habitat type within a diverse and resource abundant natural valley bottom system within the Hangman Watershed. The well-functioning system once provided many important traditional foods, medicines and cultural resources, including anadromous chinook salmon and steelhead for Tribal consumption.

One view which is supported by a growing body of scientific literature, envisions the intertwined waters of a stream and its floodplain forming a system that provides an abundance of natural resources. In a natural functioning system, the stream, in its annual cycle of flooding and receding, builds and supports the floodplain. Not only does the water rise and fall



*PRESCRIBED FIRE WAS APPLIED TO 4 ACRES OF FLOODPLAIN ALONG HANGMAN CREEK TO PREPARE THE AREA FOR CAMAS SEED. FIRE ELIMINATES THE TANGLE OF GRASSES SO THE SEED FALLS DIRECTLY TO THE GROUND SURFACE, INCREASING THE LIKELIHOOD THAT THE SEED WILL GERMINATE WHERE IT CAN SURVIVE. THE TRIBE HAS USED FIRE FOR THIS PURPOSE, AS A MANAGEMENT TOOL, FOR MILLENNIA.*





PALOUSE CAMAS  
PHOTO BY: AARON PENNEY

with the annual cycle of precipitation, but through the continuing natural process of erosion and deposition a stream also moves back and forth across its floodplain over a time frame that is measured in centuries. This incremental movement creates a shifting space for seasonal wetlands, meadows, deciduous forest and pine open woodland through a continually renewing process.

While the stream influences the habitat capabilities of the floodplain, the floodplain also keeps the stream alive. During the high flows of winter and early spring, the floodplain receives and stores moisture in its deep and rich soils to be released into the stream during the dry season, when no other water is available. So the intertwined, dynamic system that supports anadromous fish also supports camas and a wide range of other natural resources. In this vision, restoring camas meadows is part of repairing the natural stream/floodplain processes and preparing the landscape for the return of salmon.

Last fall's camas seed dispersal followed several previous attempts at camas restoration. Initially, we planted bulbs, which offer the most reliable process of establishing camas. Once a camas bulb is properly planted, the likelihood of it growing and producing flowers and seeds in succeeding years is quite high. Our bulb planting efforts have reflected this high success rate as we almost always saw flowers in the spring following bulb planting. However, bulbs require a lot of labor in both harvesting and replanting. I was a great deal more appreciative of the Coeur d'Alene Grandmothers after I harvested my first small bag of camas bulbs. Since that experience, seeing the photos of the elderly women sitting amongst huge piles of camas bulbs has sort of 'put me in my place'. They obviously knew how to harvest efficiently, and whatever their means, their abilities far outpaced mine. And harvesting is only half the work. A few years ago, I, along with two other planters, worked for twelve hours, over a two day

"SEEING THE PHOTOS OF THE ELDERLY WOMEN SITTING AMONGST HUGE PILES OF CAMAS BULBS HAS SORT OF 'PUT ME IN MY PLACE!'"

period and ended up with bulbs planted over an area 2 feet wide and maybe 40 feet long. After that experience, I didn't even bother calculating how long planting the entire 4 acres with bulbs would take. And I'm not going to consider this process for all the potential camas meadows along Hangman.

Broadcasting seed allows for starting camas on more ground but it comes with its own complications. First there is the problem of gathering the seed. Peak flowering for the camas in Hangman has generally occurred the third week of May. As the season progresses, the above ground portions of the plant slowly dry and set seed. In the past, I've seen seed pods open and ready for seed dispersal in mid-to-late July. To gather seed, it's best to time gathering after the pods open and before a strong wind blows the dried tops over, emptying the pods. In 2018 we harvested a couple gallons of camas seed. But in 2019, I largely missed the seed harvesting opportunity as the plants dried early and winds had dispersed the seed by mid-July. Our own efforts over two summers provided a total of about 20 pounds of seed - far less than we hoped for. Luckily, in both 2018 and 2019, we contracted for the harvest of seed as a backup and were provided with an additional 20 pounds of seed each year. Sixty pounds of camas seeds allowed for a dispersal rate of about 15 pounds per acres, which is comparable to the rate of seed dispersal when reestablishing native grasses.

Prescribed fire was applied to the 4 acres before the camas seed was broadcast. One of the biggest problems with broadcasting is contact between seed and the soil. Prescribed fire eliminates the tangle of grasses so the seed falls directly to the ground surface, increasing the likelihood that the seed will germinate where it can survive. Prescribed fire also releases the nutrients stored in the grasses, providing a burst of soil fertility for the establishing camas. Additional benefits to prescribed fire include reduced loss of seed to consumption by rodents and birds. Fire removes the food base and cover for rodents causing their populations to decline rapidly. And since camas seeds are black, like the ash char that remains after fire, they are largely hidden from birds on the darkened ground. The Tribe has used fire as a management tool for millennia, for all these reasons.

We broadcast the camas seed in late October, before the fall rains arrived. This allowed time for the rodent population to decline and minimized seed exposure to bird foraging before the onset of precipitation. The fall rains further insured seed contact with the soil. What came next required the seed to wait out the cold and wet season, until they could germinate this spring. We will not know the degree of success for the camas seed broadcasting for a few years. Camas plants resemble grass stems until they are mature enough to flower, which can take three years. We have scheduled a sampling of the camas, grasses and other plants in those 4 acres in the early summer of 2023.

Thoughtful restoration takes time. Natural habitats are easy to destroy, but it takes time, labor, good planning and an uncommon persistence to reestablish what was available since time immemorial to the Coeur d'Alene People. ↑

## CURLY-LEAF PONDWEED: ANOTHER NUISANCE FOR COEUR D'ALENE LAKE

By Ben Scofield, Lake & River Improvements Program Manager

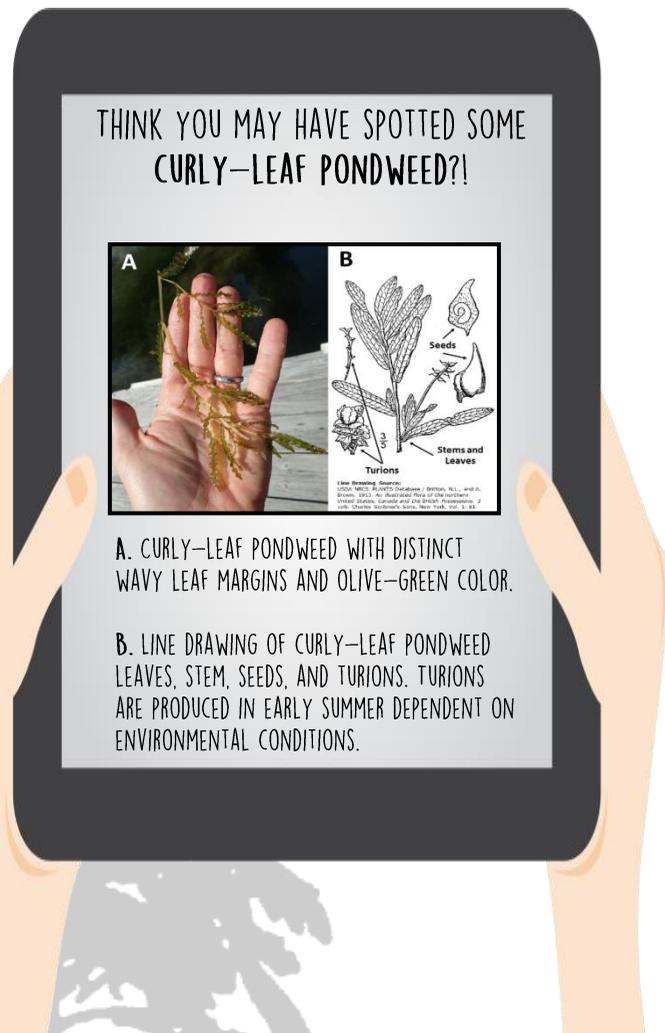
During the summer of 2018, a non-native aquatic plant was found in Northern Coeur d'Alene Lake. The new species, curly-leaf pondweed (aka *Potamogeton crispus*) was found near Hagadone Marina and the 3<sup>rd</sup> Street boat launch. Curly-leaf pondweed is listed as a noxious weed in Idaho and was introduced to the state as early as 1973. It can become a nuisance under some conditions, by clogging boat launches and swim areas like the more widely known Eurasian watermilfoil. It also displaces native vegetation and, in some instances, has been known to promote algal growth after the plant dies back in summer. Curly-leaf pondweed is present in many local waters, such as Hayden Lake, Lake Spokane, and Lake Pend Oreille. Curly-leaf pondweed has a distinctive look with wavy leaf margins and olive-green color. Another diagnostic feature of this plant, is the growth in early summer of small reproductive structures called turions that are reminiscent of tiny pine cones.

As of the summer of 2019, the infestation spanned about 9 acres of lake bottom at Hagadone Marina and the 3<sup>rd</sup> Street Boat Launch. Diver hand pulling was attempted in the summer of 2018 to

remove curly-leaf pondweed, but the plants had already died back for the growing season.

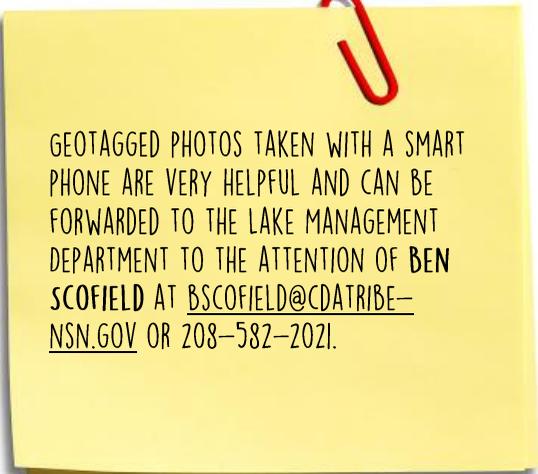
Curly-leaf pondweed tends to grow earlier in the season than other submerged plants, being well adapted to cooler and darker waters. Its early season growth also allows it to produce turions by early summer followed by plant die back. Turions are the main form of reproduction for curly-leaf pondweed, which rest in the sediments until fall and then begin to sprout. Sprouted turions overwinter and then can grow prolifically when conditions such as water temperature and light become favorable.

During the summer of 2019, Avista Corp. treated the curly-leaf pondweed infestation at Hagadone Marina / 3<sup>rd</sup> Street Boat Launch twice with the herbicide endothall. A post-treatment survey in October of 2019, indicated that at least one patch of curly-leaf pondweed had evaded treatment. Follow-up treatments and surveys are planned for the summer of 2020. Avista's current plan is to have divers hand-pull remaining curly-leaf pondweed sometime this spring before turions are produced. The diver hand



pulling will also allow for efficacy of the 2019 herbicide treatments to be gauged. Further treatments will depend on how much curly-leaf pondweed is still present.

As of the fall of 2019, no curly-leaf pondweed is known to be present in southern Coeur d'Alene Lake, the lower St. Joe River, or the lower St. Maries River. This is based on annual aquatic plant surveys conducted since 2013, by the Coeur d'Alene Tribe's Lake Management Department. However, the Lake Management Department is on high-alert for curly-leaf pondweed. Additionally, we'd request that if you think you've seen this plant to please let us know when and where you saw it. ↕



GEOTAGGED PHOTOS TAKEN WITH A SMART PHONE ARE VERY HELPFUL AND CAN BE FORWARDED TO THE LAKE MANAGEMENT DEPARTMENT TO THE ATTENTION OF BEN SCOFIELD AT [BSCOFIELD@CDATRIBE-NSN.GOV](mailto:BSCOFIELD@CDATRIBE-NSN.GOV) OR 208-582-2021.

### MY "RESPONSIBLE BOATER" TO-DO LIST!

- ✗ ALWAYS CLEAN, DRAIN, AND DRY BOATING AND FISHING GEAR, ESPECIALLY WHEN MOVING BETWEEN DIFFERENT WATER BODIES. DON'T FORGET TO CHECK YOUR BOAT, BOAT TRAILER, LIVE WELL, BILGE COMPARTMENT, WADERS, MUCK BOOTS, FISHING GEAR, AND EVEN SANDALS.
- ✗ ALWAYS STOP AT DESIGNATED BOAT/WATERCRAFT CHECK STATIONS FOR INSPECTION. THESE CHECK STATIONS ARE CRITICAL IN STOPPING THE MOVEMENT OF NON-NATIVE SPECIES INTO NEW AREAS.
- ✗ IF YOU SEE AN UNUSUAL PLANT OR ANIMAL, SAY SOMETHING. THE CHANCES OF SUCCESSFULLY CONTROLLING A NON-NATIVE SPECIES IMPROVE DRAMATICALLY THE EARLIER A NEW SPECIES IS DETECTED. FEEL FREE TO CONTACT THE LAKE MANAGEMENT DEPARTMENT WITH SIGHTINGS OR INQUIRIES ABOUT AQUATIC INVASIVE SPECIES MADE TO THE ATTENTION OF BEN SCOFIELD AT [BSCOFIELD@CDATRIBE-NSN.GOV](mailto:BSCOFIELD@CDATRIBE-NSN.GOV) OR 208-582-2021.

### WANT TO KNOW MORE?

- ✓ [HTTP://INVASIVESPECIES.IDAHO.GOV/S/CURLY\\_PONDWEED-EHZS.PDF](http://invasivespecies.idaho.gov/s/curlly_pondweed-ehzs.pdf)
- ✓ [HTTPS://NAS.ER.USGS.GOV/QUERIES/FACTSHEET.ASPX?SPECIESID=113](https://nas.er.usgs.gov/queries/factsheet.aspx?speciesid=113)
- ✓ [HTTP://WWW.MSUIINVASIVEPLANTS.ORG/DOCUMENTS/MT\\_NOXIOUS\\_WEEDS/CURLYLEAF\\_PONDWEED.PDF](http://www.msuinvasiveplants.org/documents/mt_noxious_weeds/curlyleaf_pondweed.pdf)

## BEST PARTNER

By Gerald I. Green, Wildlife Mitigation Biologist

The Hangman Restoration Project was initiated by the Coeur d'Alene Tribe to prepare the Hangman landscape for the return of salmon. This long term view is unabashedly optimistic, however, there is a need for an unsentimental, even blunt assessment of the current state of the landscape, its current condition, and what is needed to achieve that desired outcome. With an objective evaluation it becomes clear that the scope of the task at hand is beyond the resources available to the Coeur d'Alene Tribe alone.

In the Hangman Watershed, streams that once flowed year round with water clean enough to support salmon are now no more than muddy ditches most of the year and in the dry season they lack flow all together. In 2006, the Wildlife Program contracted an engineering firm that specializes in river restoration to provide alternatives for restoring Hangman Creek and to assign cost estimates for those alternatives. The results of their analysis suggested that just repairing the damage heaped on streams from past management would cost \$3,000,000 per mile. The Hangman mainstem, from Sanders Road to the western boundary of the Reservation meanders for approximately 16.2 miles. Multiplying these figures demonstrates an insurmountable cost, and it does not include any of the numerous potentially fish bearing tributaries of Hangman. Nor does this calculation account for the restoration of the floodplains, which are vital to the life of the streams.

The numbers can quickly overwhelm and could cause the abandonment of hope; however, the real potential for achieving the desired outcome lies in effectively partnering with those that apply their own resources and specialized talents to the restoration effort. We normally think of government agencies, private foundations, and environmental groups as valued partners, and the Hangman Restoration Project is not shy about engaging with such entities. However, the most energetic partner with the skills that are the best suited to stream and fish habitat restoration is *Castor canadensis*, more commonly known as beaver. (In the Coeur d'Alene language, beaver are known as *hnmulshench*, which translates as concave wall). This rodent has labored to improve fish habitat in Hangman for perhaps

longer than the "time immemorial" history of the Coeur d'Alene Tribe. And, since they have such a vested interest, they don't charge a lot for their work.

Partnering with beaver, however, is not automatically easy. Willow and poplar, the preferred fall and winter foods of beaver, are conspicuously absent from the floodplains of the Hangman Watershed. Replanting these species involves a great deal of labor, and when, where and how to plant has provided its own set of challenges. From 2015 through 2019, the Wildlife Program planted 12,565 native deciduous trees and shrubs across five project sites. As of 2019, the second year survival rates of those plantings averaged 34%. This is adequate but not terribly encouraging. In addition to the merely adequate survival rate, growth rates are less than impressive with the plants growing about 3 inches a year. So planting effort is high, but survival is only adequate and growth rate are quite low.

In August of 2018, the Hangman Fisheries Project completed the realignment of Sheep Creek, transferring the flow of Sheep Creek into a quarter of a mile of constructed channel that now carries Sheep Creek into a meandering, abandoned, natural channel that offers a much greater opportunity for trout population expansion. In the summer of 2019, aspen that were planted along that constructed channel prior to the realignment grew an astounding 3 feet. This growth rate had not been witnessed among previous plantings. The rapid growth rate was attributed to the extra water available in the soils as a result of the realignment. But this growth rate was only along the newly watered Sheep Creek Channel. Across the floodplain, further removed from the channel, growth rates did not improve. Other restoration projects have witnessed improved growth rates of woody vegetation as beaver increase soil moisture in response to dam building. In the Hangman watershed, however, achieving a floodplain wide increase in the availability of water as a result of beaver dams has proven more elusive.

The reconfiguring of the Hangman landscape to maximize agricultural production has resulted in concentrating all of the high flows of winter and spring within deeply inset channels of the stream courses. Beaver build dams within these deepened channels but those dams fail when high water surges through the confined channels. Testing to determine if beaver dams could be supported and strengthened



to withstand the high flows was initiated in 2013. Two larger beaver dams were chosen and wooden fence posts were driven through those dams and into the streambed as deeply as a hydraulic post driver would set them. These post reinforcements were monitored for two years. The first two dams not only withstood two years of high flows, but the posts used to reinforce them still remain in place today. Each year, after 2015, new beaver dams were reinforced and added to the number of test subjects till, in 2019, a total of fifteen dams were reinforced. Since we began reinforcing dams, only one partial failure has occurred where high waters knocked out a half dozen posts at the edge of a reinforced dam. We found posts with their tops pushed over by high flows on several dams, but this “end cut” was the only failure of the reinforcements. We’ve learned to drive posts as deep as possible all the way across the inset channel, and weave in branches among the posts so they extend downstream so the waters that overtops doesn’t plunge to the downstream base of the posts and erode away the stream bed. What we’ve learned with these tests will apply to any future placement of posts.

In 2019, only one new beaver dam was found that was suitable for reinforcement. Since 2013, only fifteen dams were found suitable for reinforcement within project sites. Beaver have since abandoned six of those reinforced dams and the reinforcement posts are the only evidence that there was once an active beaver dam at these six sites. Not only are there few beaver dams in Hangman Creek to reinforce, existing dams are widely dispersed, built of small sticks, grass mud and occasionally rock. These small dams support only small pools of water upstream. This information, the relatively few dams, high number of abandoned dams, the lack of new dams, small dam sizes and the lack of abundant beaver sign within project sites indicates that, while widely dispersed, the beaver population in Hangman remains small.

Taken together, the lack of high survival and growth rates of deciduous shrub and tress species along with the lack of beaver activity points to a rather unique set of circumstances. In the Hangman

watershed, the lack of deciduous forest cover along the streams suppresses the beaver population, while the suppressed beaver population prevents the establishment of a robust deciduous forest cover. This situation was not at all expected. If we simply continue planting the aspen, willow and cottonwood, eventually, some decades down the road, there will be enough food for beaver to build a large number of substantive dams that will benefit trout and salmon. But this process would be unacceptably slow.

There are two Tribal restoration projects working in the Hangman Watershed: 1) the Hangman Restoration Project, that works to change landscape management to meet the needs of salmon; and 2) the Hangman Fisheries Project, that works to reestablish the resident redband trout fishery until the salmon can return. While the Hangman Restoration Project has been following the beavers’ lead, reinforcing dams and testing those reinforcements against the extremes of Hangman flow variations, the Hangman Fisheries Project has been testing to see if they can build structures that function like dams, known as Beaver Dam Analogs (BDAs) in lower flow tributaries where beaver dams are needed. Where BDAs were installed, plantings of aspen, willow and cottonwood survive better and grow faster. The Hangman Restoration Project and the Hangman Fisheries

Project each has achieved some success with their respective approaches. Currently, however, it seems that the Fisheries Project strategy of installing BDAs best addresses the restoration needs in the Hangman watershed. Strategically placing dams exactly where they are needed to aid the reforestation of the floodplains will more quickly lead to higher beaver populations, which will increase the number and size of naturally occurring beaver dams, which will more quickly improve in-stream habitats for fish. From this point forward, our approach will be to combine what we learned with each approach. A more aggressive schedule of installing structures that will persist through the extremes of Hangman flows placed where those structures will provide the greatest benefit to fish and floodplain will result in a more rapid restoration of the Hangman watershed. ⚡

*"STRATEGICALLY PLACING DAMS EXACTLY WHERE THEY ARE NEEDED TO AID THE REFORESTATION OF THE FLOODPLAINS WILL MORE QUICKLY LEAD TO HIGHER BEAVER POPULATIONS, WHICH WILL INCREASE THE NUMBER AND SIZE OF NATURALLY OCCURRING BEAVER DAMS, WHICH WILL MORE QUICKLY IMPROVE IN-STREAM HABITATS FOR FISH."*

# NATURAL RESOURCE RESTORATION CONTINUES EVEN IN UNCERTAIN TIMES

By Rebecca Stevens, Hazardous Waste Management Program Manager

In 2018, six natural resource restoration projects were selected and funded on the Reservation and the following is an update on implementation activities to date.

## PROJECT TITLE: *UꞤ QHESU'LUMKHW* (LAND IS GOOD AGAIN) – CULTURALLY SIGNIFICANT PLANT RESTORATION



The Tribe's Natural Resources Department-Wildlife Program is the lead on this restoration project which lies on the eastern edge of the *hnt'k'wipn* Management Area. The management of this property is funded through the Bonneville Power Administration's Resident Fish Substitution Program and also credits Wildlife Mitigation for Albeni Falls Construction and Inundation losses. This Management Area offers multiple sites within the floodplains of Hangman and Sheep Creek for camas restoration. Approximately 45 pounds of seed were spread across 4 acres of wet meadow that was first treated with prescribed fire, in hopes that after a few years the camas will be detected from this seeding effort. Western red cedar, choke cherry and service berry were also planted on site. The success of this seeding will be measured by the availability of harvestable camas in 2025.

## PROJECT TITLE: *SMꞤCH* CULTURAL HARVEST OPPORTUNITIES WITHIN THE COEUR D'ALENE RESERVATION

In a location still being determined along Hangman Creek, the Tribe's Fisheries staff has been working with Washington Department of Fish and Wildlife to permit the transportation of live adult salmon to the Coeur d'Alene Reservation. The State of Washington will conduct pathogen surveillance using a new rapid testing technique called qPCR that will screen each fish for a variety of pathogens. Access to live adults from the Leavenworth National Fish Hatchery Complex has been arranged in partnership with the US Fish and Wildlife Service once there are surplus adults available.



## PROJECT TITLE: *CHDELM KHWA CHATQ'ELE'ET* PART A – COEUR D'ALENE LAKE OUTREACH AND IMPLEMENTATION

Lake Management Department staff continued to participate in the Confluence Project engaging high school students from Lakeside and other schools throughout the Basin on Watershed science and research opportunities. There are numerous partners on this project as well as those that attended the Our Gem Symposium in November 2019. For more information or to view a short YouTube video of the Symposium visit: <https://youtu.be/j-PTIaRMaXA>. Staff also continued to meet with many County and City leaders to express the importance of protecting water quality in Coeur d'Alene Lake.

## PROJECT TITLE: *CHDELM KHWA CHATQ'ELE'ET* PART B – MONITORING AND MODELING COEUR D'ALENE LAKE'S RESPONSE TO RESTORATION

Lake Management Department staff continued to monitor water quality from numerous stations on Coeur d'Alene Lake, Chatcolet Lake, St. Joe River, and the Coeur d'Alene River which assisted them in

drafting the 2019 Coeur d'Alene Lake annual report. The Tribe's limnologist, Dr. Dale Chess, continued calibration of the AEM3D model for Coeur d'Alene Lake, which will assist with projections of water quality trends to evaluate alternatives for potential management.

**PROJECT TITLE: *GUL HNC'H'MCHINMSH* (SWIMMER'S LANDING AMONG THE COTTONWOODS) – HEPTON LAKE WETLAND RESTORATION PROJECT**

The Tribe's interdisciplinary team made up of staff from the Lake Management, Natural Resources, and Culture Departments continued to coordinate design, permitting, data collection, and a cultural resource inventory and assessment to move this project closer to a construction phase. Staff presented a 90% design to the Tribe's Natural Resources and Culture committees with a recommendation to implement a repair at the existing levee breach beginning in the Fall of 2020. Tribal Council approved this action by way of Tribal Council Resolution 027 (2020) and adopted the name *Gul Hnc'h'mchinmsh* for the project per the Culture Committee's recommendation.

**PROJECT TITLE: *GUŁ HNC'H'MCHINMSH* – NATIVE WILLOW NURSERY FOR SUPPORT OF RESTORATION ACTIONS THROUGHOUT THE RESTORATION PARTNERSHIP PROJECT AREA**



Fisheries staff installed shade and weed barrier on ten acres of the nursery, planted 40,000 willows comprised of seven native species, and installed exclusion fencing around the nursery to limit damage from wildlife browsing. The highest survival rates were observed for Pacific and Makenzie willow (estimated at 95%), while the lowest rates were observed for Sitka willow (estimated at 70%). Regular mowing of reed canary grass is occurring to improve survivability of the willows. ↑

## COEUR D'ALENE TRIBAL FISHERIES RELEASE CHINOOK SALMON SMOLTS INTO HANGMAN CREEK.

By Aaron Penney, *Fish Supplementation Biologist*



*JADE STENSGAR—MOKRY LAKE MANAGEMENT INTERN AND FISH TECHNICIAN BRYAN HARPER, TAGGING CHINOOK SMOLTS*

On March 27, 2020 Coeur d'Alene Tribal Fisheries staff released 1,453 spring Chinook smolts into Hangman Creek just a few miles west of Tensed, Idaho. Prior to their release, these Chinook were tagged by fisheries staff in order to be able to monitor their journey downstream through the Spokane and Columbia River Hydro-systems.

The first of these fish was detected at Rocky Reach Dam on the Columbia River on May 12<sup>th</sup> (46 days after release). A journey of more than 270 miles down Hangman Creek, the Spokane River, and through 6 dams without any fish passage facilities. Swimming through several reservoirs with toothy predators! As of early June, 61 individuals have been detected in the Columbia River stretching from Rocky Reach Dam down to the estuary at the Pacific Ocean. Although the detections seem to be winding down, a few fish are still trickling through, so it's not time to stop counting yet. Fisheries staff are continuing to monitor the migration of these fish on a daily basis.

These fish were the older siblings of the Chinook salmon that were released as fry in upper Hangman Creek back in May of 2019 by the elementary and pre-school students who participated in the Salmon In the Classroom program (Lakeside Elementary, Coeur d'Alene Tribal School, and the Early Childhood Learning Center, ECLC) plus attending community tribal members and staff.

For the past year, 2,000 of these fish have been raised at a small facility the fisheries department operates in Plummer known as the ‘nik’wln room. ‘nik’wln translates to “A place for fish or fish eggs to grow” in the Coeur d’Alene language. In addition to the 2,000-existing Chinook smolts, the tribe has been incubating and rearing up to 5,000 summer Chinook salmon fingerlings.

For this year’s Salmon in the Classroom Project 150 summer Chinook eggs were distributed to the three participating schools, but later retrieved and brought back to the ‘nik’wln facility to be reared when the Corona Virus shut down area schools. This year’s community salmon release event was cancelled, with the hope of rescheduling this fall or next spring with another smolt release. ⬆️



FISHERIES BIOLOGIST JEFF JORDAN, RELEASES CHINOOK SALMON SMOLTS INTO HANGMAN CREEK.

## FISHERIES DEPARTMENT RECEIVES GRANT FOR CULTURAL EDUCATION PROGRAM

By Gina Baughn, Natural Resources Education Specialist

The Fisheries Department has recently been awarded a \$22,574 grant from the Bonneville Power Administration to support a STEM (Science, Technology, Engineering, & Math) educational summer program for local youth called the *Hnshat’qn (guardianship) of the Land Cultural Educational Program*. This program that was set to start this June had to be postponed to summer of 2021 due to COVID-19. In June of 2021, twelve high school aged youth will be recruited to participate in a six week long day-camp, where they will receive a weekly stipend and a kit of all of the necessary materials to complete each week’s cultural activities.

The Hnshat’qn summer program will be an opportunity for youth to learn from local teachers the art of sewing ribbon skirts and shirts, traditional hide-tanning, basket weaving, and the sewing and beading of moccasins. Students will help gather traditional foods and participate in a community camas pit-bake. They will also collect, prepare, and learn the uses for medicinal plants and make their own medicine bundles. They will be immersed in tribal

"THE SUMMER PROGRAM IS INTENDED TO GIVE STUDENTS AN OPPORTUNITY TO LEARN FROM LOCAL TEACHERS THE ART OF SEWING RIBBON SKIRTS AND SHIRTS, HIDE-TANNING, BASKET WEAVING, AND THE SEWING AND BEADING OF THEIR OWN" MOCCASINS"

history related to salmon and will take field trips to Rocky Reach Dam and Chief Joseph dam, where they will be asked to think critically about the importance of clean renewable energy and its impact on salmon recovery. They will be tasked with researching fish bypass systems, spillways, and other turbine technology to see if they can design their own solutions and/or improvements to current fish passage technology as it exists.

At the end of the day, the success of this camp will rely on how well participating youth form an understanding of how being indigenous makes them uniquely qualified to solve complex environmental problems in our community and around the world.

You can follow our Facebook Page: @cdatribe.fishandwildlife for updates on this program as well as other events happening in our community. ⬆️





INTERVIEW CONDUCTED BY  
MARIAH ARIPA, FISHERIES  
SUMMER YOUTH, WITH  
ANSWERS PROVIDED BY  
ANGELO VITALE, FISHERIES  
PROGRAM MANAGER

**QUESTION:** *What is the mission of the Coeur d'Alene Tribe Fisheries program?*

**ANSWER:** The Fisheries Program has a group of dedicated specialists and experts that are well focused on the mission of the Coeur d'Alene Tribe, to restore, protect, expand and reestablish fish populations to sustainable levels and to provide harvest opportunities. The focus has always been on native species and the habitats they need to thrive.

**QUESTION:** *Why are native fish important to the Coeur d'Alene Tribe?*

**ANSWER:** Just as the Schitsu'umsh are known as "those who were found here", native fish are among the First Peoples that were found here, and the Tribal homelands would not be whole or complete without these fish. Native fish were essential to the survival of the people in the past and will be important to their survival and quality of life now and in the future. Native fish serve as the bellwether indicators of the health of our environment – and especially our water. Native fish also play essential roles in the ecology of the places they inhabit, in part, because of their ability to cycle nutrients and energy in novel ways and their place in the food web. These roles cannot be filled by non-native fishes because they have not evolved in the habitats they have invaded in the same way our native fishes have.

**QUESTION:** *What methods have been employed by the tribe to reduce the ecological impacts of invasive species?*

**ANSWER:** We have an aggressive program in place to remove non-native fishes from habitats where they overlap and compete or prey on native fishes. Our focus is on a few invasive species that have the greatest impact on native fishes, including brook trout and northern pike. Brook trout are removed from streams using a combination of traps and electroshocking prior to spawning in the fall. Pike numbers are reduced through the

use of gill nets deployed in both the spring and fall when they are most vulnerable to capture. These efforts have helped to maintain invasive fishes at lower densities in the localized areas where we are applying the treatments, and we have been able to show that native fishes are benefitting.

The problems with invasive species often arise because people have served as vectors for moving fish around and are also responsible for manipulating natural systems, which sometimes allows invasive species to gain a foothold in the environment. We recognize both the need and the challenges in managing the human role in invasive species proliferation and have been trying to address this through various avenues of education and engagement with the public.

**QUESTION:** *How is the Coeur d'Alene Tribe partnering with other tribes and agencies to manage invasive fish such as pike?*

**ANSWER:** A number of resource managers are taking leadership roles in managing invasive pike. The Kalispel, Spokane and Colville tribes, and the Washington Department of Fish and Wildlife, are all taking a very aggressive approach to pike suppression in waters above Grand Coulee Dam to mitigate the potentially devastating impacts to salmon fisheries in the lower Columbia Basin. They have even taken the step of adopting fishing regulations that make possession of live pike illegal within the state of Washington. We support a consistent regional approach on this issue.

**QUESTION:** *What methods have been undertaken to help imperiled native fish populations to rebound in the face of human and environmental pressures?*

**ANSWER:** We focus efforts on restoration and enhancement to improve water quality, stream habitats and the landscape processes that maintain and sustain the habitat diversity that native fish need to thrive. This includes replacing culverts to improve fish passage, planting trees, fencing riparian areas, adding wood to streams, reducing sediment transport to streams from roads, and keeping beaver on the landscape, among other things. All of these actions are informed by the monitoring completed by Tribal staff that describes the status and trends for native fish in the waters of the Reservation. We also focus on improving survival of native fish across their whole life cycle from egg to adult. This

requires research to understand the mechanisms limiting survival and addressing those causes. Removing northern pike from Coeur d'Alene Lake where they prey on cutthroat trout is just one example of this.

**QUESTION:** *Why did the Tribe raise and then release Chinook salmon into Hangman Creek?*

**ANSWER:** Salmon were one of the most important fish in the diet and culture of the Tribe. They became extinct on the reservation following the construction of dams on the Spokane and Columbia rivers. Approximately 1000 Chinook salmon were first raised in classroom fish tanks at reservation schools in 2018. The Fisheries Program worked with kids at each school to set up and maintain tanks and take care of the fish as they grew. The fish were released into Hangman Creek on May 1, 2018 during a community celebration. This marked the first time in more than 100 years that salmon had been present in their native range on the reservation. It was a very emotional and joyful celebration of Tribal cultural traditions and things to look forward to. We hope to continue this as an annual program and to expand on this over time.

**QUESTION:** *Where do you see the Tribe's fisheries program going within the next few years?*

**ANSWER:** We will continue to focus on habitat restoration in reservation watersheds, and look to expand our efforts in the Tribe's ceded land. Almost everywhere you look, people have altered streams and wetlands and these habitats now often lack the proper function for sustaining native fish. We will pursue large scale projects that have maximum impact wherever we can develop meaningful partnerships. We will increase our focus on recovery of threatened bull trout in the upper St. Joe River. We will continue removing pike from Coeur d'Alene Lake as a primary strategy to benefit cutthroat and bull trout that use the lake. We will continue to advocate for fish passage and reintroduction to bring salmon to blocked areas in the Upper Columbia River, including Hangman Creek and the Spokane River. We will work to develop small scale aquaculture practices to help supplement native fish stocks that suffer from low population size. Finally, we want to expand the work we do with youth to keep them engaged in all of these activities. ↑

# LETTER FROM THE DIRECTOR

## "REKINDLE THE ROMANCE"

IT'S THAT TIME OF YEAR AGAIN WHERE OUR NATURAL WORLD AWAKENS AROUND US. THE COLORS HAVE RETURNED, THE AIR IS FRESH, THE SUN IS WARM, AND THE BIRDS SOUND BEAUTIFUL. I CAN IMAGINE HOW JOYOUS THIS TIME OF YEAR WOULD HAVE BEEN FOR OUR PEOPLE A COUPLE HUNDRED YEARS AGO AFTER BEING COOPED UP ALL WINTER. I CAN IMAGINE THE LAUGHTER FROM YOUNG TO OLD AS THEY EAGERLY LOOKED FORWARD TO THE ARRIVAL OF SOME OF OUR VARIOUS ROOTS AND STAPLE FOODS LIKE CAMAS, CUTTHROAT, AND SALMON. THE BUZZ OF EXCITEMENT THROUGHOUT OUR VILLAGES MUST HAVE BEEN INTENSE.

WE HUMANS HAVE ALWAYS GIVEN MEANING TO OUR EXPERIENCES THROUGH OUR RELATIONSHIPS. WE MAY NOT BE AWARE OF IT AT TIMES, BUT EVEN OUR GREATEST EXPERIENCES ARE SO MUCH BETTER WHEN SHARED WITH OTHERS IN SOME WAY. AFTER ALL, WHAT GOOD IS IT TO WATCH AN AWESOME MOVIE IF YOU CAN'T QUOTE IT TO YOUR FAMILY OR FRIENDS LATER ON? HUNDREDS OF YEARS AGO, IT WAS THE SAME. IN FACT, OUR PEOPLES' VERY NAMES WERE INTERTWINED WITH OUR EXPERIENCES, GOOD OR BAD. IN THIS WAY, WHATEVER EXPERIENCE YOU HAD COULD BE SHARED WITH OTHERS EVERY TIME YOUR NAME WAS MENTIONED. REMEMBER THAT TIME YOU GOT LOST AND COULDN'T FIND YOUR WAY (TWISTED EARTH)?

WHAT IS DIFFERENT ABOUT THE VALUES THAT HAVE BEEN PASSED DOWN TO US FROM OUR ELDERS, HOWEVER, IS THAT WE GAINED MEANING THROUGH OUR INTERACTIONS WITH MOTHER EARTH AS WELL. OUR VALUES RECOGNIZE THE PERSONHOOD OF EACH OF THE NATURAL ELEMENTS AROUND US. RATHER THAN BEING LIFELESS OBJECTS, THEY ARE DYNAMIC LIFE-FORCES THAT WE CAN HAVE RELATIONSHIPS WITH. HOW MANY TIMES HAVE YOU HEARD AN ELDER REFER TO COYOTE AS "HIM" OR "HE" RATHER THAN "IT"? IT IS AN IDEA ABOUT OUR NATURAL WORLD THAT MAKES IT COME ALIVE. IT'S WHY OUR ANCESTORS TAUGHT THEIR CHILDREN, EACH OF US, NOT TO TAKE MORE THAN WHAT WE NEED AND TO MAKE USE OF EVERYTHING WE DO TAKE.

TODAY, THE VALUE THAT PLACES PERSONHOOD ON OUR NATURAL ELEMENTS IS WHAT SEPARATES THE COEUR D'ALENE TRIBE AS A LEADER IN OUR REGION. WE ARE DIFFERENT THAN OUTSIDE GOVERNMENTS, CORPORATIONS, AND ENVIRONMENTAL GROUPS. WHEN WE PROTECT OUR VALUES WE ARE PROTECTING THE LEGACY HANDED DOWN TO US BY OUR GREAT CHIEFS, T'UPYE'S, AND YEYE'S. THEY HAD AN INCREDIBLE ROMANCE WITH MOTHER EARTH.

IT IS OUR RESPONSIBILITY, AS INDIVIDUALS, TO REKINDLE THIS ROMANCE AND KEEP THE LEGACY GOING. WE SHOULD ENSURE THAT OUR CHILDREN ARE IN LOVE WITH THEIR MOTHER THE SAME WAY OUR PEOPLE HAVE BEEN SINCE TIME IMMEMORIAL. SO, AS WE APPROACH THIS TIME OF PLENTY, THAT WE SEE WHENEVER WE LOOK OUT THE WINDOW, I ENCOURAGE EACH OF US TO MAKE THE TIME TO INTERACT WITH YOUR FAMILIES AND WITH OUR NATURAL WORLD. GO CAMPING, SWIMMING IN THE LAKE, HIKING, DIG ROOTS, PICK BERRIES, GO HUNTING AND FISHING. THESE ACTIVITIES WILL HAVE A LASTING EFFECT ON OUR LAND AND FOR THE GENERATIONS THAT FOLLOW US BY BUILDING A DEEPLY SEEDED LOVE WITHIN US. PLUS, WE NEVER KNOW WHEN MOVIE THEATERS ARE GOING TO OPEN BACK UP.

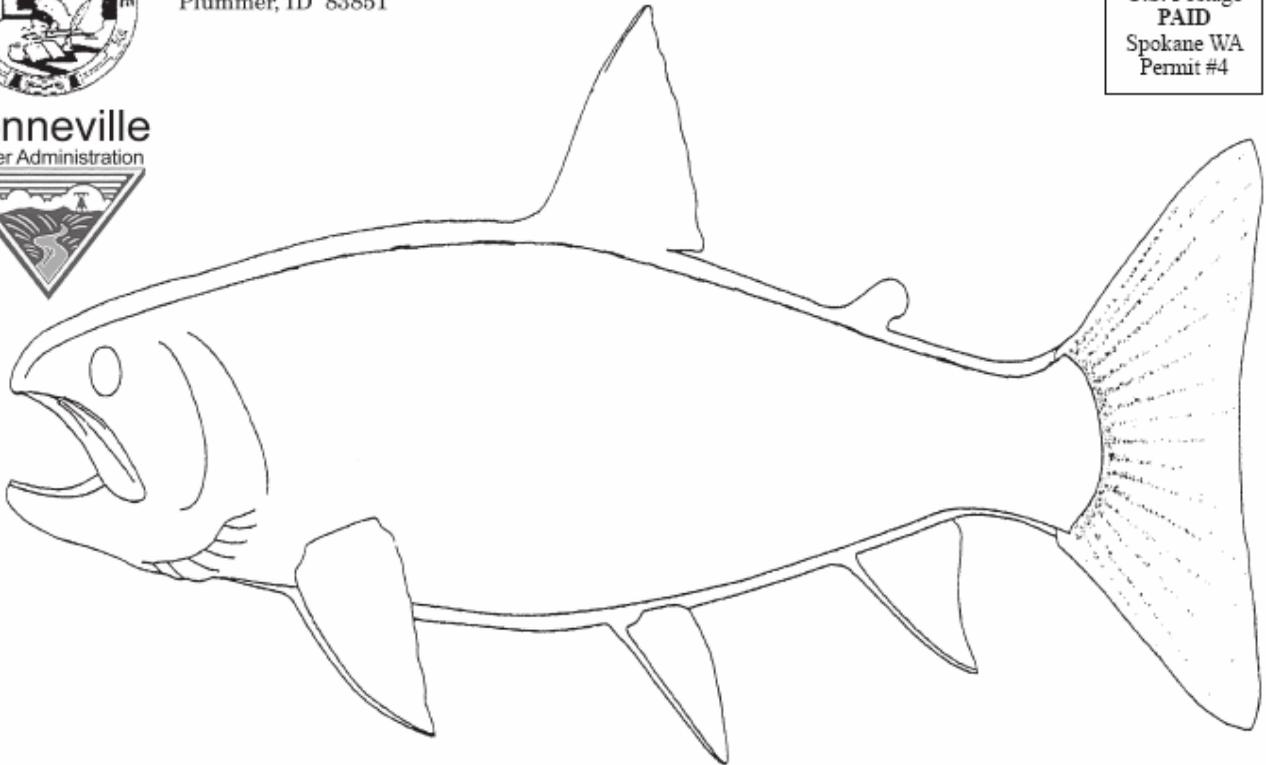


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The Coeur d'Alene Tribal Fish and Wildlife Programs work in a variety of cooperative, governmental and educational arenas in efforts to protect enhance and restore our fish and wildlife resources. This publication is intended to provide all people 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  
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