Columbia Conservation District

Tucannon Stream and Riparian Restoration

1994-018-06

Tucannon Stream and Riparian Restoration 1994-018-06

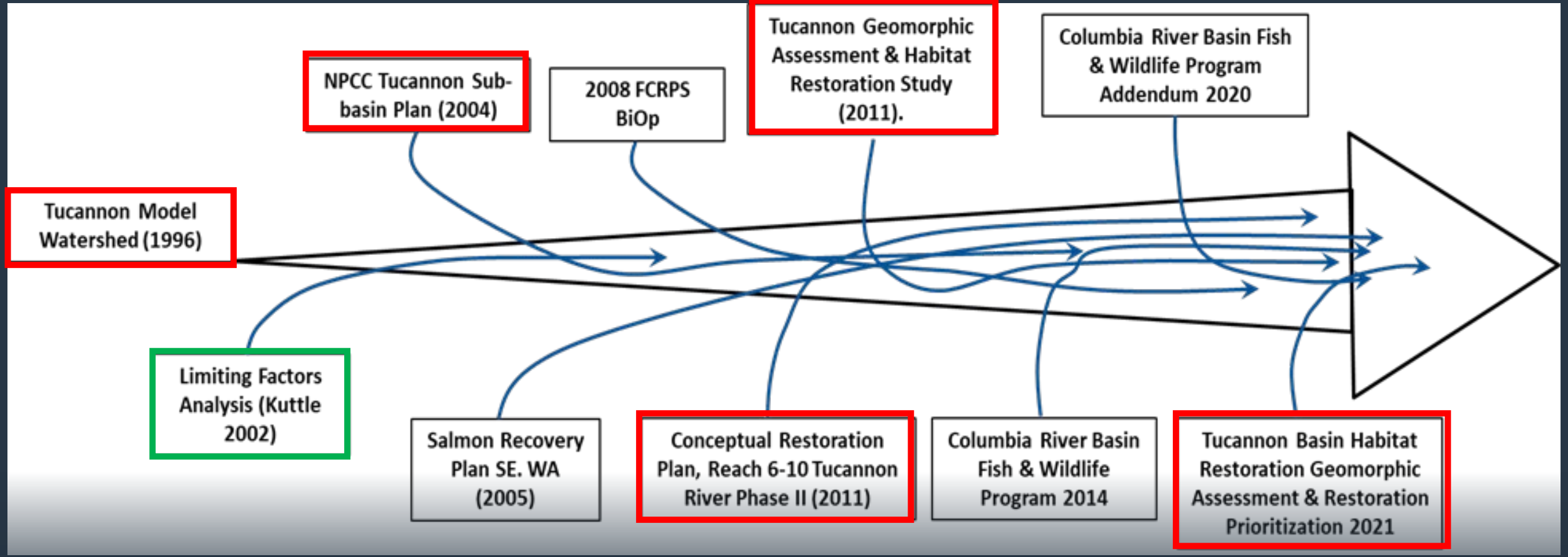
- Who We are
- Where we Started
- Methods Unique to the District
- Progress to Date
- Continuation of Goals & Adaptive Management

Who We Are

- Trusted
- Non-regulatory
- Understanding
- Innovative
- No “one-shoe-fits-all”
- Voluntary Solutions

Where We Started

1997, Draft Tucannon River Model Watershed Plan, "Strategy For Salmon", NRCS Stream Team.
1999-2000, Tucannon River Water Quality Monitoring, WSU Water Center.
2001, Limiting Factor Study, Washington State Conservation Commission.
1998, 1999, 2002, 2004, Instream Habitat Project Evaluation Reports contracted-WDFW SRL.
2003-2011, provided 16 additional temperature monitors to WDFW Snake River Labs for continued data collection from May to October. Data showed decreasing water temperature from a high of 76 degrees in 1990-1992 to a high of 65 degrees in 2006-2011.
2004, Tucannon Subbasin Plan.
2005, Tucannon River Model Watershed Plan Milestone Assessment, Parametrix.
2006, Tucannon River Temperature Study Draft June 30, HDR.
2008-2011, Cobble Embeddedness & Percent Fines Project-Tucannon River & Tributaries, USFS.
2010, LiDAR assessment on 51 miles of the Tucannon River Basin, Watershed Sciences.
2011, Geomorphic Assessment & Habitat Restoration Study, Tucannon River, Anchor QEA.
2011, Conceptual Restoration Plan, Reaches 6 To 10 Tucannon River Phase II, Anchor QEA.
2011, Design Restoration Feature Prioritization, Tucannon River Reach 2, Anchor QEA.
2012, Integrated Species Restoration Prioritization Tucannon River, Anchor QEA.
2012, Conceptual Restoration Plan, Reaches 3 & 4 Tucannon River RM 4.5 - 13.4, Anchor QEA.
2013, Conceptual Restoration Plan, A system wide approach to habitat restoration on the Tucannon River, Anchor QEA.
2021, Tucannon Basin Habitat Restoration Prioritization and Conceptual Restoration Plan, Anchor QEA 2021.



Who We Collaborate With

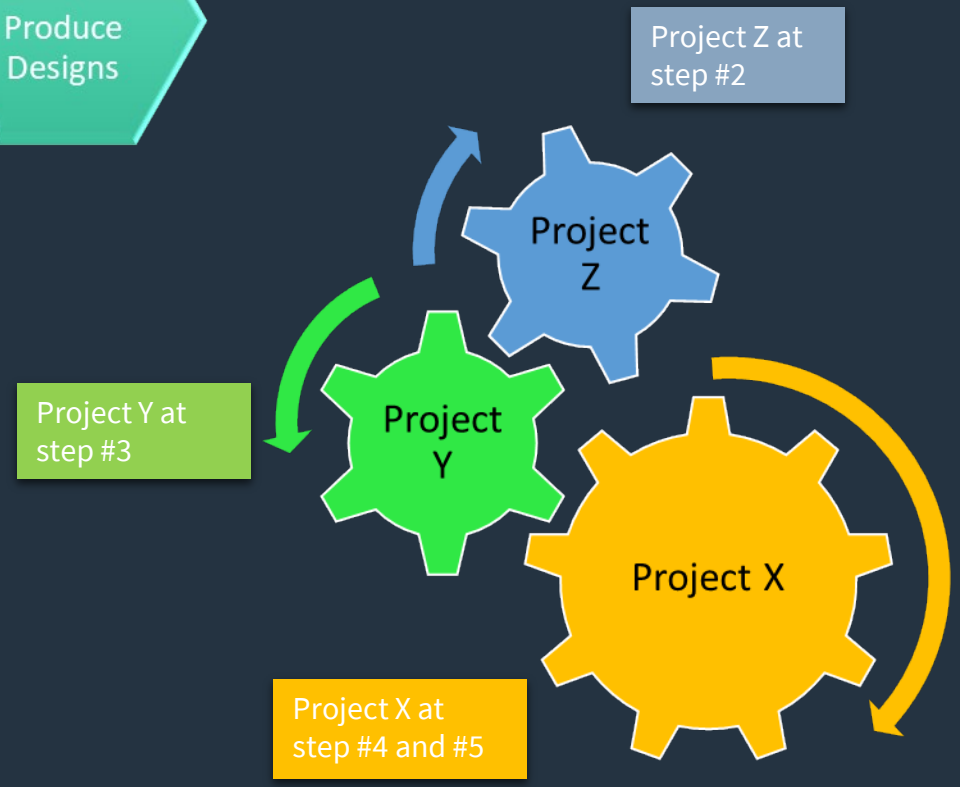
- Bonneville Power Administration & Programmatic
- Landowners
- Washington State Conservation Commission
- Snake Salmon Recovery Board
- Recreation and Conservation Office
- Confederated Tribes of Umatilla & Nez Pierce Tribes
- Washington State Department of Fish and Wildlife
- Washington State Department of Ecology
- US Forest Service

Private Landowners

- Majority of Projects are on Private Lands
- Multiple Opportunities
- Lasting Relationships
- Trustworthy
- Community Outreach & Education

Methods

- Consecutive Projects Year to Year
- Mediators between Landowner and Funding Source
- Backbone for Restoration Opportunities



Progress To Date and Our Future Prospects

- CREP
- Irrigation Efficiencies
- Natural Resource Investment (NRI)
- Volunteer Stewardship Program (VSP)

Progress To Date

1994-2004

- Improved ~7 miles of stream
- Created ~140 pools
- Removal of 27 fish Screens
- Reduced Conventional Tillage by 7051 acres
- Increased Riparian Buffers ~1200 acres
- Planted close to 230,000 trees and shrubs
- Built ~22 miles of access control fencing

PA 32 Restoration Project

- Reconnection of ~27 acres of Floodplain
- Removal of ~670’ levee
- Placement of 54 LWD structures instream and on the floodplain

Benefits Increase:

- Perennial side channels by 776’
- 255 LWD key pieces
- 57 jams
- 15 pools and pool size by 1224 m^2

Cost Benefit Analysis

Funding Sources:

- BPA, SRFB via RCO, WSCC, WSDOE, USDA, landowner

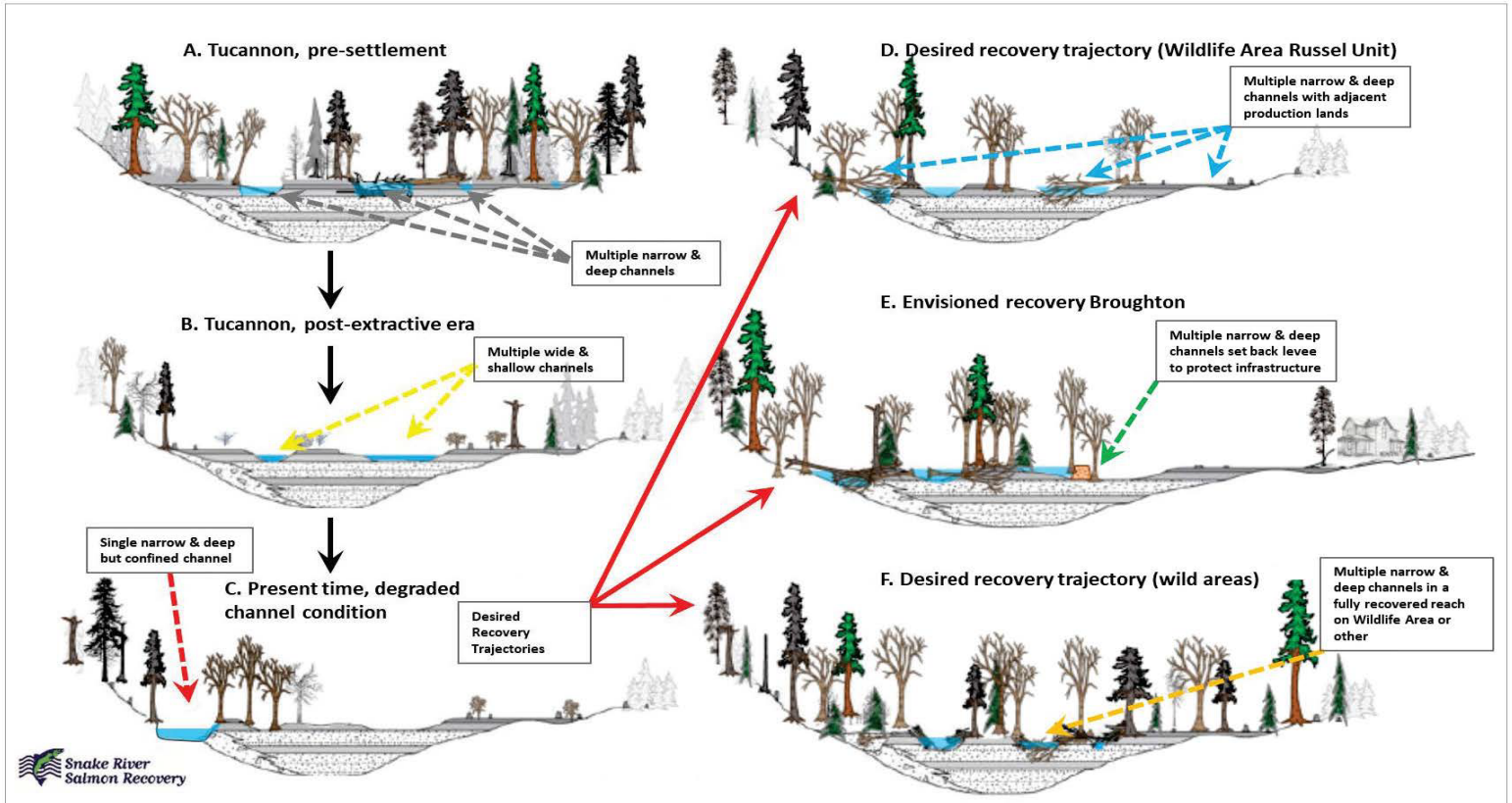
Allocation:

- 2/3 Habitat Restoration Activities
- 1/3 Operational Costs

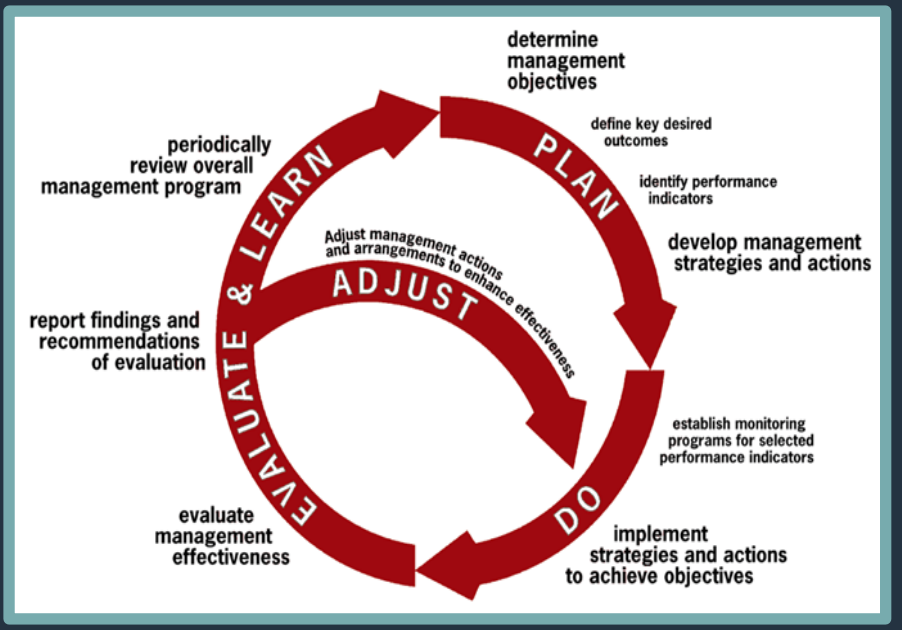
Total Cost Share: $5,098,803

- 94-04: $2,580,294
- 05-06: $354,457
- 07-20: $2,164,052

Continuation of Goals & Adaptive Management



This model illustrates an idealized cross section of the Tucannon River floodplain and riparian forests over time since pre-settlement. Sections A and B illustrate changes that had occurred through the period of degradation with wide, shallow river channels, and Section C illustrates a modified condition with a single, narrow channel that has confinement and recovering riparian habitat. Sections D and E illustrate desired recovery trajectories for three different land types that all benefit salmon and steelhead. Section D illustrates working lands where occasional flooding is possible, Section E illustrates working lands with infrastructure protection setback levee, and Section F illustrates a full wild land restoration. Source: Kris Buelow, Snake River Salmon Recovery Board, via email communication.

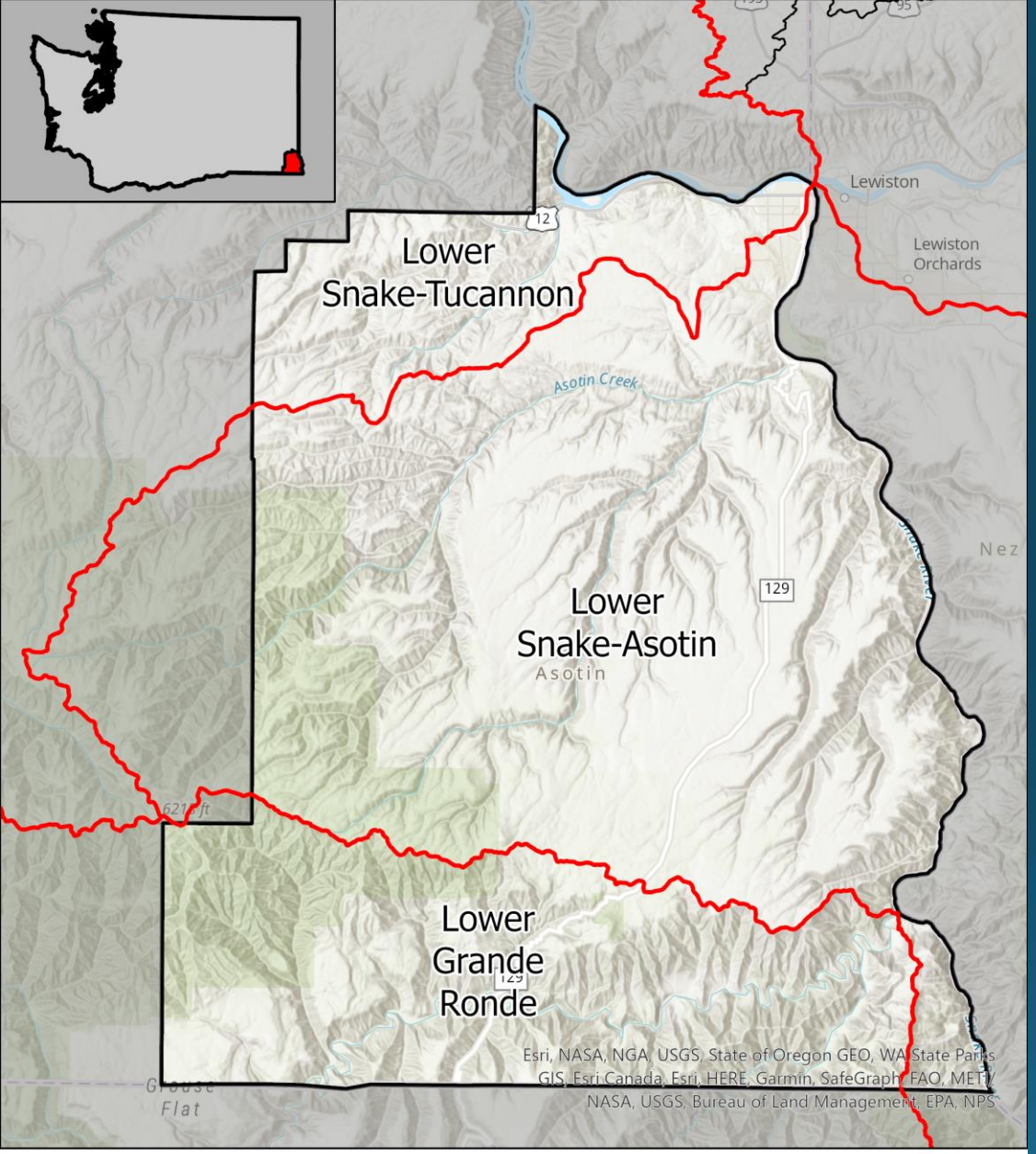


Thank You for Listening & for the Continued Support in Restoring the Tucannon Watershed

Asotin County Conservation District

Megan Stewart, District Coordinator

PROJECT: 1994-018-05



Project Proposal Location

5/1/2021

N

0 2.25 4.5 9 Miles

ASOTIN COUNTY CONSERVATION DISTRICT

Assisting, protecting, and restoring Asotin County's natural resources.

Conservation in Asotin County

- Ridge Top to Ridge Top Restoration
  - Instream
  - Riparian
  - Rangeland
  - Cropland
  - Forestland

Past Restoration Efforts - Cropland

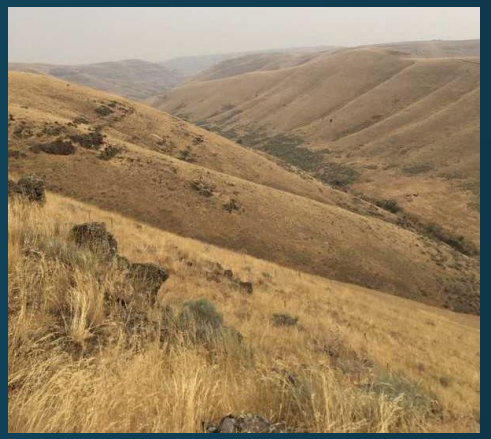
Direct Seed – Residue Management

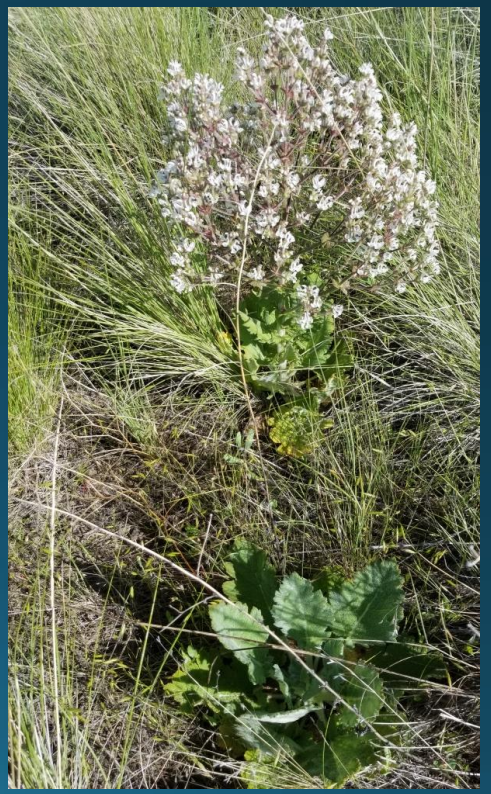
Farmland Conversion – Perennial Cover Establishment

Erosion Control Structures – Sediment Basin, Terraces, Grassed Waterways

Past Restoration Efforts - Rangeland

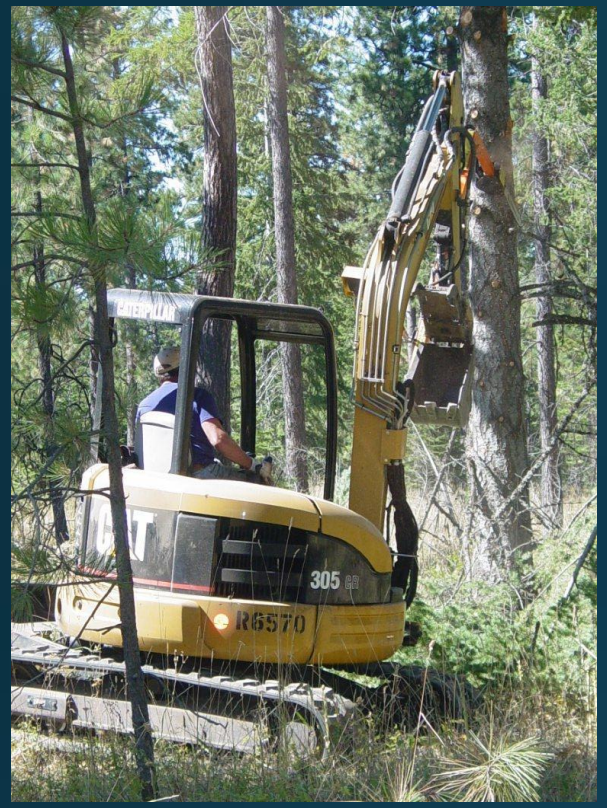
- Grazing Management
- Livestock Water Developments
- Fencing
- Weed Control
- Grass Planting





Past Restoration Efforts – Livestock Feeding

- Alternative Water Developments
- Feed Area/Corral Relocation
- Heavy Use Feed Pads
- Manure Containment



FIREWISE COMMUNITIES

ONE LESS SPARK ONE LESS WILDFIRE

Past Restoration Efforts - Forestland

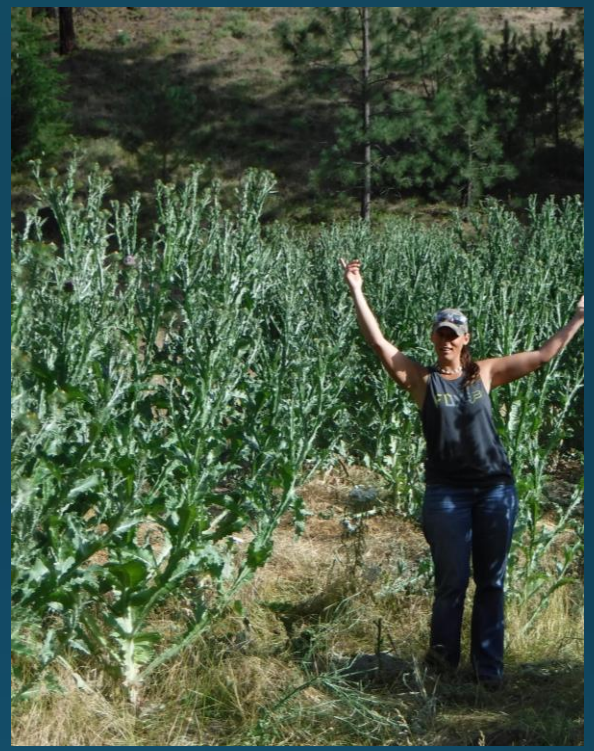
- Thinning – Pruning
- Fuel Reduction
- Timber Health

Past Restoration Efforts - Riparian

Planting – Trees, shrubs and grass

Fencing – Livestock exclusion

Weed Control



Past Restoration Efforts - Stream

Habitat

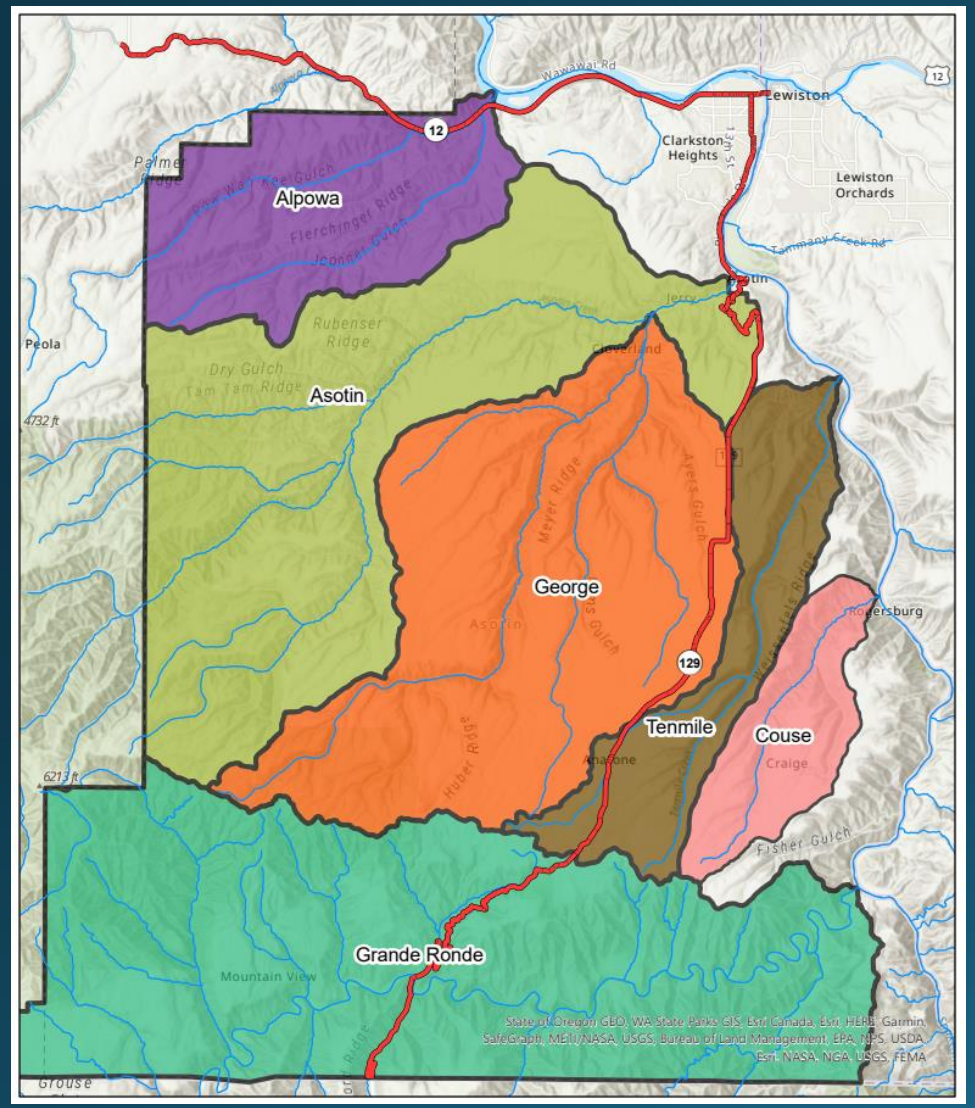
Stream Crossing Access

Passage

What's to come…

Continuation of restoration efforts

Shift in focus areas

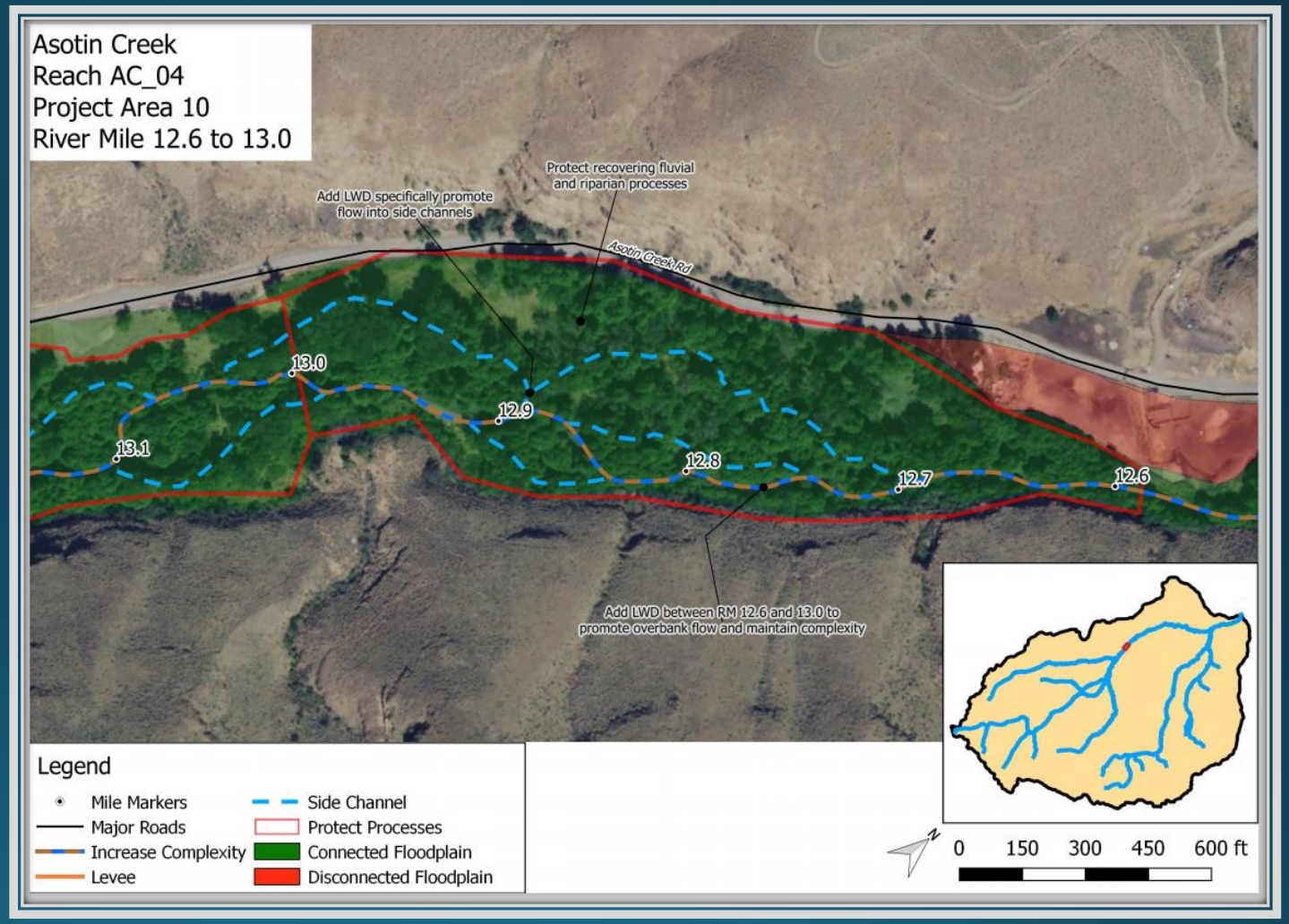


Geomorphic Assessments

- Two Phases:
  1. Asotin, George, Tenmile, Couse, Alpowa
  2. Grande Ronde
- Evaluation of Conditions
  - Identify current limiting factors
- Restoration Strategies
  - Protect and maintain natural processes
  - Remove barriers and reconnect habitat
  - Restore long-term processes
  - Restore short-term processes

Conceptual Restoration Plans

- Guide to future restoration
- Prioritization of project areas in each watershed
- 100+ project areas identified
  - Current Condition
  - Reach Type
  - Limiting Factors
  - Fish Species & Life Stages



Fish Species, Location and Usage

Steelhead	Asotin County Watersheds	Migration, Spawning, Rearing, Holding
Spring Chinook Summer Chinook	Asotin & Alpowa Creeks Grande Ronde River	Migration, Spawning, Rearing, Overwintering
Fall Chinook	Asotin Creek Grande Ronde River	Migration, Spawning
Bull Trout	Asotin & George Creeks Grande Ronde River	Migration, Spawning, Rearing
Pacific Lamprey	Asotin Creek	Migration, Spawning, Rearing

Habitat Goals & Objectives - Instream

Main Channel

- Improve complexity on ~68,000 feet of stream
- 2,500+ low tech and engineered structures
- Focus on pool development

Side Channel

- Connect ~6,000 feet of side and flood channels
- 200+ structures installed
- Promote habitat complexity

Floodplain

- 50+ acres connected at the 2-year event

Habitat Goals & Objectives - Riparian

Riparian protection and enhancement

- 125+ acres
- 42,000+ feet of stream with livestock exclusion

18+ alternative water developments

4 stream crossings

Weed management plans

- 16 plans
- +120 acres

Riparian forest buffer enhancement

- 36,000 native trees and shrubs
- 10 acres native grass

Habitat Goals & Objectives - Upland

Residue Management – Direct Seed or Perennial Cover

- 95% cropland currently – goal of 98%
- 2,000 new acres

Rangeland Assessments

- 12 assessments & grazing plans
  - 8,000 acres – rangeland improved

Weed Management

- 40 weed management plans
  - Resulting in 3,600 acres treated

Washington State Conservation Commission

WASHINGTON STATE Recreation and Conservation Office

Bonneville POWER ADMINISTRATION

DEPARTMENT OF ECOLOGY State of Washington

PARTNERS IN CONSERVATION

ASOTIN COUNTY CONSERVATION DISTRICT

Assisting, protecting, and restoring Asotin County's natural resources.

Snake River Salmon Recovery

NRCS Natural Resources Conservation Service

Washington Department of FISH and WILDLIFE

ASOTIN COUNTY STATE CORNERSTONE

FSA FARM SERVICE AGENCY

Thank you!


ASOTIN COUNTY
CONSERVATION DISTRICT
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