



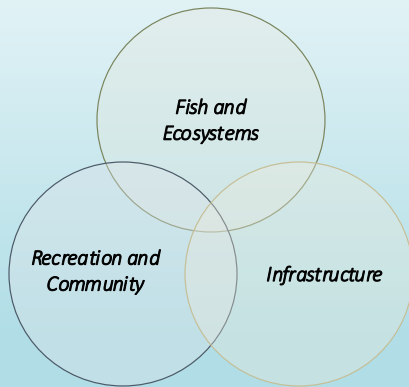
Tucannon PA 5-15 Assessment and Conceptual Design

Co-Management Model



This project is a collaborative effort among the three co-manager entities – CTUIR, NPT, and WDFW. Each co-manager has their mission and documents for guiding the work, and all are incorporated.

Comprehensive, Multi-Use Strategy



Urgency for spring Chinook recovery

Long-term investments

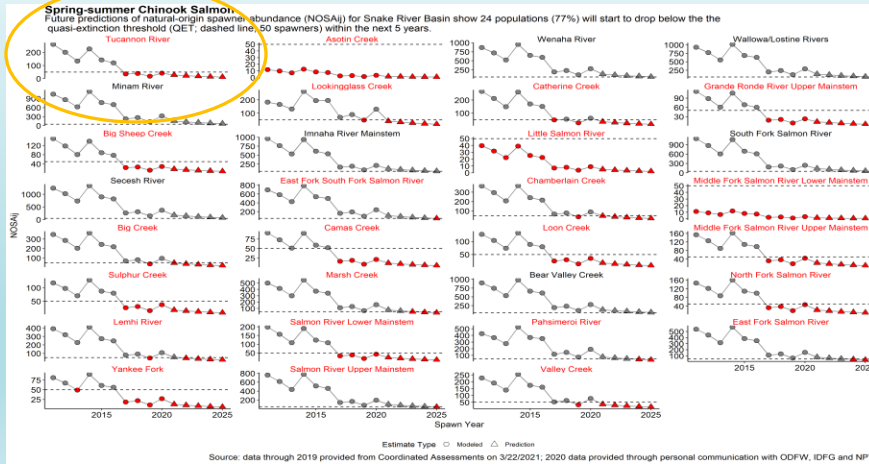
Needs to be sustainable for land managers (WDFW)

Climate change

Community input is critical

Action Needed: Chinook Reaching Quasi-Extinction Status

Fewer than 50 wild pairs showing up





Tucannon PA 5-15 Assessment and Conceptual Design Reach-Scale Alternative

This next section provides a brief overview of the Tucannon PA 5-15 Assessment and Conceptual Design work to date, and describes the draft Reach-Scale Preferred Alternative agreed to by the Tucannon PA 5-15 Co-Managers

Background

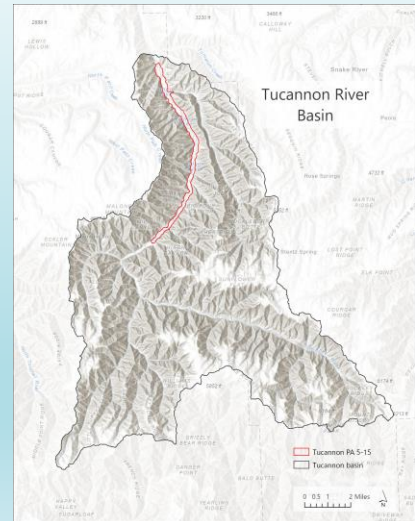
Primary reasons for the Assessment and Conceptual Design project:

- **Lakes and Infrastructure Condition**

WA Department of Ecology Dam Safety Office regulates, conducted dam safety studies in 1997, 2001, and 2005. These studies concluded that all of the lake embankments (dams) and inlets/outlets were in need of continued maintenance, most needed significant repairs or replacement

Embankment dams average 70-years old, lifespan of infrastructure is 50-years. Costs for maintenance, repair and replacement are increasing

- **Threatened and Endangered Species Status**
- **Treaty Rights**



There is a significant amount of annual maintenance of the infrastructure for the lakes completed by WDFW. though their efforts are restricted by funding for the work. Spring Chinook salmon are on the verge of extinction in the Tucannon Basin. The Tribes have not been able to exercise their Treaty Rights to Chinook Salmon harvest in the Tucannon for nearly two generations. This creates a loss of the connection with the lands and waters that has existed since time immemorial.

Assessment and Conceptual Design

Assessment Technical Outcomes:

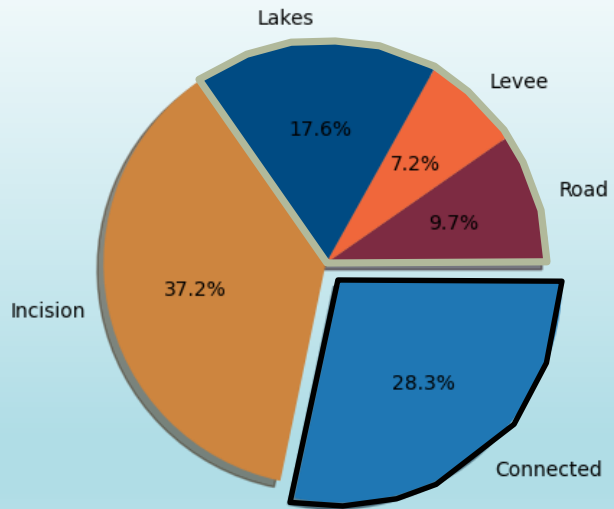
- **Lakes and infrastructure aging, Operation & Management costs increasing, some in need of replacement and/or major repair**
Typical deficiencies are: erosion, steep slopes, narrow top widths, leakage, failing and collapsing inlet and outlet structures, and danger of overtopping and failure in large floods
- **72% of floodplain disconnected by lateral confinement (infrastructure) and vertical incision (excess stream power)**
- **450-feet minimum target floodplain width is needed to provide balance**
- **Reduced riparian and floodplain vegetation complexity**
- **Reduced aquatic species function**
- **Climate warming trend/higher temperatures, higher water temperatures**
- **Decline in function and total wetland area**

State of the Floodplain

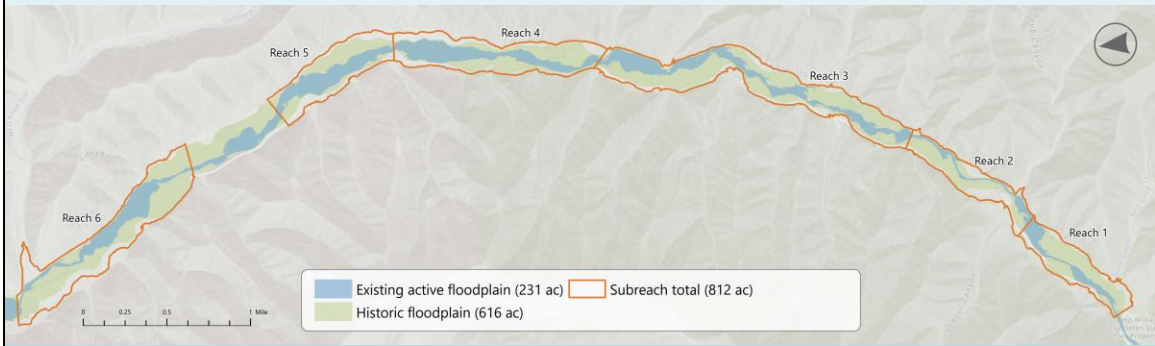
Today's Floodplain is ~30% of its historical extent

Lakes, levees, and road infrastructure disconnect ~35% of historical floodplain

~37% of historical floodplain is vertically disconnected (Incision)

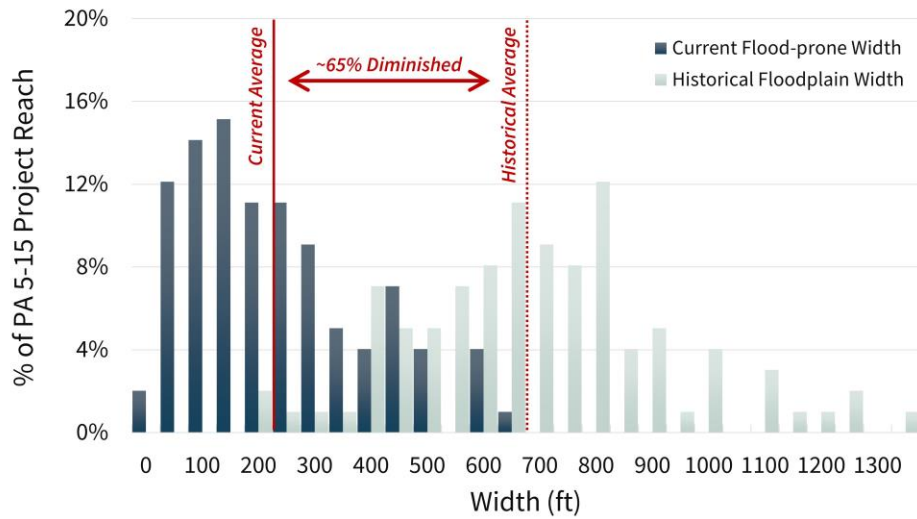


Existing compared to Historic Floodplain



The river and floodplain are a system or complex working in concert, not two individual pieces. Impacts to the floodplain such as narrowing available width or reducing available space produces reactions within the river and vice versa.

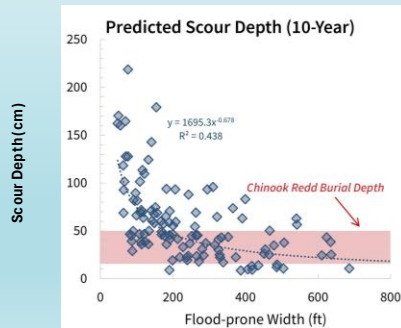
Historical v. Present Day Widths (Narrowing = Disconnection)



Multiple Benefits of Giving the River Space

Quantified benefits of space:

- Increased ecosystem resilience
- Reduced stream power and flood risk
- Direct benefits for life history bottlenecks
- Increased infrastructure resilience



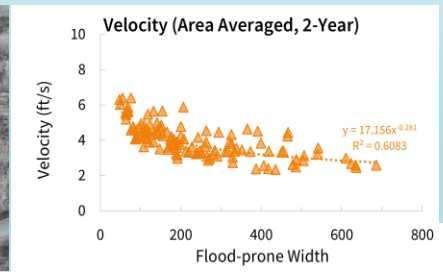
Road wash-out in March 2026 flood near Camp Wooten

Decreased floodplain space results in increased stream power and incision, and downcutting, in the river channel. This is a self-perpetuating condition as subsequent high-flow events are increasingly confined to the deeper channel, and incision continues. At the same time, the increased capacity in the channel decreases connection to and degrades the floodplain.

Multiple Benefits of Giving the River Space

Quantified benefits of space:

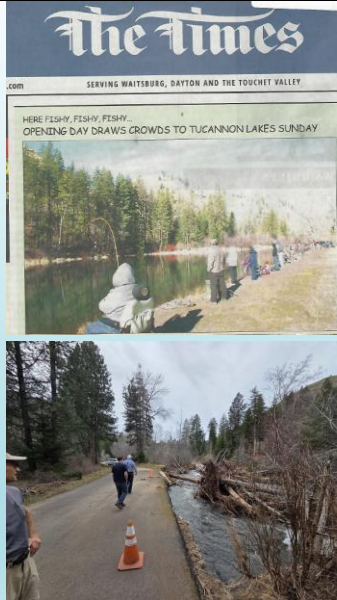
- Increased ecosystem resilience
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- Direct benefits for life history bottlenecks
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Recreational Risk During Flood Events



Risk based on observed March 2026 flooding



Road Damage between Camp Wooten and USFS Tucannon Campground

Community Benefits

- Recreation drives tourism and visitation to Columbia County
- Upgraded lakes provide long-term recreational value
- Increased flood attenuation and floodplain water storage benefits downstream irrigators and producers
- Floodplain restoration improves habitat for salmon and other First Foods essential to Tribal Communities and Treaty Rights

Vision for the Future

- ***The Reach-Scale Preferred Alternative** is based on our understanding of the Upper Tucannon River ecosystem, and considers the range of **Project Goals and Objectives** including restoration of watershed function to support **Tribal Treaty Rights, Chinook salmon and Steelhead trout**, and recreational use.*
- *The Reach-Scale Preferred Alternative was developed as a coordinated effort of Co-Manager Leadership and the Project Core/Technical Team.*
- *Development included **Recreation Values**; the five **River Vision Touchstone** categories: Hydrology, Geomorphology, Connectivity, Riparian Vegetation, and Aquatic Biota; combined with Chinook Salmon **Limiting Factors**.*

Animate this, bring in one statement at a time

Recreation Values

Fishing Opportunity

- *Fishable lake shoreline (linear feet)*
- *Lake fishable area (acres)*
- *Duration of fishing availability*
- *River fishing - recovery of salmon and steelhead fishery*

Experiential quality

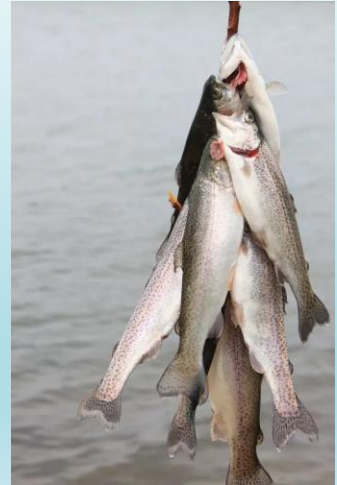
- *Spacing between lakes*
- *Parking*

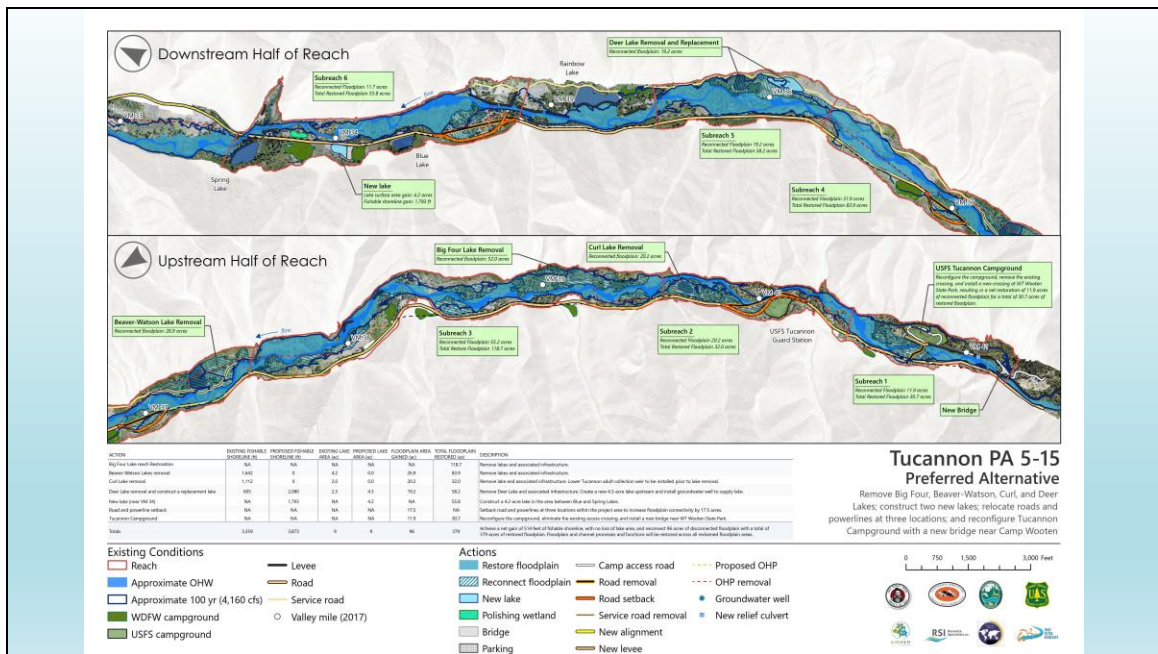
Campgrounds

- *Amenities*
- *Proximity to lakes*

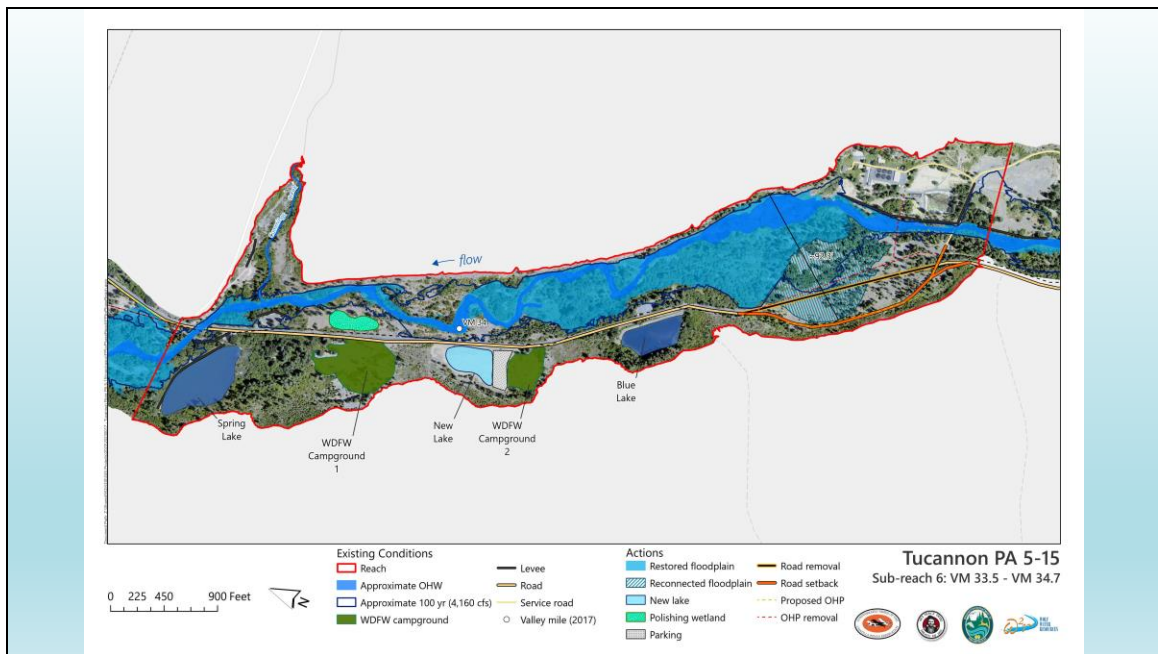
Other

- *Trails*
- *Access*





The Preferred Alternative represents a holistic and comprehensive coordinated approach that addresses the identified issues of lack of floodplain space and connection, increased stream power, and channel incision. Addressing these by moving some infrastructure and restoring sections of the floodplain and channel provides conditions necessary to reduce flooding impacts, support habitat for aquatic species including threatened and Endangered Chinook salmon, and provide enhanced opportunity for public recreation.



The 10-mile reach is subdivided into 6 subreaches with a suite of potential actions considered for each subreach. This subreach represents the only location within the 10-mile project area that a new lake might be constructed outside the floodplain. New Lake would replace Beaver-Watson Lakes, and would be constructed prior to decommissioning Beaver-Watson Lakes.



New Lake Projected Conditions (5-10 Years Post-Restoration)
Conditions shown represent an approximate 2-year flow event







Deer Lake

Projected Conditions (5-10 Years Post-Restoration)
Conditions shown represent an approximate 2-year flow event







**Beaver-Watson
Lakes**

Projected Conditions (5-10 Years Post-Restoration)
Conditions shown represent an approximate 2-year flow event





Big Four Lake is n longer functional primarily due to flood damages and has been slated for decommissioning for a number of years. The final design for this subreach is being completed with construction expected to begin in 2027.





- | | | |
|--------------------------------|------------------------|------------------------|
| Existing Conditions | USFS campground | Actions |
| Reach | Road | Restored floodplain |
| Approximate OHW | Valley mile (2017) | Reconnected floodplain |
| Approximate 100 yr (4,160 cfs) | | Road setback |
| | | Road removal |
| | | Proposed OHP |
| | | OHP removal |

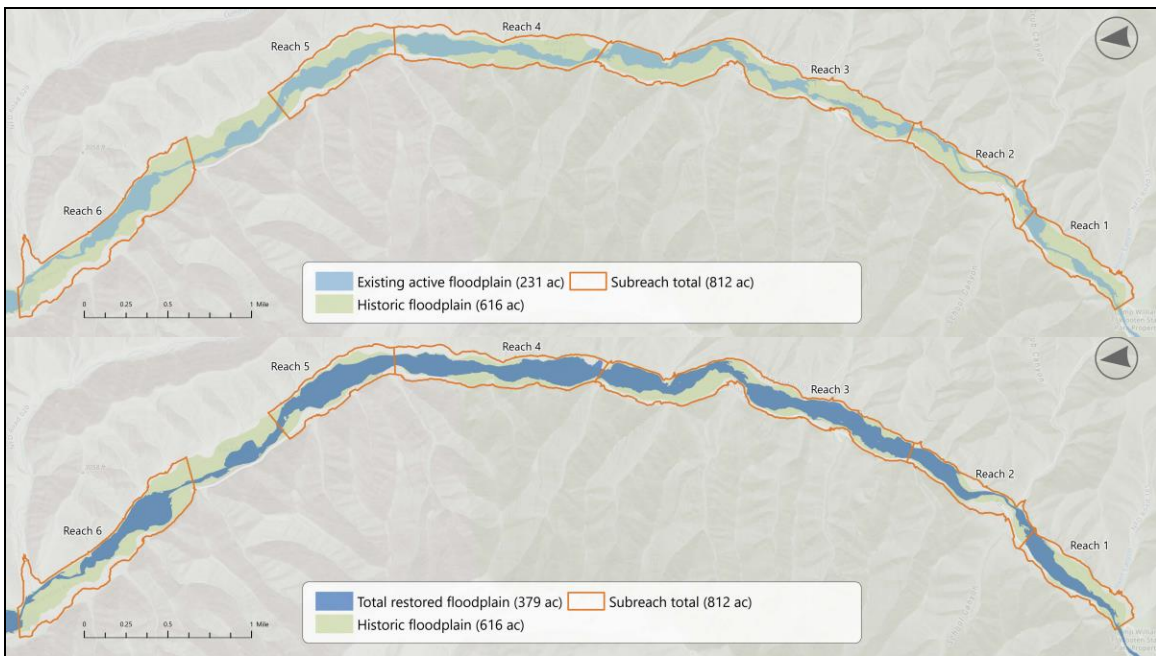
Tucannon PA 5-15
 Sub-reach 2: VM 39.6 - VM 40.4



Preferred Alternative Metrics

SUBREACH/ACTION	EXISTING FISHABLE SHORELINE (ft)	PROPOSED FISHABLE SHORELINE (ft)	EXISTING LAKE AREA (ac)	PROPOSED LAKE AREA (ac)	FLOODPLAIN AREA RESTORED (ac)
1 - Tucannon Campground	NA	NA	NA	NA	30.7
2- Curl Lake	1,112.0	0.0	2.0	0.0	32.0
3 - Big Four	0.0	0.0	0.0	0.0	118.7
4 - Beaver-Watson	1,642.0	0.0	4.2	0.0	83.9
5 - Deer Lake	605.0	2,080.0	2.3	4.3	58.2
6 - New Lake	0.0	1,793.0	0.0	4.2	55.8
Total	3,359.0	3,873.0	8.5	8.5	379.3

- Up to 380 acres of Restored Floodplain
- No net loss of fishable shoreline or lake surface area



JEREMIAH? - Add “Hist vs Exist Map” Floodplain Accounting Figure at top, and
 “Hist vs total” Map figure below that

Check Out The Project Webpage



<https://tucannonriver.org/tucannon-pa5-15-assessment/>