



## CHIEF JOSEPH HATCHERY

*In the last few months, hatchery staff spawned out fish, cared for fish eggs and transferred thousands of juvenile fish from the hatchery to three acclimation ponds.*

“Fish that were transported to the acclimation ponds are pumped from the raceways at CJH into a hauling truck, and then transported to the appropriate pond,” said Matt, McDaniel, CJH manager. “When they arrive at the pond, some water is drained from the truck and replaced with pond water in order to acclimate the fish to the water temperature of the pond. Caring for them at the ponds is the same as they are at CJH.”

### Number of fish transported to ponds:

- Similkameen Pond: 417,184 integrated summer chinook
- Brooks Tract Pond: 308,729 integrated summer chinook
- Riverside Pond: 237,429 MetComp spring chinook

In October, staff spawned out chinook twice a week in addition to shocking and picking spring chinook eggs. And in November, staff were shocking and picking eggs from the first couple of summer chinook spawns, which will continue into December. There were 221 males, 25 jacks, and 245 females spawned for the segregated program and 234 males, 10 jacks and 281 females spawned for the integrated program.

### Current number of fish eggs in incubation:

- CJH spring chinook – 920,143 eyed eggs
- MetComp spring chinook – 243,664 eyed eggs
- Segregated summer chinook – 849,200 green eggs, 166,477 eyed eggs
- Integrated summer chinook – 1,185,360 green eggs, 39,419 eyed eggs

In January and February, CJH staff will be focusing on ponding and caring for fish fry as they come out of the incubators and feeding and sampling fish.

CJH Employees of the Month: September – Jobe Cate, October – Spencer Cleveland, November – Tony Cleveland



## SPECIAL THANKS TO THE PROJECT PARTNERS



For Additional Information Contact:

### CONFEDERATED TRIBES OF THE COLVILLE RESERVATION

**Michelle Campobasso,**  
Public Relations Specialist  
1 Colville Street PO Box 150  
Nespelem, WA 99155  
michelle.campobasso@colvilletribes.com

For more information go to  
<https://www.cct-fnw.com> or our  
Facebook page @ CCT F&W

## SALMON SPAWN IN THE UPPER COLUMBIA RIVER



*Our elders have always told us if you bring back our salmon, you will bring back our culture. It was something that was spoken about frequently by Colville tribal elder Mary Marchand. She told us that when she was young, there were so many salmon in the Columbia River, you felt as if you could walk on their backs to get to the other side. She along with other elders of the Colville Confederated Tribes were hopeful that salmon would once again flourish in their historic habitat.*

This year, chinook salmon were released in their historic habitat and spawned upstream of Grand Coulee Dam. Salmon have not spawned in these areas for over 80 years.

“In 2020, we had two different studies, the first was an acoustic tagging study in Lake Roosevelt and the second was a PIT tag study in the Sanpoil River,” said Casey Baldwin, research scientist for the Colville Tribes. “The Lake Roosevelt acoustic tracking

study will tell us about survival and behavior of adult summer chinook that were trapped and hauled to Lake Roosevelt from areas downstream of Chief Joseph Dam. We released 25 fish a short distance upstream of Grand Coulee Dam at Geezer Beach and another 25 near Northport, Washington. Study results are pending, but we hope to gain insight on how release location affects the behavior and fate of these fish.”

For the second study, fisheries staff released 100 fish in August (equal number of males to females) into the Sanpoil River with PIT tags to track their movements, behavior, and survival rates into the late summer and to see if they would spawn in the fall.

“For the salmon released in the Sanpoil, we did observe many fish in the holding pools throughout the late summer and fall,” said Baldwin. “We also observed approximately 36 redds (egg nests) within about 6 miles

of the release sites, indicating that the majority of the salmon appeared to have stayed in the area, survived and spawned,” he said. “PIT tag data suggests that some fish moved up the West Fork into an area that we did not survey. A few fish were also documented in the lower end of the Sanpoil after spawning, but we don’t know if these fish spawned near the release sites or somewhere in between.”

The salmon used in both studies were surplus hatchery summer chinook from the Wells Fish Hatchery. For several weeks, the fish had to be trapped at the hatchery ladder and separated from other fish. They were tagged and tissue sampled for genetics and disease testing.

“Washington Department of Fish and Wildlife has assisted with disease testing by processing samples in their Olympia Labs and subsidizing the cost of the sample processing to reduce costs to the tribes and streamline the ability to move fish into the blocked area,” said Chris Donley, regional fish program manager for WDFW.

The Colville Confederated Tribes have been working closely with the Upper Columbia United Tribes and the Washington Department of Fish and Wildlife to pursue a phased *Continues on page 2*

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approach to reintroducing salmon in the blocked areas, upstream of Chief Joseph and Grand Coulee dams. They have completed Phase 1, science and feasibility evaluations and are now working on Phase 2. The second phase will include multiple studies to test feasibility and determine the most appropriate path forward for reintroducing salmon into blocked areas. The CCT, UCUT and WDFW are funding the salmon reintroduction efforts.

“WDFW fully supports salmon and steelhead reintroduction efforts into the Blocked Area of the Columbia River and we are eager to assist where needed with staff expertise and funding, when available,” said Donley. “We embrace the value of reintroduction both ecologically and culturally and continue to look for ways to be helpful to the Colville Tribe and our UCUT partners.”

The Tribes also want to meet cultural and ceremonial needs by reconnecting salmon to their historic habitat. In 2019, cultural releases took place along the upper Columbia River.

“After these cultural releases, I attended meetings to discuss anadromous fish management and salmon reintroduction, and heard members of other tribes and representatives of state and federal agencies describe their witnessing these salmon being released,” said Chairman of the Colville Business Council Rodney Cawston. “They speak of the prayers and the need to increase salmon to the historical populations they once were. Our salmon are now a threatened and endangered species,” he said. “One day our future generations will see the photographs that were taken when our people released salmon back into our waters. We all have seen the photographs taken at the ‘Ceremony of Tears’ and the photograph of when our ancestors stood in front of Grand Coulee Dam when it was completed. Our ancestors carried a prayer that our salmon would one day return to the upper Columbia. With all the prayers that were made historically and today, combined with all the efforts of our fisheries staff, our leaders and many others who are joined in this effort, we can bring our fish home.”



*Surgically implanting an acoustic transmitter*

## PACIFIC LAMPREY ARE SPAWNING IN THE OKANOGAN RIVER BASIN

Fisheries managers have been working to restore Pacific lamprey in the Okanogan River Basin since 2017. This year, two generations of larval lamprey have been sampled in multiple tributary streams proving those efforts are working.

“Since the fall of 2019, the Okanogan Basin Monitoring and Evaluation Program (OBMEP) crew started to see larval lamprey while they were electrofishing for steelhead in both Salmon Creek and Omak Creek,” said Matt Young, fish biologist for the Colville Confederated Tribes (CCT). “We coordinated with biologists from the U.S. Fish and Wildlife to spend a day electrofishing in both streams to collect DNA samples from larval lamprey to better understand their parentage. In 2019, larval lamprey would have been 1-year old and averaged 35 mm in length. In the fall of 2020, OBMEP crews sampled that same generation of lamprey as 2-year old’s and they are noticeably larger averaging 105 mm in length. Larval lampreys have also been reported in the Similkameen River.”

Biologists believe the successful rearing of larval lamprey is a critical milestone for lamprey recovery because unlike salmon that return to their natal stream to spawn, adult Pacific lamprey returning to spawn detect small amounts of pheromones given off by larval lamprey, if those pheromones are present, the adults will migrate up the stream to spawn.

“We have been monitoring 266 Pacific lamprey that were PIT tagged and released above Wells Dam in the fall of 2020 and as of October 21, 18 lamprey have been detected at the PIT tag antenna in the Okanogan River near Malott, Washington,” said Young. “While fish are still migrating, this is the highest number of Pacific lamprey migrating into the Okanogan River Basin we’ve ever detected. There is still a long road ahead to restore lamprey in the upper Columbia, but these early trends are showing positive results.”

The adult Pacific lamprey that the CCT fisheries staff receives are captured by the Yakama Nations and Douglas County Public Utility District staff at downriver dams on the Columbia River such as John Day and Priest Rapids.

“Douglas PUD funded lamprey trapping at Priest Rapids Dam, transported the fish to Wells Fish Hatchery and PIT tagged them there, and then handed off a portion of the tagged lamprey to CCT staff to be transported to and released in tributaries in the Okanogan River Basin,” said

Chas Kyger, Aquatic Resource biologist for Douglas County PUD. “The work took place July through September this year and it’s scheduled to occur again in 2021.”

“This year, a total of 89 adult lamprey were released in Omak Creek, Salmon Creek, Loup Loup Creek, and the Similkameen River,” said Young. “These fish will hold in

those streams until they spawn between March and July of next year. Similar to salmon, lamprey do not feed once they enter fresh water. They solely rely on fats stored in their body to survive the winter.”

Biologists selected release sites in areas that contain prime spawning and larval rearing habitat to provide the adults and their offspring the best chance to survive. Since 2017, a total of 467 adult lamprey have been released in the Okanogan River Basin. “The coordination among natural resource managers, federal dam operators and Douglas and Grant PUD’s has been essential in providing the lamprey sources for translocation efforts,” said Kirk Truscott,

Anadromous Fish Program manager for CCT.

Some may still wonder how are they going to get back to areas they came from to spawn when adult fish ladders and downstream juvenile bypass facilities at some of the Columbia River dams were constructed for salmon passage and not lamprey passage. The good news is, federal and mid-Columbia PUD dams have already undergone alterations to their fish ways to improve passage for lamprey.

In 2020, CTFW received a grant from the U.S. Fish and Wildlife Service’s Pacific Lamprey Regional Implementation Plan to fund adult translocation efforts.

Lamprey are one of the oldest fish in the world appearing in fossil records about 450 million years ago. They are an ancient fish that survived ice ages. Lamprey have three eyes and they smell using a nasal pore on top of their heads. They have a large, jawless sucking mouth with several teeth. It uses its suction-cup mouth to attach itself to rocks or larger fish in the ocean. They spend 3-7 years in freshwater streams, filter feeding on algae, plant material and poop from insects and fish. As juveniles they leave their natal streams and swim to the ocean where they stay in the ocean for 2-3 years, then return to fresh water to spawn. Females lay about 100,000-300,000 eggs that the males fertilize and after they spawn, they die and provide nutrients and energy to the stream.

