

WATERSHED WRAP

Semi-annual newsletter from the Coeur d'Alene Tribe's Fish & Wildlife Program describing watershed management efforts. Offering readers food for conversation and paper for wrapping!

Fall/ Winter 2014

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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.



I've got a golden ticket

By Jon Firehammer, Fisheries Research Biologist

In the movie, 'Willy Wonka and the Chocolate Factory', Mr. Wonka permitted exclusive access to his candy factory by hiding five golden tickets in his candy bars. The lucky individuals that unwrapped the purchased chocolate bars to find the glowing golden tickets were rewarded with a personal tour of the inner-workings of his factory. The Coeur d'Alene Tribe's Fisheries Program is considering a similar strategy to reward a select number of lucky individuals that fish the waters of Lake Coeur d'Alene. However, the Fisheries Program is not hiding golden tickets in chocolate bars, but will be hiding tags in northern pike.

If you've been reading previous issues of the Watershed Wrap, you will recall that the Tribe's Fisheries Program conducted a recent study to examine the impacts of northern pike on native cutthroat trout populations in Lake Coeur d'Alene. Northern pike were introduced outside their native range into Lake Coeur d'Alene in the mid-70's and are an invasive species of fish that are highly piscivorous, meaning that they can consume large quantities of other fish and can substantially reduce the numbers of those fish that they prey upon. The results of the study found that northern pike were consuming a large number of cutthroat trout in Windy Bay, and were likely a major factor in reducing the number of available spawning cutthroat trout that moved through Windy Bay in the spring to access spawning grounds in the Lake Creek watershed (Lake Creek is the stream that empties into

Windy Bay in Lake Coeur d'Alene). Another finding from the study indicated that northern pike tagged in Windy Bay were much more likely to be recaptured or harvested by anglers in Windy Bay than in other bays suggesting that pike did not move extensively from bay to bay in Lake Coeur d'Alene. Thus, a concentrated removal effort of pike in Windy Bay could benefit the spawning population of adult cutthroat trout in Lake Creek. In order to increase the number of adult cutthroat that swim upstream to the headwaters of Lake Creek in the spring to spawn, the Fisheries Program realized that something had to be done to reduce the predatory impact of northern pike that resided in Windy Bay.

Several options are currently being deliberated by the Tribe's Fisheries Program to suppress the impact of northern pike in Windy Bay on adult cutthroat trout. One of the tactics that is being proposed is to capture, tag, and release a number of northern pike in Windy Bay. These tagging efforts would be conducted by the Fisheries Program's staff over a couple days during the fall. A dollar reward will be given to those fishermen that then capture a tagged pike and return it to the Fisheries Program's office in Plummer. The catch to this strategy, however, is that the tags, called PIT-tags, would not be readily visible to the angler but imbedded into the head of individual pike so that they are hidden from sight. Each PIT-tag has a unique numerical code associated with it so, if scanned with specialized equipment, the Fisheries staff will know when and where it was tagged. Thus, an angler that harvests a northern pike in Windy Bay would not know if they have captured a PIT-tagged pike until it is brought back to the Fisheries Program office for detection of the embedded tag (similar to not knowing if a purchased Willy Wonka candy bar had a golden ticket until it was unwrapped). The objective of this suppression tactic is to encourage fishermen to harvest northern pike in Windy Bay with the hopes that one or several of the captured fish have embedded reward PIT-tags.

The Tribe's Fisheries Program is currently in the process of finalizing the details of how this reward program would be implemented. Because the embedded PIT-tag is in the head of the individual pike, only the head and not the entire fish would have to be returned to the Plummer office. In addition, the Fisheries Program is also considering a drop-off location at their office whereby the head along with the angler's information can be submitted in a bag or envelope so that the angler does not have to have their fish head scanned during normal operating office hours during the week. It is expected that a yet-to-be determined, fixed amount of money will be distributed annually for returned tagged northern pike. In addition, we are currently deliberating on a set reward value for each tagged northern pike delivered to the office. Updates regarding the number of pike tagged during the fall and the monetary reward for each tagged pike can be obtained by contacting the Coeur d'Alene Tribe's Fisheries Office.

With this type of a northern pike suppression effort, the Fisheries Program hopes to reduce the number of northern pike that prey on cutthroat trout in Windy Bay which would in turn increase the number of cutthroat trout spawners that ascend Lake creek in the spring. Ultimately the goal is to increase the number of adult cutthroat trout spawners in Lake Creek so that a harvestable fishery can once again be established. Furthermore, by using this reward program, we aim to invest local fishermen in this suppression program so that they can be an integral component in accomplishing our overall goals, with the additional benefit of possibly recovering a 'golden ticket'. Happy angling.

Casino's pike derby begins new chapter in fisheries management

By Dan Jolibois and Angelo Vitale

What begins and ends with a question; can be vast and unwieldy, or small and manageable? The answer to this riddle might be any number of things, but in this case it is management of the non-native, invasive northern pike in Coeur d'Alene Lake. Often in fisheries management, and science in general, one question leads to another. By asking, "What is affecting cutthroat trout survival in the lake?", we now find ourselves asking the follow up question, "What can we do to improve survival of native salmonids in the lake"? And among the plethora of untested management options, we are first focusing on the small and manageable.

Following the completion of research that has shed some light on the feeding habits and ecology of pike in Coeur d'Alene Lake (*see Watershed Wrap Spring 2014*) we held several meetings this last spring with folks interested in these specific questions. The meetings were attended by tribal members, staff from Idaho Department of Fish and Game, landowners in the Lake Creek watershed and representatives from the fishing community, including business owners, sportsmen, fishing guides and several local angler associations. The objective was to share information and listen to feedback on potential strategies for pike management that would benefit conservation and recovery efforts for cutthroat trout. Not surprisingly, we heard a great deal of support voiced by stakeholders in the Lake Creek watershed that stand to benefit greatly from a restored native cutthroat trout fishery. There was also some measure of more cautious support from pike anglers that acknowledged the impact of non-native predators and appreciated the targeted approach, based on sound science, reflected in the strategy being developed by the Tribe. Above all we heard that these anglers would like to be involved in the management strategy as it is implemented.

In the spirit of engaging the interested public, the Coeur d'Alene Casino and Cabela's sponsored a harvest tournament for pike on September 13, 2014. The hope was to raise awareness of management needs and provide some incentive for anglers to remove pike from Windy Bay, into which Lake Creek drains.

That Saturday morning started cool, crisp and early, for all participants that entered the 'Last Catch' pike fishing contest. Seven two person teams rose to the challenge and rendezvoused at the waterfront in the town of Harrison, Idaho. Tim Williams, a tribal member and member of the North Idaho Pike Association, played a large role in organizing and promoting this event and had all contestants gather for a rules and regulations orientation at 6 am. He explained how the derby would proceed; weigh in time and the prizes that were being offered. The derby started at 7am and closed at 3pm, with weigh in at 3pm on the Harrison docks. The derby entrants weighed the largest five pike caught during the 8 hour time limit, with the team having the most cumulative weight being the winner. Also the largest fish caught would get a prize. Bonus pike tagged by the Fisheries Program were released in Windy Bay prior to the tournament. Most participants of the derby spent some time fishing in this bay, but with little success, as no tagged pike were presented at the weigh in. The largest pike was caught by Kevin Thiede one bay over from Windy Bay, near Rockford Bay. It weighed 13.2 pounds and measured 38½ inches. The team of Gerlyn Thiede and Mike Klein won the derby with a total weight of 35.6

pounds. Overall 23 pike were weighed in totaling 129.4 pounds. A total of \$1000 in cash and raffle prizes were awarded and the Casino matched the payout with an equivalent value of stay and play passes. The winning team took home \$400 in cash. This was one of four pike tournaments held on Coeur d'Alene Lake this season, and hopefully the first of many that allow pike anglers to affect some positive changes for people that like to also catch cutthroat trout.



The big fish caught at the 'Last Catch' pike tournament is weighed in at the Harrison docks.

Hnmulshench (beaver) activity in Hangman

By Gerald Green, Wildlife Biologist

We searched the Hangman Watershed for beaver dams in 2009 and discovered a total of 83 dams scattered through Hangman Creek, Sheep Creek, Indian Creek and the upper reaches of the unnamed creek that flows through Tensed from the northeast. The number and distribution of dams indicates that beaver live throughout those streams. The greatest concentration of beaver dams was in those areas where deciduous trees still grew fairly close to the stream. This wide distribution of beaver dams lead us to conclude that beaver live throughout Hangman Creek. Since their dams were small, and in some cases made only of mud, reed canary grass and rocks, we assumed that their populations and dam building activity is limited by the scarcity of deciduous woody vegetation. We scaled down our search efforts last year (2013) and this year (2014) since we have limited manpower and a short time frame in which to search. Our search area on the main stem of Hangman Creek is limited to the 11.7 miles of stream between the Hangman bridge on Sanders Road to the Hangman bridge on Old Mills Road. Beaver begin to eat bark from woody vegetation

in late summer so we've also concentrated our search for beaver sign in September.

In 2009 we searched only for beaver dams since we just wanted to know if beaver were scattered throughout the streams of the watershed or if they were restricted to specific areas. In the more recent searches we have looked for caches and feeding areas in order to understand in greater detail where in the watershed they are active, what they are eating and to gain a better understanding of how many beaver may be present in the watershed. A beaver cache is generally a collection of fresh branches that are tightly clustered and secured to the bottom of a stream or lake. A beaver shoves the sticks into the mud or loose rocks in a slow moving pool of water so they stay well under the water surface during the winter. This way the beaver can access the food when the surface of the water is frozen. Because the branches are gathered and stored for winter, the bark of the branches in a cache is undisturbed. A gathering a sticks that have had their bark removed generally marks a feeding area.

Hangman Creek Sanders Rd to Old Mills Rd (11.7 miles)	2009	2013	2014
Active Dams	54	14	12
Caches		5	19
Feeding Areas		3	14

Beaver sign recorded in Hangman Creek from Sanders Road downstream to Old Mills Road has indicated a decline in recent years.

We were surprised that the number of dams we found in the last two years were not at all close to the number we found in 2009. We can only assume that the number of beaver has declined since 2009, but we don't have enough information to determine exactly why they have declined. We didn't record caches or feeding areas in 2009, so that data is not available for comparison with the 2013 and 2014 surveys. At this point, a reason for the increase in the number of caches and feeding areas in 2014 versus 2013 is difficult to determine. The increase could be the result of the beaver population beginning to rebound from a low point. Or the difference could be the result of the differences in stream flow. In 2014, there was not enough water in Hangman Creek for continuous flow. The pools in Hangman were separated by stretches of dry stream bed. The lack of flow over the beaver dams may have dispersed beaver activity away from the dams.

Aspen bark is the preferred food of beaver through the late summer, fall and winter. Cottonwood

is also a favored food, and when aspen and cottonwood become less abundant, beaver browse more heavily on willow. In Hangman, however, alder branches were the most abundant food source found in caches and at feeding areas. Common tansy (*Tanacetum vulgare*) was the second most abundant plant, and hawthorn the third. We even found pine branches that were cleaned of their bark by beaver. Aspen was found only once in 2013. In that instance, beaver harvested the closest aspen tree, and that tree was about 30 yards away from the stream's edge, well beyond a beaver's comfort zone. It's not surprising that alder is found at caches and feeding areas in Hangman, but the beaver's use of tansy, hawthorn and pine lead us to believe that these animals are living on the fringes.

We cannot say exactly what caused the decline in beaver dams from 2009 to present. Was there a flood that forced them out of the streams and left them exposed to the elements and predators? Was there a disease? Did poaching cause the decline? I could hazard a guess, however, that if beaver populations were much lower than the capability of the habitat to support them, beaver would not be choosing tansy, hawthorn and pine as food items. While a calamity of some sort may play a role in the beaver population decline, poor habitat conditions results in a day to day environment that prevents beaver populations from rebounding from any such calamity.

The restoration of Hangman is in its early stages. We plant aspen, cottonwood, and willow each year, as our budget allows. We currently have to protect the plantings with fencing from browsing by beaver, elk, moose and deer. But we plan on removing that fencing as soon as the plants become well established. Hopefully, this will allow the beaver to increase in numbers, which will in turn increase the number and size of dams in Hangman. The little bit of information that we have gathered about the size and distribution of dams in Hangman Creek has lead to a number of questions. We hope to document changes in the habitats and stream conditions in coming years, and in doing so more clearly understand the relationship between vegetation patterns, the abundance of beaver, the abundance of beaver dams and the quality of fish habitats.



A new storm water pipe replaced the original 1930's wood staze storm water pipe at the St. Maries creosote cleanup site.

St. Maries creosote project is a GO!

By Sandra Raskell, Project Engineer, Lake Management

After years of meetings, samplings, designs, and more meetings, the St. Maries creosote site is finally in construction. The St. Maries Creosote site is immediately adjacent to, and south of, the St. Joe River in the city of St. Maries, Idaho. From 1939 through 1964, the site was used for peeling and treating logs to be used for poles. Historically, as the treated poles were loaded onto rail cars by the stiff arm, creosote dripped onto the soil around the butt vats and rail cars. If several cars were loaded at the same time, poles would drip creosote onto the soil beneath the rail line. In late 1998 and early 1999, the site was noted to have soil staining, creosote odor, and product sheen, thus began the process of identifying clean-up actions.

Over the next decade, the United States Environmental Protection Agency (USEPA), the Coeur d'Alene Tribe, and the potential responsible parties (PRP) worked through reports, meetings, consent decrees, court documents, etc. Soon thereafter, Arcadis, the Voluntary Remediation Party (VRP) and its associated subcontractors, began the process of sampling upland soils and river sediments to determine the geotechnical properties, extent of contamination, and treatment possibilities. This data has been used to design an appropriate remediation plan.

Using sampling data, Arcadis has submitted design plans and reports for EPA and the Tribe to review. The remediation clean-up plan includes the removal of the contaminated soils and sediments, thermal treatment of these soils and sediments, in-situ treatment of the deeper contaminated soils and river bank restoration. In order to complete the construction,

many steps are needed. Construction work will include dredging of the St. Joe River, excavation of soils in the upland area (0 to 10 feet deep), as well as solidification of the deeper contaminated soils (10~60 feet deep). In order to protect the river during dredging activities, a silt curtain will be placed downstream of the work area. Where highly contaminated sediments are found, a sheet pile wall will enclose the dredging activities. This will help contain any free creosote product that may be released. Once remediation is complete, the river will be backfilled with clean material and the site will be restored with gravel, vegetation and woody debris.

Phase 1 construction activities officially began August 11, 2014 and are expected to continue through December 2014. Phase 1 construction activities consist of mostly upland work at the site. This includes pad preparation for activities, an on-site wastewater treatment plant, slurry wall construction around the upland contamination, excavation of the top 10 feet of contamination, and finally in-situ stabilization of the contaminated soils. During construction there is archaeological oversight, Tribal oversight as well as EPA oversight. There are currently three tribal members, hired through the Tribe's TERO office, working on this project.

Phase 2 construction activities will most likely begin June 2015 and continue through December 2015. These activities will include dredging of contaminated St. Joe River sediments, treatment of excavated and dredged materials through a thermal kiln, and shoreline restoration.

If you have any questions, please contact the Creosote Project Manager, Sandra Raskell, P.E., Lake Management Department Project Engineer by phone at (208)667-5772, (208)582-3364 or by email at rsaskell@cdatribe-nsn.gov.



Several excavators work in tandem to install a slurry wall measuring 60 deep that is intended to prevent water flowing into the work site.

Tribe kicks off Hangman Creek project in dramatic fashion

By: Bruce Kinkead, Fisheries Biologist

The Coeur d'Alene Tribe's Fisheries Program initiated an ambitious project on Hangman Creek in July 2014 to reconnect historical stream channels, deactivate a man-made channel that was severely degraded through years of erosion, and create a self-supporting ecosystem with beaver as the key component to provide desired fish and wildlife habitat features. An article in the Fall 2013 edition of the Watershed Wrap, *Hangman Creek revisited: It will make itself crooked again*, described the history of the area and the reasons for undertaking such an ambitious effort.

Planning for such a project involved a lot of preparations prior to actual construction. Wetland delineations were completed by Tribal staff, assisted by interns from North Idaho College, in spring of 2013. Surveying contractors were also hired in 2013 to survey over 100 cross-sections of the stream channel and valley bottom. This data was used to create an accurate topographic map, which was then used by in-



A structurally designed flood wall is installed to provide flood protection at the site.

house engineer, Jason Sholtz, to create a hydraulic model to predict water levels at various flood intensities throughout the project area. The model helped us understand what a natural and stable channel would look like and how it would function in this area. Design drawings were then drafted and submitted as part of a required permit application for construction to the US Army Corps of Engineers and the Environmental Protection Agency. Rock, wood, and plant supplies were purchased and heavy equipment was mobilized to the site leading up to construction, which began in early July.

The job more closely resembled a highway construction site rather than fisheries restoration. With two excavators, two dump trucks, bulldozer, skid-steer and mini-excavator, often working simultaneously, the site was a blur of activity with enough noise and dust to rival any road construction project. Work began early in the morning and sometimes continued until sunset to beat the narrow window for construction. Record breaking heat in July made for tough conditions for workers as well as the equipment.

When the dust settled, 300 feet of new channel had been excavated to connect the existing channel to a relic channel long since abandoned. Once this connection had been established, the most time consuming task involved filling 1,000 feet of the “Grand Canyon” of Hangman Creek - which was up to 100 feet across and 13ft deep - to create an earthen plug. This plug helped direct water along the original path the stream followed historically. Virtually within the blink of an eye, water now flowed slowly through more than 3,750 feet of shady, gently winding channel, where weeks before it was confined to 1,400 feet of channel that looked more like an open wound and functioned much like a drainage ditch. The increase in channel length reduced the stream gradient by 43 percent. This will have the effect of dramatically slowing water down as it moves through this area - ensuring that the scale of erosion will never again approach what had occurred during the last 60 years. The new channel will also allow for more frequent flooding of the valley bottom, even if it is just during brief periods, and allow that water to saturate local soils and recharge shallow ground water tables, rather than being flushed rapidly through the system. Not too shabby for a bunch of fish squeezers.

While the Fisheries Program employed seasoned equipment operators on the project in George Aripa, Jeff Jordan and Todd Johnson, the scope of the work necessitated additional help. Engineer Jason Sholtz, Fish Biologists Thomas Biladeau and Bruce Kinkead, and Fisheries Technician Glen Lambert gained valuable experience running excavators, dump trucks and a bulldozer. With this opportunity for on-

the-job training (capacity building), the Coeur d’ Alene Tribe’s Fisheries Program is well prepared for major projects to come. Riparian plantings will begin in October 2014, with future phases of channel work in the coming years. Stay tuned!



Photos showing Hangman Creek flowing through the “Grand Canyon” before restoration (above) and the restored channel (below).

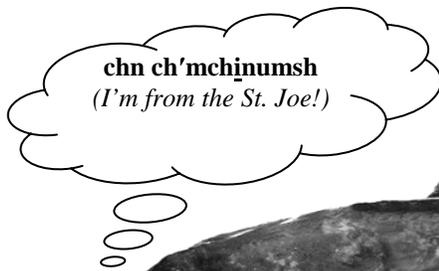
**ATTENTION OWNERS OF TRUST LAND ON THE
COEUR D'ALENE RESERVATION!**

Recently, the Coeur d'Alene Tribe was awarded \$4.1 million of Land Buy-Back funds to purchase fractionated trust lands specifically within the Coeur d'Alene Reservation. Coeur d'Alene Tribal staff is currently in the process of contacting all owners of trust lands within the Coeur d'Alene Reservation to notify them of this program and to determine whether or not they may be interested in selling one or more of their trust land holdings to the Tribe. All sales are voluntary and owners can choose which land interests they would like to sell, if any. The Coeur d'Alene Tribe will take ownership of all land

interests sold. Sale prices will be for fair-market value based off an appraisal completed by the Office of Appraisal Services (OAS).

Please call or email the Tribe's Buy-Back Program Office to notify them of your interest to sell. Tribal staff is available to assist landowners with Buy-Back paperwork and answer any questions. If you own fractionated land and are interested in selling, if you are unsure whether you qualify for this program, or if you are interested in learning more about the Buy-Back Program, contact the Tribe's Land Services Program at (208) 686-5123 or by email at BuyBack@cdatribe-nsn.gov or visit <http://gis.cdatribe-nsn.gov/LandBuyBack/> for more information.

Native Pride: *Cottus schitsuumsh*

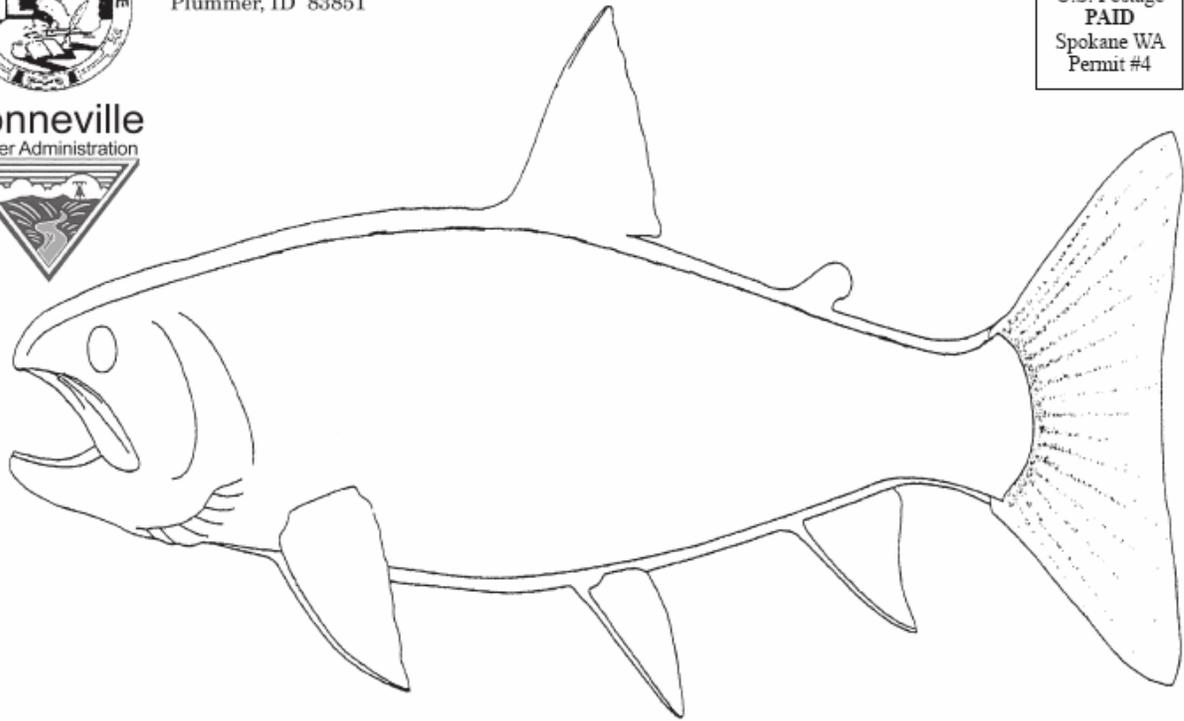


*The Coeur d'Alene sculpin, *Cottus schitsuumsh*, named after the Coeur d'Alene People and the landscape of the Schitsu'umsh, was recently recognized as a new species of fish.*



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IN HEYBURN STATE PARK AT Hawley's Landing**