

Assessing Fish Passage at Outlet Dam by Radio Tagging Westslope Cutthroat Trout

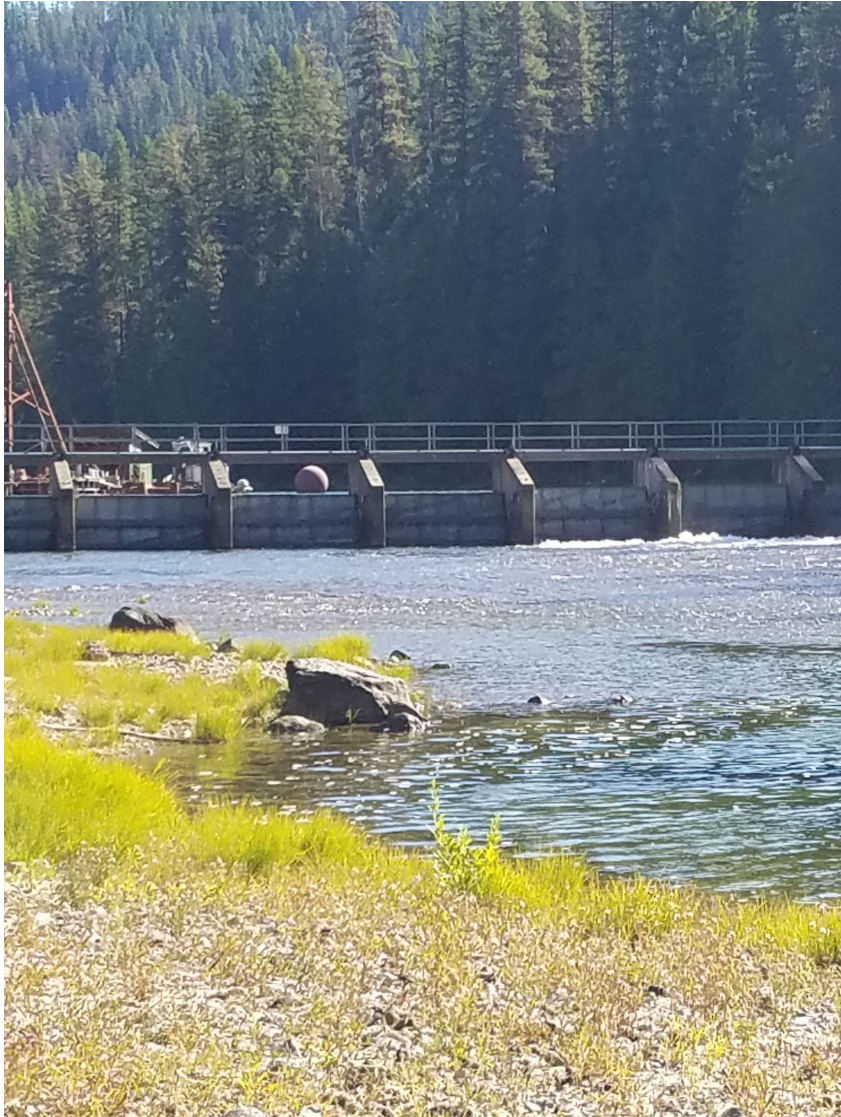


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Overview

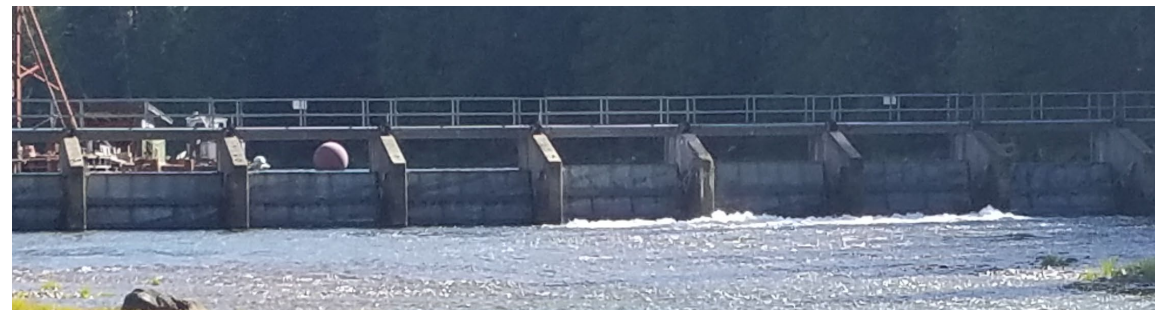


- **Priest Lake and Lower Priest River Background**
- **Methods**
 - Fish capture
 - Tagging
 - Tracking
- **Results**
 - What happened, where did fish go?
 - Status and passage through Outlet Dam
- **Conclusions**
- **Q/A**



Priest Lake and Lower Priest River Background

- A migratory form of Westslope Cutthroat Trout exists in Priest Lake, attaining large sizes (> 20'')
- Fish likely move between the Priest River and Priest Lake.
- Outlet Dam in place on Priest Lake is open through most of the year but is operated to maintain lake level in the summer
- It is unknown if Outlet Dam is an upstream fish barrier during the summer
 - It may be the case water exiting the base of the dam gates acts as a velocity barrier
- With potential for coldwater fish to enter the Priest River from Priest Lake prior to summer dam operations. An evaluation of this dam for fish passage was warranted.



Radio Telemetry Methods



- **Fish Capture (n = 20, 16 – 20” in length)**
 - Angling (The best way to capture fish)
 - Captured fish in Coolin Bay/Outlet Bay in June 2018) n = 16
 - Captured fish by shore fishing (Cavanaugh Bay in September 2018) n = 4
- **Tagging**
 - Lotek Radio Tags (Battery life 400 days)
 - Fish surgically implanted with Radio Tags
 - Released 8 fish each at Dickensheet Road and Whitetail Butte in June 2018
 - Released 4 at Outlet Raft Put in



Radio Telemetry Methods continued

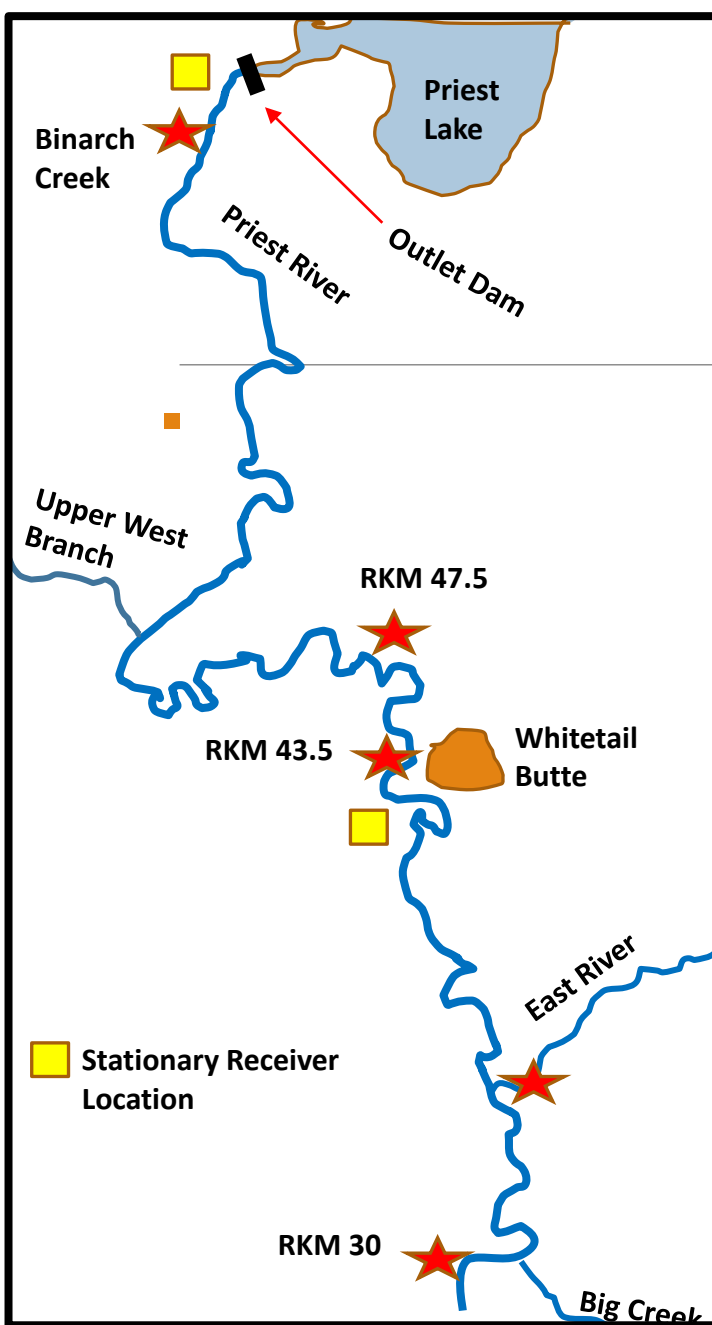
■ Tracking

- Via Raft and Truck
- June – November 2018 (1- 2x a week)
- Two stationary receivers checked weekly
 - One at Outlet Dam and one at Gleason McAbee Falls Road
- Coordinates, depth, and temperature recorded for each located fish

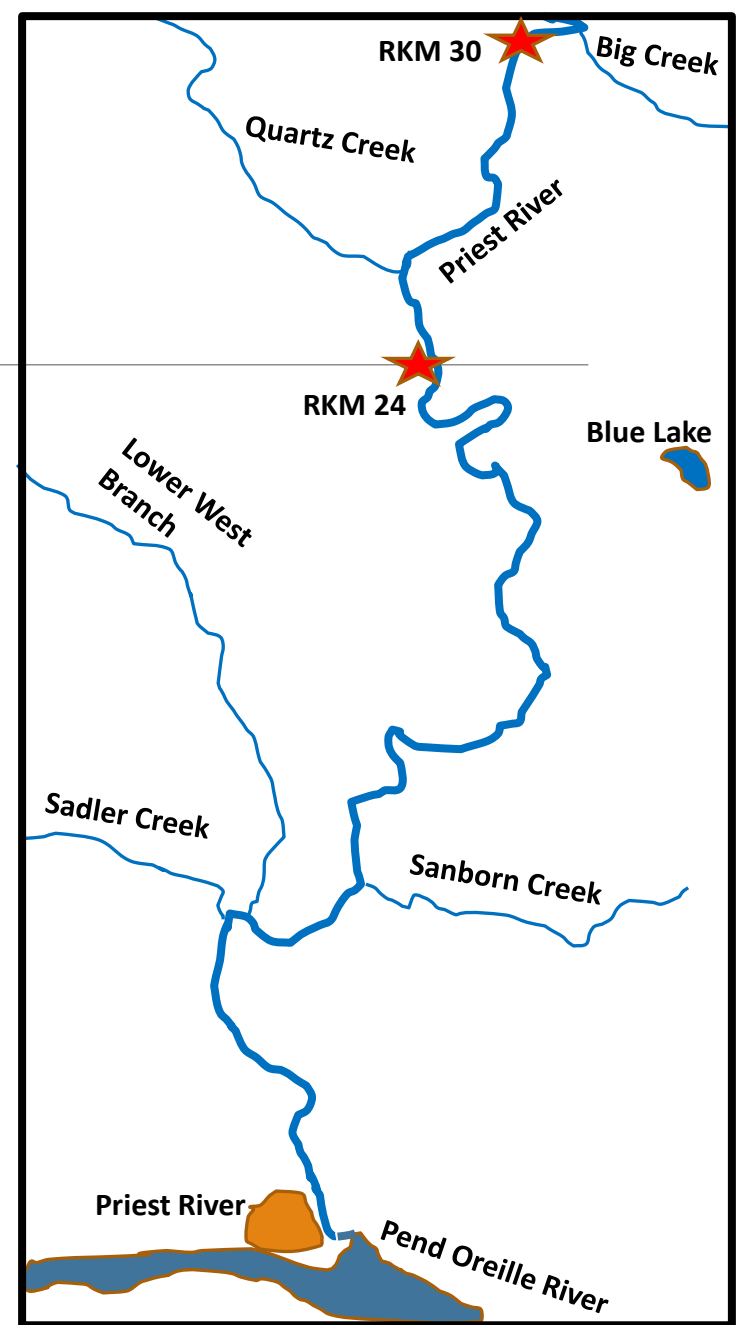


Results

Group of 16 Fish Captured in June



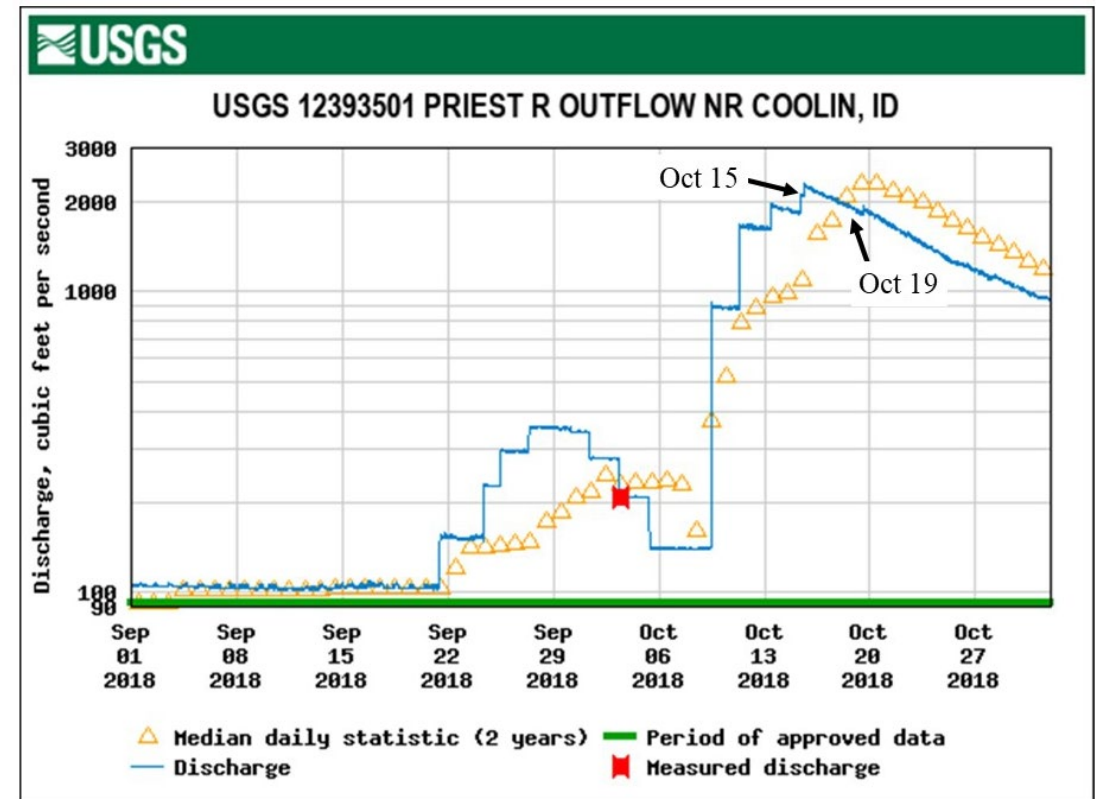
- Twelve Fish approached Outlet Dam in Summer 2018
- Fish resided in several Coldwater refugia
- High in river mortality (recovered 8 tags) and additional tag tracked to an Eagle nest



Results

Group of 4 Fish Captured in September

- Captured and tagged fish on September 24/25, 2018
- Three of the four remained by Outlet Dam into October while one ventured to East River.
- October 15 – 19, 2018 Three fish passed up through Outlet Dam
- October 22, 2018 Three fish previously at Outlet Dam detected along the shoreline of Cavanaugh Bay



Conclusions

- **Outlet Dam is an upstream fish barrier while the dam is operated to maintain summer lake levels.**
- **Oddly, remaining tagged fish never returned to Priest Lake when this study concluded in June 2019.**
- **Coldwater fish become concentrated at coldwater refuges in Summer within the Priest River making them more susceptible to predation.**





Acknowledgements

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Questions?

