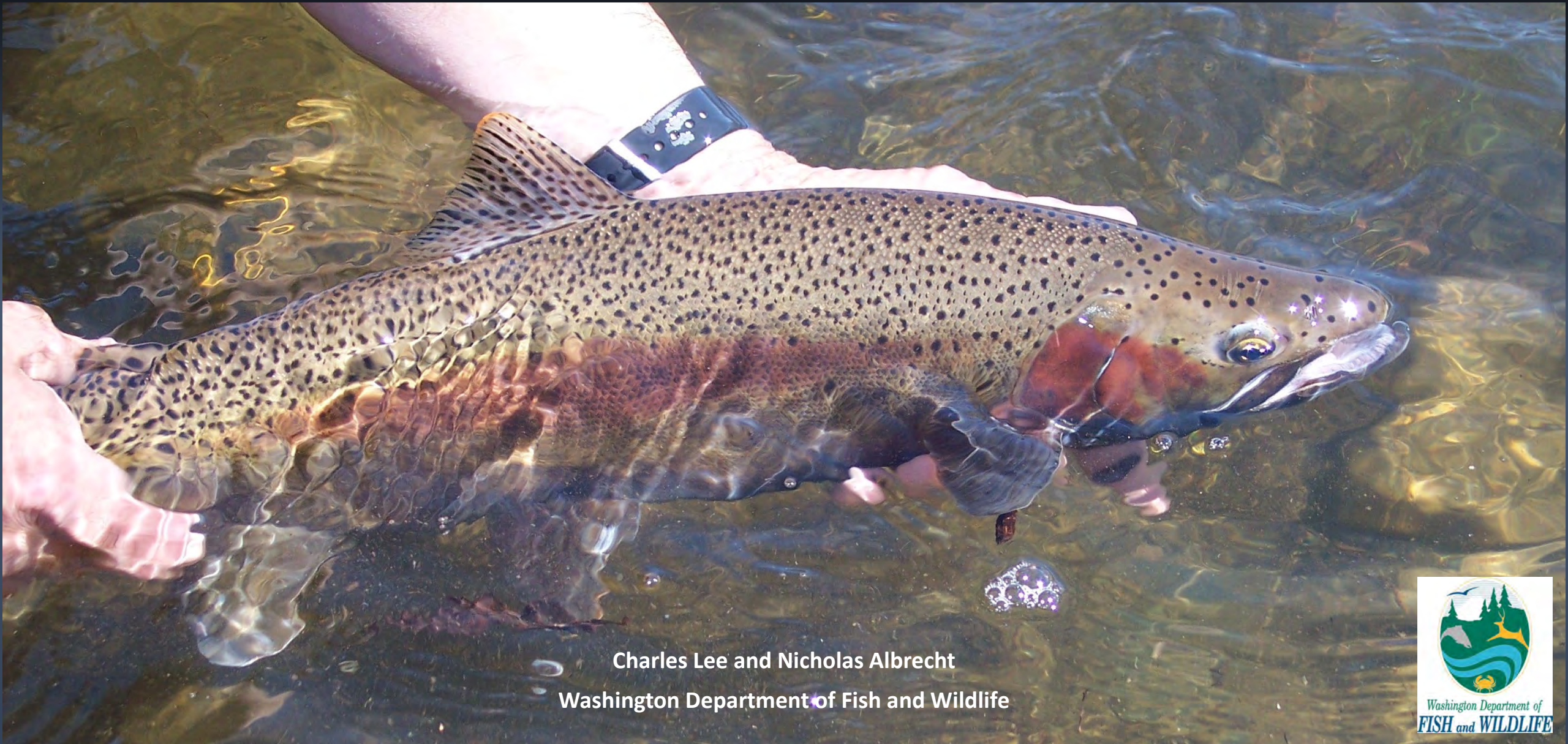


Upper Spokane River Fisheries Management



Charles Lee and Nicholas Albrecht
Washington Department of Fish and Wildlife



Redband Trout Distribution



Interior Columbia River

O. mykiss gairdneri

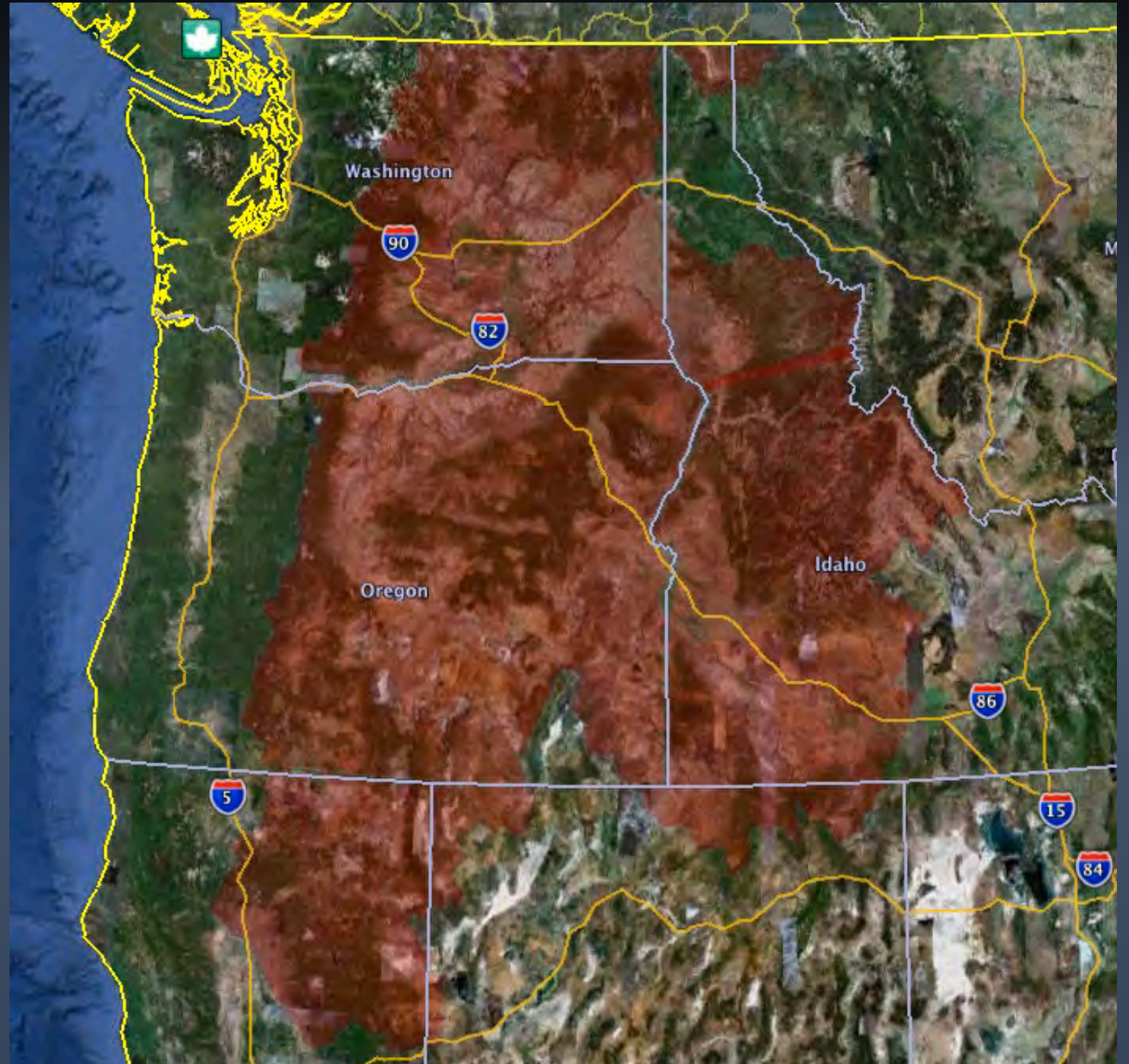
Anadromous and Potamodromous

East of Cascade Mountains

Upstream to barrier falls-

*Snake, Spokane, Pend Oreille and
Kootenai rivers*

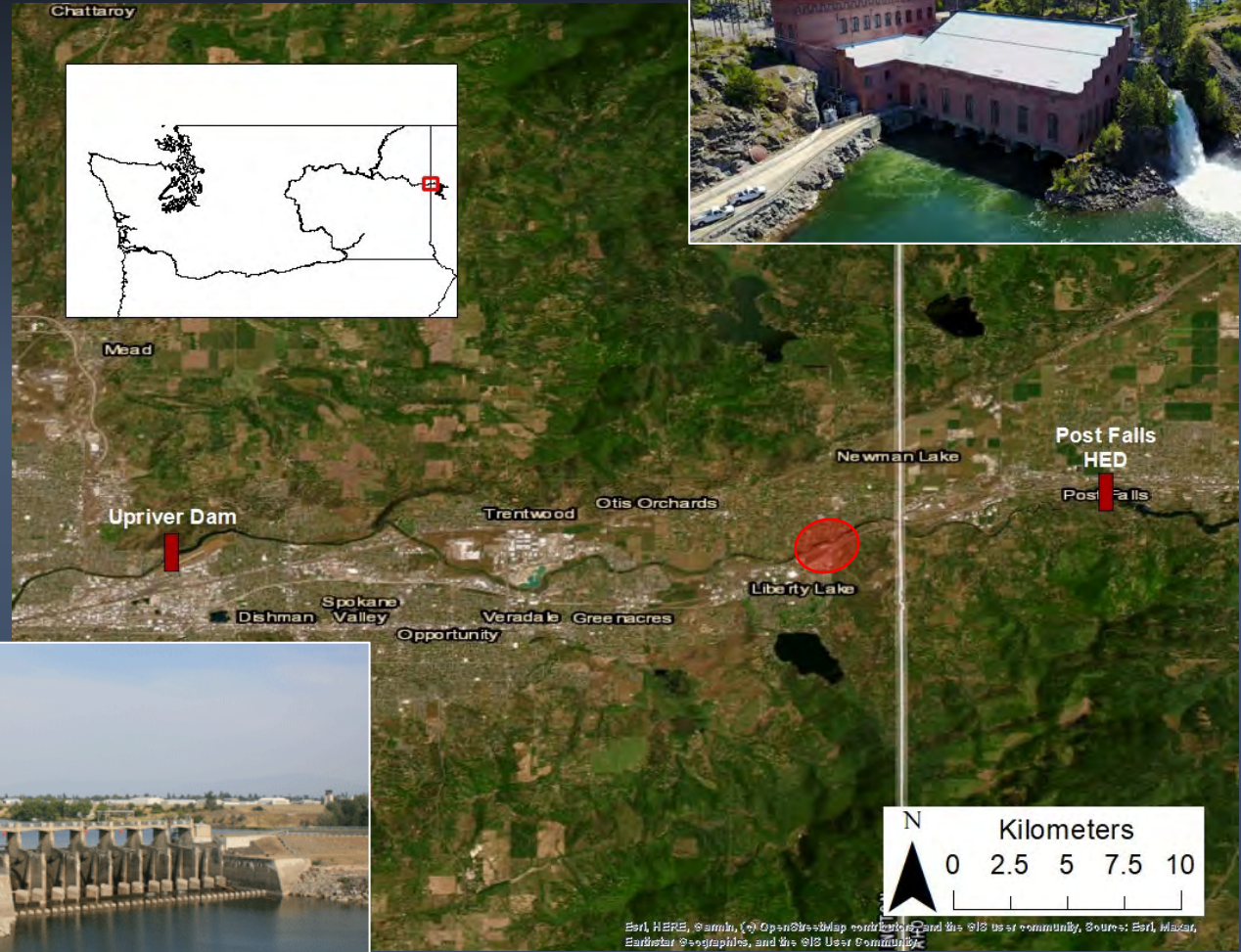
- Northern Great Basin
O. mykiss newberrii
- Upper Sacramento River
O. mykiss stonei
- Upper McCloud River
O. Mykiss calisulat



*Courtesy of www.wildtroutstreams.com

Upper Spokane River

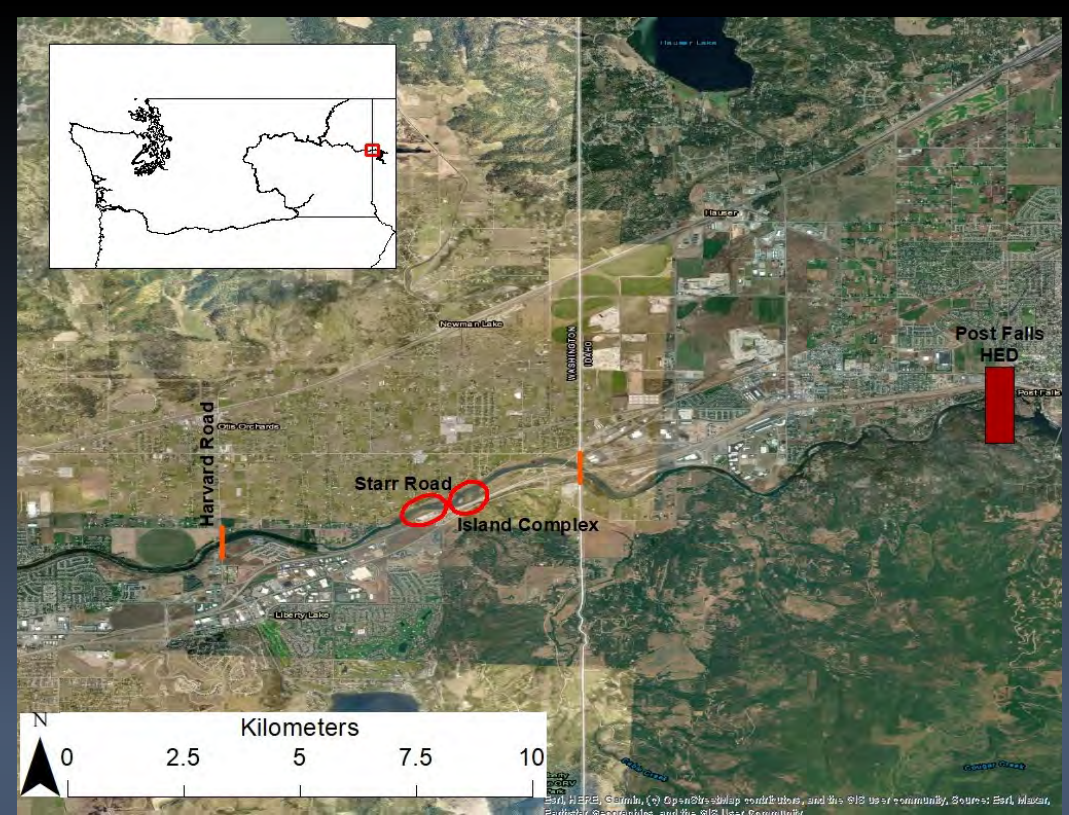
- ~35 km Reach
 - upper $\frac{3}{4}$ free flowing (lotic)
 - lower $\frac{1}{4}$ reservoir-like (lentic)
- Upriver HED 1894
- Post Falls HED 1906
- Historically supported populations of Native Redband Trout
- Post Falls represented a natural barrier to upstream migration
- Primary Spawning areas
 - Island Complex
 - Starr Road
 - Harvard Road(Parametrix 2003)



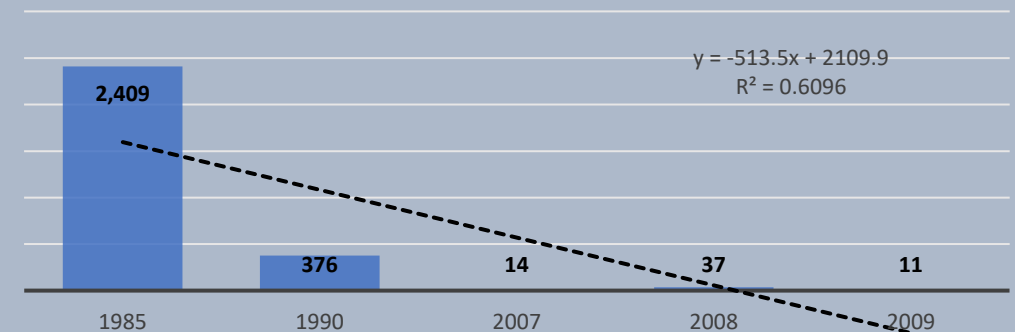
Esri, HERE, DeLorme, © OpenStreetMap contributors, and the GIS user community, Source: Esri, Mapbox, Earthstar Geographics, and the GIS User Community

Upper Spokane River Redband Trout Abundance Estimates

- 1985 Underwood and Bennett - Post Falls to WA/ID Stateline Redband (≥ 130 mm TL); N=19,029 (2,409 RB/km)
- 1990 Davis and Horner - WA/ID Stateline to Harvard Redband; N=1,992 (376 RB/km)
- 2007 O'Connor and McLellan - WA/ID Stateline to Harvard Redband; N=91 (14 RB/km)
- 2008 O'Connor and McLellan - WA/ID Stateline to McMillan Redband; N=353 (89 RB/km)
- 2009 McLellan and King - WA/ID Stateline to McMillan Redband Abundance N=96 (11 RB/km)



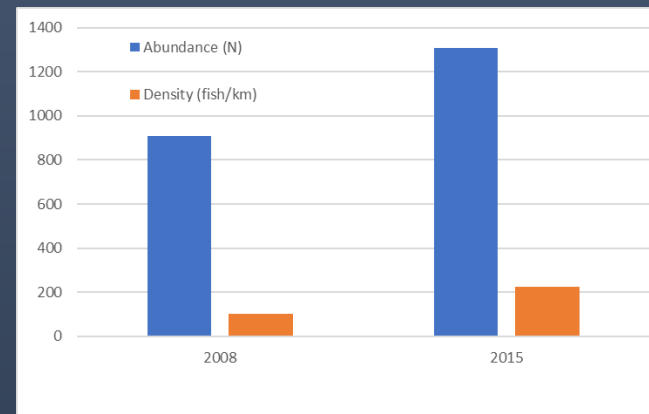
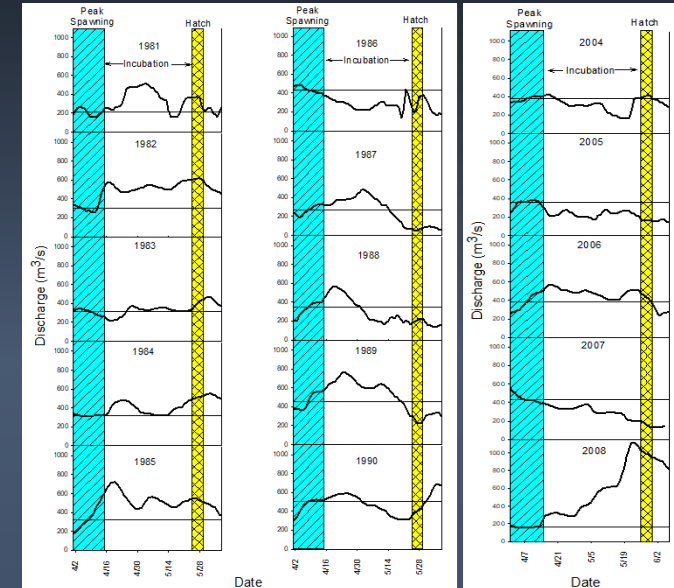
**Redband Trout Density (RB/km)
1985-2009**



Potential Limiting Factors for Redband Trout Abundance in the Upper Spokane River

- Climate Change
- Reduced discharge during spawning and incubation
 - *2010 Avista initiates "Upper Spokane River Rainbow Trout Spawning and Emergence Protection Plan"
- Reduced summer habitat
- Lower Productivity
- Overharvest
- Contaminants
- **Non-Native predators → Smallmouth Bass**

- Prior to 2000 SMB were absent from Upper Spokane River
- 2008 O'Connor and McLellan - WA/ID Stateline to McMillan Smallmouth Bass (≥ 200 mm TL); N=908 (100 SMB/km)
- 2015 McCroskey (EWU) – WA/ID Stateline to Harvard Smallmouth Bass (≥ 200 mm TL); N=1,307 (225 SMB/km)



Upper Spokane River Redband Abundance and Smallmouth Bass Suppression

2020 Fall - Redband Abundance Estimate

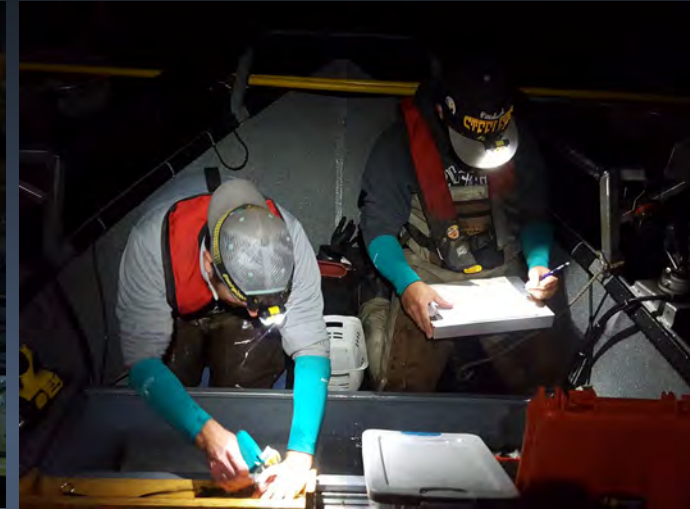
2021 Spring SMB Abundance Estimate/Removal
Fall - Redband Abundance Estimate

2022 Spring SMB Removal Efforts
Fall Redband Abundance Estimate

2023 Spring SMB Removal Efforts
Fall Redband Abundance Estimate

2024 Spring SMB Abundance Estimate/Removal
Fall Redband Abundance Estimate

2025 Spring SMB Removal
Fall Redband Abundance Estimate

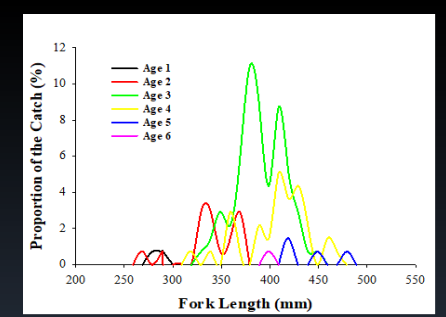


Upper Spokane River Redband Trout Abundance Estimates 2020-2022

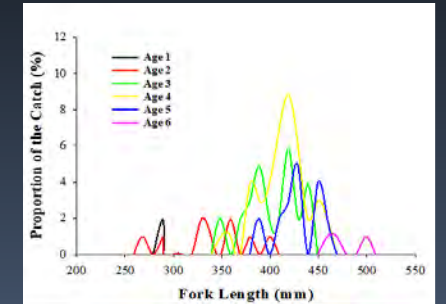
Redband Trout Abundance
 Drift Boat Electrofishing
 3 Pass Mark/Recapture
 WA/ID Stateline to Harvard



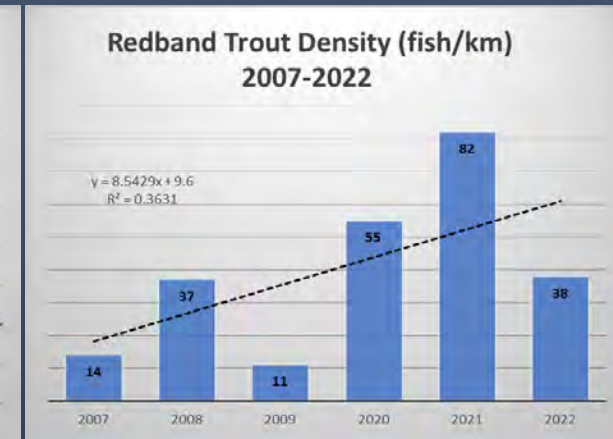
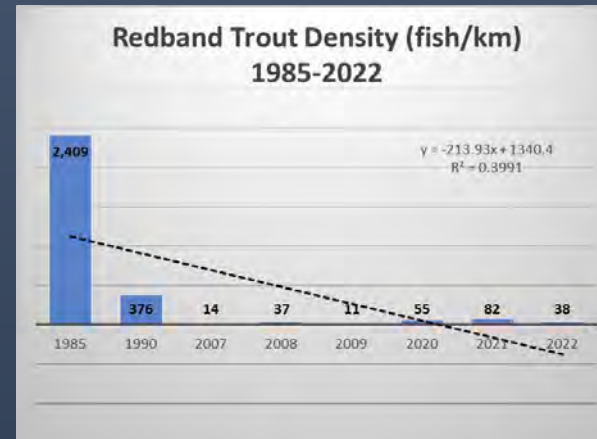
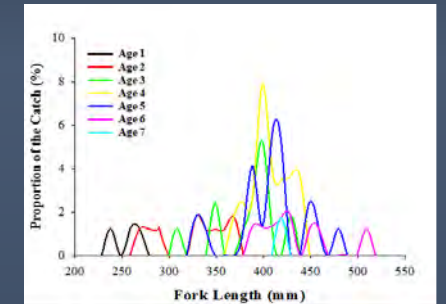
2020
 N = 308 (95% CI 240-421)
 Density = 55 RB/km



2021
 N = 461 (95% CI 267-883)
 Density = 82 RB/km



2022
 N = 212 (95% CI 149-338)
 Density = 38 RB/km



Smallmouth Bass Abundance and Suppression

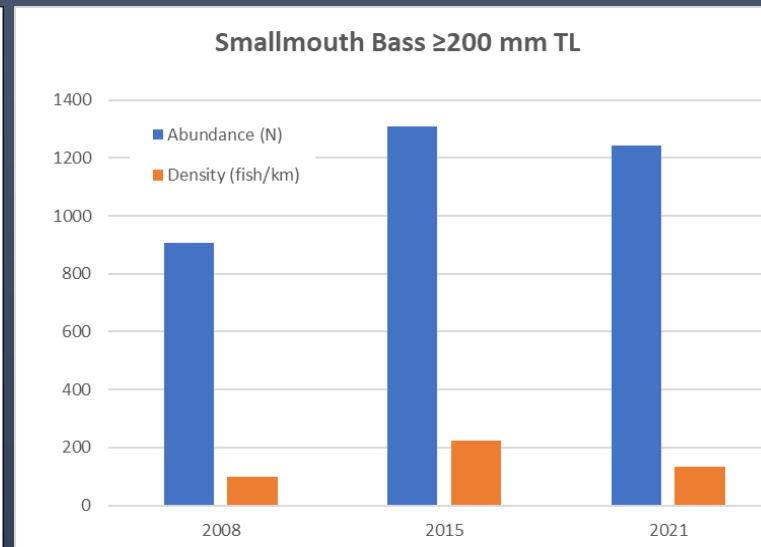
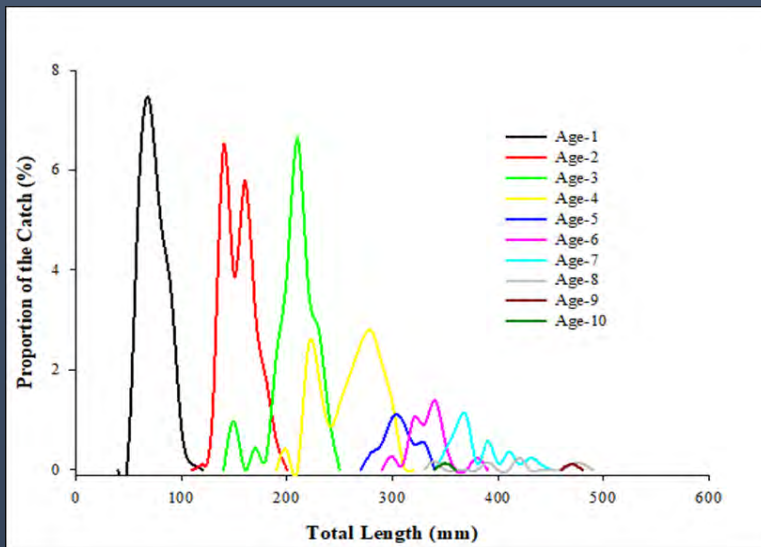
2021 SMB Abundance (Spring)
 Drift Boat Electrofishing
 3 Pass Mark/Recapture
 WA/Stateline to McMillan

Total Length	N	SE	Lower	Upper	CV
			95% CI	95% CI	
≥ 150 mm	1,923	219.59	1,557	2,425	0.1142
≥ 200 mm	1,242	155.57	989	1,606	0.1253



Spring and Fall SMB Removal Efforts
 WA/ID Stateline to Harvard 2020-2022

Length Category	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Total
0-150	12	259	1,980	391	524	3,166
151-200	28	51	306	122	239	746
201-250	27	50	70	81	73	301
251-300	20	31	46	98	47	242
301-350	17	20	16	41	18	112
351-400	18	10	2	28	6	64
401-450	1	3	2	16	3	25
451-500	0	2	0	0	1	3
501-550	0	0	0	0	0	0
551-600	0	0	0	0	0	0
Total	123	426	2,422	777	911	4,659



Future Plans

2023

- Spring Continue SMB Removal Efforts
- Fall Redband Trout Abundance Estimate
SMB Removal

2024

- Spring Smallmouth Bass Abundance Estimate
SMB Removal
- Fall Redband Trout Abundance Estimate
SMB Removal

2025

- Spring SMB Removal
- Fall Redband Trout Abundance

Evaluate Results

- RB and SMB Population Response
- Provide Recommendations for Management

References

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