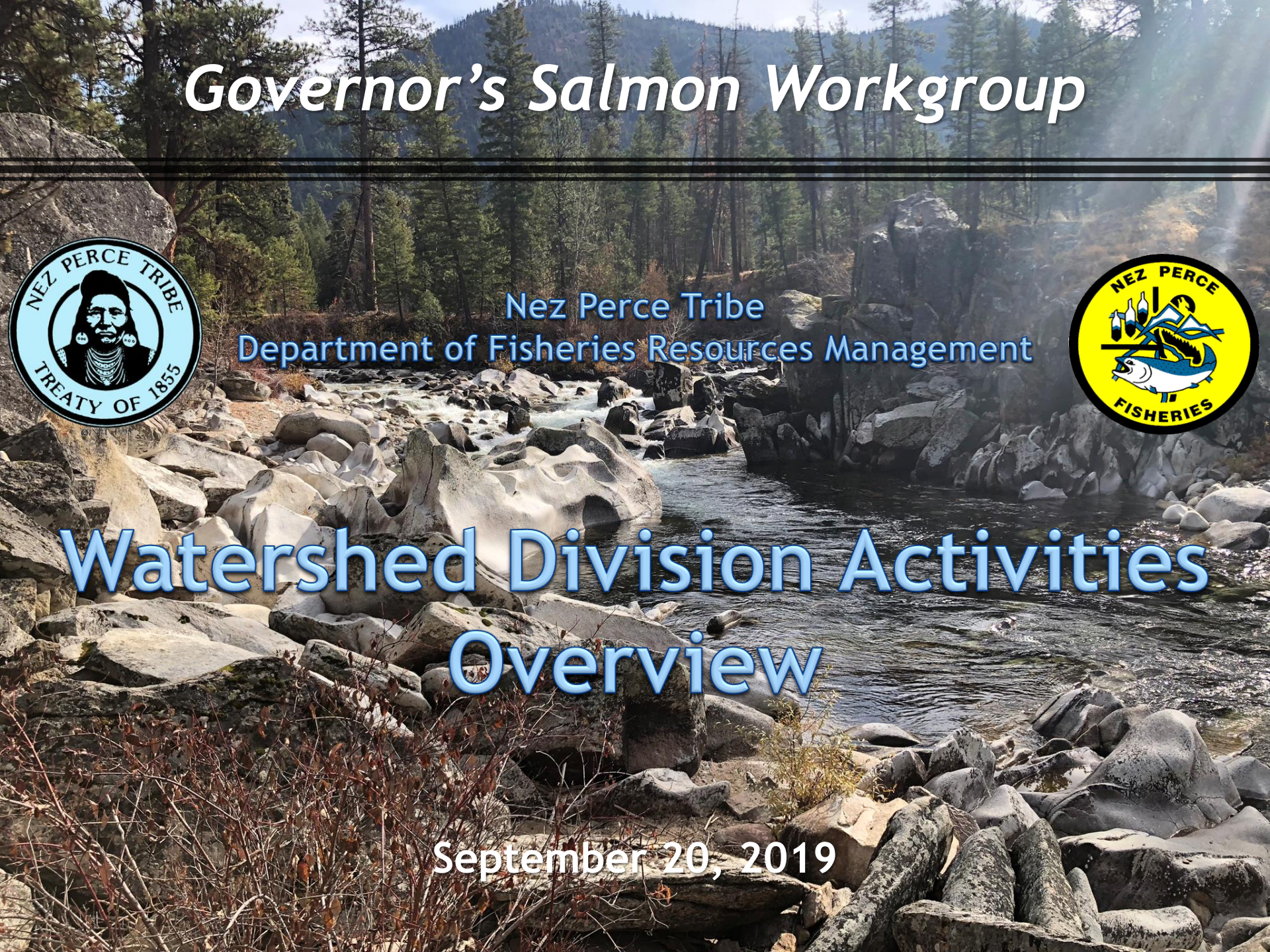


Governor's Salmon Workgroup

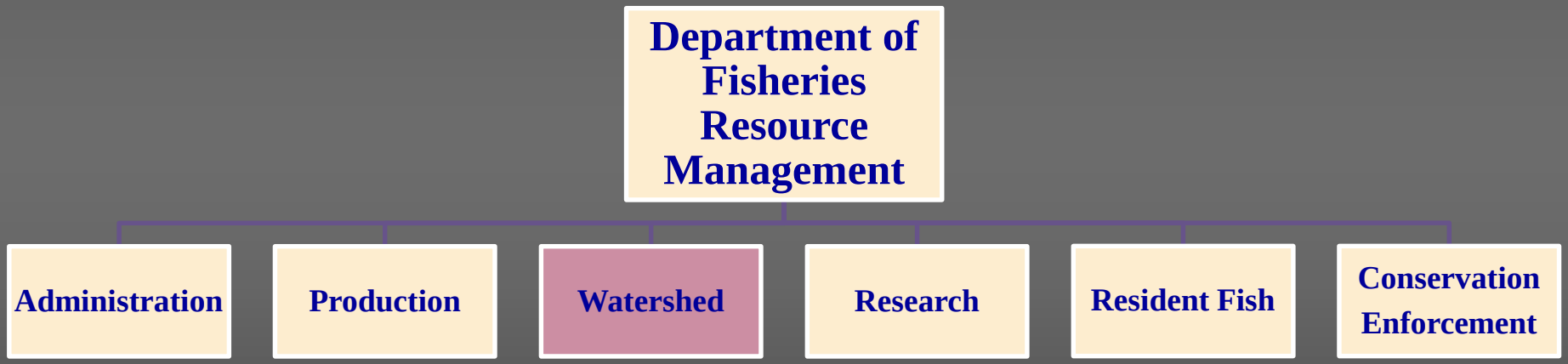
Nez Perce Tribe
Department of Fisheries Resources Management

Watershed Division Activities Overview

September 20, 2019

Nez Perce Tribe

Department of Fisheries Resources Management

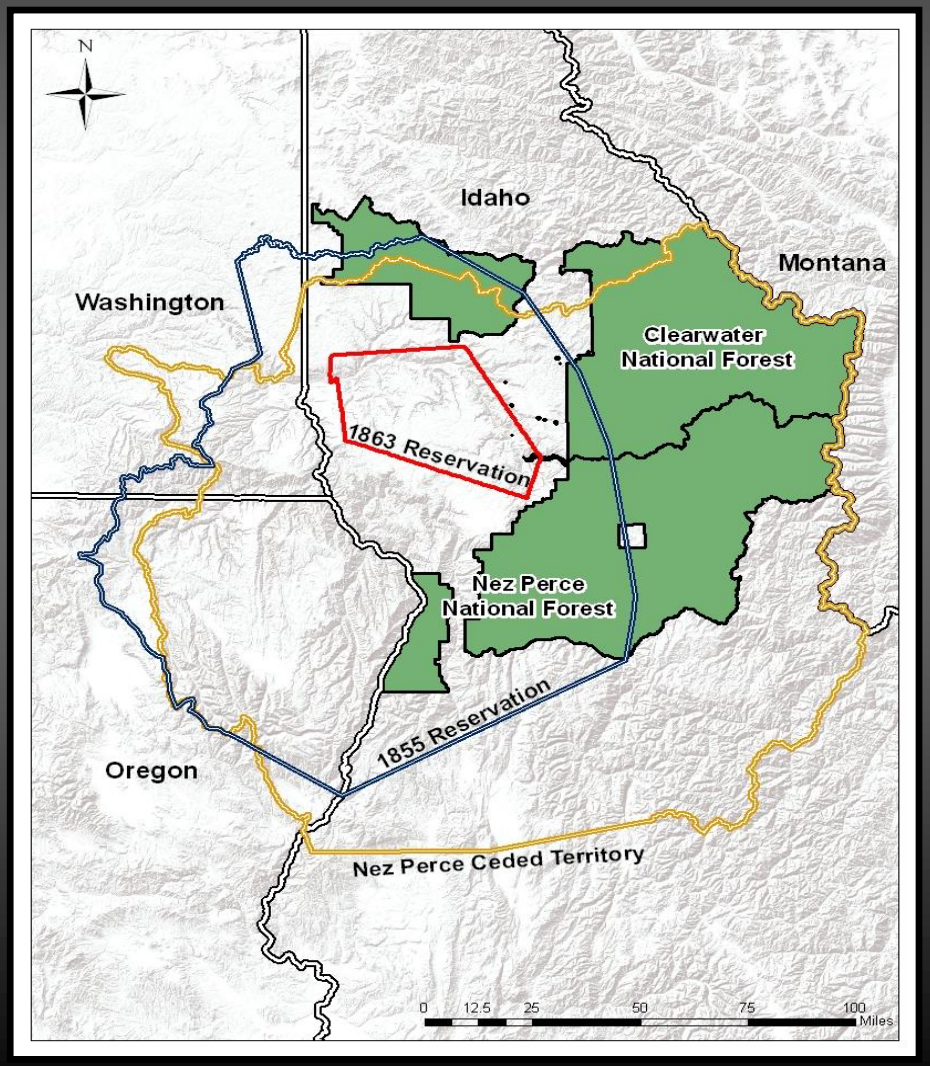


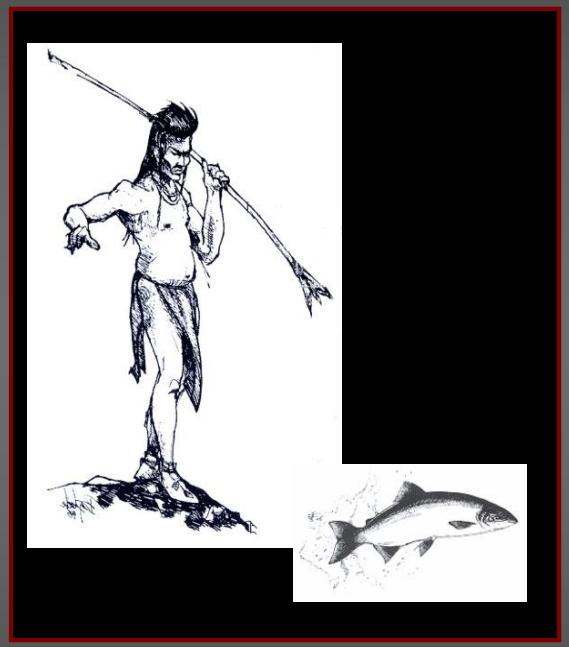
- $15.7 million DFRM program
- $6.1 million Watershed program (BPA Base Funding)

Mission Statement

The DFRM Watershed Division mission is to **protect** and **restore watersheds** and **fisheries resources** throughout Nez Perce Territory, which are **critical for future generations**. This work has its roots in protecting tribal sovereignty and treaty rights reserved under the Treaty of 1855. These activities are accomplished using a **holistic approach**, which encompasses entire watersheds, **ridge-top to ridge-top**, emphasizing all cultural aspects.

Nez Perce Tribe Territory / Restoration Focus Area



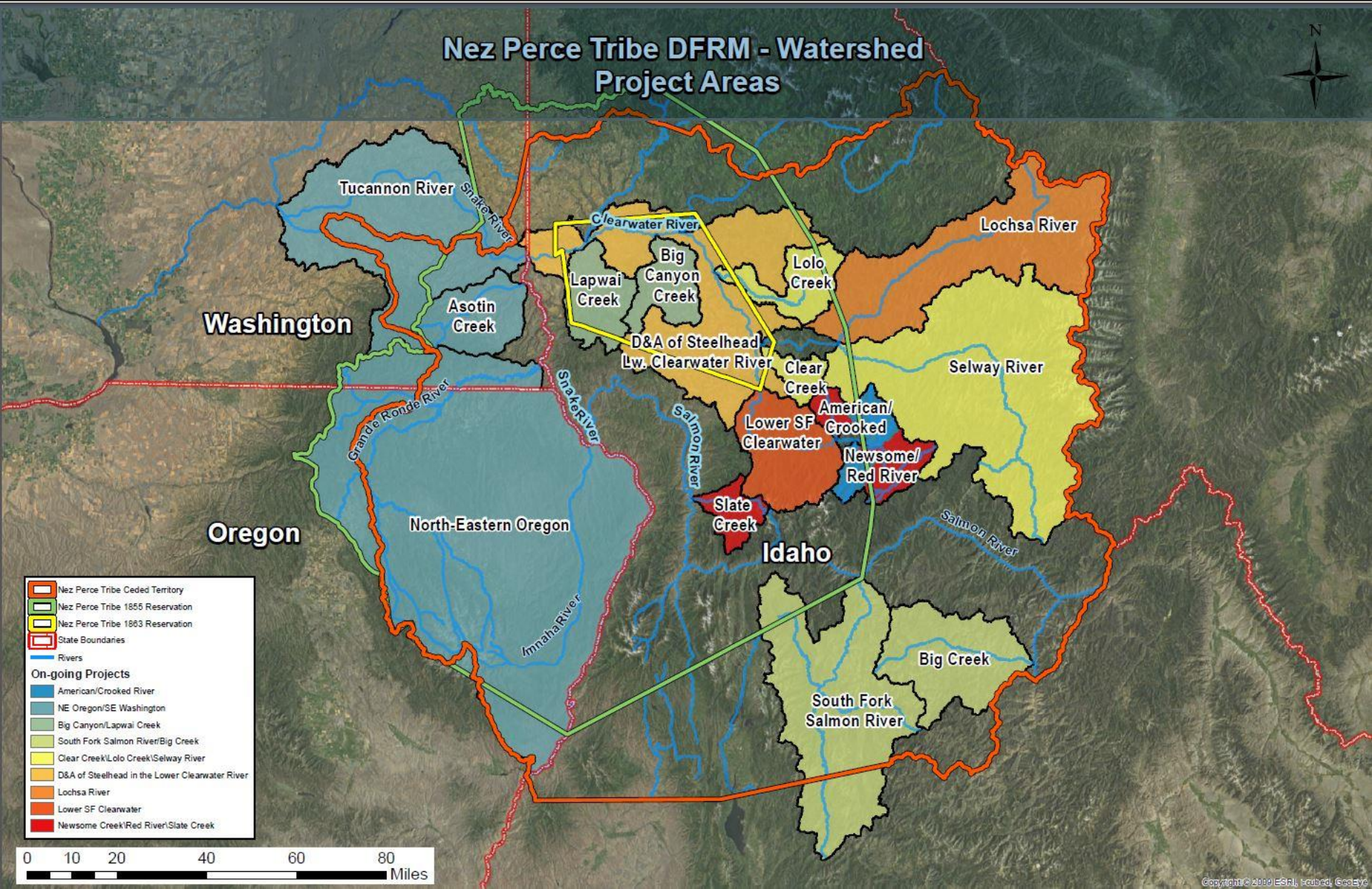


- 13.3 Million Acres
- 3 States
- 6 National Forests

How we choose where we do Watershed Restoration

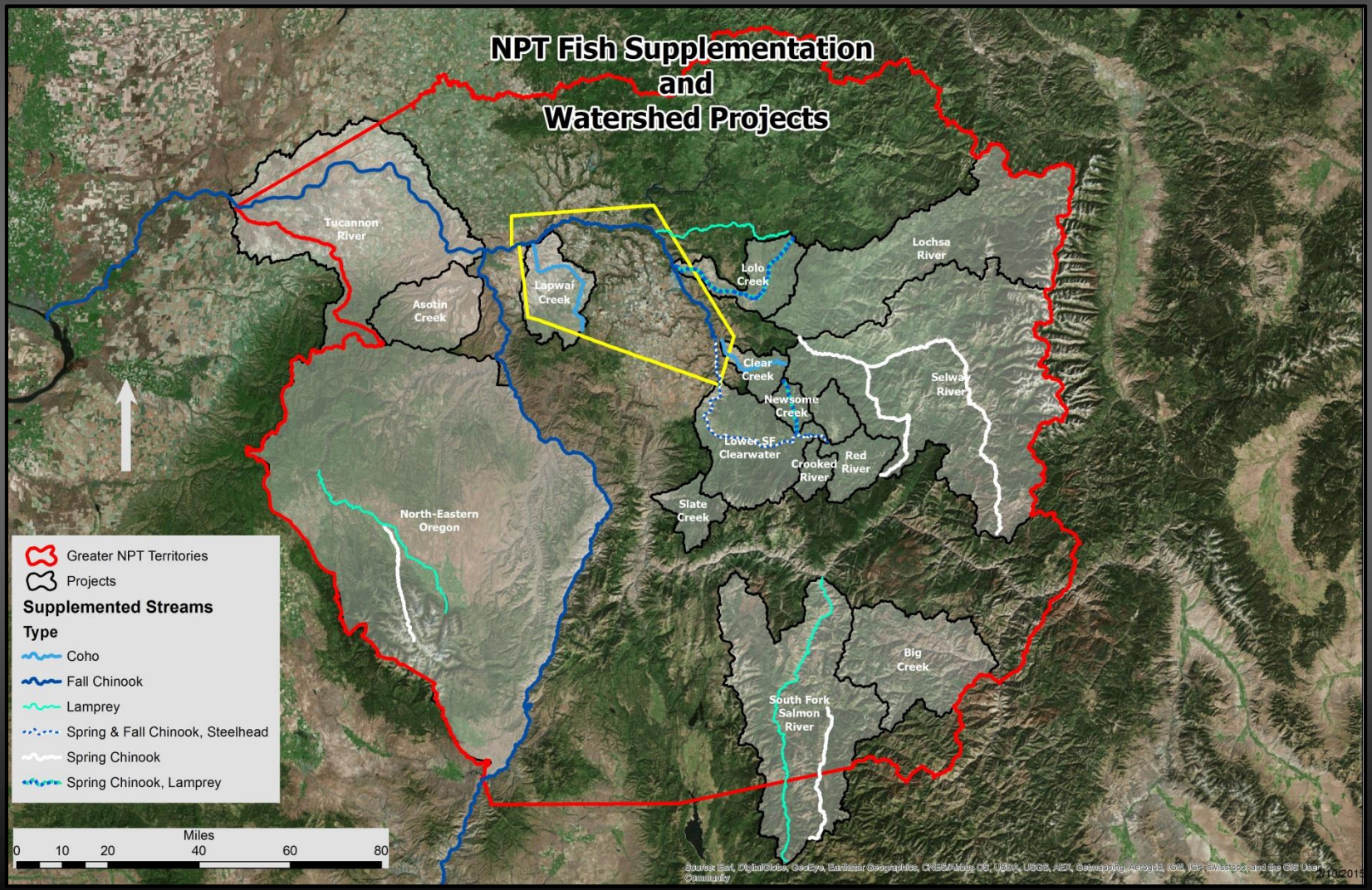
- Priorities Areas for the Tribe
  - DFRM Management Plan
- FCRPS BiOp / ESA Recovery Plans
- Once a Watershed or Population is Chosen for Fish Recovery
  - Independent of Out-of-Basin Factors need:
    - *Healthy Habitat*
    - *Supplementation*
    - *Monitoring and Evaluation (Fish and Habitat)*

Current Project Watersheds



Nez Perce Tribe
Department of Fisheries Resources Management
Watershed Division

Supplementation and Habitat Restoration Working Together



How we choose what Watershed Restoration Actions to Implement

- Watershed Assessments
- FCRPS BiOp Expert Panel Process
- Atlas
- Limiting Factors Analysis
- On-the-ground Knowledge

Clearwater River-Steelhead

Population	Assessment Unit (AU)	Primary Limiting Factor(s) (PLF) by AU	2010	2011	2012
			Metric	Metric	Metric
SF Clearwater	Meadow Creek	Lack of passage	6.8 miles of stream access gained as a result of culvert removal from the False Creek II Soil Restoration; Farris Creek Culvert Replacement 0.6 miles access	N/A	Outyear Culvert Replacement - 2.0 miles of stream access returned estimated.
SF Clearwater	Meadow Creek	Habitat Complexity	Planting - 1.0 riparian stream mile	Planting - 1.0 riparian stream mile	Planting - 1.0 riparian stream mile
SF Clearwater	Meadow Creek	Temperature	Planting - 1.0 riparian stream mile; Upland Native Vegetation Restoration - 10 acres.	Planting - 1.0 riparian stream mile; Upland Native Vegetation Restoration - 50 acres.	Planting - 1.0 riparian stream mile; Upland Native Vegetation Restoration - 50 acres.
SF Clearwater	Meadow Creek	Sediment	False Creek II Soil Restoration - 18.0 miles; Riparian/Weed Treatment - 10 acres.	North Meadow Soil Restoration - 8.0 miles; Riparian/Weed Treatment - 10 acres.	Meadow Face III Decommissioning - 14.0 miles; Riparian/Weed Treatment - 10 acres.
SF Clearwater	Mill Creek	Lack of passage	Mill Creek Bridge #3 Replacement - 2.0 miles of stream access returned.	Hunt Culvert Replacement - 2.2 miles of stream access returned.	N/A
SF Clearwater	Mill Creek	habitat complexity	Planting - 1.0 riparian stream mile; some LWD placement in-stream.	Planting - 1.0 riparian stream mile	Planting - 1.0 riparian stream mile
SF Clearwater	Mill Creek	Temperature	Planting - 1.0 riparian stream mile	Planting - 1.0 riparian stream mile	Planting - 1.0 riparian stream mile
SF Clearwater	Mill Creek	Sediment	Riparian/Weed Treatment 10 acres;	Mill Creek Riparian/Weed	Lower Mill Creek Road

Watershed / Fish Habitat Project Activities

- Watershed Assessments
- NEPA / ESA Consultation
- Road/Trail Improvement & Decommissioning
- Fish Passage Improvement (e.g., Culvert Replacement)
- Riparian Restoration and Fencing
- Off-site Livestock Watering Systems
- Stream Channel Restoration and Bank Stabilization
- Beaver Dam Analogs (BDA) / Post Assisted Log Structures (PALS)
- Watershed Monitoring (e.g., water quality, vegetation, etc.)
- Weed Inventory and Treatment
- Outreach and Education

A Holistic Restoration Approach

Ridge-top to Ridge-top

Partnerships

CRITICALLY IMPORTANT !!!

- Relationship Building
- Collaborative Prioritization
- Formal Agreements
- Cost-Share
- Co-implementation

- Regional
  - Bonneville Power Administration
  - Northwest Power and Conservation Council
  - Columbia River Inter-Tribal Fish Commission
- SE Washington
  - Snake River Salmon Recovery Board
  - Umatilla National Forest
  - Asotin/Columbia Conservation Districts
  - Private Landowners
  - Washington Department of Fish and Wildlife
- NE Oregon
  - Freshwater Trust
  - Grande Ronde Model Watershed
  - Wallowa Resources
  - Wallowa-Whitman National Forests
  - Natural Resource Advisory Committee
  - Private Landowners
  - Oregon Department of Fish and Wildlife
- Clearwater River
  - NP-Clearwater National Forests
  - NP Soil Water Conservation District
  - Idaho Department of Transportation
  - Bureau of Land Management
  - Nez Perce Tribe
  - Idaho Office of Species Conservation
- Salmon River
  - NOAA/USFWS
  - Payette/Boise National Forest
  - Private Landowners (two conservation easements)
  - Idaho Fish and Game
  - Rocky Mountain Elk Foundation

And many more….

S.F. Salmon River / Big Creek

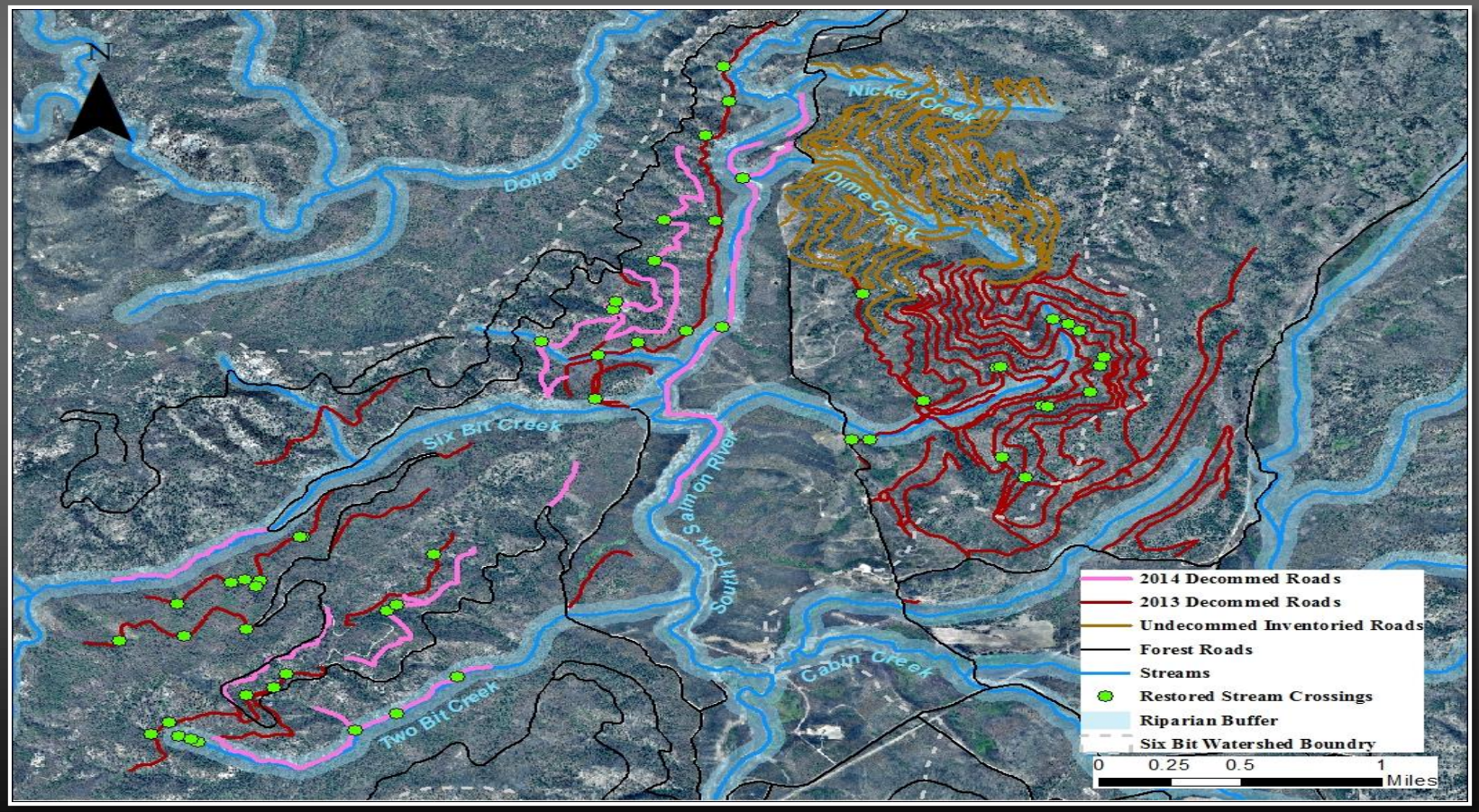
Restoration Activities

- Barrier Removal
- Meadow Restoration
- Trail Decommissioning and Rehabilitation
- Road Improvements and Decommissioning
- Dispersed Camp Site Rehabilitation
- Mining Reclamation
- Noxious Weed Treatment
- Tracking/Commenting/Engaging on Proposed Mining Activities

Partners

- Payette/Boise National Forests
- Private Landowners (two conservation easements)
- Idaho Fish and Game
- Rocky Mountain Elk Foundation
- NOAA/USFWS
- EPA/USGS

Road Decommissioning in the Upper SFSR (Boise National Forest only)

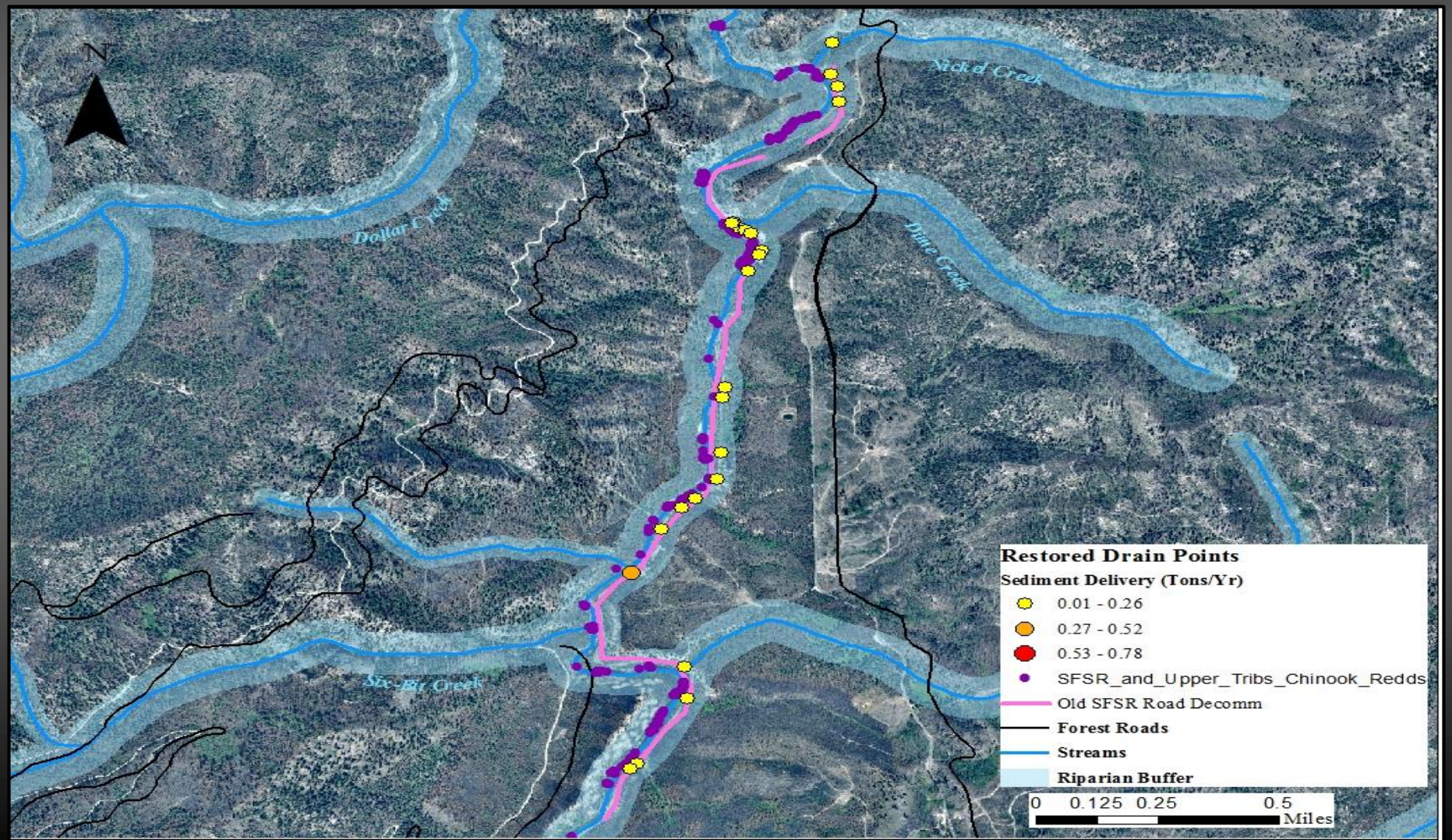


Old SFSR Road Decommissioning

This road was chosen for road decommissioning because:

- This 3 miles section of road is 100% in RCA
- Annually delivers 1.09 tons of sediment into the SFSR (GRAIP estimate)
- Sediment delivery occurred next to spawning locations

Sediment Delivery and Chinook Redds



Old SFSR Road Decommissioning

Focus Watersheds

- Lolo Creek / Selway River
- Lochsa River
- SF Clearwater River
  - Red River / Newsome Creek
  - Crooked River / American River
  - Lower SF Clearwater River
- Lapwai Creek

Clearwater River Sub-basin

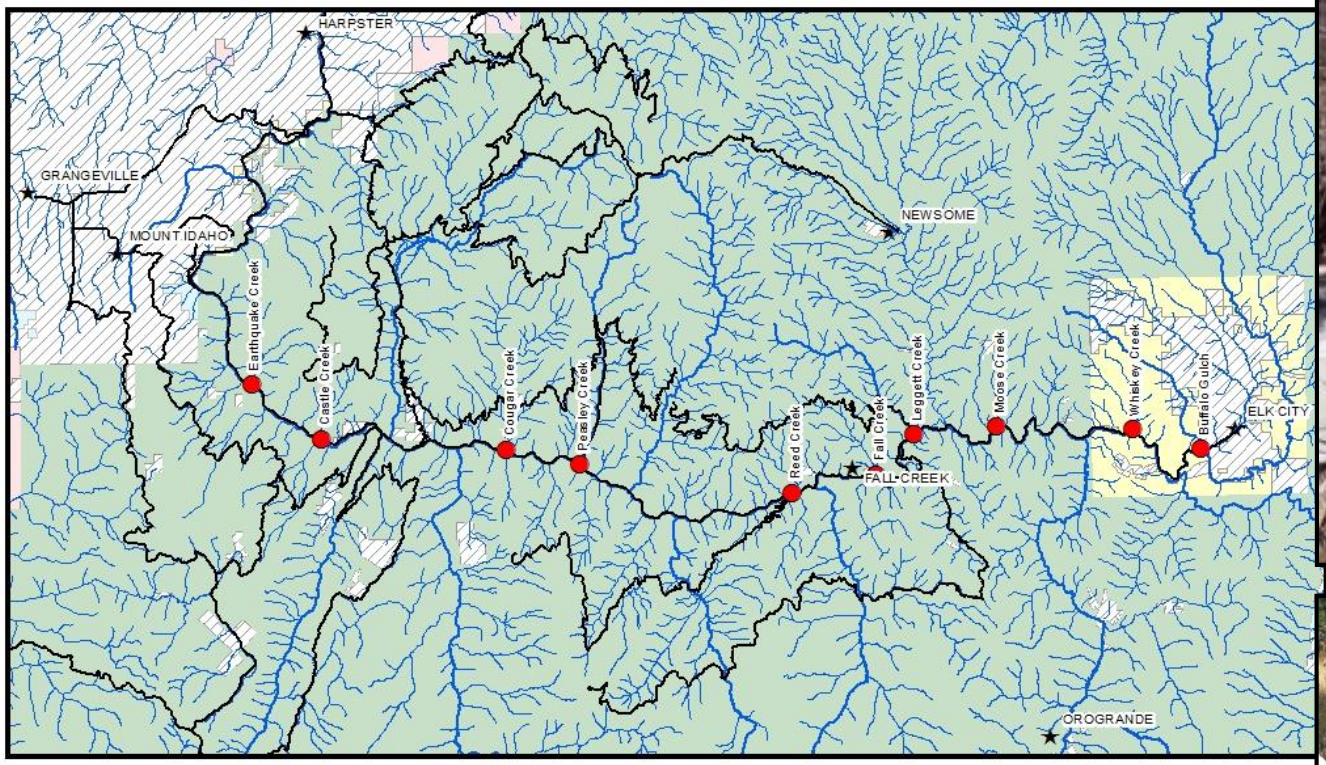
Restoration Activities

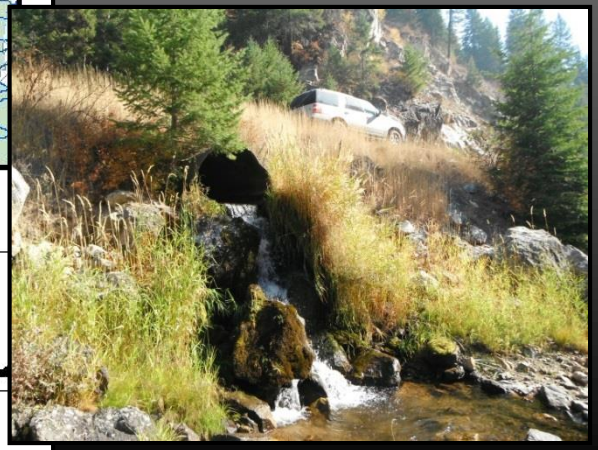
- Atlas (Lochsa and Lolo Creek)
- Barrier Removal
- Complete Stream Reconstruction
- Meadow Restoration
- Beaver Dam Analogs (BDA's) / Post Assisted Log Structures PALS)
- Road Improvements and Decommissioning
- Mining Reclamation
- Noxious Weed Treatment
- Tracking/Commenting/ Engaging on Proposed NEPA Activities

Partners

- Nez Perce-Clearwater National Forests
- Bitterroot National Forest
- Trout Unlimited
- Idaho Department of Transportation
- Bureau of Land Management
- Idaho Office of Species Conservation
- Soil and Water Conservation Districts
  - Nez Perce, Latah, Idaho
- Nez Perce Tribe
  - Water Resources Program, land Services Department
- Private Landowners (multiple CE's)
- Idaho Fish and Game

Highway 14 Culvert Replacements





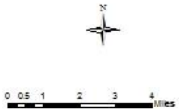
Lower South Fork Clearwater River
Restoration Project Area-
Proposed Highway 14 Culvert Replacements

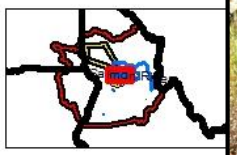
NPCNF Streams
- All streams
- Major Streams

NPCNF Roads
- Major Roads

Highway 14 Culverts
- Proposed Replacements

Ownership
- BLM
- HSTRCWTR
- IR
- NPS
- PRIVATE
- STATE
- STATEFG
- STATEOTH
- USFS





Highway 14 Culvert Replacements

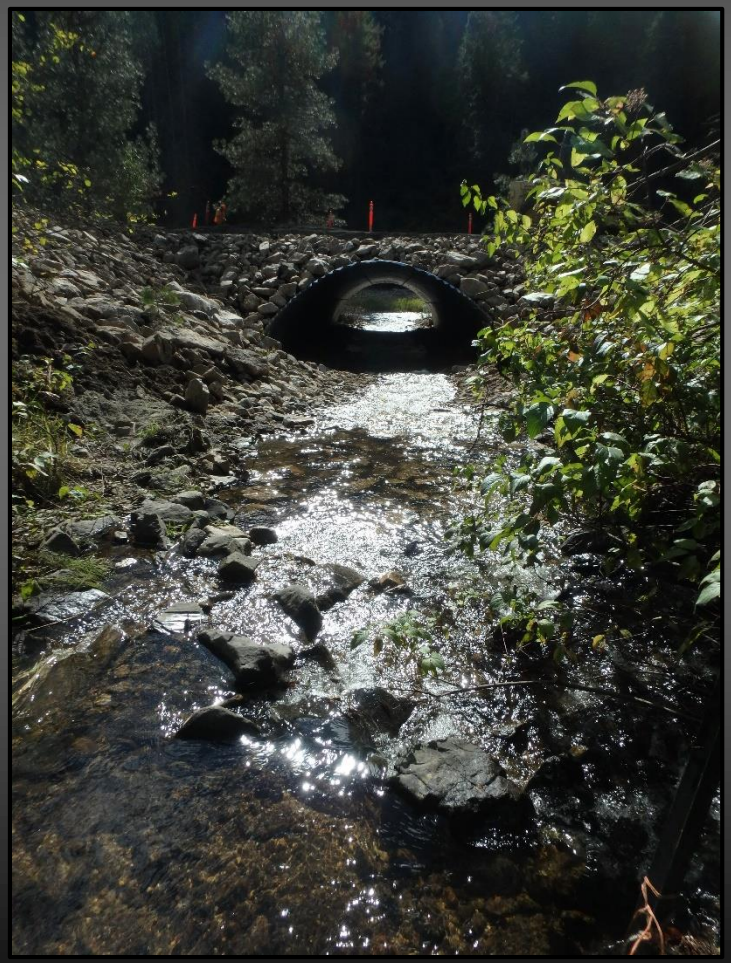
- Partnership agreements are being prepared outlining responsibilities of the NPT, ITD, and the USFS
- 3 culverts have been prioritized for the first effort
- ITD will take lead with surveys and designs with NPT and USFS review and oversight
- Implementation of the Leggett and Moose Creek culvert replacements will occur in 2016/2017 as funding allows (BPA and additional grant funding required)

Leggett Creek
Smashed Inlet

Moose Creek
1 foot outlet drop

Highway 14 Culvert Replacements

Peasley Creek



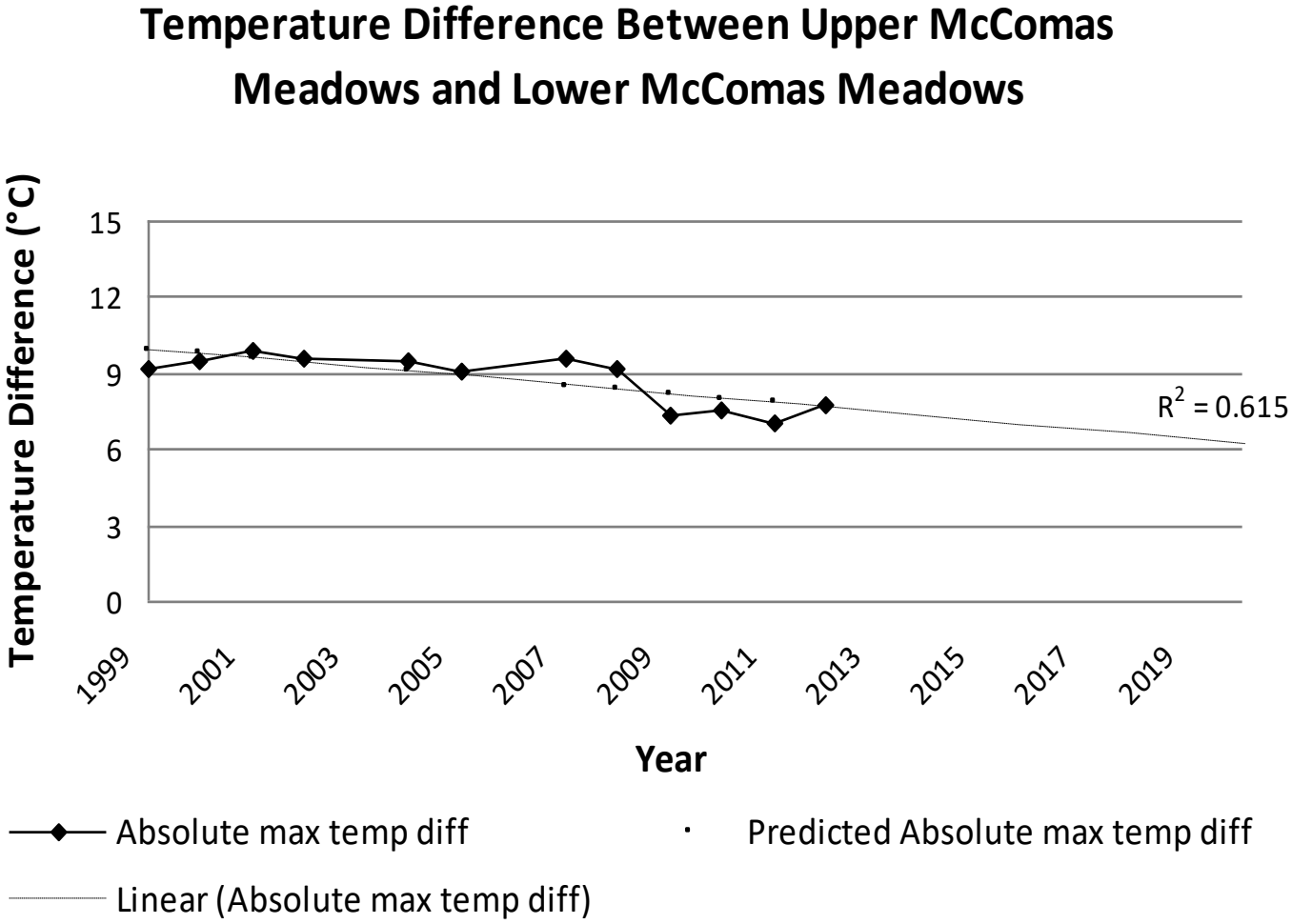
McComas Meadows Restoration

McComas Meadows Restoration

McComas Meadows Restoration

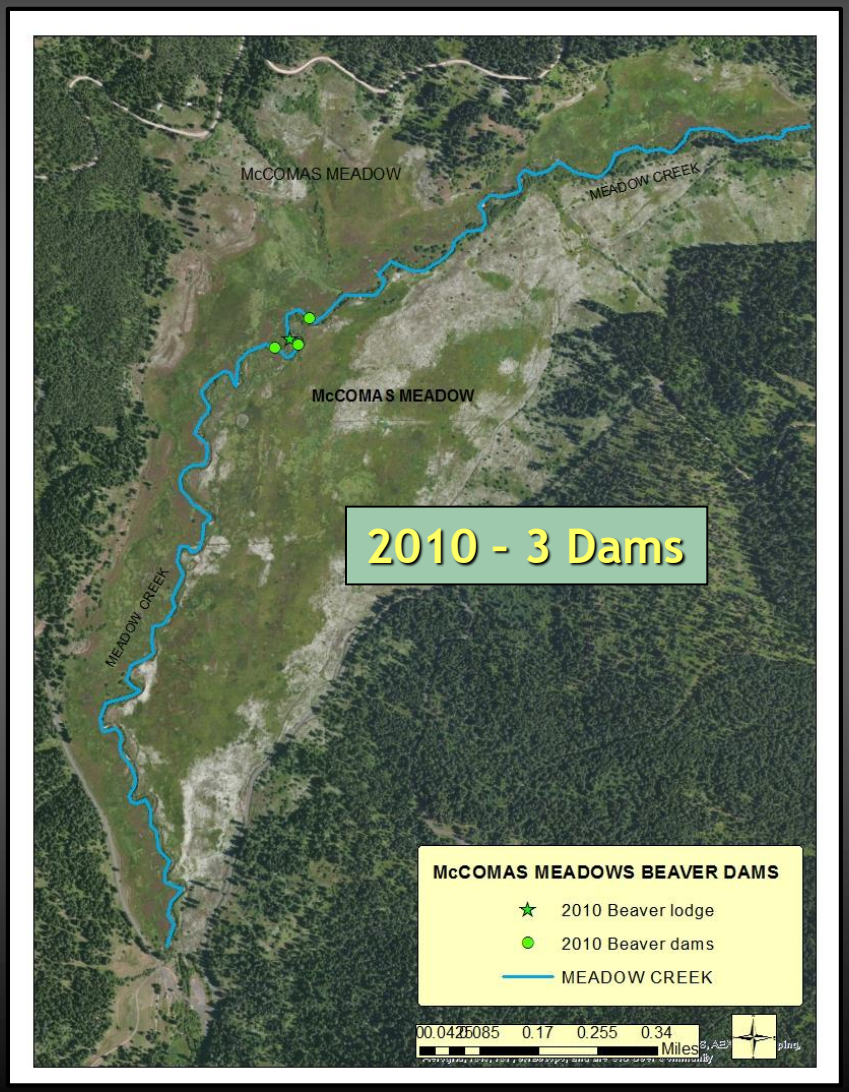
- 7 miles fence installed & maintained
- 5.9 miles of streambank in sensitive meadow protected
- Planted 75,000 native trees and shrubs
- 388 Acres invasive weed treatment

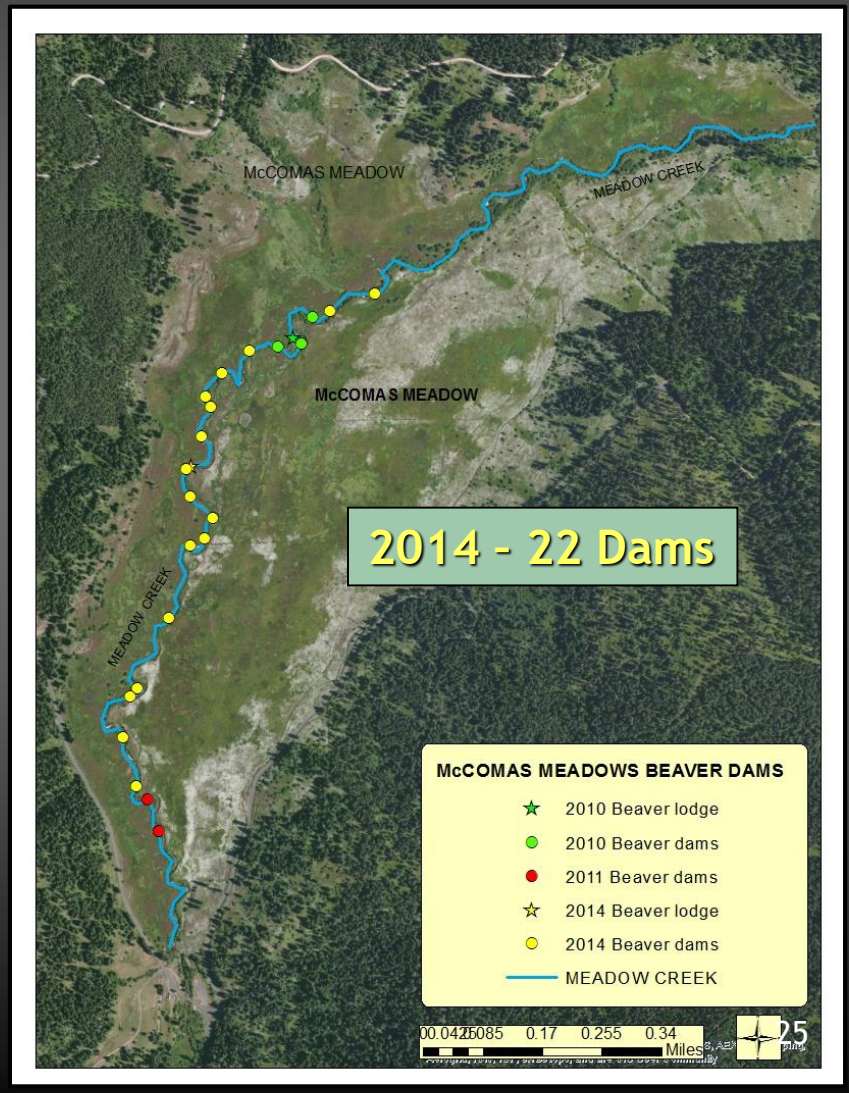
Temperature Data



Meadow Creek - S.F. Clearwater River

Beaver Dams





Beaver Dams

Newsome Creek Floodplain Restoration

Newsome Creek Floodplain Restoration

- Excavation of enough material key in establishing frequency of inundation

Observed Benefits

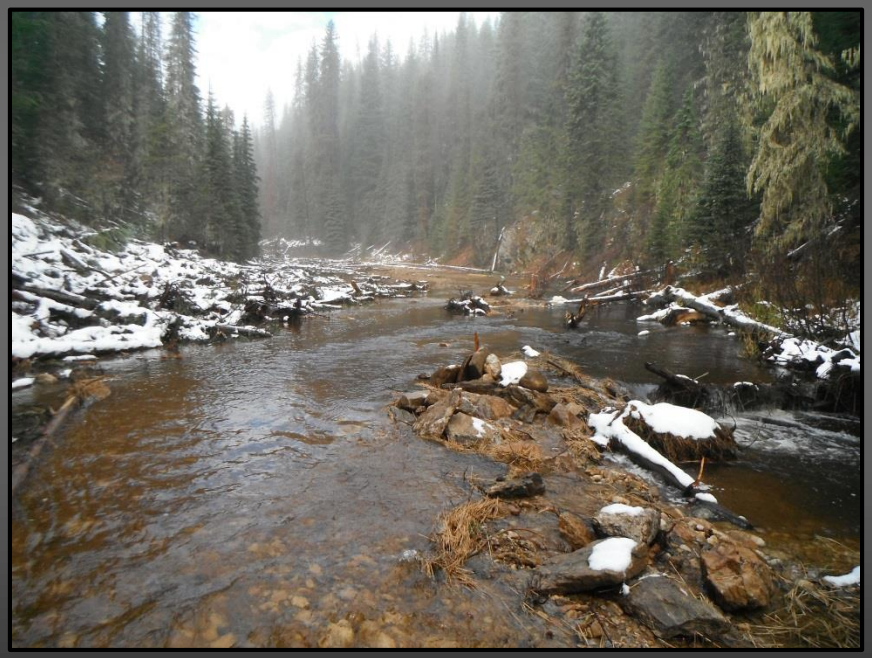
- Increased habitat features due to LWD

Observed Benefits

- Increased side channels - both physically constructed and natural floodplain scour

Observed Benefits

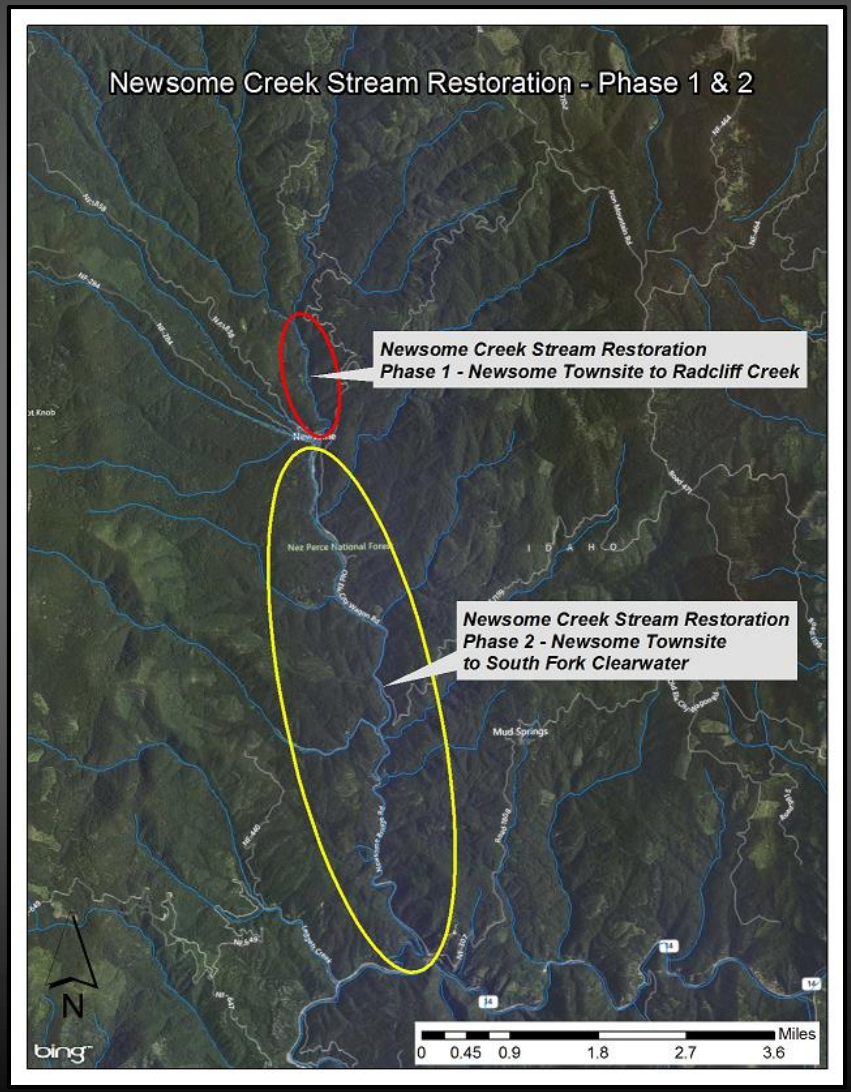
Floodplain Connectivity



Floodplain connection now allowing for spawning gravel recruitment and sorting.

Future Restoration Work

- Road restoration
  - 74 miles of road decommissioning
  - 95 miles of road improvement
- Addressing Newsome Creek from the Townsite to the mouth (7 miles)



Culvert Replacement

(100+ miles of habitat returned)

American River - S.F. Clearwater River

American River Culvert 2014
Elk City, Idaho

Jenifer Harris
DFRM Watershed Division
Nez Perce Tribe

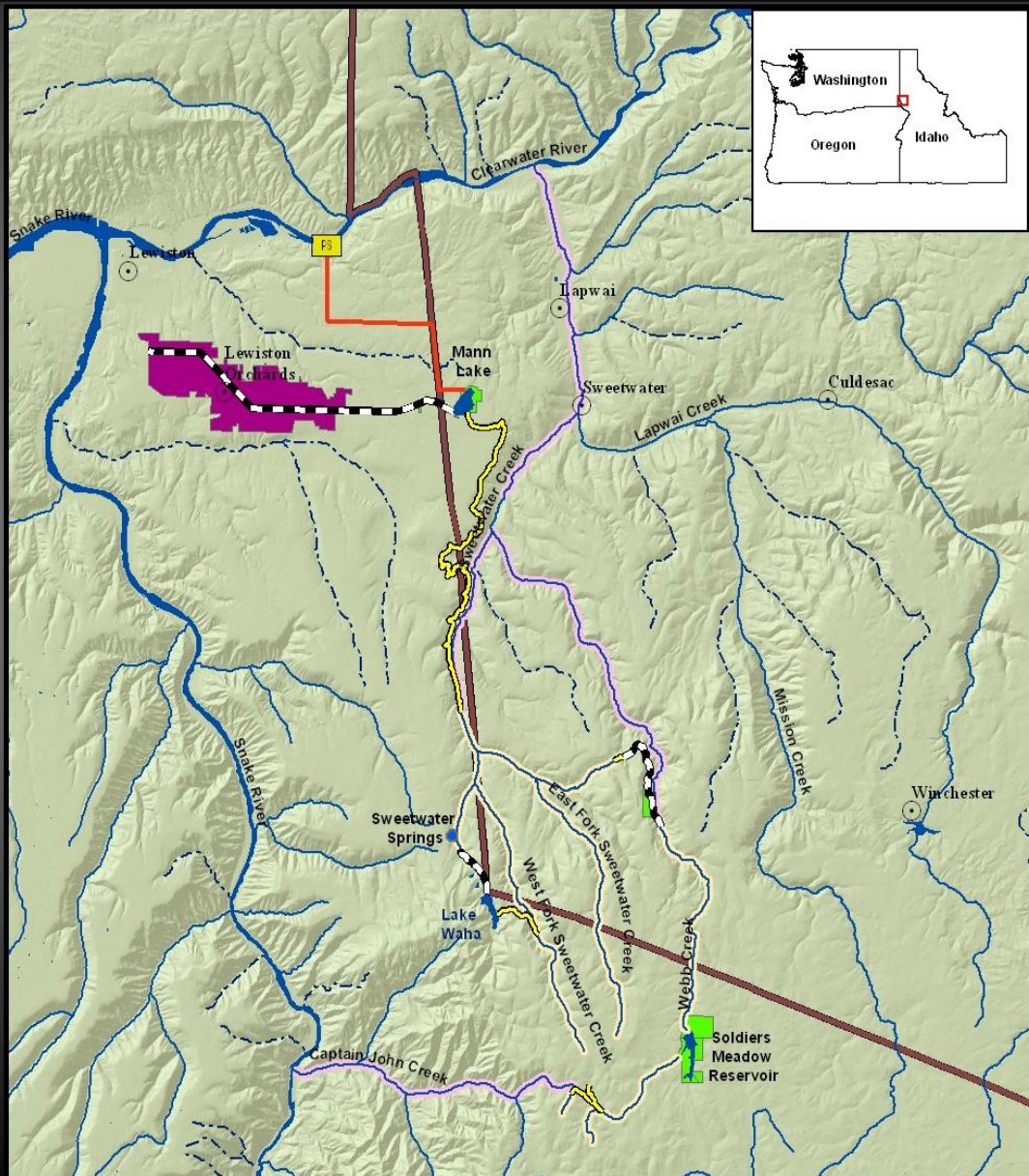
Lapwai Creek – Lower Clearwater Exchange Project

Lewiston Orchards Project

- Owned by Bureau of Reclamation
- Managed by the Lewiston Orchards Irrigation District
- Land owned by the Nez Perce Tribe
- 3 diversions and 1 pumping facility

Why it is Important

- 43 miles of steelhead habitat affected
- 19 miles of steelhead habitat blocked
- Sweetwater Springs the most unique feature in the Lower Clearwater
  - Year long cold water
  - High flows



OBJECTIVES

Permanently Solve 3 Long-standing Problems

1. Inadequate water for Lewiston Orchards Irrigation District
2. Adverse effects on the Nez Perce Tribe
3. Adverse effects on ESA listed Snake River A-run Steelhead

Key Points Moving Forward

1. Pilot well #1 began operation in 2017 resulting in 4.5 cfs added to BiOp minimum flows
2. Well #2 to be online in 2020/2012
3. Securing funding to construct remaining 2 wells
4. Key to climate change and providing cold water refugia

Lapwai Creek – Lower Clearwater Exchange Project

MOU Partners

- Lewiston Orchards Irrigation District
- Bureau of Reclamation
- Bureau of Indian Affairs
- Nez Perce Tribe
- City of Lewiston
- Lewis Clark Valley Chamber of Commerce
- Nez Perce County

Active Participants

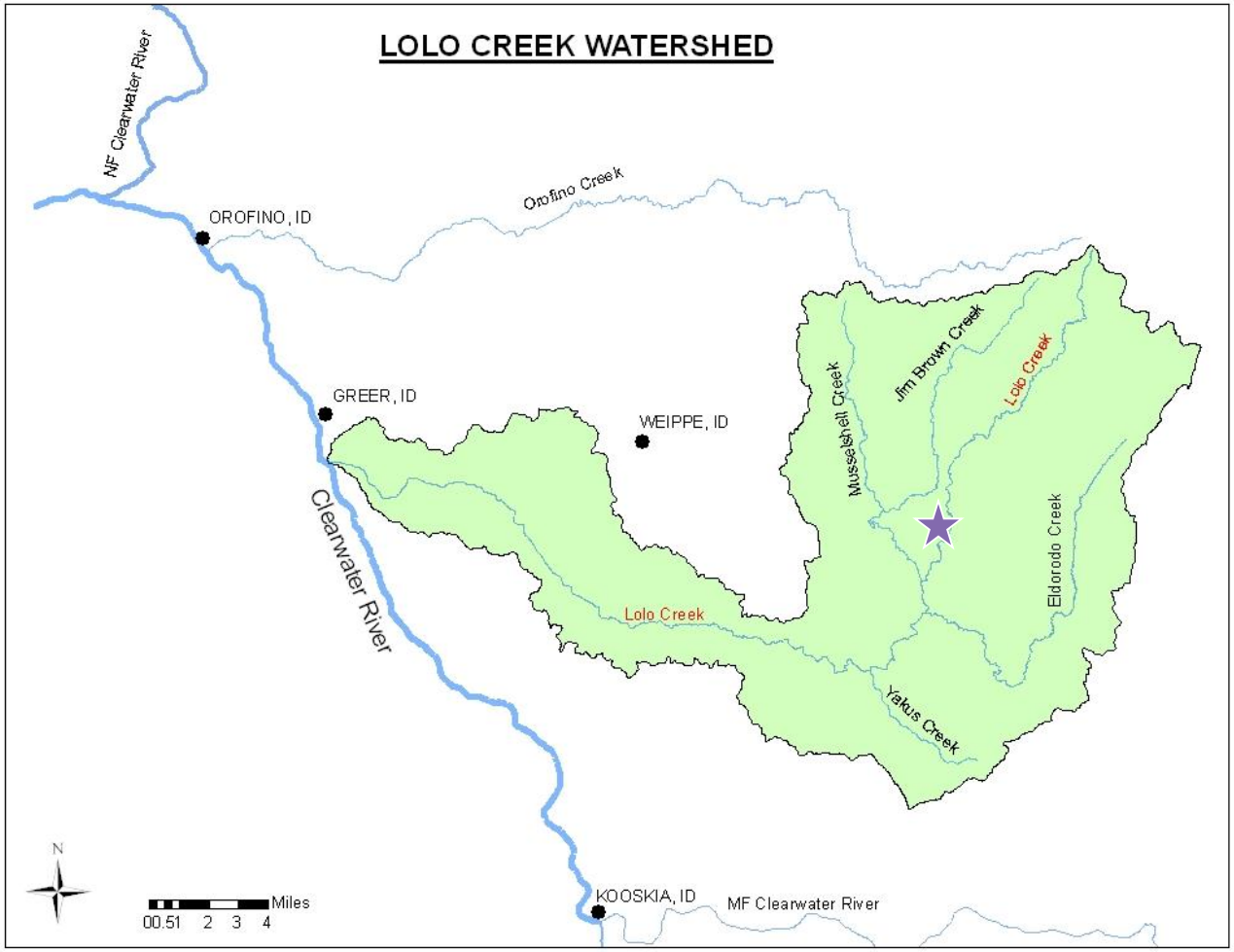
- Senator Crapo
- Senator Risch
- Congressman Fulcher

Formal Letter of Support

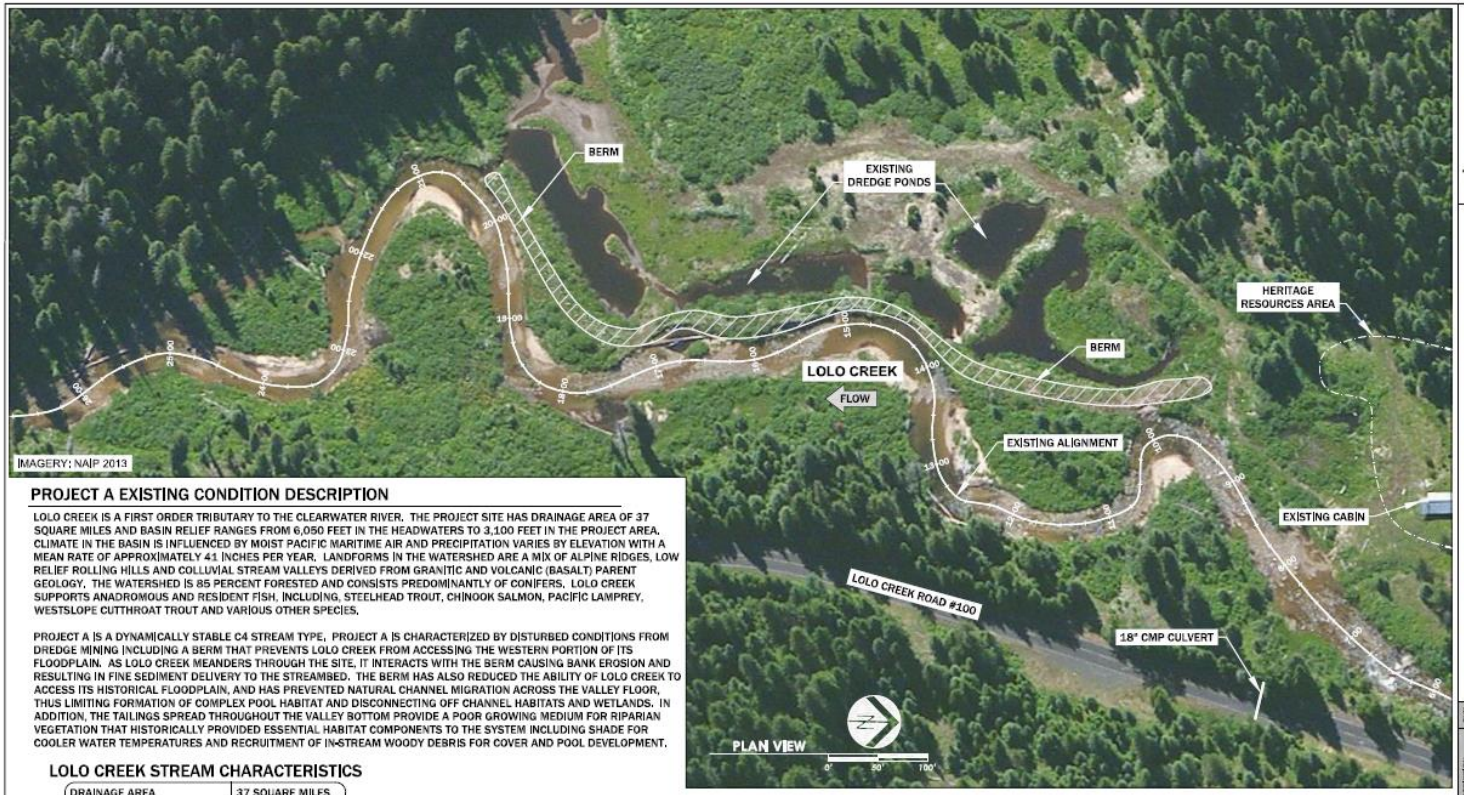
- Governor Otter
- University of Idaho Waters of the West Program
- NOAA Fisheries Northwest Region
- Columbia River Inter-Tribal Fish Commission
- Trout Unlimited

A collaborative, consensus-based effort…

Colette Mine Floodplain Restoration



Colette Mine - Existing Conditions



PROJECT A EXISTING CONDITION DESCRIPTION

LOLO CREEK IS A FIRST ORDER TRIBUTARY TO THE CLEARWATER RIVER. THE PROJECT SITE HAS DRAINAGE AREA OF 37 SQUARE MILES AND BASIN RELIEF RANGES FROM 6,050 FEET IN THE HEADWATERS TO 3,100 FEET IN THE PROJECT AREA. CLIMATE IN THE BASIN IS INFLUENCED BY MOIST PACIFIC MARITIME AIR AND PRECIPITATION VARIES BY ELEVATION WITH A MEAN RATE OF APPROXIMATELY 41 INCHES PER YEAR. LANDFORMS IN THE WATERSHED ARE A MIX OF ALPINE RIDGES, LOW RELIEF ROLLING HILLS AND COLLUVIAL STREAM VALLEYS DERIVED FROM GRANITIC AND VOLCANIC (BASALT) PARENT GEOLOGY. THE WATERSHED IS 85 PERCENT FORESTED AND CONSISTS PREDOMINANTLY OF CONIFERS. LOLO CREEK SUPPORTS ANADROMOUS AND RESIDENT FISH, INCLUDING, STEELHEAD TROUT, CHINOOK SALMON, PACIFIC LAMPREY, WESTSLOPE CUTTHROAT TROUT AND VARIOUS OTHER SPECIES.

PROJECT A IS A DYNAMICALLY STABLE C4 STREAM TYPE, PROJECT A IS CHARACTERIZED BY DISTURBED CONDITIONS FROM DREDGE MINING INCLUDING A BERM THAT PREVENTS LOLO CREEK FROM ACCESSING THE WESTERN PORTION OF ITS FLOODPLAIN. AS LOLO CREEK MEANDERS THROUGH THE SITE, IT INTERACTS WITH THE BERM CAUSING BANK EROSION AND RESULTING IN FINE SEDIMENT DELIVERY TO THE STREAMBED. THE BERM HAS ALSO REDUCED THE ABILITY OF LOLO CREEK TO ACCESS ITS HISTORICAL FLOODPLAIN, AND HAS PREVENTED NATURAL CHANNEL MIGRATION ACROSS THE VALLEY FLOOR, THUS LIMITING FORMATION OF COMPLEX POOL HABITAT AND DISCONNECTING OFF CHANNEL HABITATS AND WETLANDS. IN ADDITION, THE TAILINGS SPREAD THROUGHOUT THE VALLEY BOTTOM PROVIDE A POOR GROWING MEDIUM FOR RIPARIAN VEGETATION THAT HISTORICALLY PROVIDED ESSENTIAL HABITAT COMPONENTS TO THE SYSTEM INCLUDING SHADE FOR COOLER WATER TEMPERATURES AND RECRUITMENT OF IN-STREAM WOODY DEBRIS FOR COVER AND POOL DEVELOPMENT.

LOLO CREEK STREAM CHARACTERISTICS

DRAINAGE AREA	37 SQUARE MILES
MEAN ANNUAL PRECIPITATION	41 INCHES
FOREST COVER	85% FORESTED
BASEFLOW DISCHARGE	5-10 CFS
BANKFULL DISCHARGE	170-215 CFS
25-YEAR DISCHARGE	
(4% EXCEEDANCE)	941-1,181 CFS
GRADIENT	0.0034 FEET/FEET
STREAMBED D50	GRAVEL
STREAMBED D84	COBBLE
EXISTING STREAM TYPE	C4
PROPOSED STREAM TYPE	C4

AQUATIC HABITAT LIMITING FACTORS

- WARM WATER TEMPERATURES
- POOR POOL QUALITY
- LACK OF COVER AND COMPLEXITY
- ALTERED CHANNEL SUBSTRATE
- INSUFFICIENT OFF-CHANNEL HABITAT

VEGETATION LIMITING FACTORS

- LOSS OF OVERBANK FLOWS (DREDGE PILES) LIMIT FLOODPLAIN HYDROLOGY RECHARGE AND STORAGE THAT PROMOTES DESIRED FLOODPLAIN VEGETATION COMMUNITIES
- LACK OF FLOODPLAIN DISTURBANCE TO INITIATE PLANT COMMUNITY SUCCESSION (DREDGE PILES)
- FLOODPLAIN MANIPULATIONS LIMIT HABITATS FOR DESIRED VEGETATION COMMUNITIES
- PHYSICAL IMPACT DUE TO GRAZING
- LOSS OF PLANT VIGOR AND REPRODUCTION DUE TO GRAZING
- COMPETITION FROM WEEDS

GEOMORPHIC LIMITING FACTORS

- ALTERED CHANNEL-FLOODPLAIN INTERACTION
- ALTERED SEDIMENT SUPPLY AND SEDIMENT TRANSPORT
- ALTERED POOL DEVELOPMENT PROCESSES

RIVER DESIGN GROUP, INC.
235 Wisconsin Avenue
Whitefish, MT 59937
ph. 406.862.2537
fx. 406.862.2538
311 SW Jefferson Avenue
Corvallis, OR 97333
ph. 541.738.8799
fx. 541.738.8799

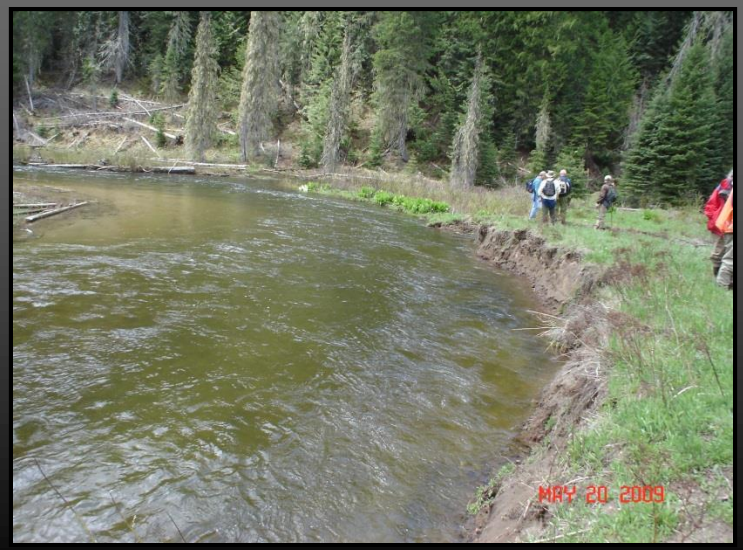
EXISTING CONDITIONS

NO.	DATE	BY	DESCRIPTION	CHK
1	7.15.14	MM	PRELIMINARY DESIGN	MD
2	8.30.14	MM	FINAL DESIGN	MD

PROJECT NUMBER
RDG-13-077

SHEET NUMBER
2.0

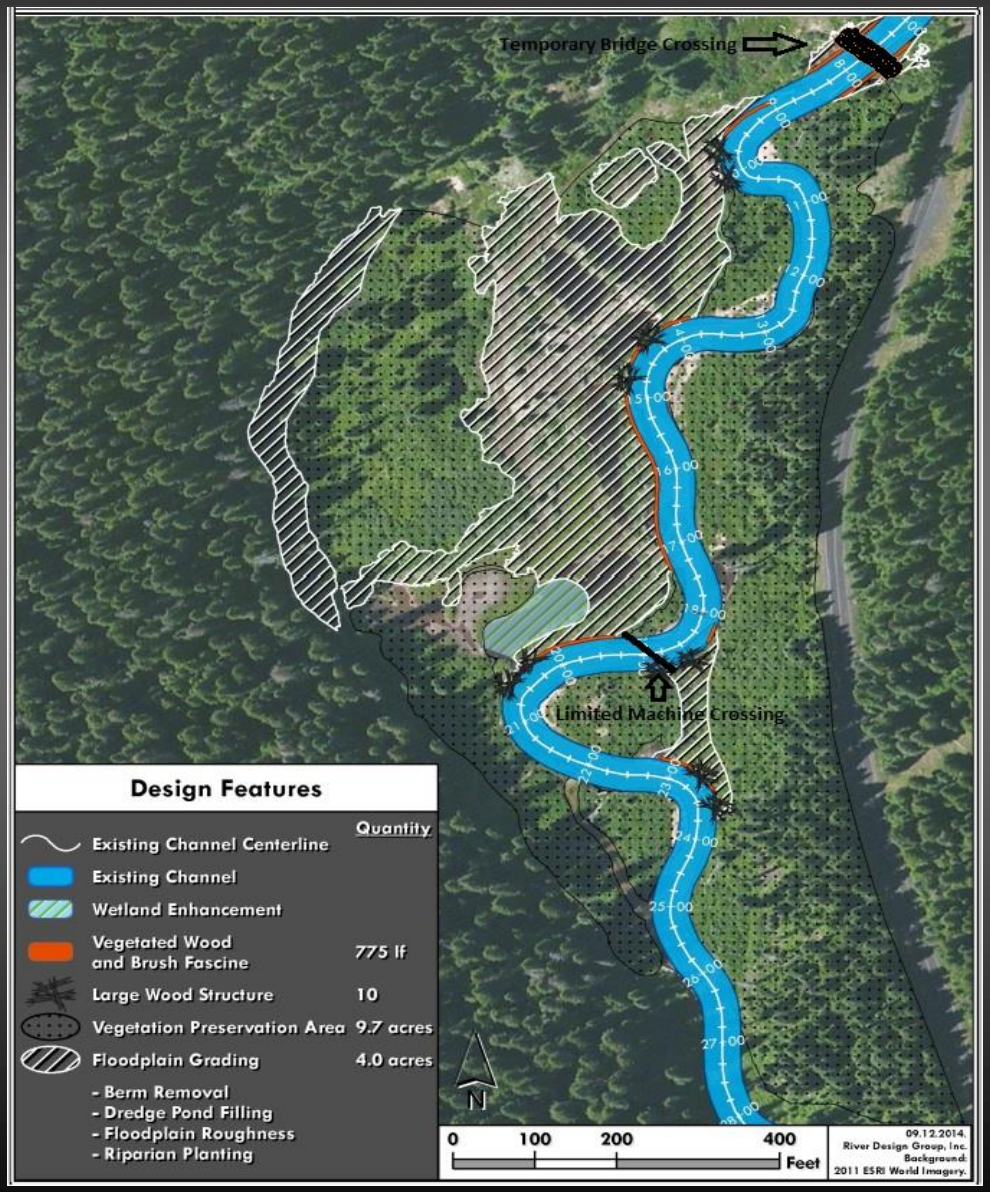
Colette Mine – Existing Conditions



Lolo Creek - Clearwater River

Colette Mine Restoration

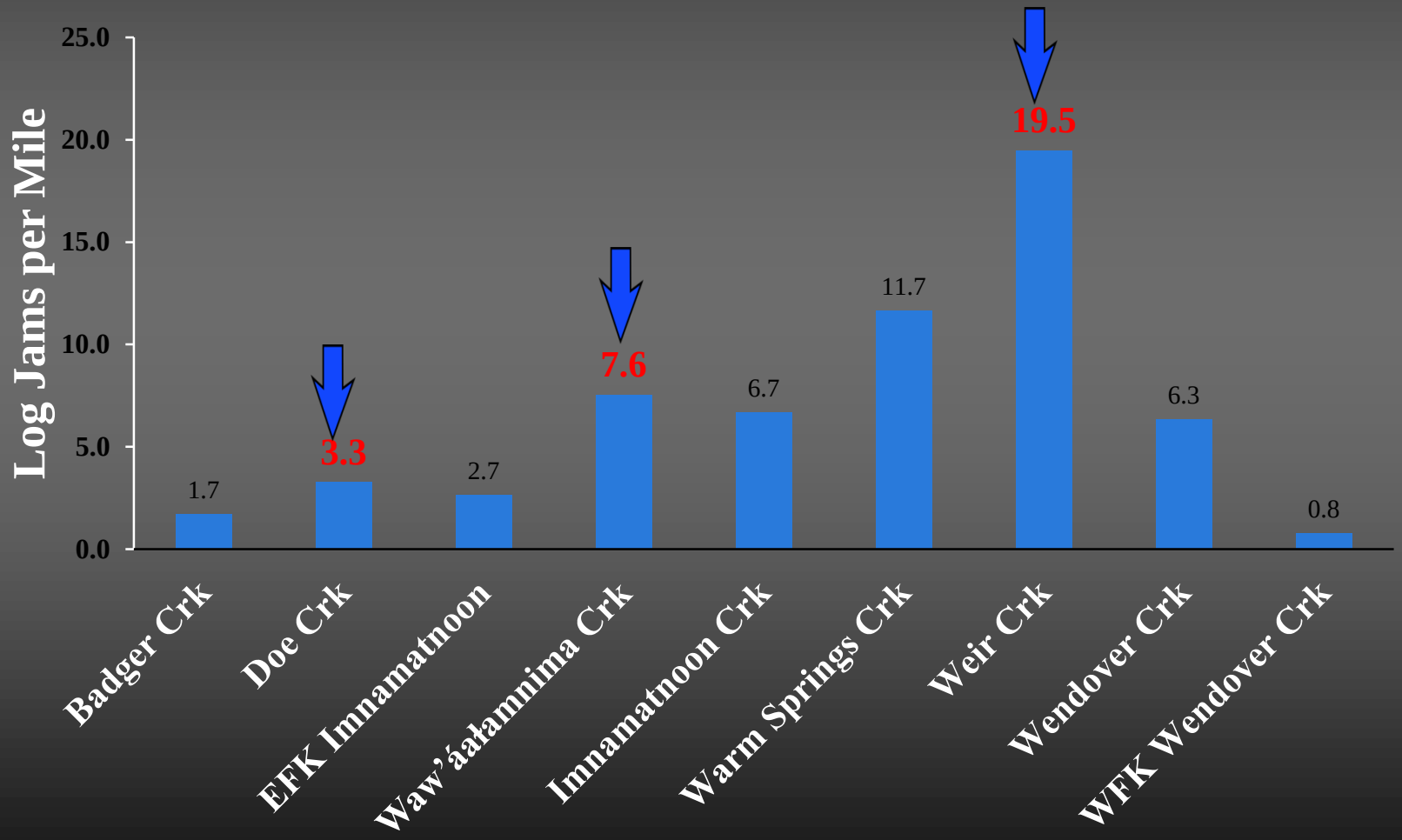
Design Features



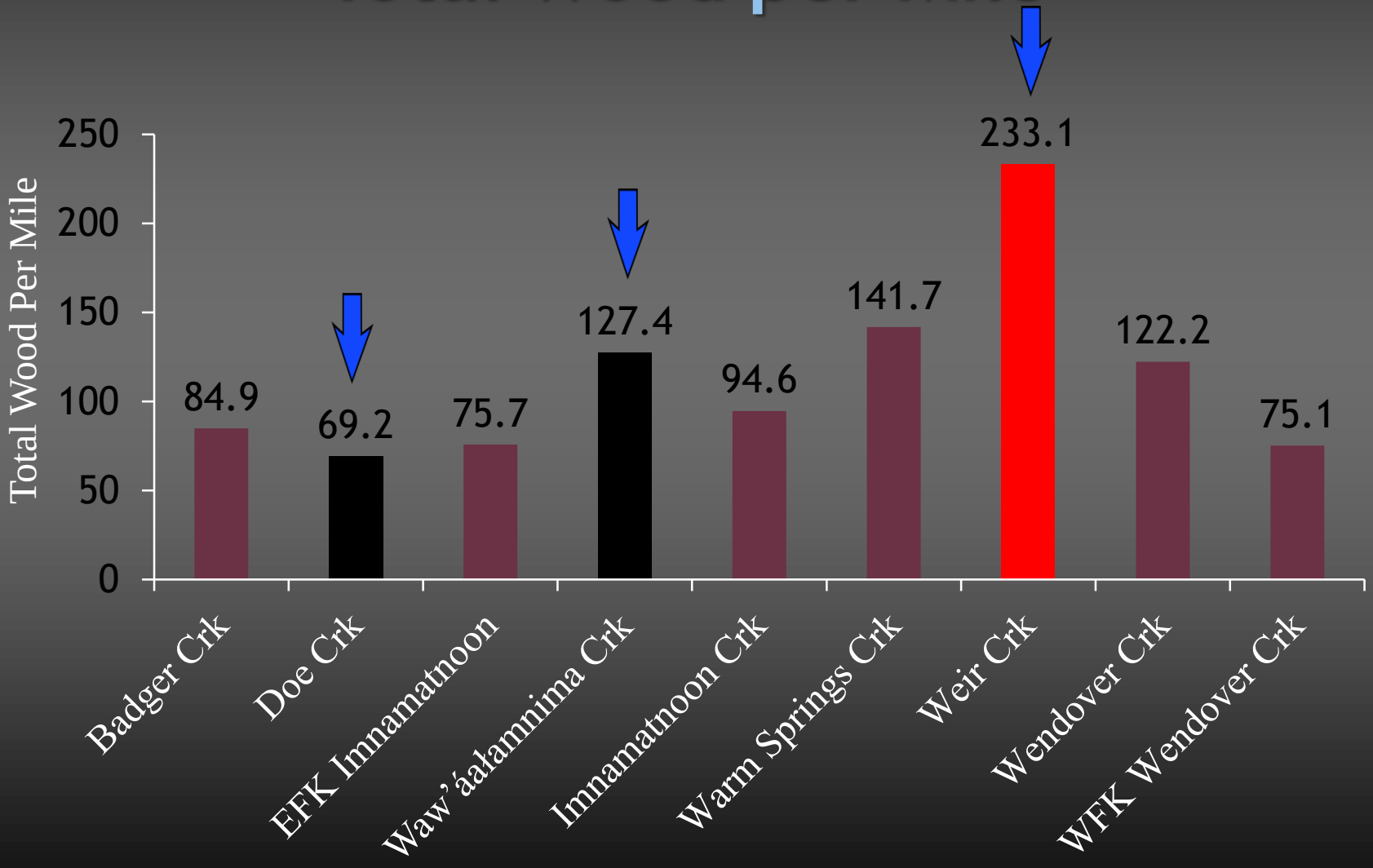
Lolo Creek - Clearwater River

Waw'aalamnima Creek - Wood Placement

Background Data - Log Jams

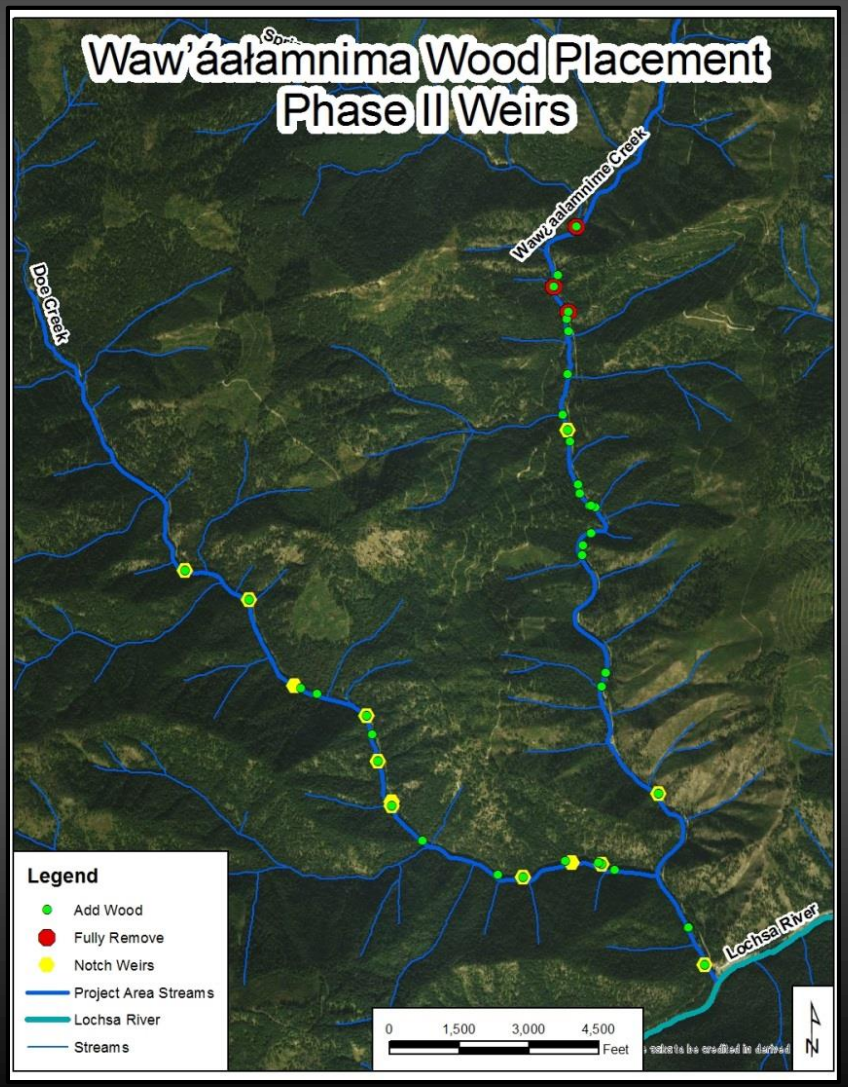


Total Wood per Mile



Existing 1980 Weir Locations – Proposed Mitigation

- Log Weir Mitigation (70 Total Weirs)
  - Full Removal (N=3)
  - Partial Removal/Notch (N=13)
  - Add Logs to Structure (N=38)
- Placement of 80-100 total logs at weirs



Example

N.E. Oregon / S.E. Washington

Restoration Activities

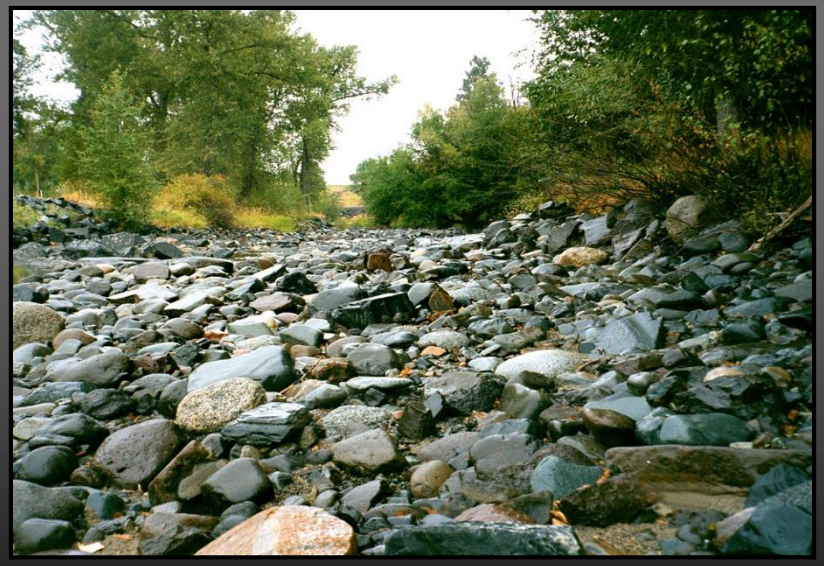
- Atlas (Wallowa County)
- Complete Stream Reconstruction
- Wetland Restoration
- Instream Flow Restoration
- Water Diversion Restoration
  - Roughened Channels
  - Screening
- Tracking/Commenting/ Engaging on Proposed NEPA Activities

Partners

- SE Washington
  - Snake River Salmon Recovery Board
  - Umatilla National Forest
  - Asotin and Columbia Conservation Districts
  - Private Landowners
  - Washington Department of Fish and Wildlife
- NE Oregon
  - Grande Ronde Model Watershed
  - Freshwater Trust
  - Wallowa Resources
  - Wallowa-Whitman National Forests
  - Natural Resource Advisory Committee (NRAC)
  - Private Landowners (multiple CE's)
  - Oregon Department of Fish and Wildlife
  - Oregon Department of Transportation

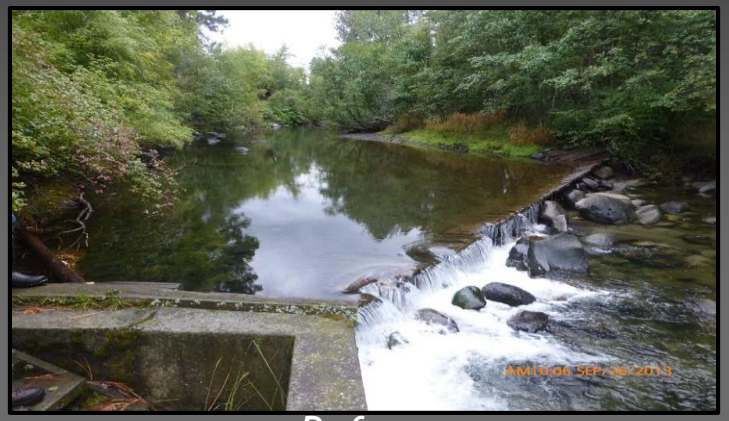
Instream Flow Restoration

Wallowa Lake Dam



Westside Polley Allen Ditch Consolidation Project

Sheep Ridge Diversion Passage Projection



Before

During Construction

After

2019 Field Work

- 35 miles of road decommissioning
- 5 fishing trail reconstruction/restoration
- 1.2 miles of stream/meadow protection fence construction
- 35.5 miles of stream/meadow protection fence maintenance
- 4,000 native riparian planting
- 2.2 miles of road improvement
- 50 miles of road surveys
- 3 fish passage projects opening 12 miles of stream
- 1 trail bridge over a ford
- 12 beaver dam analogs
- River reconstruction (adding meanders, pools, riffles, side channels)
  - ¾ mile on Crooked River
  - ¼ mile on Wallowa River (Tamkaliks)
  - ¾ mile on Sweetwater Creek
- Noxious weed treatment
- Monitoring at 8 locations

2019 Non-BPA Cost Share

CONTRACT NAME	* GRANTOR	AMOUNT
HARD DOLLARS		
Sweetwater Creek Reach 3 Floodplain Restoration	NPT SRBA	$50,000
McComas Meadows Fence Replacement Project	NPT SRBA	$30,000
Lolo Creek Restoration	NPT SRBA	$20,000
Whiskey Creek Culvert Replacement Project	ID OSC PCSRF	$130,000
Sweetwater Creek Reach 3 Floodplain Restoration Project	ID OSC PCSRF	$250,000
Buford Creek Fish Passage Project	WA RCO	$4,237,566
Snake River Salmon Recovery Board	WWCC PCSRF	$6,000
Lostine Wetland and Side Channel Complex Design	OWEB	$60,275
Nez Perce National Historical Trail	USFS NP-CLW NF	$18,664
Mining Expertise Consultant - Stibnite Mine	WORC	$3,000
SUBTOTAL		$4,805,505
IN-KIND		
Sweetwater Creek Aquatic Ecosystem Restoration Feasibility Study	USACOE	$931,875
Buford Creek Fish Passage	WADOT	$482,976
Boise National Forest Project Supplement	USFS BNF	$40,061
Lower SF Clearwater Project Supplement	USBLM	$49,012
Payette National Forest Project Supplement	USFS PNF	$55,250
Crooked River Valley Rehabilitation Project Supplement	USFS NP-CLW NF	$175,508
Lolo Creek / Selway River Restoration Project Supplement	USFS NP-CLW NF	$121,130
Newsome Creek / Red River Project Supplement	USFS NP-CLW NF	$58,839
Lochsa River Project Supplement	USFS NP-CLW NF	$158,374
Lower SF Clearwater Project Supplement	USFS NP-CLW NF	$17,115
SUBTOTAL		$2,090,140
GRAND TOTAL		$6,895,645

Grantor

- ID OSC PCSRF – Idaho Office of Species Conservation Pacific Coastal Salmon Recovery Fund
- NPT SRBA – Nez Perce Tribe Snake River Basin Adjudication
- OWEB – Oregon Watershed Enhancement Board
- USACOE – US Army Corps of Engineers
- USBLM – US Bureau of Land Management
- USFS NP-CLW NF – US Forest Service Nez Perce – Clearwater National Forests
- USFS BNF – US Forest Service Boise National Forest
- WADOT – Washington Department of Transportation
- WA RCO – Washington Recreation and Conservation Office
- WORC – Western Organization of Resource Councils
- WWCC PCSRF - Walla Walla Community College Pacific Coastal Salmon Recovery Fund

He’ma’qis Qe’ciyew’yew
(Thank you very much)

“The tribes have always treated water as a medicine because it nourishes the life of the earth, flushing poisons out of humans, other creatures, and the land. We know that to be productive, water must be kept clean. When water is kept cold and clean, it takes care of the salmon.
- Levi Holt (Nez Perce)