

*An overview and update from the
Local Salmon Habitat Recovery Hub:
The Klickitat Lead Entity*



Photo Credit John Longfellow, Klickitat Co.

Klickitat and White Salmon Fisheries
and Watershed Science Conference

March 19, 2013

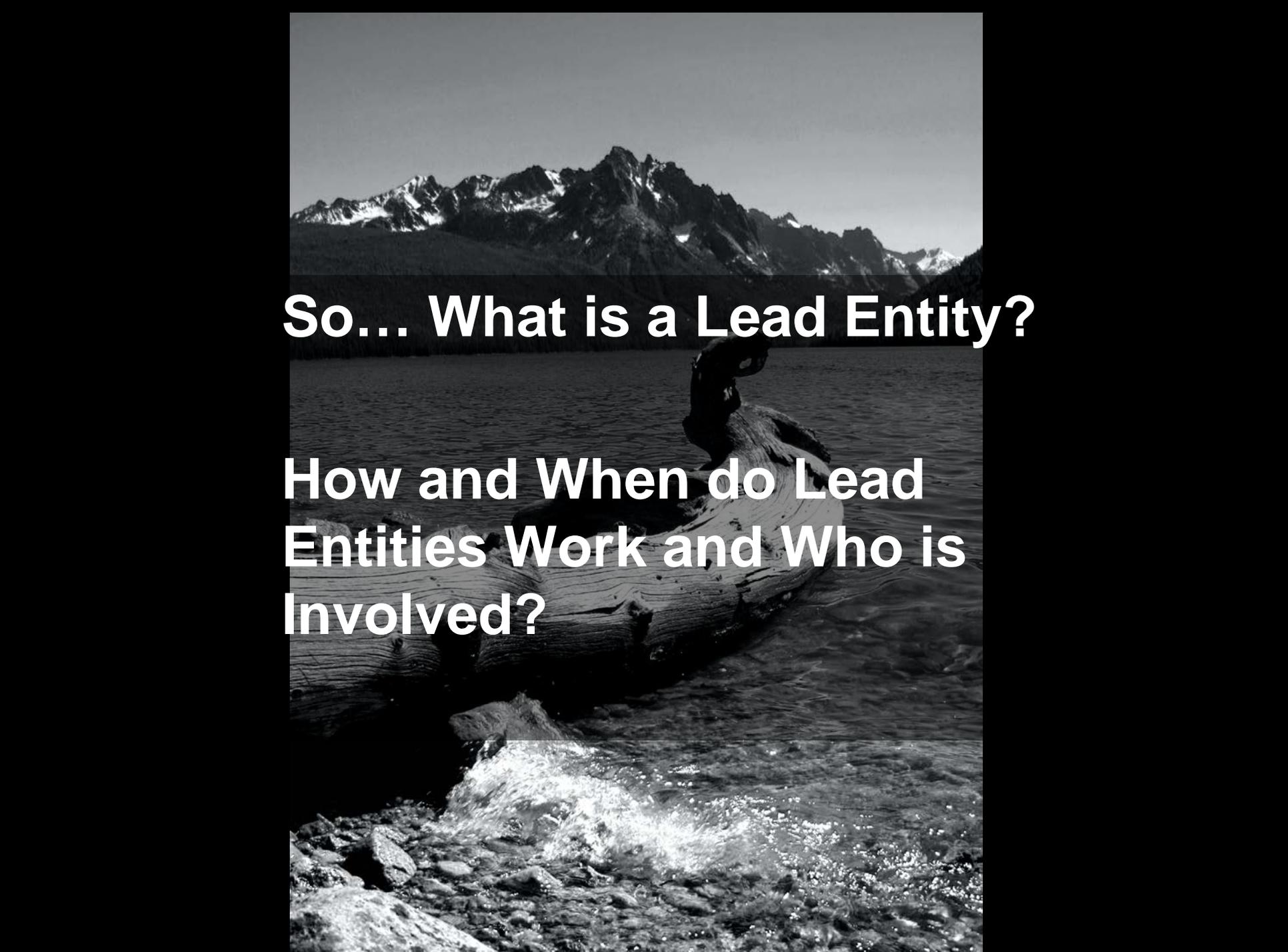
Klickitat County Natural Resource Department

- Lead Entity Established under RCW 77.85.050
- Watershed Planning Established under RCW 90.82.060
- Assist County on other Land and Natural Resource Items

Klickitat Lead Entity

Outline

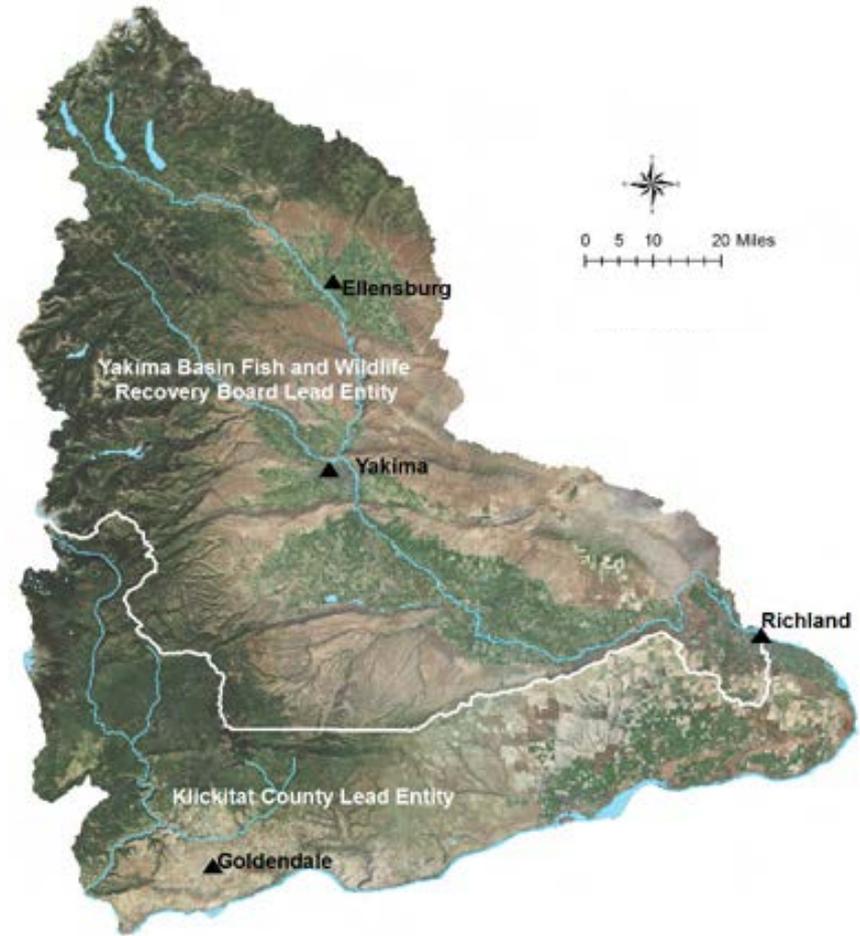
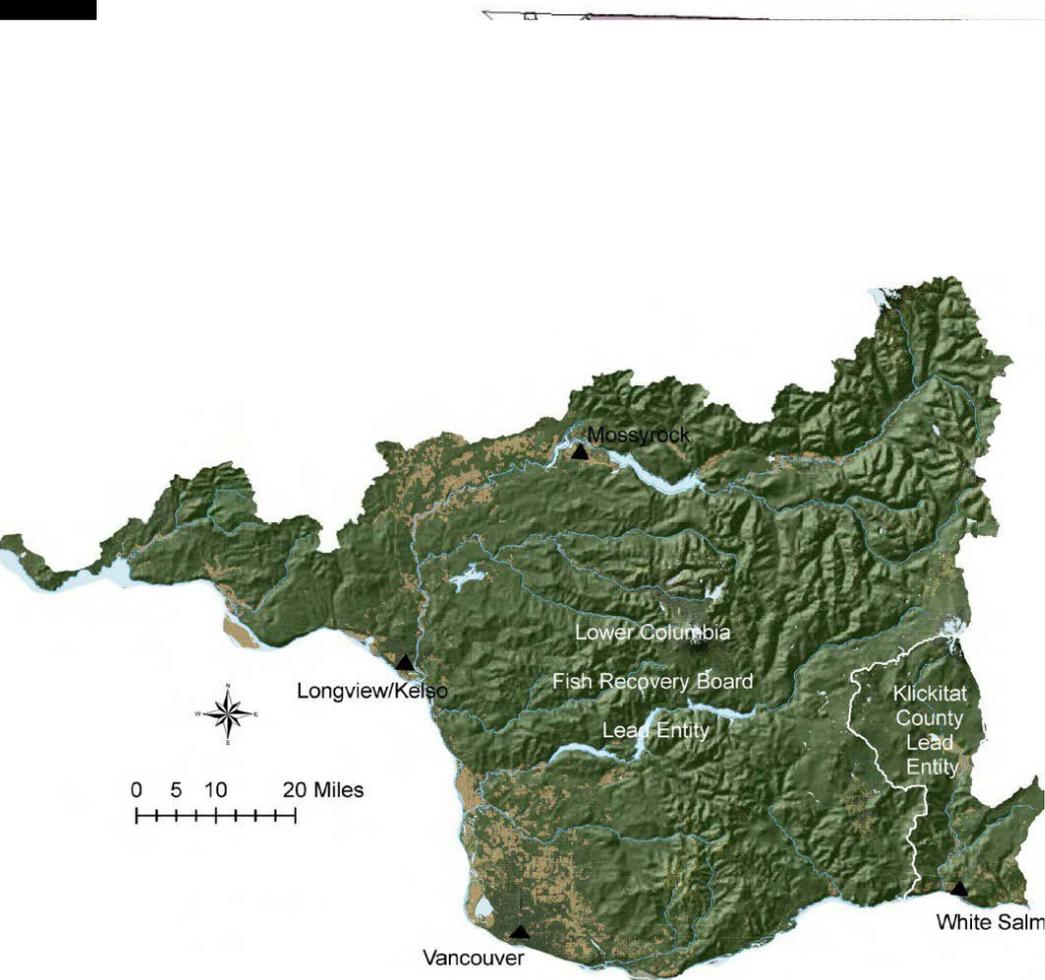
- What is a Lead Entity?
- How and When do they work?
- Where is this happening?
- Who all is involved?
- Last Several Years of Projects in Photos

A black and white photograph of a person sitting on a large log in a lake, with snow-capped mountains in the background. The person is positioned on the log, which is partially submerged in the water. The water is calm, and the mountains in the background are rugged and covered in snow. The overall scene is serene and natural.

So... What is a Lead Entity?

How and When do Lead Entities Work and Who is Involved?

Where is this Happening?



Summary of 14 Grant Rounds

Klickitat Lead Entity

Project Type	Number of Projects	SRFB Funds (\$)	Sponsor Match (\$)	Project Total (\$)
Restoration	27	4,882	1,626	6,518
Acquisition	2	834	353	1,187
Planning	13	982	229	1,211
Combination Acquisition & Restoration	3	1,184	210	1,394
Total	45	7,882	2,418	10,310

*Dollars in Thousands

Photo Tour of the Last Several Years of Projects

Lower Klickitat Riparian Re-Veg

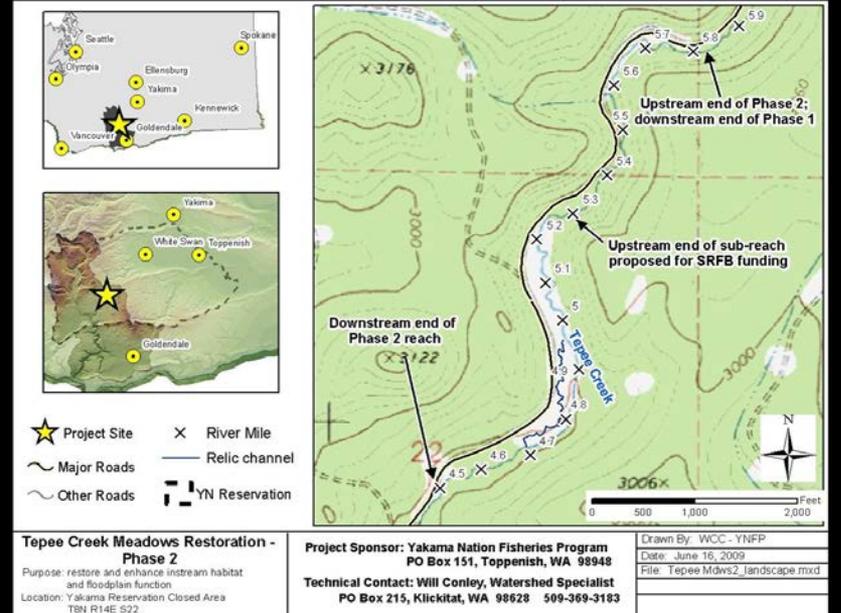


Photo Credits: Margaret Neuman, Mid-Columbia River Fisheries Enhancement Group (PRISM #04-1711)

Tepee Creek Phase 1



Tepee Creek Phase 2

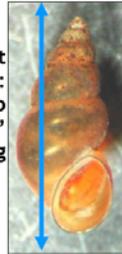


Invasive Species Prevention

River Alert!

Clean your Gear
Before You Leave Infested Waters

Adult
NZMS:
1/8" to
1/4" long



**STOP the SPREAD of
NEW ZEALAND MUDSNAILS
(NZMS) & other Invasives**
Dangerous Invaders
Threaten Fish



NZMS are tiny!
See snails on
dime above

**CHECK YOUR
GEAR**
Before you enter
this water body



**STOP AQUATIC
HITCHHIKERS!**

Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net

CALL 1-877 - STOP -ANS

**DO NOT
SPREAD
mud, sand, or
plant material
to new waters!**



NZMS can be
brown or black

WHY CONTROL THE NZ MUDSNAIL?

- NZMS are rapid reproducers and **just one** will start a new population.
- NZMS compete with Native organisms that fish eat. **Less food for fish = fewer fish.**
- NZMS can carpet the entire stream bottom, making it impossible for anything else to live.

Call 509-493-1936 for more info



Don't be a Vector!

Follow these steps:

- * **CLEAN** Inspect and Remove any visible mud, sand, plants or animals before transporting equipment. Wash boats & trailers with hot water (140°F). Scrub wading boots and other gear with this brush.
- * **DRAIN** Eliminate all water from equipment
- * **DRY** Clean and dry anything that came in contact with water for at least 3 days
- * **DISPOSE** Never release plants, fish or animals into a body of water unless they came out of that body of water.



**STOP AQUATIC
HITCHHIKERS!**
Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net



NZ Mudsnail
1cm

Clean & Dry everything that comes in contact with water before entering a new body of water!

...Waders, boats, boots, dogs, nets...

Think you have found an invasive?
Report sightings / Collect a Sample
1-877-STOP-ANS National Hotline
Oregon DFW 1-800-INVASER or
WA DFW at 360-902-3700

Put a sample (10 snails or mussels) in a bottle or bag with rubbing alcohol, note location & water body.



Zebra Mussels

Invasive Species
threaten fish and ecosystems:
Clean Your Gear so
you don't spread them!



**New Zealand
Mudsnails** *Potamopyrgus antipodarum*

New Zealand Mudsnails are native to New Zealand & fisherman play a major role in their spread. NZ Mudsnails were discovered in the late 1980's in the Snake River, Idaho and have spread quickly throughout the Deschutes and Snake Rivers, the mouth of the Columbia, in Montana & California.

NZ mudsnails on
wading boots. Liu



Snails are small
and abundant!

Snails reproduce rapidly by cloning & alter food webs by competing with native organisms that fish feed on. This snail can colonize almost any aquatic habitat and eradication is impossible.
Don't be a vector! Clean your gear!

Zebra and Quagga Mussels

Zebra & Quagga Mussels are invasive freshwater mollusks originally from the Caspian & Black Seas that infest waters in large numbers. They reproduce rapidly & drastically alter biological & economic functions of water systems. These mussels attach to hard surfaces, clog pipes, ruin infrastructure and recreation. Control of these mussels is extremely expensive & eradication is impossible. Populations in the Great Lakes, Lake Mead & the Colorado River.



Zebra Mussel
Dreissena polymorpha

Quagga Mussel
Dreissena rostriformis bugensis

NZMS have been found
throughout the **Deschutes**
and **Snake Rivers**, at the
mouth of the Columbia & in
Montana and California.

Don't Give Hitchhikers a Ride
CLEAN YOUR GEAR
Before you leave home

YOUR HELP IS NEEDED:

1. **CLEAN** mud, sand, debris, plant material water from *all* gear, boats, boots, waders, & coolers.
2. **DISPOSE** of water, sand, mud, and rocks in the same waters
3. **DRAIN** all water from gear.
4. **TREAT** boots and waders using one of following methods:
 - **DRY** gear completely (at least 48 hrs), OR
 - **FREEZE** for 4 hours at 26° F, OR
 - **DIP** gear in bucket of hot 140° F water, OR
 - **TREAT** in solution of Degreaser/ Disinfectant Formula 409 at full strength. *Bleach won't work and will ruin your gear.

Figures Credited to the UCD (PRISM #06-2253)

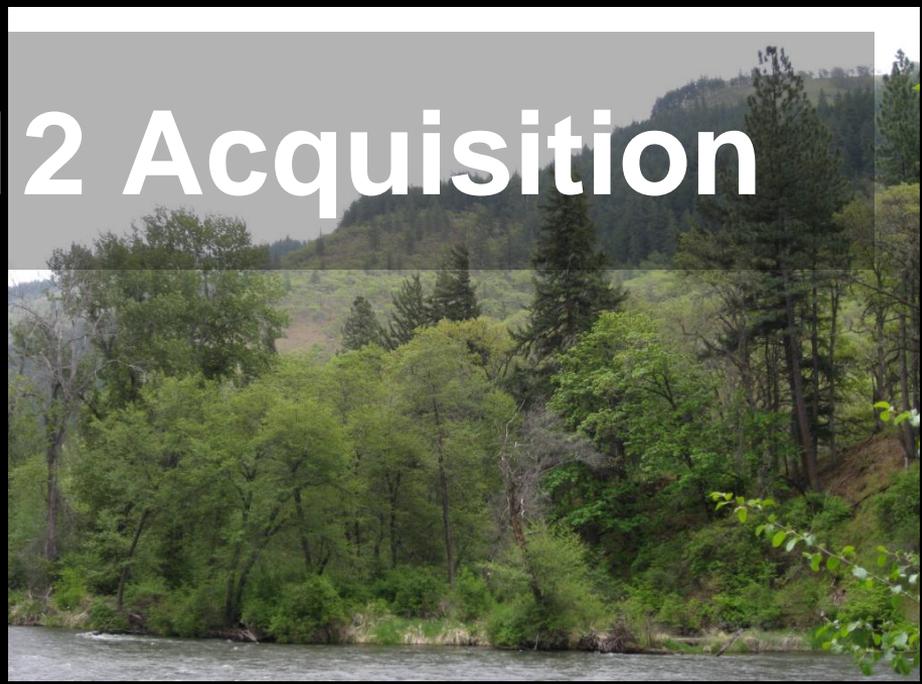
Simmons Creek Restoration



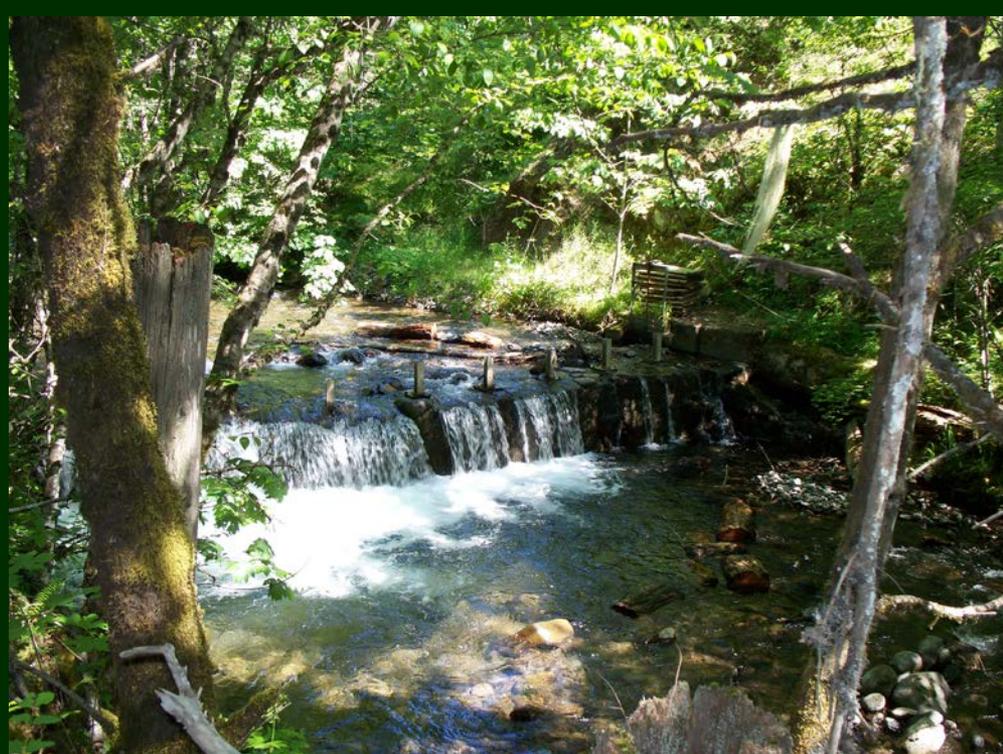
Photo Credit UCD (PRISM #07-1722)



Klickitat RM 12 Acquisition



Project Development White Salmon Tributaries



White Salmon Fish Passage Inventory

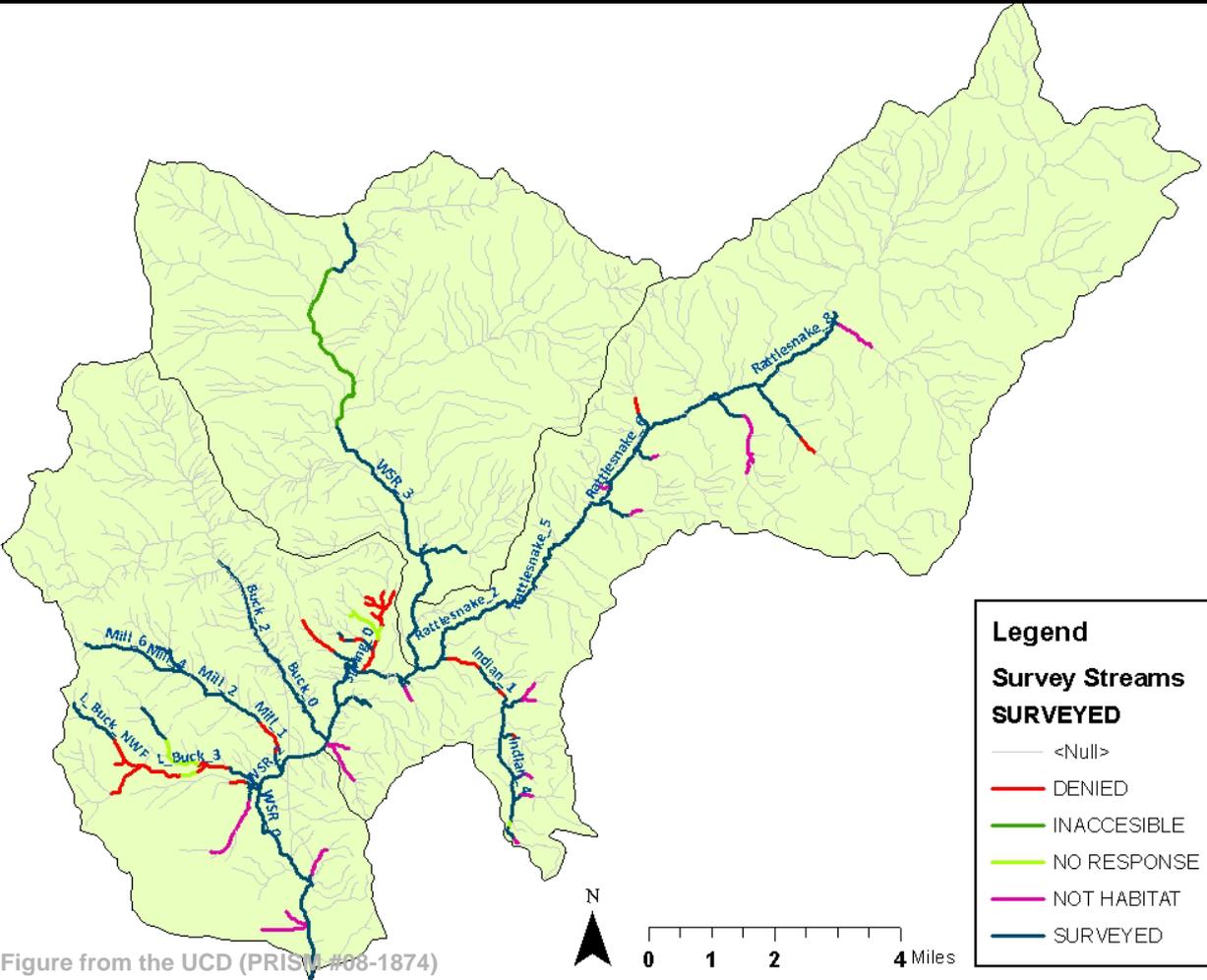


Photo Credit UCD (PRISM #04-1874)

Figure from the UCD (PRISM #68-1874)

Indian Creek Fish Passage



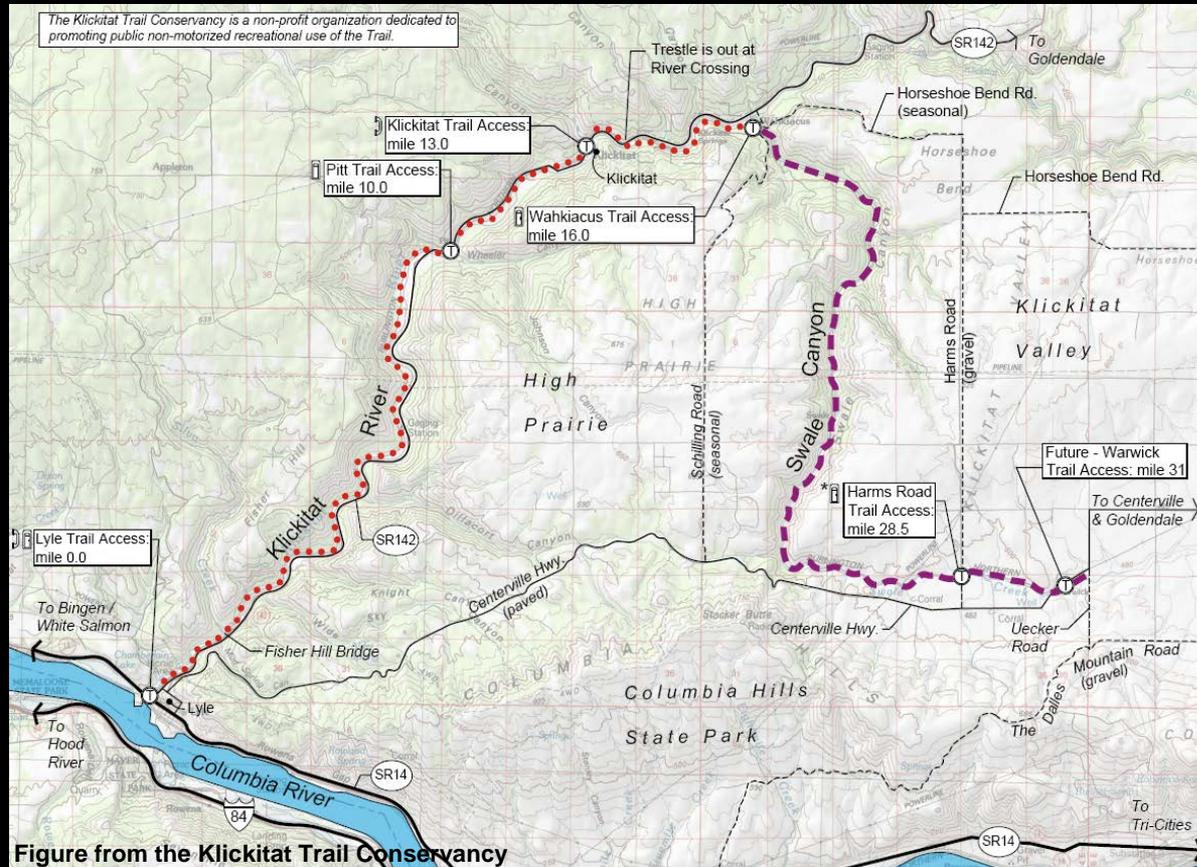
Upper Rattlesnake Creek Restoration



Photo Credit: Margaret Newman, MCRFEG (PRISM #09-1460)



Klickitat Trail Inventory and Assessment



Upper Klickitat River Enhancement Phase 2



Assess Potential Actions, Columbia River Mainstem



Buck Creek Fish Passage and Irrigation Improvements

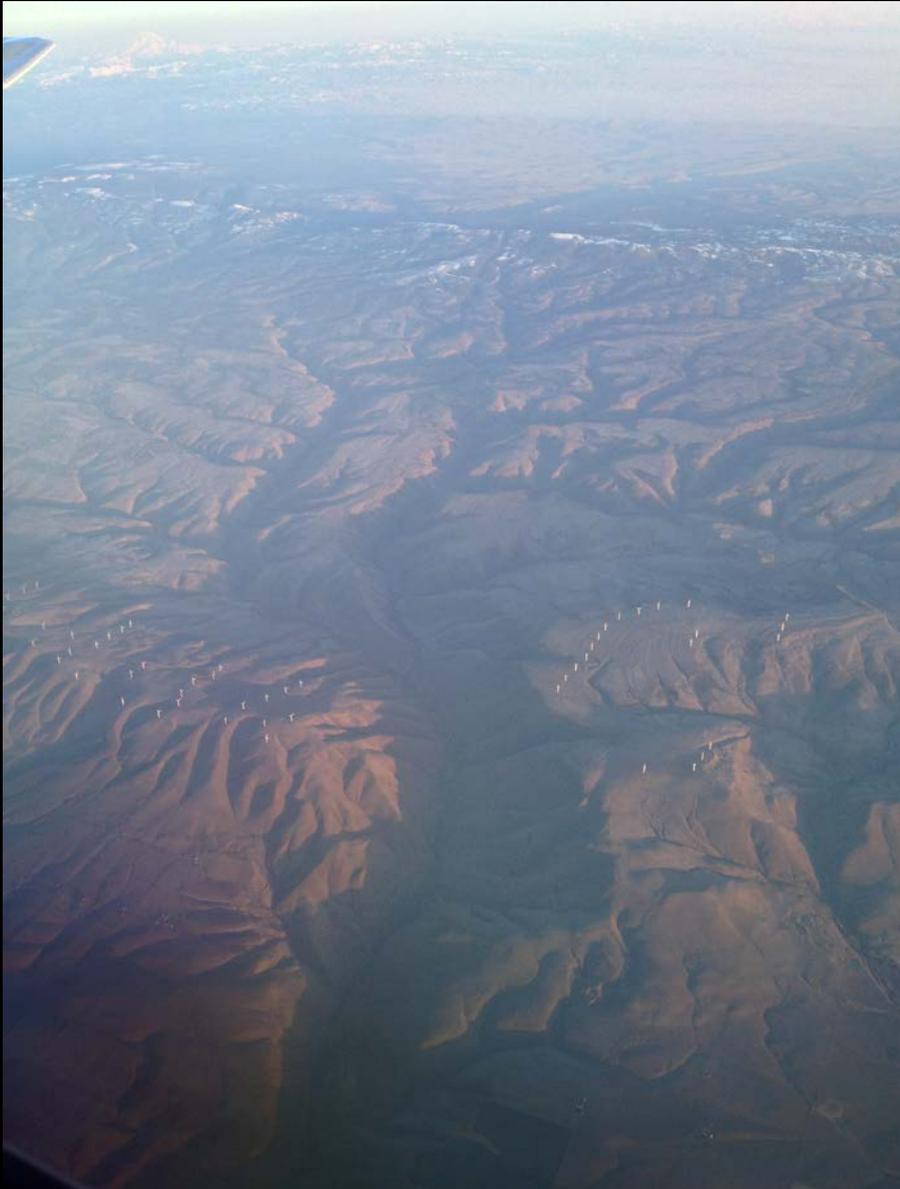


Photo Credit: Dave Caudill, RCO (PRISM #11-1499)



Photo Credit: Tova Tillinghast, UCD (PRISM #11-1499)

Rock Creek Assessment and Conceptual Design



Lower White Salmon R. Habitat Protection Planning



White Salmon Basin Beaver Assessment



Photo Credit Mid-Columbia River Fisheries Enhancement Group



Photo Credit Martha Blair, Central Klickitat Conservation District

Klickitat River Conservation and Restoration (Phase 1)

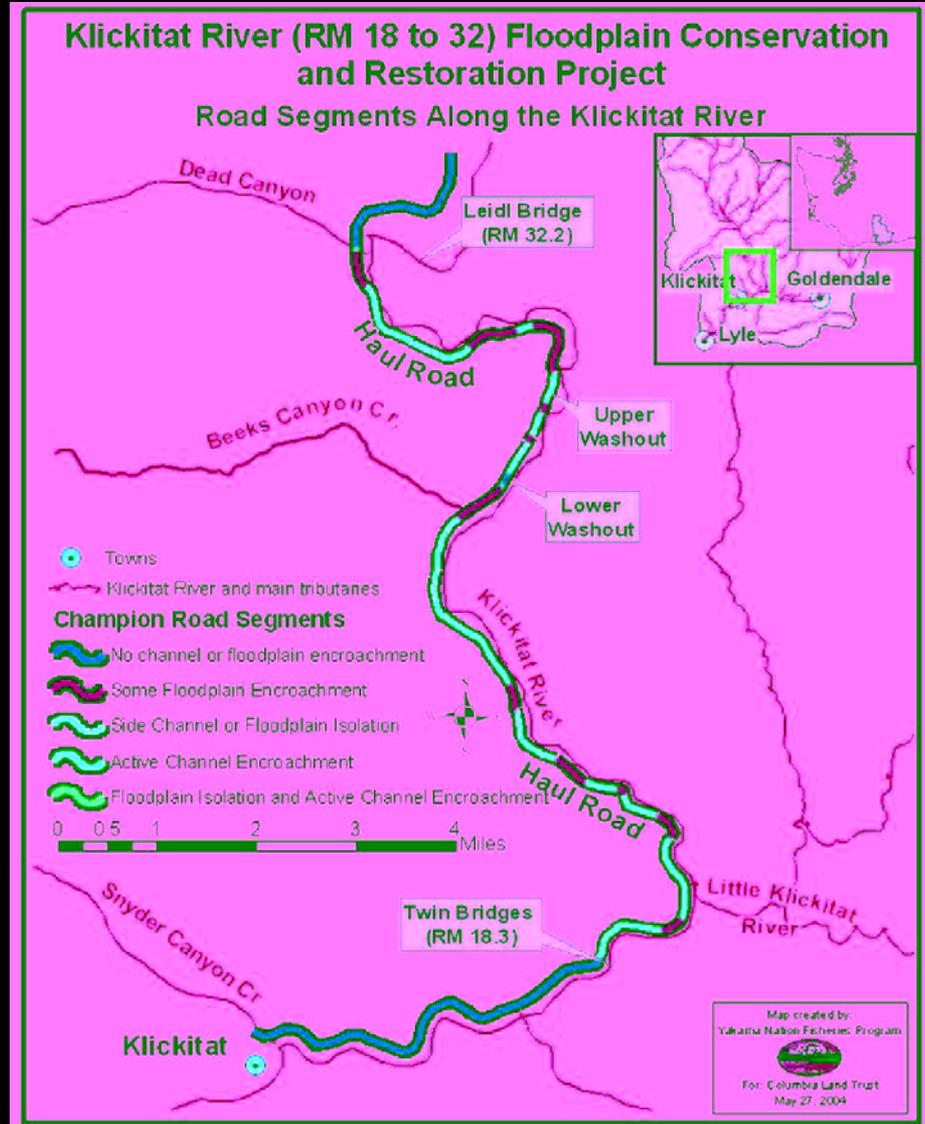


Figure and Photo Credits: Lindsay Cornelius and Will Conley, Columbia Land Trust and Yakama Nation (PRISM #04-1715)

Klickitat Floodplain Restoration Phase 2

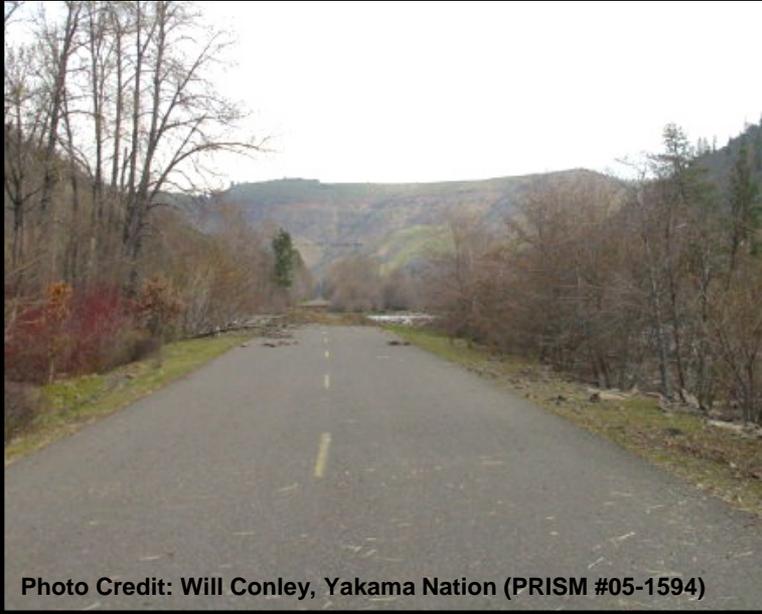


Photo Credit: Will Conley, Yakama Nation (PRISM #05-1594)



Photo Credit: Will Conley, Yakama Nation (PRISM #05-1594)



Phases 3 and 4

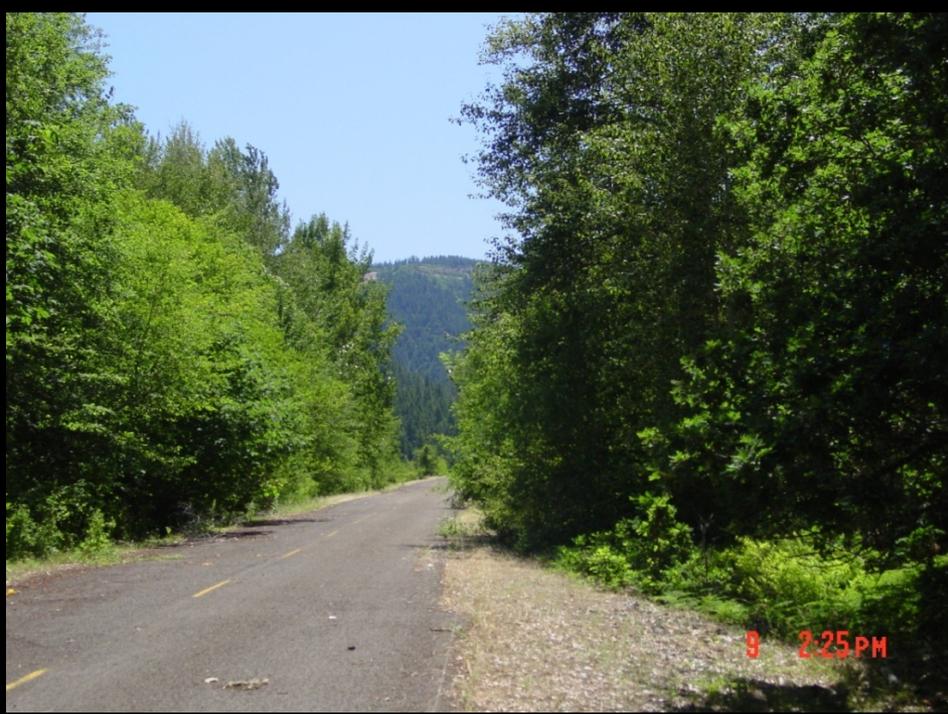


Photo Credits: Lindsay Cornelius and Will Conley, Columbia Land Trust and Yakama Nation (PRISM #11-1428)

Special Thanks

- Citizen Review Committee Local Volunteers
- Local Technical Advisory Committee
- SRFB and RCO for Project Funding
- State Technical Review Panel
- Local Landowners
- Project Sponsors and Partners:
CLT, EKCD, MCFEG, UCD, YKFP/YN
- GSRO and LEAG
- Klickitat County Natural Resource Dept. Staff



Photo Credit Adam Fahlenkamp



Additional Information

Contact John Foltz

Klickitat County Natural Resource Department

509-773-2410

johnf@co.klickitat.wa.us

- http://www.rco.wa.gov/salmon_recovery/index.shtml
- http://www.rco.wa.gov/salmon_recovery/lead_entities.shtml
- <http://www.klickitatcounty.org/NaturalR/>
- <http://stateofsalmon.wa.gov/>
- Effectiveness Monitoring
- FFFPP Program



WASHINGTON STATE
RECREATION AND CONSERVATION OFFICE

Salmon Recovery
Funding Board

Klickitat Citizens Review Committee

Member	Alternate	Interest
Ken Bales	<i>None</i>	Klickitat County Land and Natural Resources Advisory Committee
Adam Fahlenkamp	<i>None</i>	Central Klickitat Conservation District
Marc Harvey	Doug Miller	Mid-Columbia Regional Fisheries Enhancement Group
James Kiona	<i>None</i>	Tribal Fishermen – Yakama Nation Confederated Tribes and Bands
Jay Letto	Susan Lourne	Environmental Interests
Dan Lichtenwald	<i>None</i>	Environmental Interests
Bill Paulsen	<i>None</i>	Sport Fishing
Sherry Penney	Lance Beckman	Underwood Conservation District
Wayne Vineyard	<i>None</i>	Timber Interests

Klickitat Technical Committee

Member	Expertise and Affiliation
Brady Allen	Fisheries Biologist, US Geological Survey
Diane Driscoll	Fishery Resource Specialist, NOAA Fisheries
Jill Hardiman	Fisheries Biologist, US Geological Survey
Jim Hill	District Manager, Central Klickitat Conservation District
Martha Blair (Alt.)	Field Technician, Central Klickitat Conservation District
Mark Kreiter	Hydrologist, USDA Forest Service
David Lindley	Habitat Restoration Specialist, Yakama Nation Fisheries Program
Will Conley (Alt.)	Hydrologist, Yakama Nation Fisheries Program
Margaret Neuman	Executive Director, Mid-Columbia Regional Fisheries Enhancement Group
Tova Tillinghast	District Manager, Underwood Conservation District
Dan Richardson (Alt.)	Field Technician, Underwood Conservation District
Joe Zendt, Chairman	Fisheries Biologist, Yakama Nation Fisheries Program

Needs and Future Projects

- Identified in LE Strategy and integrated with planning and assessment projects as we learn more
- More Research and Monitoring is needed