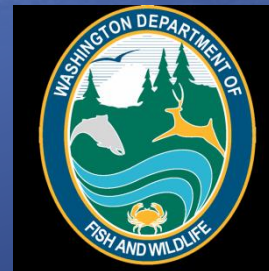
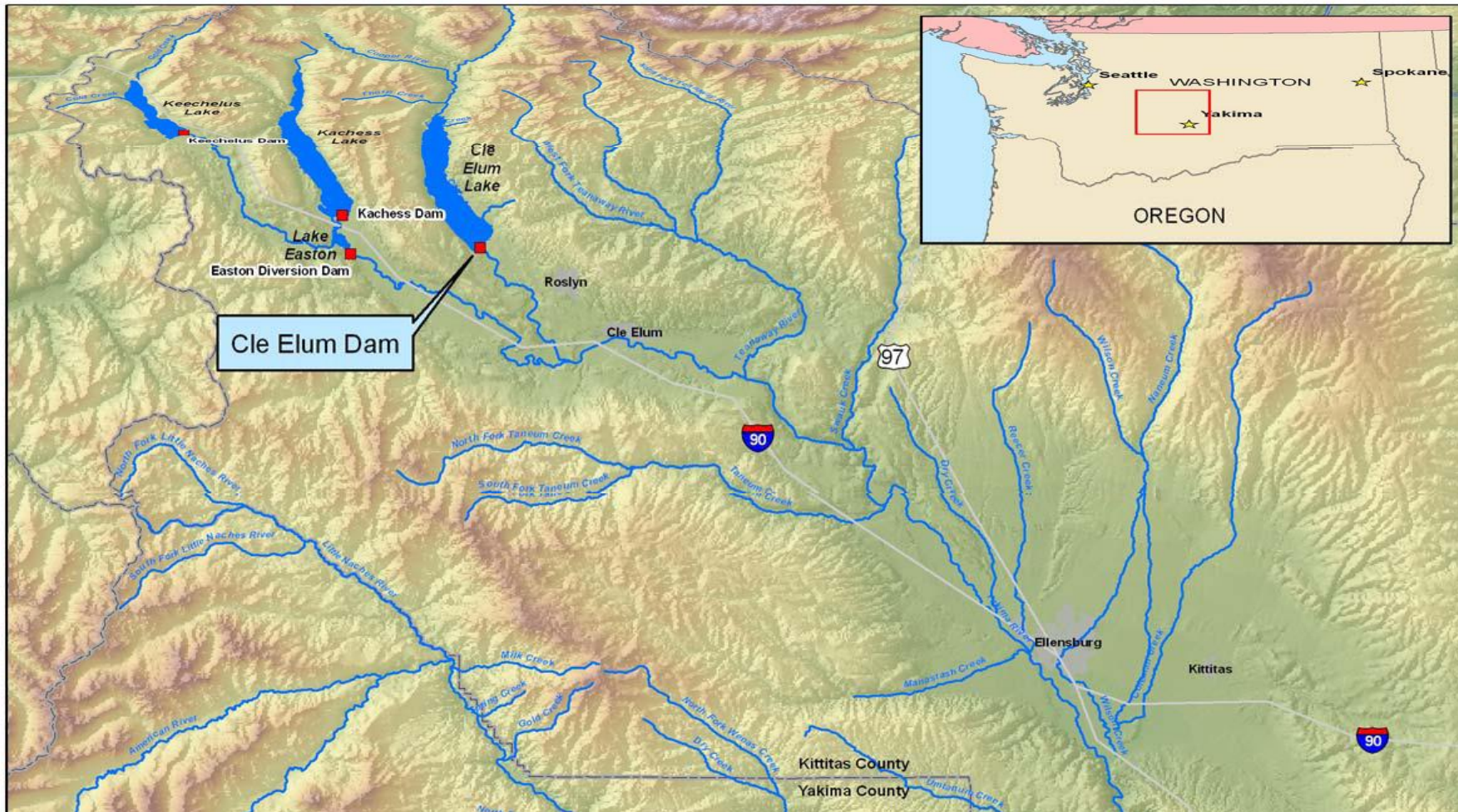


# YAKAMA NATION SOCKEYE RESTORATION PROJECT

Mark Johnston, Sr. Research Scientist, Dave Fast Sr. Research Scientist, and Brian Saluskin, Fish Passage Biologist





# Before Crib Dams Yakima Basin Nursery Lakes Historically Supported Over 200,000 Sockeye



6/16/2016



Timber crib dams constructed by local irrigators between 1904-1910 at the outlet of these four natural glacial lakes blocked fish passage to tributaries upstream from the dams.

Timber dams were followed by the larger Reclamation storage dams, eliminated access to previously productive spawning and rearing habitat for anadromous salmonids and resident fish and inundated a considerable amount of pristine, high-quality habitat.

# TEMPORARY JUV. PASSAGE







# Kálux

## Sockeye



# SOCKEYE REINTRODUCTION

- Currently, Adult Reintroduction Project only, no hatchery process
- Two donor stocks: Lake Wenatchee and Lake Osoyoos
- Letter to Grant County Public Utilities District (GCPUD) requesting to use Off-ladder Adult Fish Trap (OLAFT) at Priest Rapids Dam
- Receive annual transport permit from Washington Department Fish & Wildlife (WDFW)
- Contacted local land owner on Lake Cle Elum to accessing his property to release sockeye
- To work at the OLAFT, YN crew must complete security and safety test to receive clearance badge to access facility



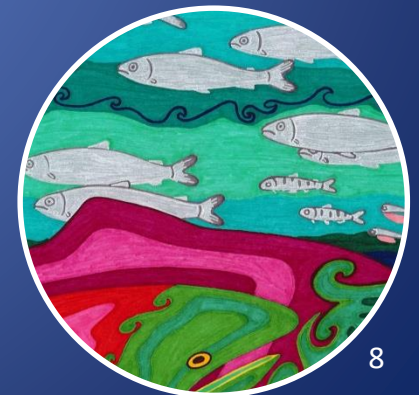
# SOCKEYE REINTRODUCTION

After escapement goals are reached at Bonneville Dam of 80,000 returning sockeye, collection can begin at Priest Rapids Dam

The adult take starts at 1000 and can increase to 10,000 based on a PAC approved sliding scale

Adults Taken to Lake Cle Elum by year (Yakima basin returns)

- 2009=1000
- 2010=2500
- 2011=4100
- 2012=10,000
- 2013=3996 (703)
- 2014=10,000 (2673)
- 2015=10,000 (300)





# SOCKEYE REINTRODUCTION

Genetic sampling of Sockeye helps determine which stock is the most successful of the two donor stocks used, Lake Wenatchee or Lake Osoyoos, this occurs at four different stages of the process:

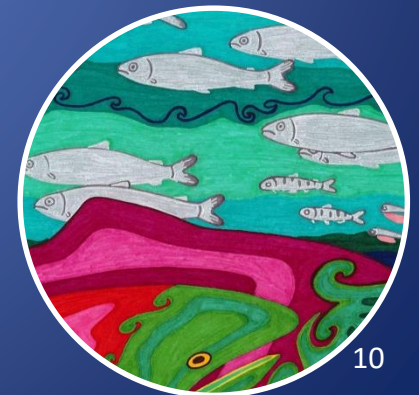
- 1.) Priest Rapids Dam adult collection
- 2.) On spawning grounds (carcass surveys)
- 3.) Smolt migration at Roza Dam and Chandler JV
- 4.) Returning adults back to the Yakima Basin

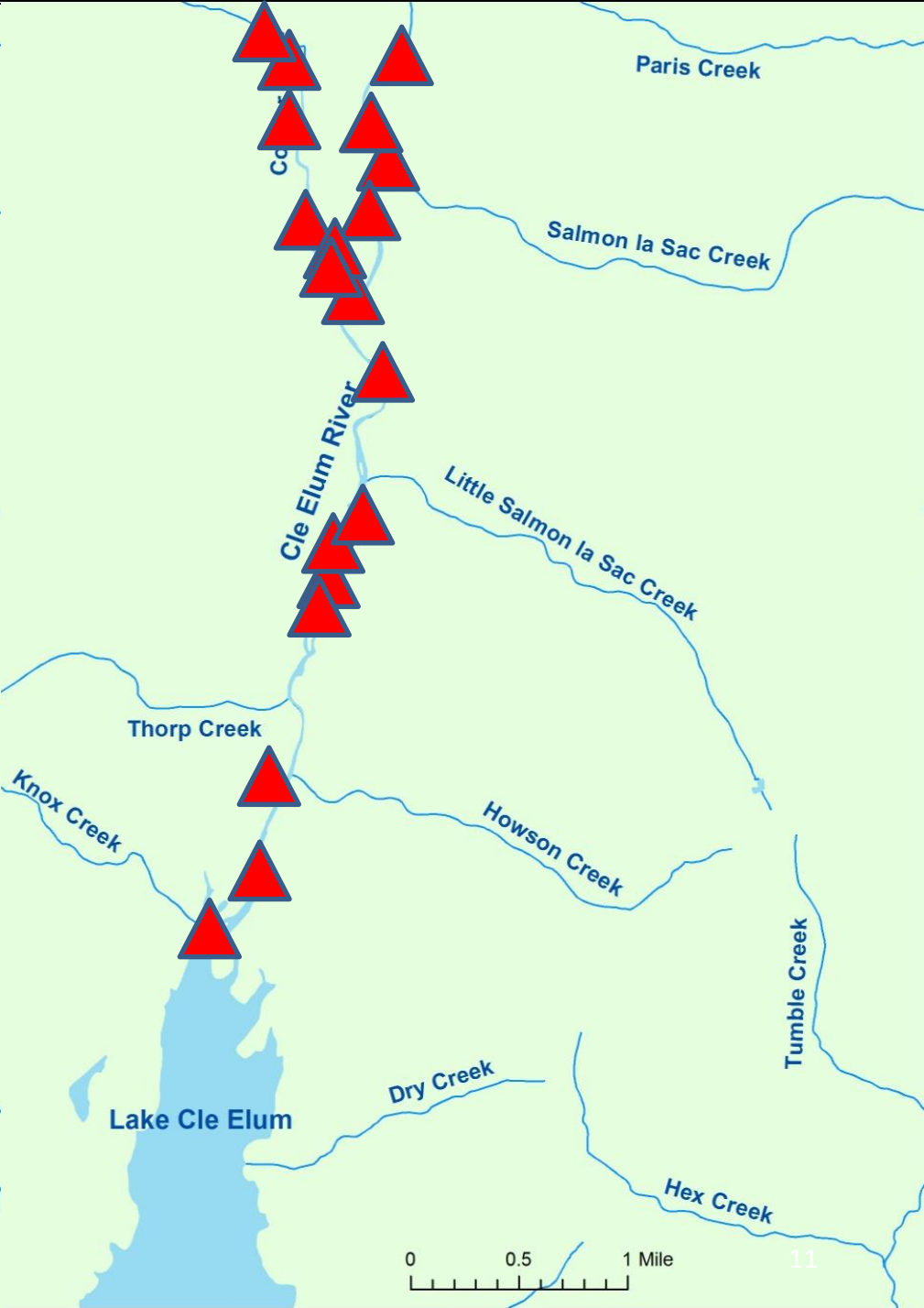
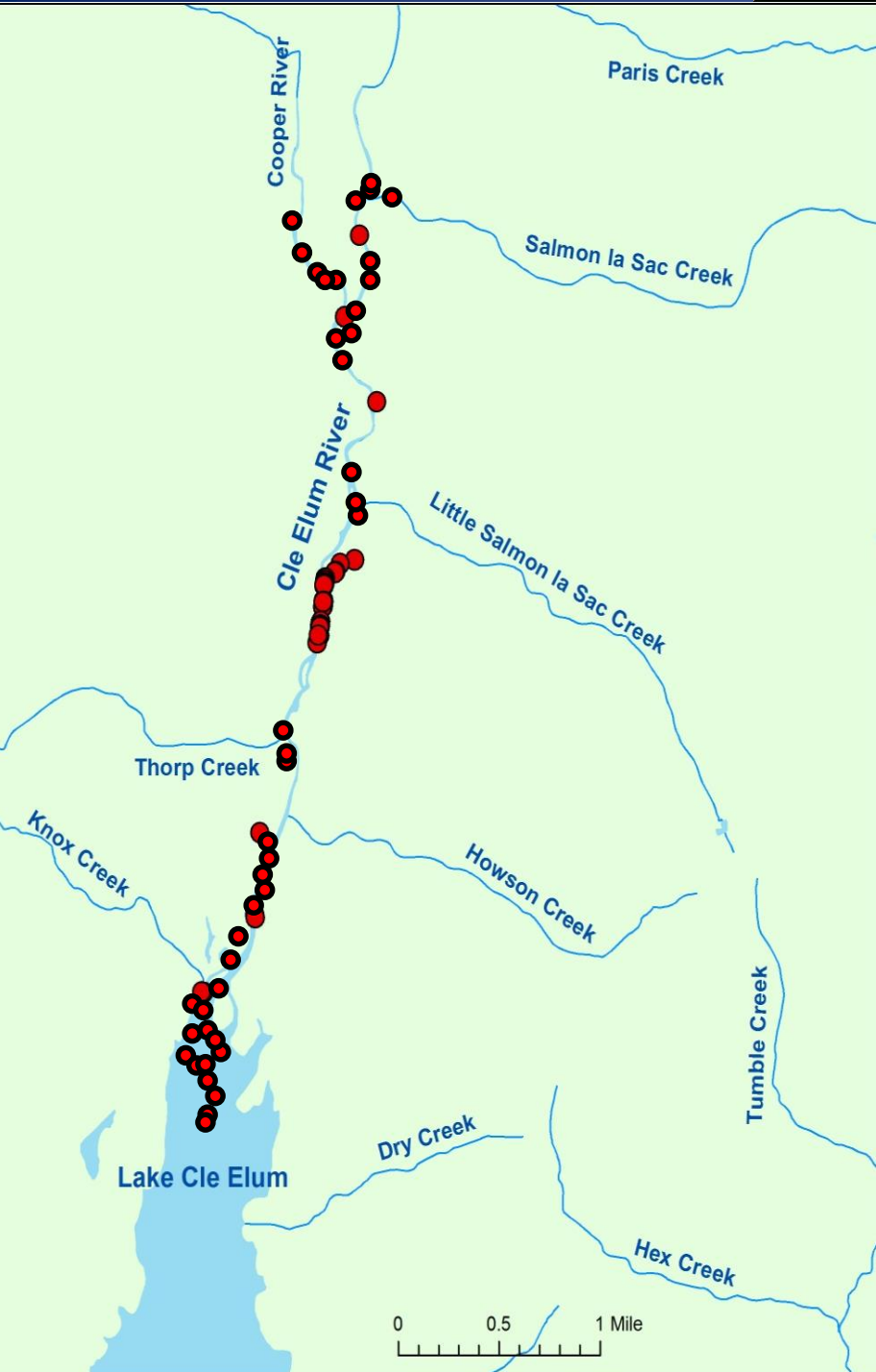
## SMOLT PRODUCTION/MIGRATION

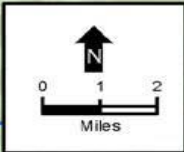
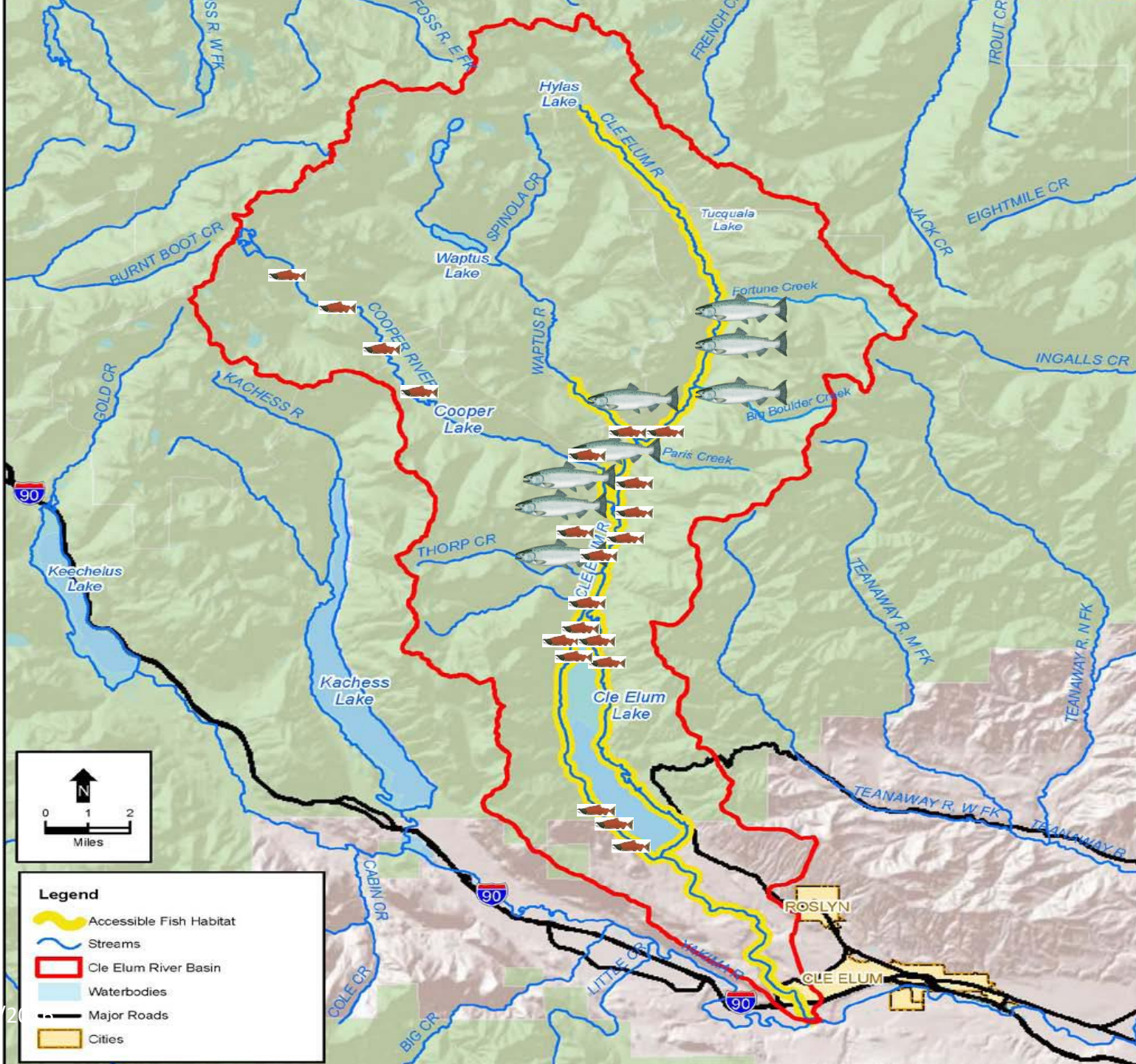
Year	Real No. Counted	Expanded Estimate
11	3850	49659
12	297	6496
13	11758	146019
14	2666	47097
15	1053	12322

# 1<sup>st</sup> GENERATION SPRING CHINOOK

- Since 2011, between 100-500 annually
- Chinook transferred on agreement \$
- 25 Chinook
- S-Line Adults from Roza Dam
- Moving sub-strait
- Adding Nutrients
- Separating 1<sup>st</sup> Gen. Hatchery from potential wild to wild interaction







**Legend**

- Accessible Fish Habitat
- Streams
- Cle Elum River Basin
- Waterbodies
- Major Roads
- Cities

# MORE TROUT FOR KITTITAS

State of Washington to Get 5,000,000  
Mackinaw Trout Eggs from Wisconsin—County Game Commission will Ask for All They Can Get

Chairman M. C. Miller of the Kittitas Game Commission Wednesday received word from State Game Warden Darwin that 5,000,000 Mackinaw trout eggs would become available for planting in this state next year. They will come from Wisconsin. Mr. Miller states that the county game commission will immediately apply for all they can get to plant in Lakes Cle Elum, Keechelus and Kachess, all of which are deep water lakes well adapted to the Mackinaw. This season 50,000 of them were planted in Lake Cle Elum. Mr. Darwin's letter, which contains some other matters of interest to sportsmen, follows:  
Gentlemen:

A holder of a non-resident hunters' license may take the number of birds which it is lawful for him to kill in this state in one day out of the state with him, providing that he executes an affidavit before a notary public or other officer having a seal, stating that the game to be so removed from the state was killed by him in a lawful manner and that the said game is not being exported for the purpose of sale. Such affidavit shall describe said birds and shall be attached to said birds while in transit from the state.

The above is the substance of an opinion just rendered to me by the Hon. L. L. Thompson, Attorney General, and we will govern ourselves ac-

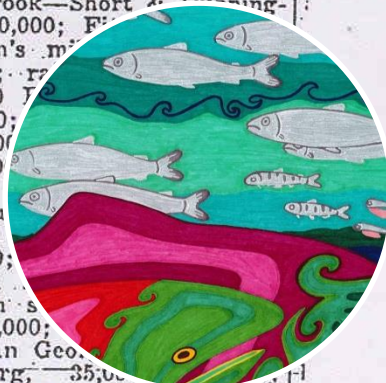
## PLANT NEARLY 2,000,000 FRY

Kittitas County Game Commission Make Annual Report—Of Much Interest to Sportsmen Over the County.

According to a report of W. E. Crowley, chairman of the Kittitas county game commission, nearly 2,000,000 fish have been reared and distributed in the various streams, lakes and sloughs of the county within the past year. Of this number 1,256,000 were Eastern Brook trout, 114,200 Steelhead trout, 97,000 Rainbow trout, 50,000 Montana Black Spotted trout and 200,000 Cutthroat trout, or a total of 1,717,700. The fish were all hatched at the county hatchery on Cash creek about a mile west of South Cle Elum, under the direction of Fred Yoeman.

The planting of the fry have been in the following waters:

- Eastern Brook—Short & Dunnington ranch, 40,000; F...
- near Tjossem's m...
- pond, 40,000; r...
- Thorp, 40,000
- Thrall, 35,000;
- Thrall, 40,000
- mountain, 6,000;
- 000; Swamp
- slough, near u...
- 40,000; Reed
- ranch, 40,000;
- Pease slough,
- 35,000; Smith s...
- Ellensburg, 35,000;
- 100,000; Indian Ge...
- of Ellensburg, 35,000
- slough, 35,000; Hansen creek, north-
- east of Ellensburg, 25,000; Walla...



FRIDAY, DECEMBER 24, 1920

## 150,000 EGGS FOR OUR COUNTY

Huge Shipment of Mackinaw Trout Eggs Delivered at County Hatchery in South Cle Elum by Darwin

Oct. 1920

## Removal/Reduce

(Began in 2013)

- Required-Mackinaw Removal Proposal
- WDFW partnership
- Scientific Collectors Permit
- Gill Netting
- Up to 6 Gill nets used and the following information collected,
- Weights, Lengths and Heads for aging
- By-catch:  
Sockeye, Burbot, R. Trout, Suckers, White fish, G. Brown, and Brook
- Numbers Removed
- 2013=150 spawners
- 2014=258 spawners
- 2015=312 spawners
- Mackinaw Derby
- 2011-14
- 112 Mackinaw Removed



# WATERSTARGRASS

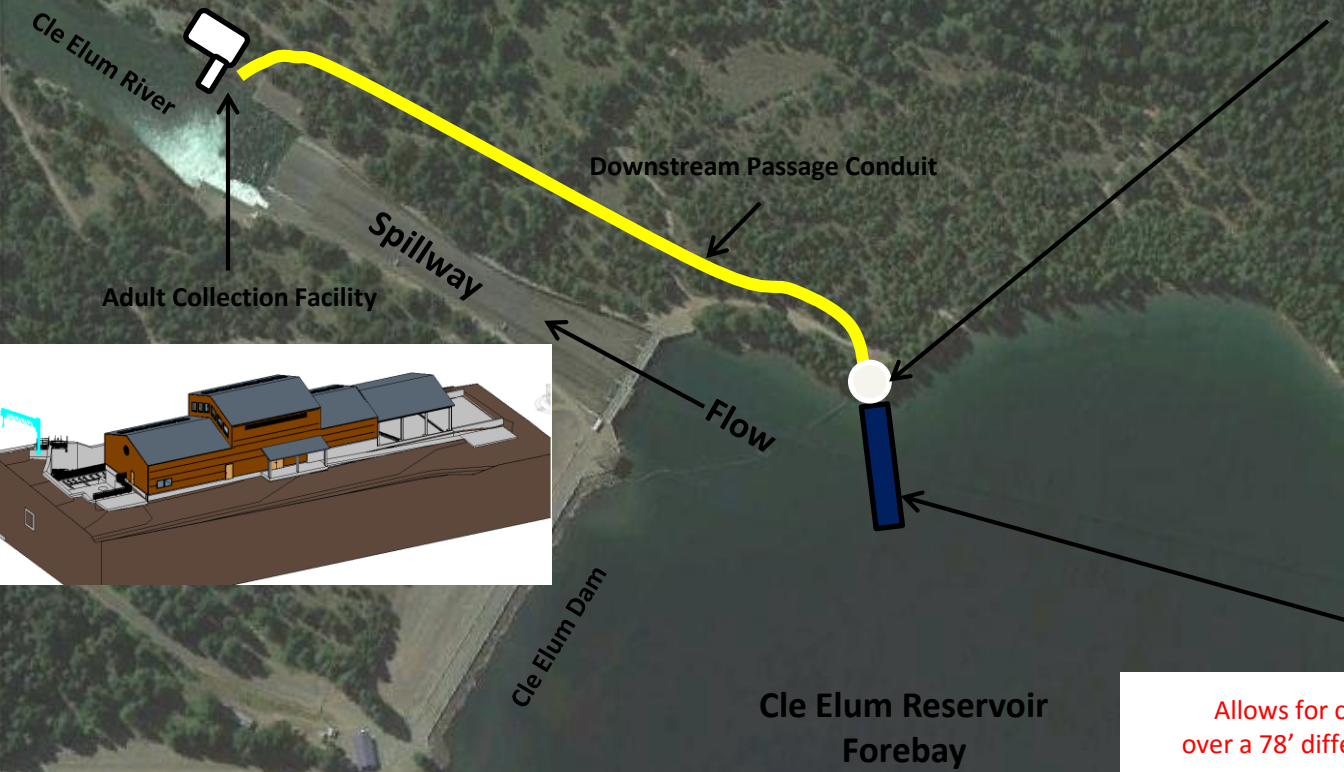
- Waterstargrass is a native plant
- Normally found in wide swaths along the edges of the Yakima River
- Can grow 6-8 feet tall and lay horizontally in the water
- Amount of water determines how much will be produced
- Slows down the flow of water
- Depletes the river of oxygen

# POSITIVE NOTE

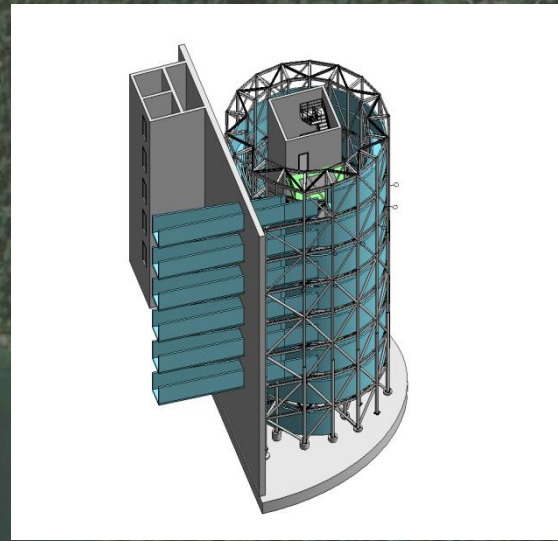




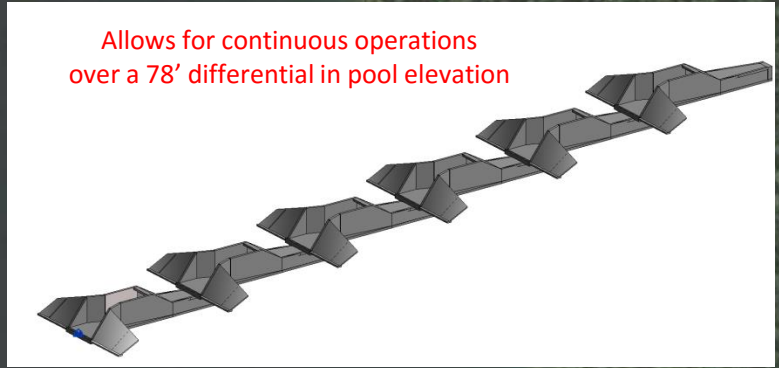
# Cle Elum Fish Passage Design



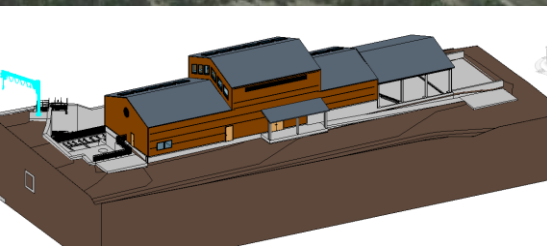
Helix Conduit Structure



Inlet Structure



Allows for continuous operations over a 78' differential in pool elevation





**Andrew Matala CRITFC (Conservation Geneticist)**  
**Peter Galbreath CRITFC (Fish Science Department)**

**Mark Woodward (Senior Biologist GCPUD)**



**Joel Hubble and Wendy Christensen (BOR)**

**Patrick A. Monk (US Fish & Wildlife Service)**



**Dr. Dave Fast (Senior Research Scientist), Mark Johnston (Senior Research Scientist)**

**Emily Washines & Willow Jim YN (Public Relation)**

**Ida Sohappy Ike YKFP (Bookkeeper), Monica Clark FRM (Bookkeeper)**

**Yakama Nation Fish Technicians**

**Chuck Carl, Steve Blodgett, Arnold Barney, Jeremiah Waltermann**

**Joy Jay Pinkham III, Brady Carl, Gene Sutterlict Jr, Quincy Wallahee**

# QUESTIONS?

