

# 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!

Spring / Summer 2013

(Vol. 15 No. 1)

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.



*University of Idaho student, John Walrath, holds a northern pike caught in Windy Bay.*

## Picking on Pike

*By Jon Firehammer, Fisheries Biologist*

The Coeur d'Alene Tribe's Fisheries Program spends a considerable amount of effort restoring stream habitats in tributaries of Coeur d'Alene Lake to improve the quality of life for native westslope cutthroat trout. These efforts include reducing warm summer stream temperatures, increasing deep pool habitat, removing barriers (e.g., impassable, perched culverts), and adding wood into streams to increase habitat complexity. These actions increase the suitability of rearing conditions while trout reside in these tributary habitats. However, many of the cutthroat trout may only stay in these tributaries for a short while as juveniles, and when they get older, leave to move down into Coeur d'Alene Lake where they will feed and grow to adulthood before they return as spawners to these same tributaries.

Moving into the lake, though, does not come without its own set of problems that can decrease the quality of life. Though lake-rearing cutthroat trout don't have to concern themselves with the effectiveness of government-sponsored or market-driven health-care systems, or the questionable value of more stringent gun-control regulations, their overall health, and in some instances their likelihood of survival, can be affected by conditions in the lake.

Other fish exist in the lake that can compete with cutthroat for available food, thus affecting their ability to grow well. Piscivorous (or, fish-eating) fish also roam the open waters of the lake and have the ability to not only consume the smaller juvenile cutthroat just entering the lake, but also the larger adults.

So why is the Fisheries Program concerned with potential competitors and predators in the lake when predation and competition are normal processes in most fish communities? For the last five years, the Program has been collecting data on the percentage of juvenile cutthroat that return to their natal streams to spawn as adults. If you remember from past Watershed Wrap articles, we do this by placing small PIT tags (tags that can be scanned for their unique codes) into juveniles captured in Lake and Benawah creeks as they move downstream to the lake. We then 'look' for these tags in returning spawners as they ascend the streams in the spring by either scanning those adults that are captured, or by passively detecting the tags as adults swim through fixed antennas that span the

We have estimated that less than 2% of juvenile cutthroat trout that migrate to Coeur d'Alene Lake return to tributaries to spawn as adults.

stream. Using this technology, we have estimated that less than 2% of juveniles return to spawn as adults. To put this number in perspective, there are other similar systems in the northwest, which have supported migratory cutthroat populations that use lakes as rearing habitats, where 15-20% of the juveniles return to spawn as adults. The much lower return rates in the Coeur d'Alene basin than in these other systems could suggest that competitive or predatory processes in Coeur d'Alene Lake are 'out of whack'.

These low return rates prompted a short-term study to evaluate if predation by northern pike in Coeur d'Alene Lake could be a major driver limiting the

return of spawning cutthroat trout. Why are we picking on northern pike? Well, for one, pike are not native to the Coeur d'Alene basin, being introduced in the region during the 1970's. In addition, pike are highly piscivorous and, because of their large size and sizable mouths, can consume fish of a variety of sizes and have been shown to substantially impact native fish communities, especially in those systems where they have been introduced.

The study, in part, entailed setting gill nets in four bays across the lake to capture and examine the diet of northern pike. Diet was assessed using a technique called gastric lavage, or in provincial terms, 'puking the fish'. Basically, a tube is inserted down the throat of the captured fish and water is pumped down the tube into the stomach causing the fish to regurgitate its food items. After placing pike through this unique experience, they were then tagged and released to be potentially captured again in subsequent sampling events. You may ask, 'Why release pike back into the lake given their potential to significantly impact cutthroat trout populations?' Well, releasing and recapturing tagged pike permit an estimate of their abundance in a given area, and an abundance estimate would inform management strategies to address potential problems associated with pike.

During sampling activities in 2012, 108 pike were tagged and released in Windy Bay, the bay into which Lake Creek empties, with 41 of these fish (38% of tagged fish) recaptured in subsequent sampling events. In Benewah Lake, the bay into which Benewah Creek empties, 171 pike were tagged with only 9 (5% of tagged fish) of these recaptured. What does this tell us about the size of pike populations in each of these bays? Given that a higher percentage of tagged fish were recaptured in Windy Bay than in Benewah Lake, it indicates that the pike population in Windy Bay is likely smaller than that in Benewah Lake, and that there is more potential to exploit the pike population in Windy Bay than in Benewah Lake.

The data collected in 2012 also revealed noteworthy results regarding the diet of northern pike in Coeur d'Alene Lake. In three of the four bays sampled, pike primarily consumed salmonids (in other words, trout or salmon) throughout the year. Most of the salmonids were kokanee, but cutthroat trout were a primary dietary item in pike stomachs during early spring sampling in Windy Bay. Thus, trout and salmon seem to be a preferred food source by pike in Coeur d'Alene Lake. We will continue our sampling in the spring and early summer of 2013 to provide us with another year of data to draw more informative conclusions regarding the impact of northern pike on cutthroat trout. Stay tuned for an update on this study next spring. ♦



*A July day at the Worley Pond.*

### **Coeur d'Alene Tribal Trout Ponds Update**

*By Jeff Jordan, Fisheries Biologist*

The Coeur d'Alene Tribal Trout Ponds have all been released from the hold of "Old Man Winter" and are ice free, although, beware the water is still very cold. With winter loosening its grip and giving way to spring conditions, we are now waiting for the warmer spring weather to melt the surrounding snow from the ponds (mainly Agency Pond) in anticipation of the first stocking/plant of the 2013 season, which will likely happen even as this newsletter is printed.

The three ponds we currently manage are stocked/planted on the same day with triploid rainbow trout purchased from Trout Lodge, Inc., located in the Ephrata, WA area. The stocked trout generally fall in a slot range of 1-3 pounds each. The stocking densities are correlated to the size of the pond and each are normally stocked three times throughout the season. Normally Worley is the first stop (around noon) for the vendor on plant days, and from there Agency and then DeSmet.

Newly stocked trout sometimes seem to need time to acclimate to their new surroundings due to the stresses of handling associated with transplanting into the Ponds, and therefore aren't in any hurry to please anglers trying to catch them. On the other hand, they have been deprived of feed for a short duration (days) before loading and transplanting to their new living quarters and may be ready to stretch a line or two as soon as they are released into the pond. It's called fishing - go figure!

Ponds are stocked when water conditions are most favorable. Usually temperature and dissolved oxygen are the limiting factors for planting activities, and more so latter in the season, although other factors

may affect the scheduled stockings. Please be respectful and follow the guidelines that have been established to support these activities without harming or degrading any areas that you may visit.

The Coeur d' Alene Tribe and Bonneville Power Administration - both funders of this project - hope that you enjoy the outdoor experience associated with the Trout Ponds, and most importantly, include the younger generation, teaching them the art and respect for those things of Nature. ♦



*Bobcat at a bait station in the Gold Creek Drainage.*

### **Forest Carnivore Camera Stations**

*By Nathan Albrecht, Fish and Wildlife Biologist*

Over the past two years, the Wildlife Program has been working on a multi-species survey effort initiated by Idaho Department of Fish and Game. This has been a cooperative effort between several different partners in Idaho designed to detect the presence of wildlife species that either go unnoticed or are particularly difficult to find. In the summer the surveys were focused on rare gastropods (snails and slugs) and beetles, and this winter's effort again was focused on rare forest carnivores.

Since 2006, the Wildlife Program has been highly involved in forest carnivore research throughout the ceded territory of the Coeur d' Alene Tribe. This started with a systematic survey of the region with hair-snaring devices, and was followed with a fisher satellite-collaring effort. Since then, we have been consolidating all of the fisher and marten survey data into a centralized database for the region. While this current multi-species survey is a continuation of this effort, the focus of this survey focused more on lynx and wolverine.

Both lynx and wolverines are wide-ranging forest carnivores that occur at low densities throughout their range. Because of this, they are difficult to study and we don't know very much about their population

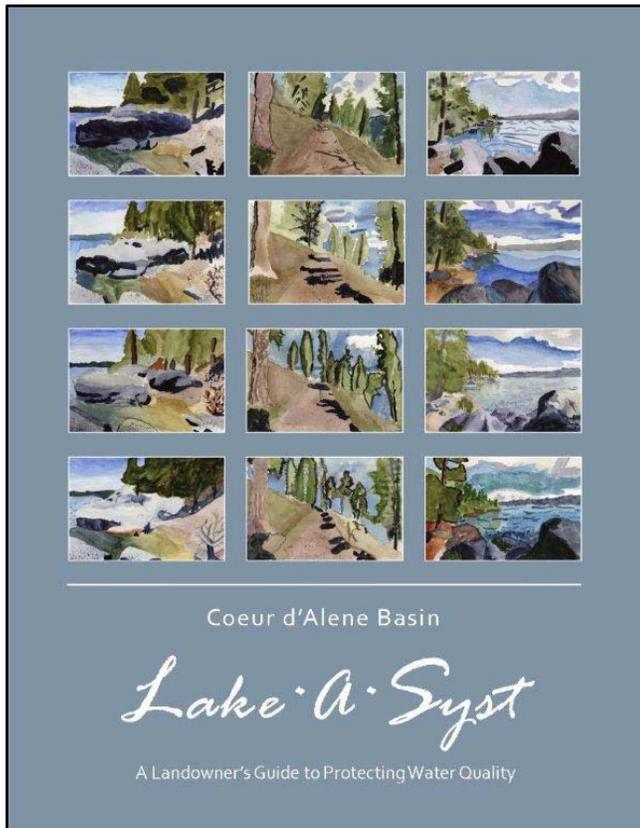
attributes. Lynx are currently listed as a federally threatened species and are considered to be critically imperiled within the state of Idaho. Wolverines have recently been petitioned to be listed as a threatened/ endangered species, and are considered to be imperiled in Idaho as well. Our objective for this portion of the study was to detect wolverine and lynx in order to get some baseline data on potential populations. If lynx or wolverines are detected repeatedly in a given area, the next step would be a trapping and collaring effort. Collaring would allow biologists to learn more about their movements in order to determine whether there may be a local population or if an individual was just moving through the area.

We deployed 13 camera stations in remote areas throughout the ceded territory. The stations consisted of a large piece of meat, usually beaver or a deer leg, secured to a tree. We nailed wire brushes all around the tree below the bait, and a thermal-sensing camera was hung on an adjacent tree. The station is designed to attract carnivores to the tree, where they climb up and leave some hair on the brushes. At the same time the camera takes pictures of whatever is attracted to the bait. The result is pictures of the animals, as well as DNA from the hair samples.

We have just started collecting the bait stations and analyzing the pictures and hair samples, so we can't yet report on what we've found this year. However fishers, martens, ermine, flying squirrels, and bobcats were all documented at the stations last winter. Hopefully this winter's expanded effort will provide good results. We plan on continuing this effort in future winters to get a better understanding of forest carnivore species in the region. ♦



*American Marten on a bait station in the Mica Creek drainage of the St. Joe National Forest.*



## Tribe and Idaho Launch Coeur d'Alene Basin Lake•A•Syst Guide

By Laura Laumatia, Hazardous Waste Management Program

The Coeur d'Alene Lake Management Plan team is excited to announce the launch of their long-awaited "Coeur d'Alene Basin Lake•A•Syst: A Landowner's Guide to Protecting Water Quality". The team has been working for the past two years on developing this guide for home and property owners that live near the lake or any of the streams and rivers that feed into Coeur d'Alene Lake.

The guide consists of eleven sections that landowners can use to learn about how to use best management practices (BMPs) that can help reduce the amount of pollutants like nitrogen and phosphorous from entering surface waters. Sections cover topics such as pasture management, drinking well protection, septic system maintenance, lawn and garden management, and proper use and disposal of household cleaners. The guide provides risk assessment sheets for each section that the reader can use to address his or own current practices and then develop an action plan to reduce environmental risk.

The goal of the Lake•A•Syst is to help community members learn how to increase their stewardship of water quality by reducing nonpoint source pollution. Nonpoint source pollution is that which enters water from across a wide area, stemming

from activities such as construction, logging, agriculture, and roads. It presents a major challenge to clean water because it is harder to monitor and control. Successfully addressing nonpoint source pollution relies on community-wide efforts to modify practices that lead to sediment and other pollutants entering waterbodies.

Though nonpoint source pollution can be an issue for all of our lakes and rivers, Coeur d'Alene Lake is particularly vulnerable to nonpoint source pollution because of the millions of tons of metals-contaminated sediments that lie at the bottom of the lake. The Coeur d'Alene Lake Management Plan, a joint Tribal and State document, is intended to help manage metal contamination by keeping excess nutrient pollutants like nitrogen and phosphorus from entering the lake. The Plan's success depends on the support and stewardship of local residents.

The Lake Management Plan team plans to launch a series of workshops across the Basin to support property owners in using the guide, and the Tribe and the State look forward to hearing ideas and input from the community. If you are interested in learning more about Lake•A•Syst or the Coeur d'Alene Lake Management Plan, please call the Tribe's Lake Management Department at 667-5772, or the Idaho Department of Environmental Quality at 769-1422! ♦

## Looking for Fish in the Trees

By Stephanie Hallock, Habitat Biologist and Angelo Vitale, Fisheries Biologist

As a means to increase native fish populations in streams on the reservation, the Coeur d'Alene Tribe Fisheries Program is focusing on increasing the amount of high quality fish habitat in areas that have been impacted by human activity. The relationship between fish populations and stream habitat is complex: trout need spawning, feeding, and rearing habitats and many factors influence fish distribution. Some factors include water temperature, water velocity, water depth, amount of cover, and substrate composition. Competition within and between fish species along with predation, food availability, and disease also play a role in habitat selection.

Scientists commonly classify streams into different habitat types; slow and deeper waters are often called pools, whereas fast and shallow waters are called riffles. Fish use each of these types of habitat in a variety of ways. Deep pools provide low velocities, plenty of cover from predators and are ideal areas for fish to forage for food while minimizing the amount of energy expended. Pools are also important in that they dissipate energy during high flows. Riffles on the other

hand tend to support the greatest production of food items for fish in streams and provide areas for spawning. A variety of habitats are needed to support a healthy fishery and fish nerds often use the word “complexity” to describe desirable conditions.

Much of what distinguishes good stream habitat from the rest is linked to the condition and management of adjacent uplands. A major shift in the science of riparian area management, well underway by the 1980’s, supports this contention. The functions and roles of streamside forests have been examined in detail and found to have a much more profound role on channel morphology and aquatic life than first suspected. It became evident that the streamside forest was more than just a supplier of shade. It was an important source of woody debris to the channel; woody debris that was critical in organizing many functions of the stream ecosystem and creating complex habitat for fish. Large wood plays a major role in the retention of organic matter, particularly for smaller streams. Without debris jams and other complex channel features, organic matter simply flushes through a channel. Retaining this organic matter is important because it is a source of nutrients for communities of algae and diatoms. These organisms are food to some aquatic insects, which in turn become the food supply for fish. Also, wood creates deep pools by creating dams or scouring the streambed. Accumulations of wood can create spawning habitat by sorting the materials transported by a stream and trapping the gravels that are then used during spawning. Finally, wood in the stream or overhanging the channel provides important cover from predators.

In many streams on the Reservation, a lack of wood, both in the stream channel and on the adjacent

floodplain, has been identified as a contributor to reduced habitat quantity and quality. Logging, channel straightening, and historic removal have all contributed to low wood volumes in some local streams. The Fisheries Program relies on several strategies to increase the amount of large wood in our streams. One strategy involves managing stream adjacent forests so that there will be trees nearby that can eventually supply the stream with wood by falling into or near the channel. Interestingly, research has shown that young conifer trees contribute very little woody debris to streams until the stand is older than about 65 years. Preserving mature trees adjacent to streams, therefore, becomes an important consideration for aquatic habitats and fisheries. Another side to this strategy necessarily involves planting trees in areas that have been harvested or farmed and where no trees currently exist. Over time, these trees will grow to form mature stands and provide wood to the creek and many other benefits.

Another strategy we are increasingly using is to add large wood to sections of stream that currently have little or no wood present. In these instances, wood is placed in the channel to simulate what occurred historically. In some places this can be accomplished by simply felling trees into a stream, however, on many projects we work directly with the Tribal Forestry Program to purchase logs that can be used for this purpose. We use this wood to create single and multiple log structures and often use an excavator to place the logs where access is favorable. Portions of the logs are buried to act as anchors for the structures. Other logs are placed along the stream in different configurations to form bank protection and create pools. We try to preserve existing vegetation as much as possible. After wood placements are completed, deciduous trees and grass plugs are planted in disturbed areas.

We will be employing this strategy to treat approximately 1.2 miles of streams in the Benewah Creek watershed during 2013. Additionally, we have identified a need to treat another 11.4 miles of stream in several watersheds that are tributaries to Coeur d’Alene Lake over the next 5-10 years. Like most of what our program does, it takes time to identify the need, develop priorities and get projects on the ground, and not much is accomplished without the cooperation and participation of landowners. We need and greatly appreciate your support! ♦



*Whether fish can be found in local streams is often conditioned by whether wood is present.*

## Launching the SS 'Eltumish

By Dan Jolibois, Fisheries Technician

The Fisheries Program added a new type of fish trap to their operations this spring season. The trap is called a screw trap and is very different from all of the other designs we have used in past years. I will try and explain the trap's design and fish catching operations, but as they say, "a photo is worth a thousand words".

The new screw trap is intended to replace one of our fixed weir style traps that we have worked to perfect over the last many seasons, but still have problems with. Like the weir traps, this trap is designed to catch juvenile or smaller fish that are moving down stream, but its method of capture and operation are very different from most other traps currently in use.

First, a bit of history leading up to this new type of trap. Historically, the Coeur d'Alene People were known to have developed sophisticated methods for capturing fish along the lower reaches of all the major tributaries to Coeur d'Alene Lake as well as at the mouth of the Spokane River. Orland A. Scott described a type of fish trap that was built at Mission Point near the mouth of the St. Joe River:

*"..between the mission site and the river there was a narrow neck of swampland, which was covered by water during flood time. As the water level dropped, fish came through this narrow channel in large numbers. A trap was fashioned that ran from the point upon which the mission was built to the bank of the river. Its construction was merely a low dike, approximately 18 inches in height, built of the bottom land upon which it was erected. The priest stuck willow switches into the dike so close together that they formed a natural barrier to fish that swam in either direction in the narrow channel. The willows soon took root, thus making the barrier more effective. Natives walking the dike with spears and nets could catch large quantities of white fish and trout in this impound (Peltier 1975)."*

More recently, we have been using a weir or panel type trap in many locations. The weir trap is intended to capture all of the fish moving down stream while it is installed. This sounds good in theory, but unlike the living willow weir of the old time Coeur d'Alene's, there are problems with this type of trap. The native cutthroat trout ('eltumish), which we are

targeting with our trapping operations, move down stream in the spring at a time when we experience a combination of precipitation and melting snow, resulting in higher flows and very cold water. Consequently, we usually must wait until we get some window of opportunity at lower flow to set the weir. It is during this time frame of waiting that we usually miss a portion of the early trout migration. So the goal of capturing all of the trout is compromised from the start. In the lucky event the weather is favorable and we get the trap installed before any trout start to move down stream we are still challenged with trap panel scouring, over flows and washouts. Some of these problems may take several days or more to fix. Essentially the weir panel trap is a good system with many potential weak links.



Delivery of the unassembled screw trap to Benewah Creek.

Because of these challenges, we recently made the decision to try another option: the screw trap. This trap functions by the use of moving water entering a perforated drum that has screw mechanisms on the inside of it (looks like a giant colander!). As water hits the mechanisms the drum turns, and as fish enter the drum they are moved downstream through the drum into a live box at the rear of the trap. The drum is mounted on a shaft that is supported between two pontoons; the pontoons provide the floatation for the trap. The portion of the drum that is underwater is the part that is actually fishing. The drum can be raised by a winch system for cleaning or for fishing the trap in shallow water. The trap is held in place by a bridal system made of cable and pulleys so its position can be easily adjusted as flow levels or flow directions change. This design has been in use for well over a decade and is being used successfully in many local river systems, as well as in other countries. Moreover, the latest version of this trap has gone through several

modifications to make it more durable and safer than the original models.

Unlike the weir panel type trap, the screw trap only fishes a small percentage of the water, and it is not intended to catch all of the fish. However, we can estimate the total number of fish that are moving downriver by marking a proportion of the captured fish and later recapturing them. Getting a good handle on the total number of fish (adults and juveniles) in the run is a critical part of making management decisions, and over time this type of monitoring will help the Tribe decide when the fish population is strong enough to support a fishery again.

Several weeks ago we made the trip to the Koffler boat fabrication shop in Eugene, Oregon to pick up our trap, loaded it on a trailer and drove back to Plummer. Within a week we loaded the unassembled trap on a trailer and moved it out to its new home on Benewah Creek. With the help of many crew members we carried each piece to the assembly site, assembled it and had it operating within hours. The very next day we had a few fish in the trap; the majority of them being trout.

With this new screw trap we are now able to fish the early season higher flows we are currently experiencing. Over the last few days since it was installed we have captured trout each night (324 between March 13 to April 8). It is certainly good news that the trap seems to be a successful improvement to our trapping operations. ♦



*A successful launch of the SS 'Eltumish*

### **P't'aswel in the Classroom**

*By Gina Baughn and Bobbie White, Natural Resources Education Specialists*

**T**he Fisheries Program has recently been working in collaboration with the University of Idaho and Lakeside Elementary to provide students a unique opportunity to bring some nature and nurture into the classroom. This has come about through

starting a Trout in the Classroom program using funding from the “Back to the Earth” grant, which is administered through the University. We received a donation of P't'aswel (Rainbow Trout) eggs from Trout Lodge, Inc. located in the Ephrata, WA area, who also happens to be the supplier of trout that are stocked in the Coeur d'Alene Tribal trout ponds. The fertilized eggs were delivered on October 11<sup>th</sup> straight to their new home in the aquarium we placed outside Mrs. Desiree Hendrickson and Mrs. Caralyn Olsen's 4<sup>th</sup> grade classrooms.



*Trout eggs are placed in the “Trout in the Classroom” aquarium at Lakeside elementary school.*

The tank itself holds a roomy 55 gallons of water and has a special chiller attached to the keep the water temperature at a cool 50°F necessary for healthy trout development. After placing the eggs in their rearing baskets we covered the tank with black paper to protect it from UV light, and twelve days later we had hundreds of newly hatched alevin (baby fish) hanging out in their rearing boxes.

The fish are born with a small sack attached to their abdomen containing the nutrients they would need for the first few weeks of life. If our alevin were hatched in the wild they would have needed their yolk sacks to sustain them until they were strong enough to leave their hiding places in the gravel to search for food. In the classroom this meant we simply wouldn't need to worry about feeding our fish for a while. After a few more weeks passed our trout had entered the

“swim-up” stage and were ready to start leaving their rearing boxes to go out and explore their environment.



*The shy alevin hide in the gravel once they leave the confines of their rearing basket.*

Although we started out feeding them flake food (like the kind you feed your goldfish) they are now big enough to eat pellets. As of mid-March the trout are now past the Fry stage and will stay in Parr stage (parr refers to the marks that form on their side as they mature) until they are released this spring. Some of the fingerlings are as large as 2 inches long already!



*A close up shows the parr marks on the sides of young fish.*

This program has been a great introduction to trout biology and life history and our amazing 4<sup>th</sup> grade teachers have been planning activities covering such topics as trout anatomy, the fish life cycle, water quality, genetics and fish journaling. The staff from the Fisheries Program has also committed time to teach students about electro-fishing, pit-tagging, fish passage, macroinvertebrates, trout anatomy, and a mark-recapture activity to simulate methods used by our Program to estimate the numbers of fish in natural systems. Thanks to the great care our trout have received from Fisheries employee Eric Hendrickson, the survival rate has been quite high. This has allowed us to relocate about a hundred of our trout to a different



*The fourth grade class has fish anatomy posters on display at Lakeside Elementary.*

tank. This second tank is being monitored by two of our other Fisheries staff, Tom Biladeau and Jason Sholtz, in conjunction with a group of students at the Lakeside Success Center's, 4-H Camas Club. The kids are having a wonderful time learning how to care for the fish, how to tie flies, reeling in fish at the ponds, identifying aquatic bugs using microscopes and thinking about fish anatomy! ♦

### **Loom Beading with Success Center's 4-H Camas Club**

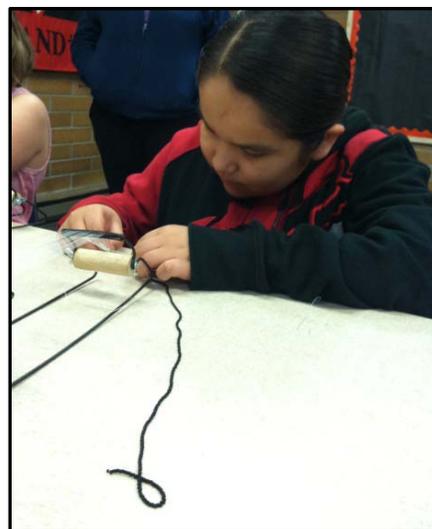
*By Gina Baughn and Bobbie White, Natural Resources Educations Specialists*

**W**e have continued our partnership with the Lakeside Elementary Afterschool program and their Camas Club 4-H program. We meet with students every Tuesday to assist them with a loom beading project. Students are using their math skills to design patterns and meticulously count each bead as it goes onto their looms. It's wonderful to see the dedication and enthusiasm our students have for this project.

We are also pleased to be collaborating with the Coeur d' Alene Language Department who have been teaching students to incorporate language into their beading. So far students have learned

*Talon Twoteeth tightens the thread on his loom.*

introductions, how to count, how to say their colors, and also how to say the names of their beading supplies like thread, needle, and wax. Students will be showcasing their completed projects on May 16<sup>th</sup> at the Lakeside Elementary 4-H showcase. ♦



# In Memoriam...



*Dave Lamb*

Dave was born in Geneva, New York on December 27, 1952, the son of Robert C. and Barbara (Imhofe) Lamb. After graduating from Geneva High School in 1971, he earned a Bachelor's Degree in Biology from Alfred University in 1975. After moving to the State of Washington, he attended Washington State University, graduating with a Master's Degree in Environmental Science and Limnology in 1980. He married Michele Fevrier from Cherbourg, France on August 24, 1985 in Spokane. Dave was an enthusiastic canoer, camper and hiker and being outdoors was his great pleasure. He liked creating things out of wood and this culminated in building a log cabin with a friend after he moved west.

As a graduate student, he served an internship with Michael Kennedy Consulting Engineers, later becoming a member of the staff. Positions with the Lambert Group and Resource Management followed. In April 2001, he was hired as a Habitat Biologist for the Coeur d'Alene Tribe in Plummer, and later served as a Lake Ecologist for the Tribe. During his career, he was deeply involved with a number of scientific and environmental organizations which dealt with lake management and research and practical application for the control of invasive Eurasian Milfoil. He leaves a lasting legacy of care and respect for the natural resources and it is true that we have lost a great protector of the areas lakes. His zest for life, great smile and indomitable spirit will always be in the hearts of his family and his many friends and associates.



*Carla Marratt*

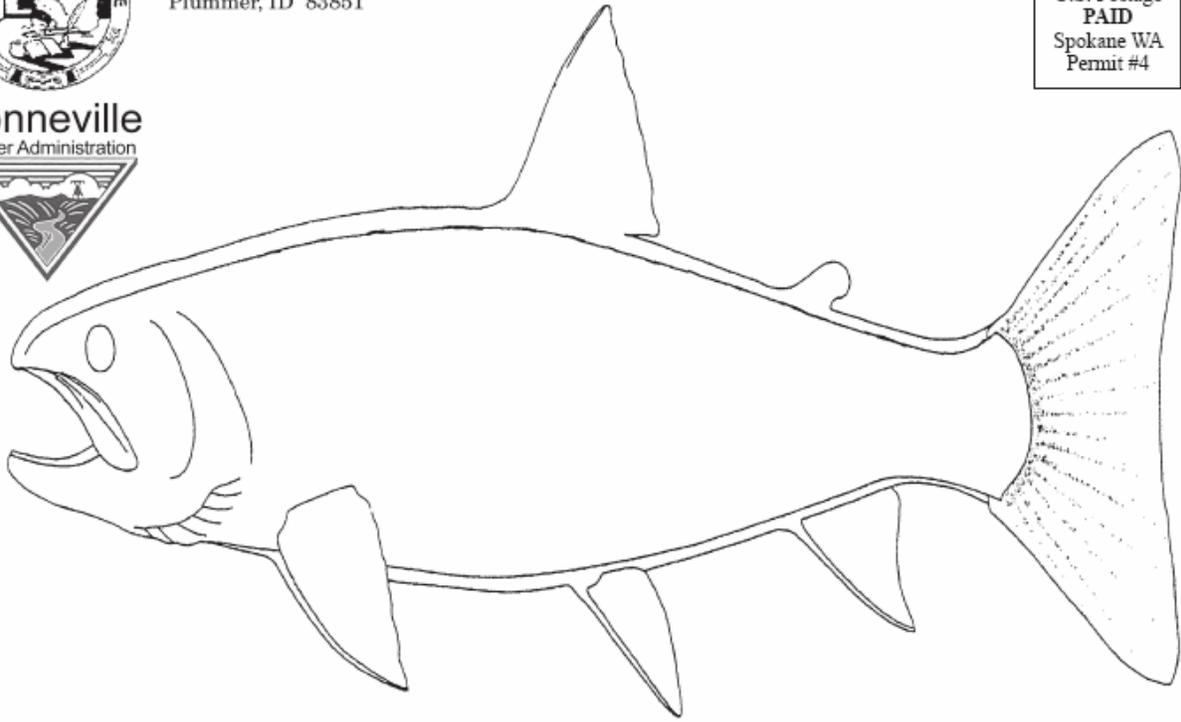
Carla Mae (Palmer) Marratt was born September 18, 1966 in Colfax, Washington after an 80 mile per hour drive from Pullman by her Grandpa Ron. Her parents were Mariane and Elry Palmer and she grew up in the family home built on Windfall Pass. She graduated from Plummer High School in 1984 before attending the University of Idaho in Moscow. She ran track and played basketball and was given the nickname "ice" for her grace under pressure. Carla was always very proud of her boys, Casey and Jared, born in 1988 and 1990. She loved the great outdoors and spent much of her time camping and hiking with her sons and her many nieces and nephews. A favorite spot was on Cemetery Ridge past Avery above the St. Joe River.

Carla was an employee of the Coeur d'Alene Tribe for many years, as well as a business entrepreneur, and worked in the Fisheries Program almost from the time of its inception in the late 1980s. She served as the office manager and helped the Program transition and grow from just a handful of employees to one of the largest in the Natural Resources Department. She took pride in knowing everything that was happening just as it was occurring and really knew how to help get things done. She looked after everyone like a mother hen and created an atmosphere in the office that felt more like coming home to family than going to work. The beauty that everyone experienced while knowing Carla is something that is truly indelible.



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