

Lookingglass Fish Hatchery



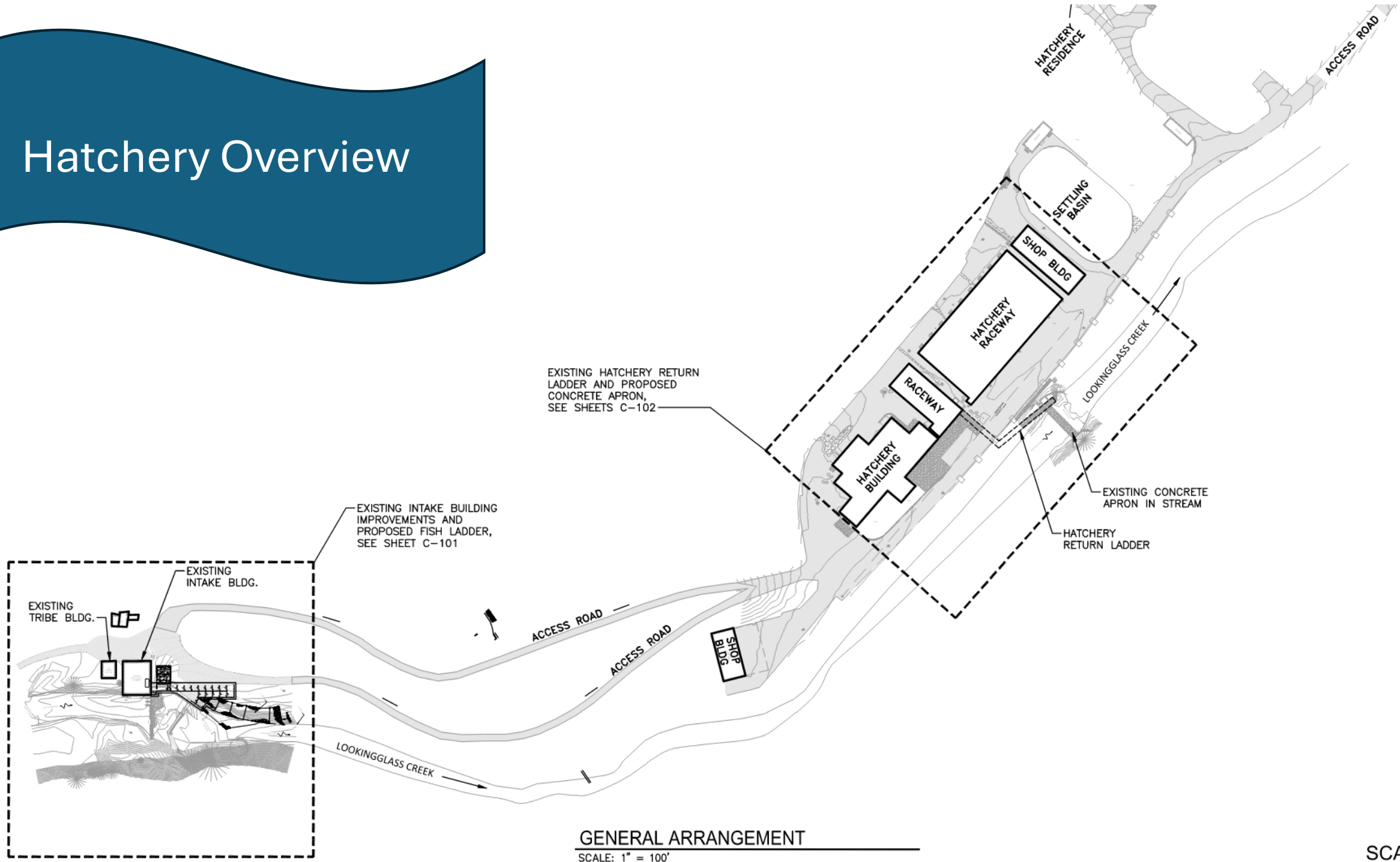
Intake, Traveling Screen, and Fish Ladder Replacement
Resistance Board Weir

Presented by:
Diane Deal, Mgr. 2, Kyle Bauman, Supervisor

Background

- Built in 1982 by USACE
- Production goal is 1.39m Spring Chinook which are released annually
- Intake facility provides water to the hatchery from Lookingglass Creek
 - Water goes to the upper fish ladder, down the mainline pipeline to incubation, the UV system, 30 indoor rearing troughs, 4 Adult Holding Ponds, the lower fish ladder, 18 raceways and the raceway outflow, 3 large and 3 small circulars in Endemic building with outflow into the settling pond.
 - Intake water is screened by two traveling screens.
- Weirs
 - There are two weirs, an upper weir and a lower weir. The lower weir is now retrofitted with a temporary floating weir (Resistance Board Weir), to stop fish passage to the upper weir area during construction.
 - The upper weir has a picket structure to prevent adults from traveling upstream which will be changed.
- Lower Fish Ladder
 - Comprised of multiple ladder structures built at different times
- This is primarily a NOAA Compliance project which started in 2016.

Hatchery Overview



Project Goals

NOAA-Compliance Project Goals:

1. Address deficient intake screens
2. Address deficient fish screen juvenile bypass
3. Modify barrier to adult downstream fish passage (picket structure)
4. Improve upstream passage at lower hatchery ladder apron
5. Address fish ladder deficiencies

Operations Project Goals:

1. Improve hatchery adult return trapping & handling
2. Improve facilities to hydraulically isolate fish screen for maintenance
3. Provide improved access to the forebay for management of ice

Current Fish Ladder



1. Intake Screen Replacement

- Existing screens are showing signs of wear – misalignment, gaps, worn seals, etc.
 - Causing other species to get into the hatchery (1 ft lamprey)
- New screens will be installed to remedy these issues and improve maintenance and operability
- Tentative completion of project is October, 2025.



Wickham Construction started on April 21st



How does one recycle a resistance board weir?



Above is the doner weir installed on the Hood River above former Powerdale Dam
Photo Credit: Lindsey Powell ODFW Hood River Assistant District Biologist

History of the doner weir

- Powerdale dam was removed the summer of 2010 which is where ODFW was able to capture 100% of returning adult salmonids to the hood river basin.
- Two sites were selected for installation of resistance board weirs to returning adults, East Fork of the Hood River and Neil Creek where this weir came from.
- Both weirs were built following plans for building resistance board weirs provided by the Alaska Department of Fish and Game with some minor modifications.
- Due to program changes in the Hood River Basin the weir was removed from Neil Creek and had been awaiting its next adventure.



Weir Acquisition

- A 22ft trailer was borrowed from ODFW East region office to move and store the weir while it was being modified
- On 12/30/2024 the weir was acquired from the Neil Creek site.
- Once the weir was onsite at Lookingglass Hatchery, it was apparent that we did not have enough length to span Lookingglass Creek and the weir was longer than needed.
- After a consult with Mike McLean and Ryan Seeger from CTUIR, A plan was devised to cut the weir in half.
- With the modifications there was more than enough weir to span Lookingglass creek.

Cost benefit of recycling vs new

- Mike McLean estimated it would cost \$1000 per foot to build a replica of Catherine Creek and Grande Ronde Resistance weir. Lookingglass creek at the lower weir site is just shy of 60 feet from wall to wall.
- Acquiring the weir was no cost, then \$5,000 in materials for modification.
- With the assistance of both CTUIR and NPT we were able to complete the modifications and install the majority weir before spring run off began.



Once modifications were completed, its
install time!





- What does this mean for you?
- Future projects for other facilities from large to small.

Conclusion

- Thanks to:
- Lower Snake River Compensation Plan
- Tribal co-managers CTUIR and NPT
- OR Dept. of Fish & Wildlife
- USFWS

