

WATERSHED WRAP

Quarterly Newsletter from the Coeur d'Alene Tribe's Fish & Wildlife Programs describing watershed management efforts. Offering readers food for conversation and paper for wrapping!



Spring Equinox 2008

(Vol. 12 No. 1)



ATTENTION:

Hangman Creek Watershed Workgroup Meeting at Tensed Grange Hall
6:00 p.m. on Wednesday, April 9th
Update for *hnt'k'wipn* property
Any questions call Bruce Kinkead, 208-686-6071 or Gerry Green 686-0312



This photo was taken during the spring within hnt'k'wipn looking downstream along Hangman Creek

Wetlands designed to limit mosquito populations

By Gerald I. Green, Wildlife Mitigation Biologist

I've heard it said that the mosquito is the state bird of New Jersey. I've always found this a rather humorous way of indicating that the mosquito is abundant in the state and anyone who ventures out onto the landscape on extended excursions must find ways of dealing with it. I've heard from varying sources that the mosquito is also the state bird of Wisconsin, Massachusetts, Illinois, and Indiana. Suffice it to say that these states deal with mosquitoes. These are all "tongue-in-cheek" statements that convey the notion that, in these states, mosquitoes are a nuisance and living there can be trying at times.

Some of the humor in these expressions is diminished as we find ourselves dealing with mosquito

born pathogens such as West Nile Virus (WNV). For the most part, WNV produces little more than mild cold symptoms in people; however, occasionally the virus can lead to serious health complications and result in long term disability. In rare cases people have even died from the complications that follow an infection from WNV. As wildlife and fisheries biologists working for the Coeur d'Alene Tribe's Natural Resource Program we are not qualified to discuss the health issues associated with WNV. For a review of the incidence of WNV in Idaho please consult the Idaho Department of Health and Welfare website at <http://www.healthandwelfare.idaho.gov/>. That website offers the best available data on WNV in Idaho and anyone who is interested in understanding more about the virus and the ailments that can accompany it.

As biologists dealing with issues, it is our responsibility to review the information available on the effects of landscape level management, and to implement practices that improve the health of the landscape while doing everything we can to avoid threats to human health. It's common knowledge that mosquitoes breed in open water and one would naturally expect an increase in mosquito populations around wet areas. So it is interesting that our review of the information lead to the discovery that in those states previously mentioned (New Jersey, Wisconsin, Massachusetts, Illinois and Indiana) all promote wetland restoration as a means of **reducing** mosquito populations. Wetland restoration is one of the most common techniques used to minimize the possibility of WNV infections. At first exposure to this strategy, it seems to be sheer madness; therefore we will attempt to explain the approach employed by these states.

When implementing wetland restoration the first principle employed by these states is to favor ground-saturated wetlands over surface inundated wetlands. Wetlands can be the result of moisture held within the soil and wetlands that result from increased soil moisture and not surface waters have very little capacity to produce mosquitoes. It appears that standing surface water is not a necessary feature in all wetland habitats.

The second principle employed by these states is ensuring that wetland habitats are structured to produce

an abundance of mosquito predators. If, as is sometimes the case, the purpose for managing a wetland is to favor the production of waterfowl or fish, open waters cannot be avoided. However, ducklings and native fish are voracious predators of mosquito larva, as are salamanders, frogs, and an entire host of wetland insects. In managing open water wetlands, the depth of water as well as the bank configuration can be structured to favor habitats that produce an abundance of mosquito predators.

These two principles, favoring wetlands derived through increased soil moisture over wetlands derived from surface water moisture, and where surface waters are needed for the production of native fish and/or waterfowl, ensuring habitats exists to support an abundance of mosquito predators will assist greatly in reducing mosquito populations. Mosquitoes are a part of any moist landscape, thus, the complete elimination of mosquitoes would require that we create a complete desert of lands that is neither feasible nor desirable.

One of the Hangman Restoration Project's major responsibilities is the management of a 1,195 acre property referred to by Coeur d'Alene Elders as *hnt'k'wipn*. The *hnt'k'wipn* Management Plan actively incorporates these two habitat management principles and defines actions that are intended to increase the cover of functioning wetlands within the property. An indirect benefit to the restoration of wetlands will be an increase in stream flow within Sheep and Hangman creeks during the dry season. Currently, Sheep and Hangman creeks dry up during the hot, arid months of July and August. This lack of flow leaves stagnant pools of water along the stream corridor that offers little habitat for mosquito predators. This situation is prime for uncontrolled mosquito production. Improving wetland function within *hnt'k'wipn* will allow the floodplain soils along these streams to function as a "sponge," absorbing moisture during the wet season and releasing that moisture into the stream during the dry season. Improving soil moisture holding capability in *hnt'k'wipn* will increase stream flow during the dry season and improve habitats for fish, waterfowl and a complex of other mosquito predators. All this is consistent with the Best Management Practices designed to reduce mosquito populations that are established by the New Jersey Mosquito Control Commission and mosquito control efforts promoted by the other model states.

If there is any interest in the specifics of how these two principles of wetland management are applied to *hnt'k'wipn*, the Coeur d'Alene Wildlife Program would invite you to review the *hnt'k'wipn* Management Plan. That plan is available at the office of the Tribe's Wildlife Program and if you would either like a copy of the plan, or would like to discuss the activities of the

Hangman Restoration Project, please contact Gerald Green (208-686-0312) or Cameron Heusser (208-686-5521) or e-mail us at ggreen@cdatriben-sn.gov.

P.S. The state bird of New Jersey is actually the eastern goldfinch, Wisconsin's is the American robin, and Massachusetts' is the chickadee. The northern cardinal is the state bird of both Illinois and Indiana. ♦



Winter on Tribal Trout Ponds

By Jeffery Jordan, Fisheries Biologist

The Tribal Ponds were frozen due to the cold winter season and if you have had the chance to visit any of the ponds you may have noticed that the aeration systems have been aiding in the effort to supply oxygen to the fish that are carryover from the 2007 season. Although, with the coming of spring the effects that old man winter has had on the ponds are beginning to loosen. Any ice that may be lingering is now unsafe for anglers to fish on. In addition, visitors with pets should be concerned about them falling through as well.

It appears anglers may be still fishing through the ice, as holes in the ice suggest that fisherman have attempted their luck at catching some of the last seasons one-three pound rainbow trout. And, who knows there may be a few of those line stretchers (some weigh in at five plus pounds) waiting to test the limits of the anglers' and their gear. The ponds are open to fishing but we suggest that you take extreme care when trying your luck.



Beware of ice-covered waters this time of year

The Fisheries Program is anticipating three plants of the one-three pound rainbow trout with at least one

additional plant of smaller sized fish donated from the US Fish and Wildlife Service in the 2008 season. All fish stocked are there for the enjoyment of the Reservation Community. However, anglers are reminded that they need a Tribal fishing permit to fish and that there is a five fish per day catch limit. Fish plantings are weather dependent and the early season plants most likely will go as planned. If you can, please take a child, friend or family member for an outdoor angling adventure at one of the local Coeur d' Alene Tribe Trout Ponds. ♦



Yellowstone Bison Acquisition

By Jeffery Jordan, Fisheries Biologist

The Coeur d'Alene Tribe received bison through two governmental agencies, Montana's Department of Livestock (MDL) and U.S. Department of Agriculture's Animal & Plant Health Inspection Service (USDA-APHIS) programs. These programs are part of Yellowstone National Park's herd management program.

The MDL also takes individual applications and are prioritized at the bottom of the distribution list after governmental and state agencies. The Tribal Fish and Wildlife program office will have applications available for individuals who would like to apply for bison at the MDL.

The USDA-APHIS program deals only with Tribal entities and at this time it is not known if individuals are eligible to apply.

Both programs address both overall herd numbers and the brucellosis disease concerns in Yellowstone Park. Bison received by any entity need to address the disease issue to prevent any adverse effects that may or may not be associated with the bison. Bison carcasses are being processed by the Benewah Market and will be cut, wrapped and frozen in the form of roasts, burger, short ribs and smoking meat.

Bison Meat Distribution

On April 11, 2008 between 8:00 a.m. and 4:30 p.m. there will be a distribution of frozen bison burger and roasts to Coeur d'Alene Tribal members at the Coeur d'Alene Tribal Headquarters in Plummer, Idaho. Tribal members will be required to show proof of enrollment and sign for receipt of the bison meat.

It is very important to use good hygiene practices when handling the raw bison and their parts. A chance exists that the bison may have been affected with brucellosis. Therefore, as with any wild game cook the meat thoroughly. The USDA recommends 160 degrees

for home use -- cook to the point where the pink is just disappearing.

The Tribe has set aside a portion of the processed bison for other cultural activities and for various other tribal programs. Thus, if there are Tribal programs that have been overlooked and would like frozen bison please call the Coeur d'Alene Tribe Fish and Wildlife office at 208-686-5302.

Individuals that have special circumstances that prevents them from picking up bison meat please call the Fish and Wildlife office ahead of time and your request will be evaluated for possible delivery.

Bison Head and Hide Distribution

At the same time the meat was recovered the bison heads and hides were also made available. If you are interested in either or both please call the Coeur d'Alene Tribe Enrollment office at either 208-686-0193 (direct line) or 208-686-1800 (main Tribal line). Their office will generate a list of individual names with preference given to Coeur d'Alene Tribal members. If the demand is greater than the supply a lottery type drawing will occur for either or both. Although, if the supply is greater than the demand the heads and or hides will be released to other interested individuals.

Hides are being stored in a refrigeration unit until they are released. Heads are being stored in a storage shed until they are released.

Hide and Head recipients will be notified on Tuesday, April 8, 2008 for pick up on Wednesday, April 9th. NOTE: Consider yourself warned that all heads and hides will be released in their green form and any processing costs associated with them are the responsibility of the recipient. ♦

Forest Road Inventory and Culvert Assessment

By Stephanie Hallock, Habitat Biologist

The Coeur d'Alene Tribe Fisheries Program is planning to complete an inventory and assessment of forest roads and stream crossings in portions of four watersheds (Alder, Benewah, Evans and Lake creeks) on the Coeur d'Alene Reservation.. The streams targeted for this survey include the most important habitats for spawning and rearing of westslope cutthroat trout (WCT) in the respective watersheds.

Why are we surveying forest roads? Forest roads can be a major source of sediment to streams. Natural drainage patterns in a watershed are disrupted by road construction. Water, as it drains down the roads carries sediment with it. Eventually the water is routed to a drainage point, like a ditch or relief culvert, and is transported off the road. If water from this drainage point reaches a stream it is considered hydraulically

connected. The road segments that drain to these points contribute sediment to streams. Roads that are not hydraulically connected may erode but the sediment never reaches the stream. Mass failures can also occur at stream crossings where a culvert is blocked and the road fill around the culvert is removed and transferred to the stream channel (see figure 1). Sediment production from roads depends on the type of soil or parent material of the hillside, the steepness of the road, the amount of traffic on the road, and the characteristics of roadside ditches, and if it is hydraulically connected. Properly designed roads will have drainage points



Figure 1. Example of an eroding roadbed where sediments are being delivered directly to the adjacent creek.

spaced at regular intervals so that water is carried off the road and discharged to areas where it can infiltrate. In the Lake Creek watershed, the Tribe developed a sediment budget for four road types, which estimated a total loading of 5,600 tons/year and a stream delivery of 336 tons/year. Outside this watershed, however, little work has been done to improve the general understanding of the effects of road sediment on Reservation streams and there is a need for more specific information that would allow for a prioritization of treatments to reduce sediment delivery.

Why is fish passage important? Fish move upstream and downstream throughout their lives seeking out different habitats. These habitats include spawning, rearing, feeding, resting, and refuge areas. The fish populations in the small watersheds on the Reservation are made up of individuals that exhibit several distinct movement patterns that have evolved to take advantage of the available conditions at various times during the year. As they move through the stream, fish encounter road-stream crossings in the form of fords, culverts, or bridges. If they are prevented from moving through such a structure, the structure is “impassable”. Fish and other aquatic organisms are then cut off from the resources available on the other side of

the barrier. The ability of a fish to pass a culvert depends on a variety of factors including the depth of the pool downstream of the culvert, the velocity of water in the culvert, the depth of water in the culvert, the height the fish has to jump to enter the culvert, and the presence of large wood and other debris in the culvert. Some culverts are impassable all year while many are only impassable during certain times of the year. The size of the fish trying to pass a culvert also dictates whether the culvert is a barrier. A passable culvert can become impassable if the stream channel downstream erodes and causes the culvert to become perched. Removal of fish barriers increases the habitat available for fish to utilize and ensures the survival of different life histories. The Fisheries Program has completed several fish passage improvement projects to date that have opened and increased access to more than 2.9 miles of high quality habitat. The location of barriers and the extent of passage related issues has not been look at by the Fisheries Program for more than 13 years. As the network of roads and culverts age there is a need to update this information to ensure that fisheries needs are met.

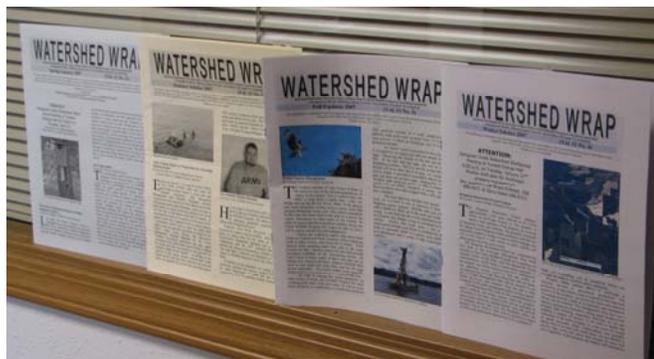
Study Description

There are approximately 560 miles of non-paved roads located within the target watersheds that are managed by tribal, state, and private landowners. A road inventory will be completed to evaluate the subset of road segments potentially supplying sediment to westslope cutthroat trout spawning habitat. Existing GIS data layers will be used to create a list of road segments to survey. A field survey of identified road segments will be conducted to acquire specific road characteristics. These include road width, length, cut and fill slope information, ditch characteristics, cross-drain location and condition, location of stream crossings, proximity to the stream, hydraulic connectedness of drainage points to the streams, and locations of mass failures. Existing soil transport models will be used to predict the detachment, transport, and deposition of sediment from the surveyed roadways. Maps will be created that identify soil detachment and delivery in metric tons predicted by the respective models for each delivery point along the road network. The objective will be to identify and prioritize potential problems that can be treated to improve road conditions and to reduce sediment delivery to important stream habitats.

An evaluation of fish passage will be completed in target watersheds to identify any complete or partial barriers that may affect the ability of westslope cutthroat trout to access key spawning and rearing habitats. GIS will be used to identify the survey area by overlaying stream crossings with known fish

distribution data. Physical stream data and culvert information will be collected at each site using methods to assess fish passage. The computer software, FishXing will be used to determine passage characteristics for adult and juvenile cutthroat trout under a range of flow conditions. Barriers will be ranked for treatment based on the extent and type of habitat blocked, fish populations present downstream and upstream of the site, and road condition.

The inventory information will be used to draft a planning document to identify priorities for restoration/enhancement treatments based on the study results. The Tribe will use the study as the basis for developing cooperative projects with landowners interested in meeting the identified habitat needs. Anyone interested in this study should feel free to contact Stephanie Hallock at (208) 686-0701 or shallock@cdatribe-nsn.gov. ♦



2007 Quarterly newsletters

Education Outreach: A Year in Review

By Carla Marratt, Fisheries Office Manager

In the last three editions of the Wrap there has been less reporting on the Education/Outreach element of the Fish & Wildlife Program. This is not due to a lack of effort. Program management has refocused the overall work effort to reengage in its original work design and complete tasks that inform and communicate, in common terms, with the Reservation community. The Watershed Wrap is one tool to communicate with the general public about past and present restoration activities in the four target watersheds (Lake, Benewah, Evans, and Alder) on the Coeur d'Alene Sub Basin and Hangman Creek and its tributaries on the Spokane River Sub Basin.

The Education/Outreach component exists in order to share knowledge on the importance of work efforts to increase survival rates for the Westslope Cutthroat and Redband trout in Reservation streams. The Fisheries Program in cooperation with the Wildlife Program have completed many projects related to habitat restoration, lake studies, water quality, lake

management, and transportation in order to support the native fish still surviving on the Coeur d'Alene Reservation. It is of great importance to the Tribe that native fish species survive for future generations to enjoy as Tribal ancestors did long ago.

There are two education/outreach objectives 1) Improve awareness of Fisheries Program activities within the Reservation community; and 2) provide for educational opportunities that raise awareness for natural resources issues in the local schools and communities of northern Idaho.

The 2007 funding year's Education and Outreach accomplishments include but were not limited to:

- A) Published and distributed *Watershed Wrap* newsletter December and March at 1,060 and June and September at 2,013 to Reservation postal customers and tribal mailing list of 676 individuals. Current and past issues to 2006 are also available online at <http://www.cdatribe.com/fishnews.shtml>.
- B) Participation in watershed and inter-agency work groups i.e., Hangman Creek Watershed Working Group met in April and January.
- C) Participation and development in an educational forum to share projects. For example, speaker event series held once monthly, first ever Fishing Derby held at the Worley Trout Pond during Westside Rendezvous in July, annual Water Awareness Week in May, annual Intertribal Natural Resources Youth camp in June, annual Water Potato Day celebration in October.



Coeur d'Alene Tribal school digging water potatoes



Rockin the Rez Youth Leaders Fishing Train-the-trainers

- D) Encouraged community participation in and garnered landowner support for stream restoration opportunities on Reservation lands. For example, we surveyed the Watershed Wrap readership in March 2007, planted camas seed and bulbs on Benawah Creek Project site with Coeur d'Alene Tribal School 6th grade class in September.



Cd'A Tribal School 6th graders planting camas bulbs

- E) Provided two summer internships to local high school students, Lovinia Johnson and Josh Sanchez. Their first week interns attended the Intertribal Natural Resources Youth Camp held on the Selway in the Nez Perce Nation Forest; collected camas bulbs and seed at the Palouse-Clearwater Environmental Institute; participated in data collection from vegetation plots on the Benawah project.



Shannon Taylor, Readership Survey Gift Certificate Winner

Speaker Events Series

The experiment of conducting Speaker events around the Reservation community and outlying areas was first initiated after solicitation from our readership through a two-page survey that was included in the spring 2007 (March) edition. The survey inquired about activities that readership likes to participate in and natural resource topics that they would like to have

more information on, as well as general logistical information to better equip staff with best case scenario to maximize planning for public participation. The results indicated that the readership would like to have more information on topics like local wildlife, kid's programs, native plants, and wildlife habitat restoration.

The special events began in July with the University of Idaho Extension and Coeur d'Alene Tribe Fisheries taking part in the local Reservation community celebration, WestSide Rendezvous. The fish electroshocking boat took the parade tour through Plummer city streets and Worley Pond was the site for its first ever Fishing Derby.

There have been nine speaker events hosted to date through March 2008. The past topics were "Co-management of Lake Coeur d'Alene Fisheries", "Native flora and fauna of Hangman Creek", "Leave No Trace", "Talking Turkey", "Tribal Storytelling", "Gearing up for Gardening", and "Roundtable discussion of Coeur d'Alene Lake Kokanee". The locations for each event have varied depending on topic and best location to maximize participation. Tribal Storytelling in December received the most interest with 25 people in attendance and was held at Molstead Hall on North Idaho College's campus in Coeur d'Alene. The details of each event are announced quarterly in this publication.

Roundtable discussion of Coeur d'Alene Lake Kokanee

On March 12, 2008 Ron Peters from the Coeur d'Alene Tribe and Charles "Chip" Corsi from the Idaho Fish and Game gave presentations on several fisheries management issues including areas where the Tribe and IDFG differ on management strategies for regulation of various fish species. What the attendees learned is that the Tribe and the State have far more regulations in common than not. Fisheries regulations were virtually identical for most food-fish fisheries with year-around seasons and no limits (perch, crappie, catfish and northern pike). Additionally, we both agree that preservation of native species to be one of the highest management priorities in the region. Finally, we had a lengthy discussion on kokanee salmon management on Coeur d'Alene Lake. This is one area where the Tribe and the State have a difference of opinion. Our differences of opinion were not worked out here however; the attendees were able to get a better understanding on each party's current position. One thing that was worked out was a commitment by both sides to continue to work together to find the best workable solution to the problem. We also agreed that continued public outreach of information as solutions are found. ♦

How does climate affect native fish species?

By George Aripa, Technician Supervisor

The Fisheries Program has maintained a weather station in the Benewah Valley since October 2006. This data is being collected to develop a model for predicting water temperatures in relation to air temperature measured in the valley and to evaluate changes in fish use of mainstem and tributary habitats over time. This may be particularly useful for looking at the effects of climate change on native fish and the overall benefits of restoration efforts in buffering aquatic habitats against increasing temperature. In this edition of the Watershed Wrap we want to begin presenting some of this data in the form of a weather report along with predictions for upcoming months. In the future, we will also describe the use of the weather data and model development in more detail.

The summarized weather data for the Benewah station from January 2007 thru February 2008 is shown below. The lowest temperature recorded for that time period was -19.1°F on January 21, 2008. The highest temperature recorded was 96.3 degrees on July 5, 2007. December had the most precipitation at 5.1 inches, although the weather station is not set up to accurately measure precipitation from snowfall. Consequently all the snow we received during January and February 2008 is not accounted for in the precipitation totals. Our weather forecast for the area comes courtesy of Kyle Dittmer, hydrologist/meteorologist for the Columbia River Inter-Tribal Fish Commission (CRITFC). For April expect below normal temperatures (-0.5 to -1.5 deg F) and above normal precipitation (105 - 120%). For May, expect below normal temperatures (-0.5 to -1.5 deg F) and slightly above normal precipitation (90 - 120%). We hope this data is of interest to readers and plan to make this a regular feature in the newsletter in the future. All questions, comments or suggestions are welcome! ♦

<u>Weather Data</u>	2007												2008	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Ave Temp, °F	22.6	32.2	39.0	-	-	55.0	65.5	59.0	50.2	41.4	32.5	28.6	22.5	31.2
Max Temp, °F	49.1	55.1	63.0	-	-	88.4	96.3	92.9	87.1	80.9	58.2	51.5	44.1	53.2
Min Temp, °F	-17.2	-0.5	0.6	-	-	27.1	32.8	27.3	21.3	11.9	8.6	0.6	-19.1	8.7
Sum of Rain, in	3.1	2.9	3.3	-	-	1.8	0.2	0.6	0.4	2.3	2.6	5.1	2.6	1.4
Ave Wind, mph	3.3	3.6	4.2	-	-	3.4	2.6	2.8	2.8	3.1	2.5	4.4	3.7	4.7
Max Wind, mph	27.0	22.8	19.1	-	-	15.8	16.2	16.6	15.4	20.8	21.2	20.3	19.1	27.0

Watershed Wrap Distribution Locations

Plummer

Benewah Market
Benewah Auto
Hiway Motel**
Benewah Medical Center
Tribal Headquarters

Coeur d'Alene

Outdoor Sportsman
Idaho Fish & Game
US Forest Service
Tri-State Outfitters
Castaway Fly Fishing
Blacksheep Sporting Goods
Big 5
Fins & Feathers Tackle Shop**

Tensed

Tensed Service Station
The Big Store

Worley

Fighting Creek Store
Tribal Chevron
Coeur d'Alene Casino

St. Maries

Eidnes Furs
St. Joe Sport Stop**
Idaho Dept of Lands
Uof I Extension Office
US Forest Service
Blue Goose Sport Shop**
The Grub Box
Archie's IGA

Harrison

Steamboat Trader**
Harrison Trading Store

** denotes Tribal Hunting/Fishing License Vendors

This publication is intended to provide all people interested in fish and wildlife of the Coeur d'Alene Reservation information about program work efforts and to solicit your support as well as constructive criticism.

Thank you for your interest.

SPRING SPECIAL EVENTS



APRIL

April 9th, Wednesday, 6:00-8:00pm, *Hangman Creek Watershed Workgroup*, Tensed Grange Hall, Tensed ID. Light refreshments provided.

April 25th, Friday, 8:00am - 4:30pm, *Reservation-wide Community Cleanup*, Contact organizers Vicki Moyle 686-5403 or April Mettler 686-5602. Coffee stops available. Lunch provided at noon at Tribal Headquarters parking lot.

MAY

May 14th, Wednesday, 5:30-7:30 pm, *Small Stream Management Strategies*, Location TBA. Light refreshments provided.

JUNE

June 11th, Wednesday, 5:30-7:30 p.m. *Forest Carnivore Study* and *Westslope cutthroat trout on the Coeur d'Alene Reservation*, Coeur d'Alene Tribe Fish & Wildlife Building, 401 Anne Antelope, Plummer, ID. Light refreshments provided.

QUESTIONS?

Contact CdA Reservation Extension Educator at 208.686.1716

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