

Yakima Basin Package

Philip Rigdon, Deputy Director
Yakama Nation
Department of Natural Resources

Ecology Solicited Proposal

- Jay Manning: You are always asked “can you live with this?” I am asking what you would really like.
- Ecology
 - Focus on Yakima basin
 - Don’t think too much about how it fits with CRWMP
- YN staff provided prioritized list of initial actions

YN Principal Concerns

- Providing fish passage and screening on all historic fish-bearing streams.
 - This includes adequate streamflows for spawning, rearing, and passage.
- Protecting and restoring critical habitat
 - Particularly floodplain side-channel habitat adjacent to presently fish-bearing streams.
 - We recommend establishing a fund to allow rapid acquisition of critical habitat as it becomes available.
 - Current system is too slow and inflexible for the market

Roza Diversion Dam Fish Passage

- Roza dam is a demonstrated outmigration bottleneck
- In order to pass through the dam while power is being generated, outmigrating salmon and steelhead must dive to 17 feet and pass through a narrow slot of high velocity flow
 - Slot is 1/10th foot at certain flows
- Consequently, fish back up in the reservoir for extended periods, delaying outmigration and increasing mortality

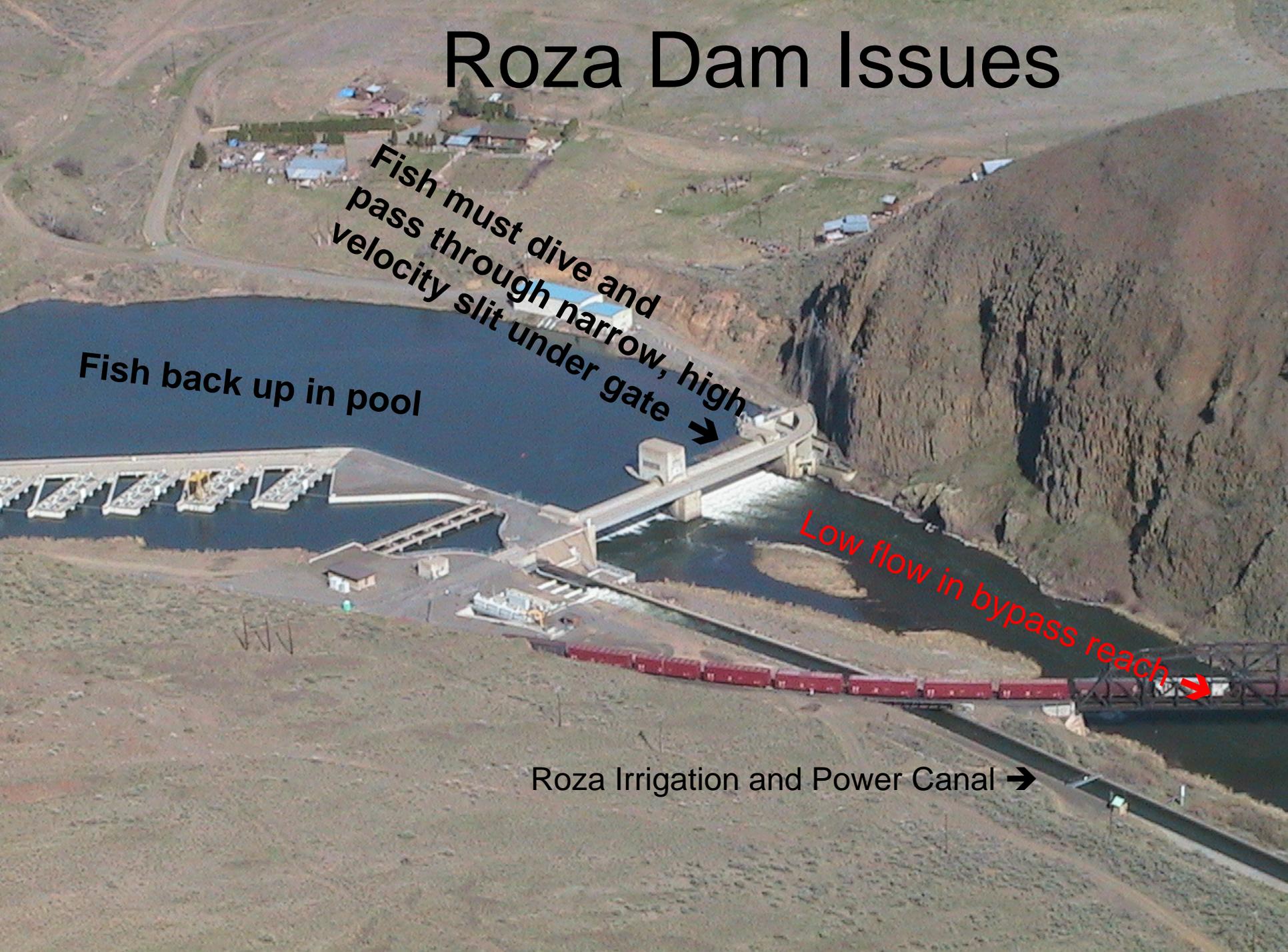
Roza Dam Issues

Fish must dive and pass through narrow, high velocity slit under gate →

Fish back up in pool

Low flow in bypass reach →

Roza Irrigation and Power Canal →



Two Fixes

- Simple, cost effective, quick fix
 - Subordinate power generation at Roza
 - Tuck gate so fish can pass over the dam
 - Compensate Roza for power revenue
 - Revenue goes to offset pumping costs on Roza
 - Roza: Putting us on the grid would solve problem
 - This option would also improve flow in the bypass reach from Roza Dam to Yakima

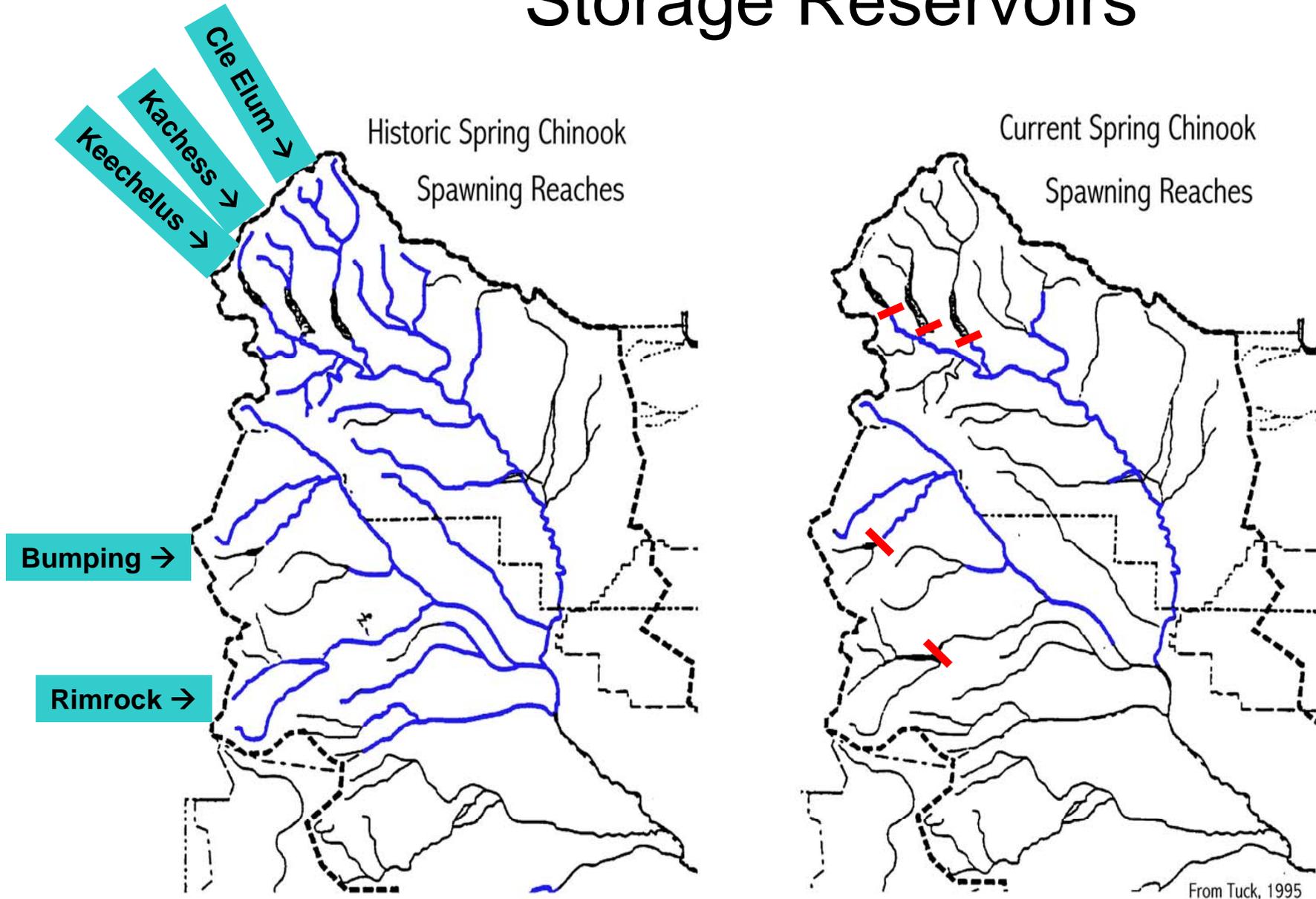
Roza Structural Fix

- Structural modification to allow fish to pass over the dam while generating power
- Cost is several million dollars
- Would not benefit flow below Roza unless subordination also done
- Greatest flexibility would be to combine both structural and subordination fix.

Fish Passage at Reclamation Storage Reservoirs

- All five Yakima Project storage dams completely blocked fish passage for salmon, steelhead, and bull trout.
- Four were built on natural lakes that hosted sockeye, which were extirpated in the basin
- Habitat above reservoirs is relatively intact, publicly owned, and has relatively cool temperatures and unregulated flow regime
- YN Goal: Restoration of passage to all historic habitat, reintroduction of sockeye, enhancement of Coho, spring Chinook, steelhead, and bull trout

Much Habitat Blocked by Storage Reservoirs



Cle Elum Dam Fish Passage

- Cle Elum dam was constructed without fish passage on a natural lake that hosted sockeye salmon
- Cle Elum is the most important of the Yakima River dams for restoring passage
- Many miles of relatively pristine habitat with cool temperatures and natural flow regimes exist above the dam
- Anadromous fish are entirely absent due to the lack of fish passage

Cle Elum River Above Dam



Cle Elum Passage

Work to Date

- 1994 YRBWEP Act authorized construction of juvenile passage
- Temporary wooden flume was constructed on the dam and Coho salmon were released in the reservoir in 2006 and 2007
- Juveniles have successfully out migrated and adults have returned
- Temporary flume is too limiting in terms of the timing of outmigration and need for full reservoir to operate
- Habitat studies above dam have been done

Cle Elum Passage Permanent Fix

- Trap and haul facility for adults at the base of the dam
- Permanent outmigration facility that would operate at fluctuating reservoir levels
 - Gate modifications
- Preliminary designs have been done and costed for both facilities

Passage at Other Reservoirs

- Passage at the other reservoirs is a key for the same reasons
- A recommended sequence based on quantity and quality of habitat above the reservoirs and, secondarily, ease and cost of restoring passage is:
 - Cle Elum for the reasons stated above.
 - Bumping
 - Next because easiest. Important for Bull Trout.
 - Rimrock
 - Next because of Bull Trout and much good habitat in N. and S. Fork Tieton
 - Keechelus
 - Next because of good habitat in Gold Creek
 - Kachess

Establishment of Habitat Acquisition Fund

- We recommend establishing a fund to allow rapid acquisition of critical habitat as it becomes available.
- The current system is too slow and restrictive to respond to the market.
- Placing critical habitat in public ownership would alleviate problems with enforcement of habitat protection laws in these areas.

Enforcement of Existing Laws and Regulations to Protect Fish

- Enforce passage, screening, habitat protection, and water rights laws and regulations throughout the basin
- In spite of long standing state and federal laws to protect flow and habitat, countless violations regularly occur
- The state should embark on a program of consistent and forceful enforcement of existing laws and,
- A stepped-up program of funding projects to bring existing diversions and other structures into compliance with the law