



Shoshone-Bannock Tribes Fort Hall Reservation - Waterwheel and Crystal Springs; An Update on Tribal Fisheries Management in Idaho

Aaron Colter

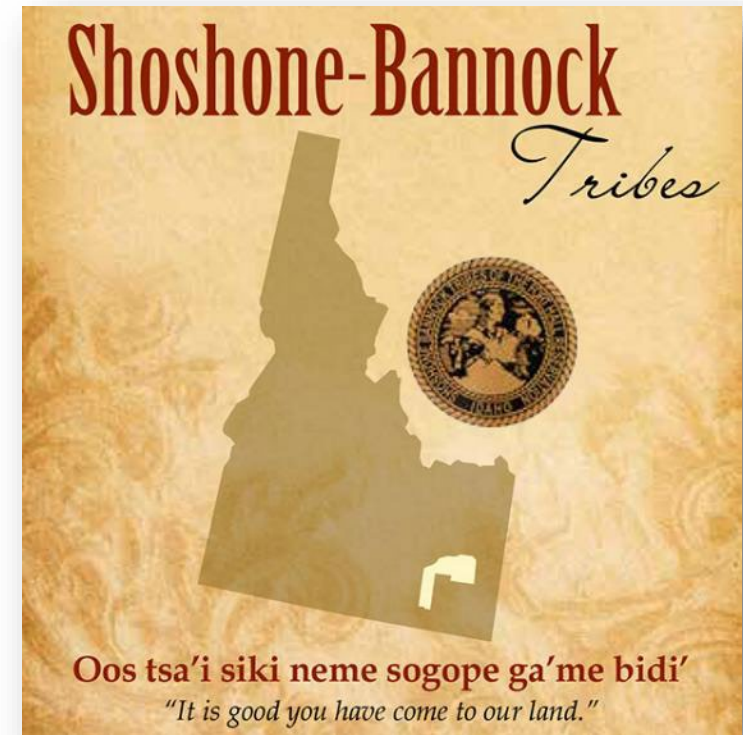
Shoshone-Bannock Tribes, Fish and Wildlife Department, P.O. Box 306, Fort Hall, ID 83203
(208)239-4569 aaron.colter@sbtribes.com

Lower Snake River Compensation Plan
Annual Meeting
April 21 – 23 , 2025



Presentation Purpose

- Program History
- Program Purpose and Need
- Program Fish Production Goals
- Waterwheel Hatchery Site
- Waterwheel Fish Production
 - Chinook Salmon
 - Yellowstone Cutthroat Trout
- Crystal Springs Facility Updates



Key Milestones



Date	Milestone
1997	SBT purchases Crystal Springs Hatchery site
2008	Fish Accord MOA reached to fund Snake River Chinook program
2010-2011	SBT undertakes planning, design of hatchery and collection/release sites
2011	Step 1 Master Plan for Crystal Springs program submitted to NPCC
2012	Step 1 Master Plan Crystal Springs Hatchery approved by NPCC
2012-2017	Design developed and Step 2/3 documentation prepared
2012-2020	HGMPs developed and accepted by NOAA
2013-2017	BPA prepares and publishes draft NEPA EIS
2017-2019	BPA prepares final NEPA EIS
2019	Water quality study results cause SBT to halt Step 2/3 program development
2019	Smolt survival study performed by Tribes, IDFG (with Crystal Springs water)
2019-2021	SBT re-engages in the Planning process for revised hatchery programs
2023	Waterwheel Hatchery Program Master Plan Submitted; Proceeding with Step 2/3 Master Planning

Program Fish Production Goals

The Program Goals for the Waterwheel Hatchery Project:

Spring Chinook

- 15-year pilot captive Chinook program
- 2,000 mature, adult Chinook
- 1,000,000 eyed-eggs for annual egg box outplants
- Develop a safety net for consistent Broodstock

Yellowstone Cutthroat

- Produce up to 30,000 catchable-sized YCT
- Annual release for harvest by both Tribal and non-Tribal anglers
- Improving access throughout the year



Waterwheel Hatchery Site



Waterwheel Hatchery Site



Waterwheel Hatchery Site

- Tribal-owned land; within exterior boundaries of Fort Hall Reservation (Fort Hall Bottoms)
- Power County
- Single parcel of 140 acres bordering Portneuf River
- Previous Rainbow Trout production at the site using spring water; additional water quality studies confirmed adequate water quality (hatchery facilities currently in state of disrepair)



Waterwheel Hatchery Site

- Two proposed Hatchery layouts (west site, east site)
 - YCT Incubation, Early Rearing, Growout
 - Captive Chinook Incubation, Early Rearing, Broodstock Holding
 - Dual-drain (Cornell-Style) circular rearing vessels (20'-30')
 - 2 Hatchery Residences



Waterwheel Hatchery Site

- Two proposed Hatchery layouts (west site, east site)
 - YCT Incubation, Early Rearing, Growout
 - Captive Chinook Incubation, Early Rearing, Broodstock Holding
 - Dual-drain (Cornell-Style) circular rearing vessels (20'-30')
 - 2 Hatchery Residences



Waterwheel Hatchery Program - Chinook

- Captive Chinook eyed-eggs to egg box programs in Panther Creek and Yankee Fork
- Source eggs from Sawtooth and Pahsimeroi
- BPA Project #2008-905-00
Supplementation Projects



Waterwheel Hatchery Program - Chinook

- Tribes have been using egg boxes since 1995
- Earlier iterations refrigerators, Rubbermaid totes
- Partner Steel Collaboration



Waterwheel Hatchery Program - Chinook

- Designed to hold to stream with force of water
- Removable egg chamber
- Eyed eggs are incubated until hatch
- Manually released to collect survival data



Waterwheel Hatchery Program - Chinook

- Production goals are to release eyed eggs while remaining eggs are raised for broodstock
- Model Captive Chinook program using ID/OR/WA captive Chinook methodologies, techniques, protocols and performance data



Table 2-1. Fish Production Goals—SBT Captive Chinook Program: eyed eggs will be released into the two watersheds while the remaining eggs will be raised to provide broodstock accounting for overlapping adult cohorts in circulars.

Program/Life Stage	Time Frame	No. of Fish	Water Requirement	Holding Volume/Type
Chinook Incubation – Egg Box Program	~ Aug – Nov	1.68M green eggs; ~ 1.0M eyed eggs	5 <u>gpm</u> ambient spring water per ½ stack; 540 <u>gpm</u> total need	54 double stacks (108 - half stacks)
Chinook Incubation – Brood Replacement	~ Aug – Jan	~ 3,000 eyed eggs	5 <u>gpm</u> ambient spring water per ½ stack; 15 <u>gpm</u> total need	3 half stacks
Chinook Fry-Parr	~ Feb – Jun	~ 2,000 – 3.97" fish	15 <u>gpm</u> ambient spring water	Ten 1-m first-feed circulars
Chinook Parr-Smolt	~ Jul - May	~ 2,000 – 6.93" fish	40 <u>gpm</u> ambient spring water	Six 6'-diameter circulars
Chinook Age-3 Module	Smolt through Age-3 Maturation	1,680 Age-3 Adults	2,062 <u>gpm</u> ambient spring water	Three 30'-diameter circulars
Chinook Age-4 and Age-5 Module	Final Age-4 & Age-5 Maturation	1,839 Combined Age-4 & Age-5 Adults	2,062 <u>gpm</u> ambient spring water	Three 30'-diameter circulars



Waterwheel Hatchery Program - Cutthroat

- 30,000 catchable-sized YCT
- Put and take fishery located on Fort Hall Bottoms
- Harvest for Tribal and non-Tribal anglers

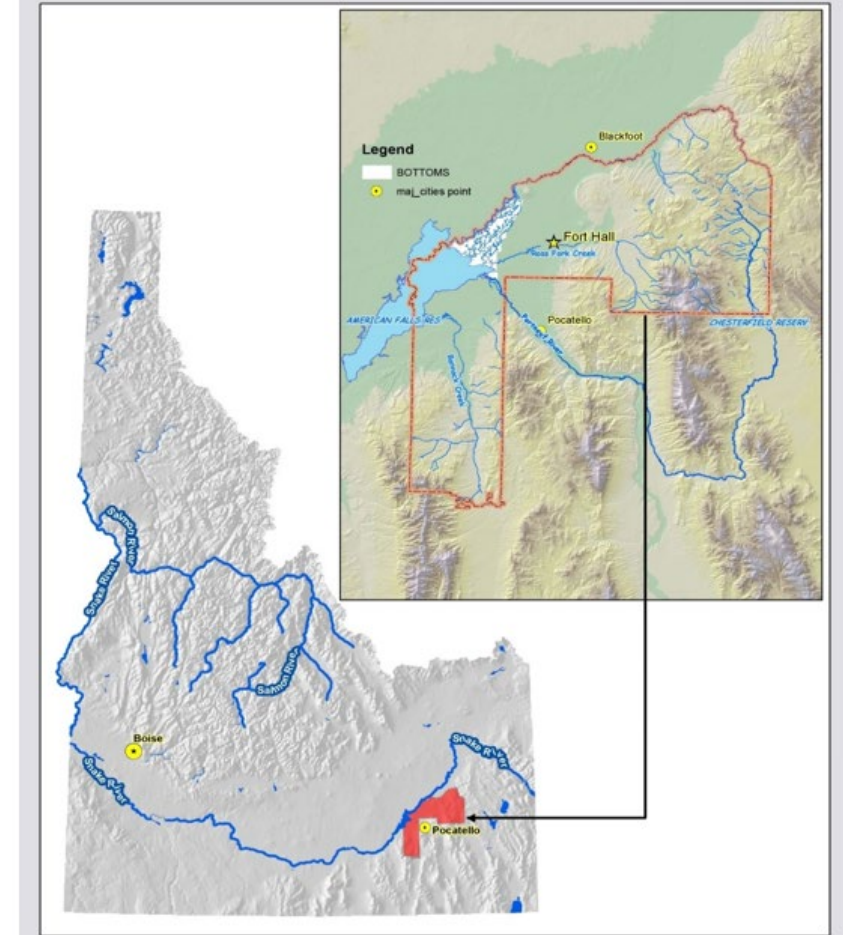
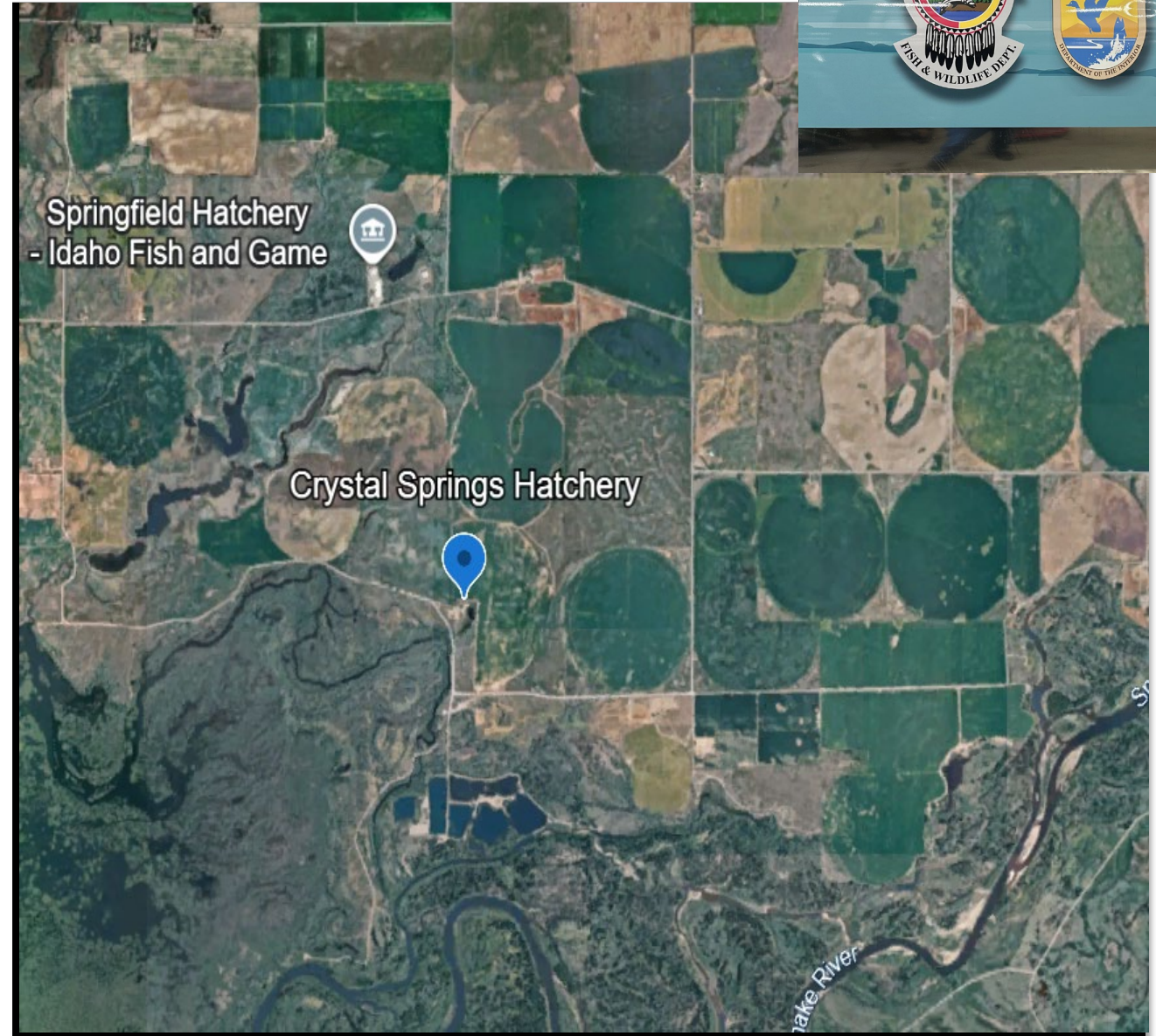


Figure 3-1. Fort Hall Reservation and location of Fort Hall Bottoms.



Crystal Springs Hatchery Update



Program Fish Production Goals

Program Goals for the Crystal Springs Hatchery Project:

Spring Chinook

- 5-year trial age 0 Spring Chinook program
- Rearing up to 300,000 eyed eggs
- Eyed eggs received opportunistically from excess Sawtooth stock.
- Reared at accelerated rate
- Release into Yankee Fork for acclimation
- Expected to return at least 2 adults per adult trapped for broodstock.

Yellowstone Cutthroat

- Back up trout program
- Rear up to 130,000 catchable
- Aquaculture training



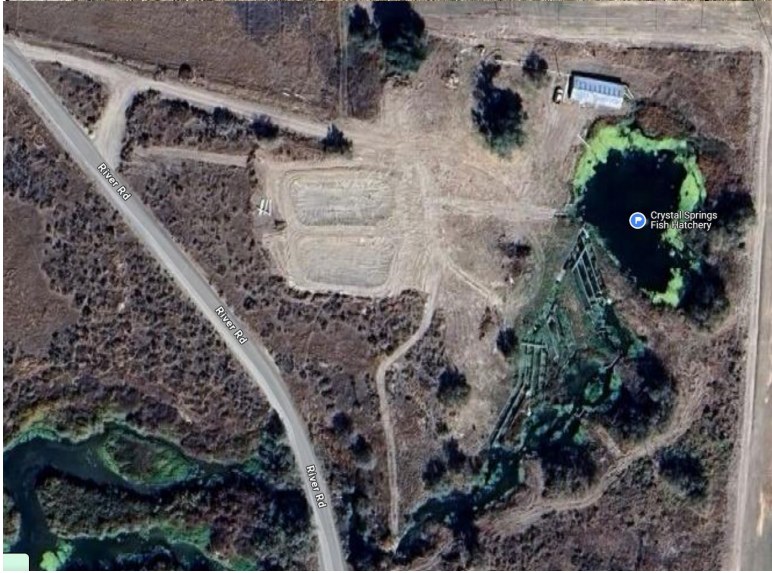
Repairing Infrastructure

- July 2024 start repairing existing infrastructure
- Epoxy concrete rearing tanks
- Hatchery building repairs
- Plumb rearing tanks and incubation stacks



Repairing Infrastructure

- 3 aluminum tanks installed
- New earthen ponds constructed
- Earthen ponds plumbed
- 2 ponds ~30,000 ft³
- Hold 150,000 each



Crystal Springs Hatchery Update

- BY 24 recieved 51,112 Eggs
October 2024
- BY 25 received 102.000
- Reared for 6 months to 50fpp
- 5000 pit tags
- 48,119 released May of 2025





Crystal Springs Hatchery Update

- Yellowstone Cutthroat Trout
- Henrys Lake
- Received March 2025
- Released 55,000 March 2026 through out Fort Hall reservation



Closing

Special Thanks to Agencies/Teaming Partners!

Questions?



Bonneville
POWER ADMINISTRATION

