

# Bull Trout Restoration and Monitoring Project

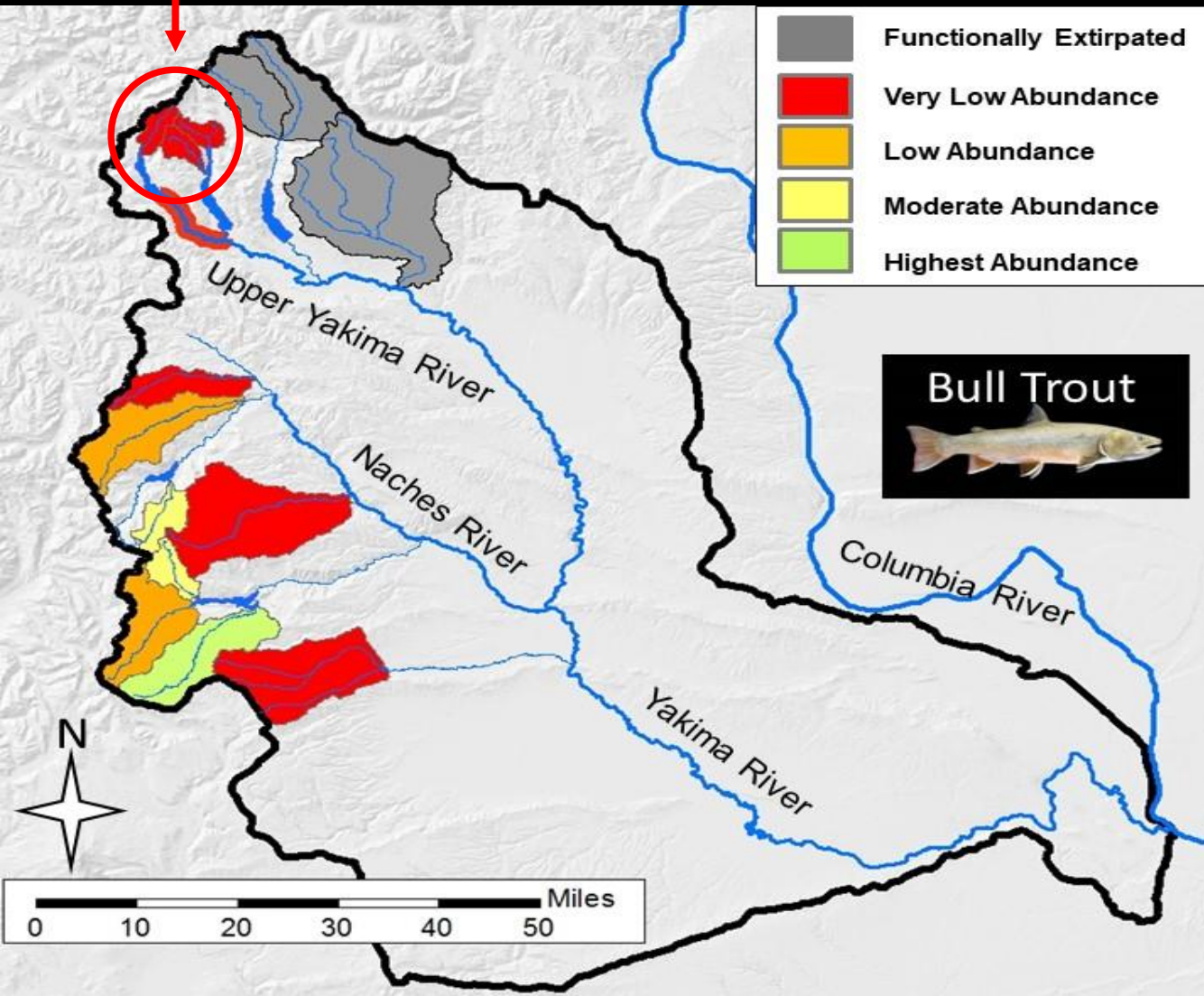


Yakama Nation Fisheries: Russ Byington & Todd Newsome



# Current Bull Trout Populations

Gold & Kachess



**15 Local Populations**





# Bull Trout Rescue

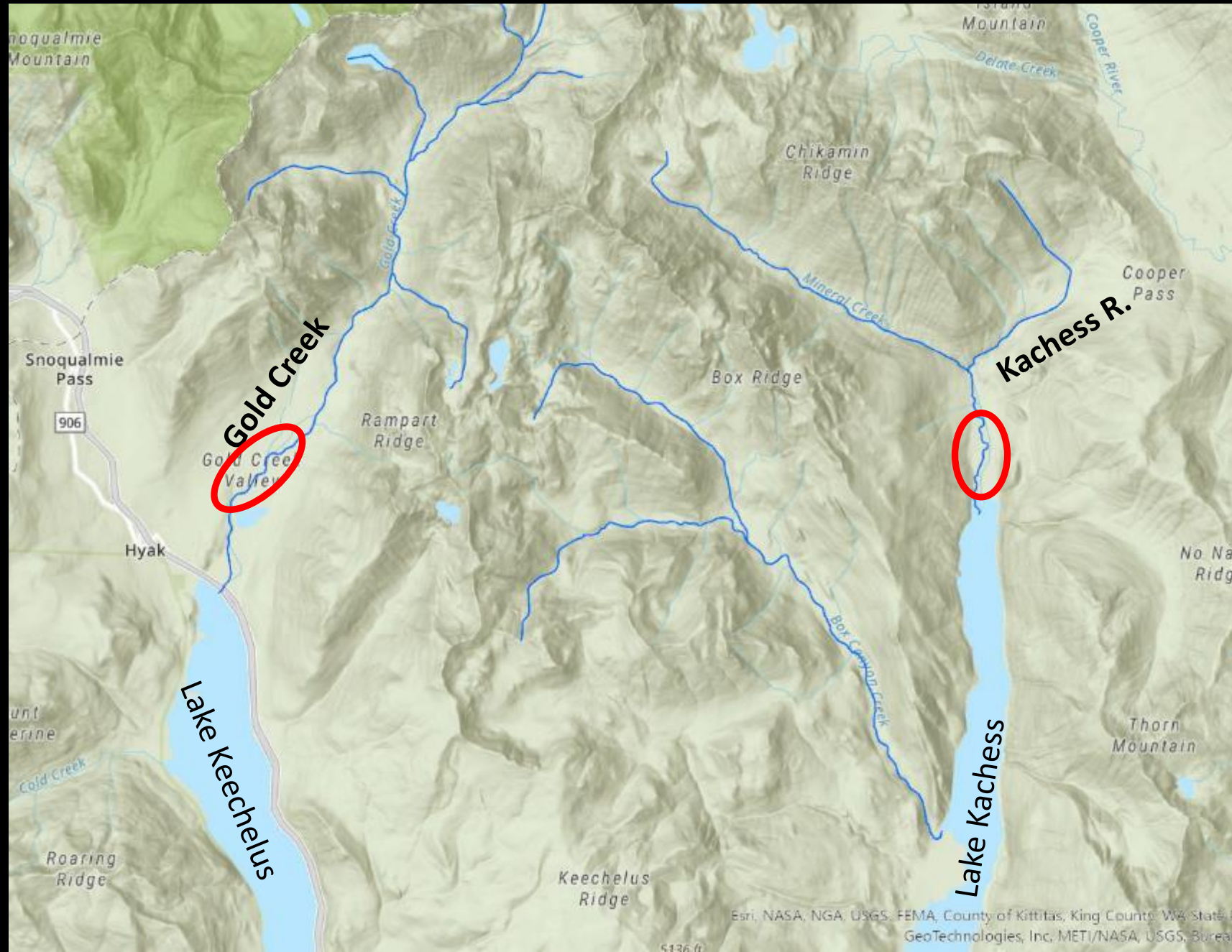




# Bull Trout Rescue at Kachess River and Gold Creek



 Rescue reaches



# Bull Trout Rescue, Rear, and Release 2017-2022





# Yakama Nation Rescue - Rear - Release

Gold Creek					
YEAR	Juv Rescued	YOY Rescued	YOY Transferred	Released	Survival
2017	0	5	0	0	na
2018	2	1	0	0	na
2019	8	108	108	78	72%
2020	36	65	64	63	98%
2021	25	114	86	84	98%
2022	8	122	98		
<b>Total Fish</b>	<b>79</b>	<b>415</b>	<b>356</b>	<b>225</b>	

Kachess River					
YEAR	Juv Rescued	YOY Rescued	YOY Transferred	Released	Survival
2017	2	132	0	0	na
2018	73	817	0	0	na
2019	37	2464	1162	152	13%
2020	24	1001	596	531	89%
2021	12	856	483	466	96%
2022	22	2	0	0	
<b>Total Fish</b>	<b>170</b>	<b>5272</b>	<b>2241</b>	<b>1149</b>	

Fry Arrive in August



Rear 10 months



Release in June

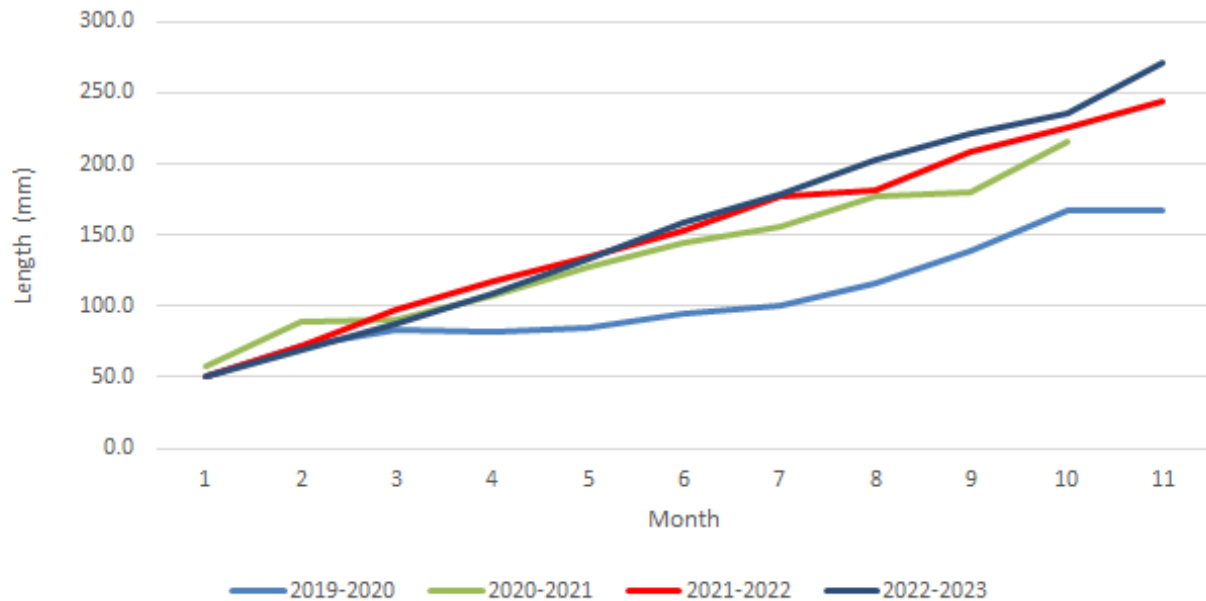


1,374 Juveniles Released

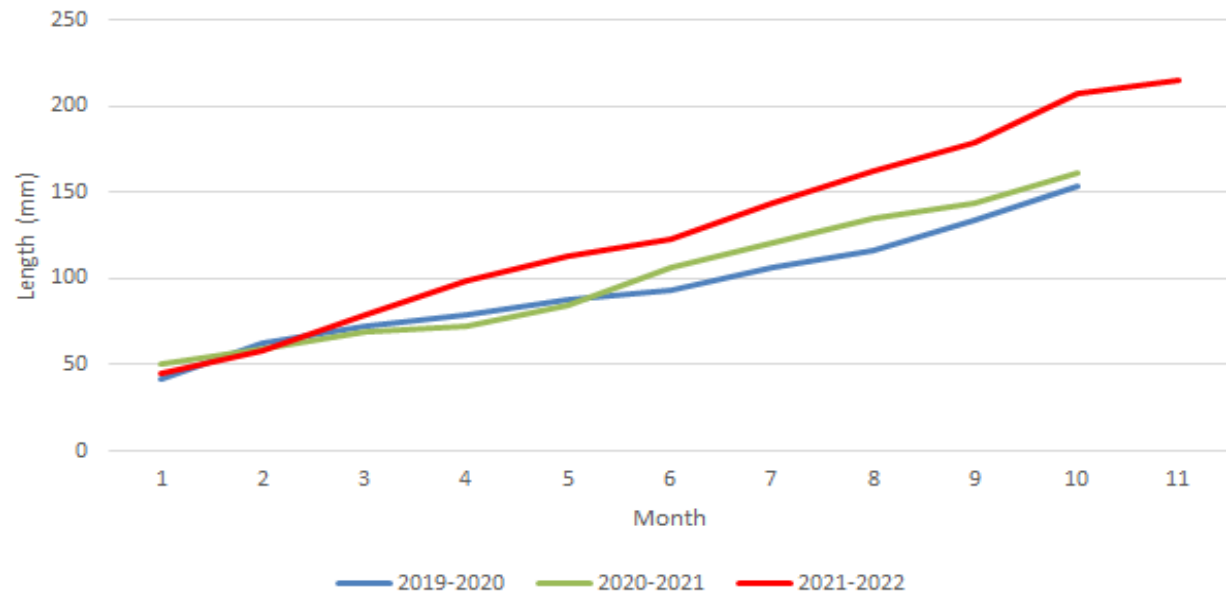
# Adaptive Management

- Condensed Rescue & Transport Period
- Reduced Density
- Increase Feed Frequency
- 10 Month Rearing Cycle

### Gold Cr Rearing Cycle Growth Comparison



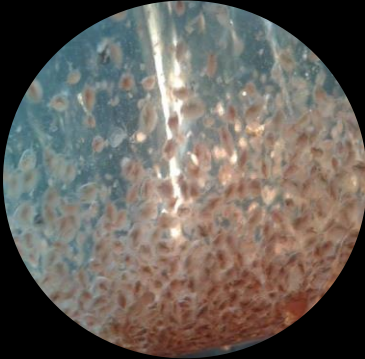
### Kachess River Rearing Cycle Growth Comparison





# Captive Rearing Diet

Daphnia



Brine Shrimp



Blood Worms



Krill



RBT & Spring Chinook Fry





# Tag & Release



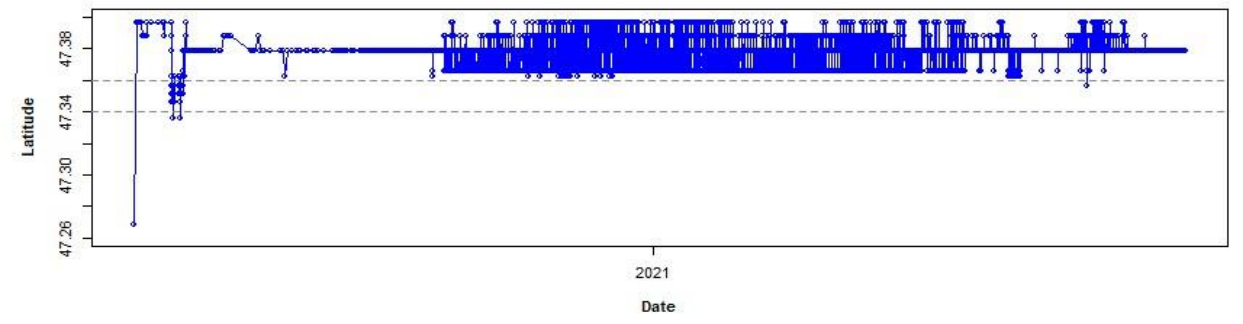
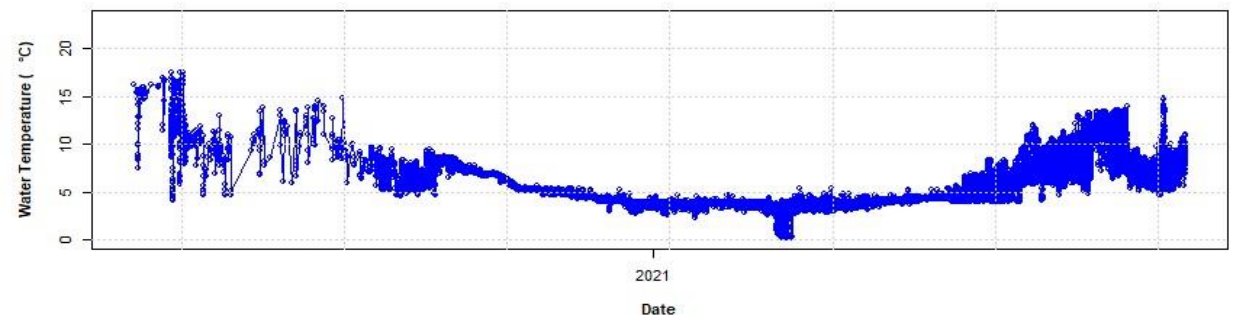
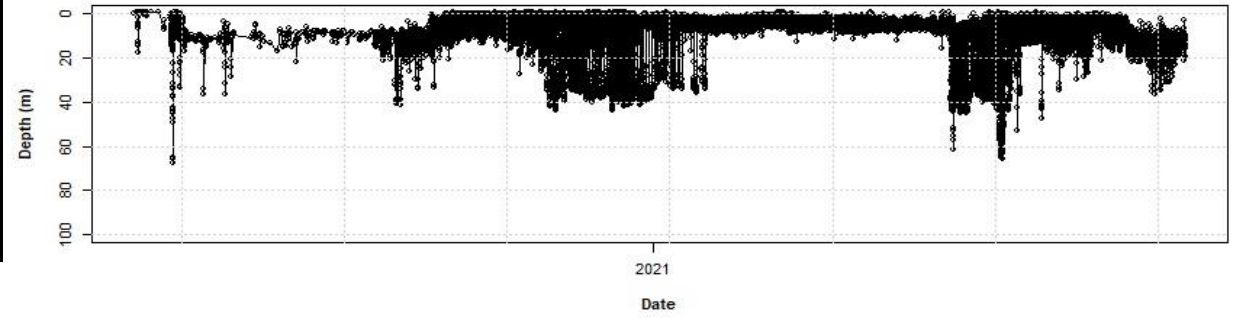
- PIT Tagged
- DNA Collected
- Adipose Clipped
- Weighed
- Measured
- Acoustic Tagged (>225mm)





# Acoustic Telemetry Monitoring

	Acoustic tagged		Sensor tagged		Pinger tagged	
	Keechelus	Kachess	Keechelus	Kachess	Keechelus	Kachess
2019	0	6	0	6	0	0
2020	0	7	0	5	0	2
2021	10	18	7	17	3	1
2022	0	20	0	5	0	15
2023						
<b>total</b>	<b>10</b>	<b>51</b>	<b>7</b>	<b>33</b>	<b>3</b>	<b>18</b>





# PIT Tag Monitoring

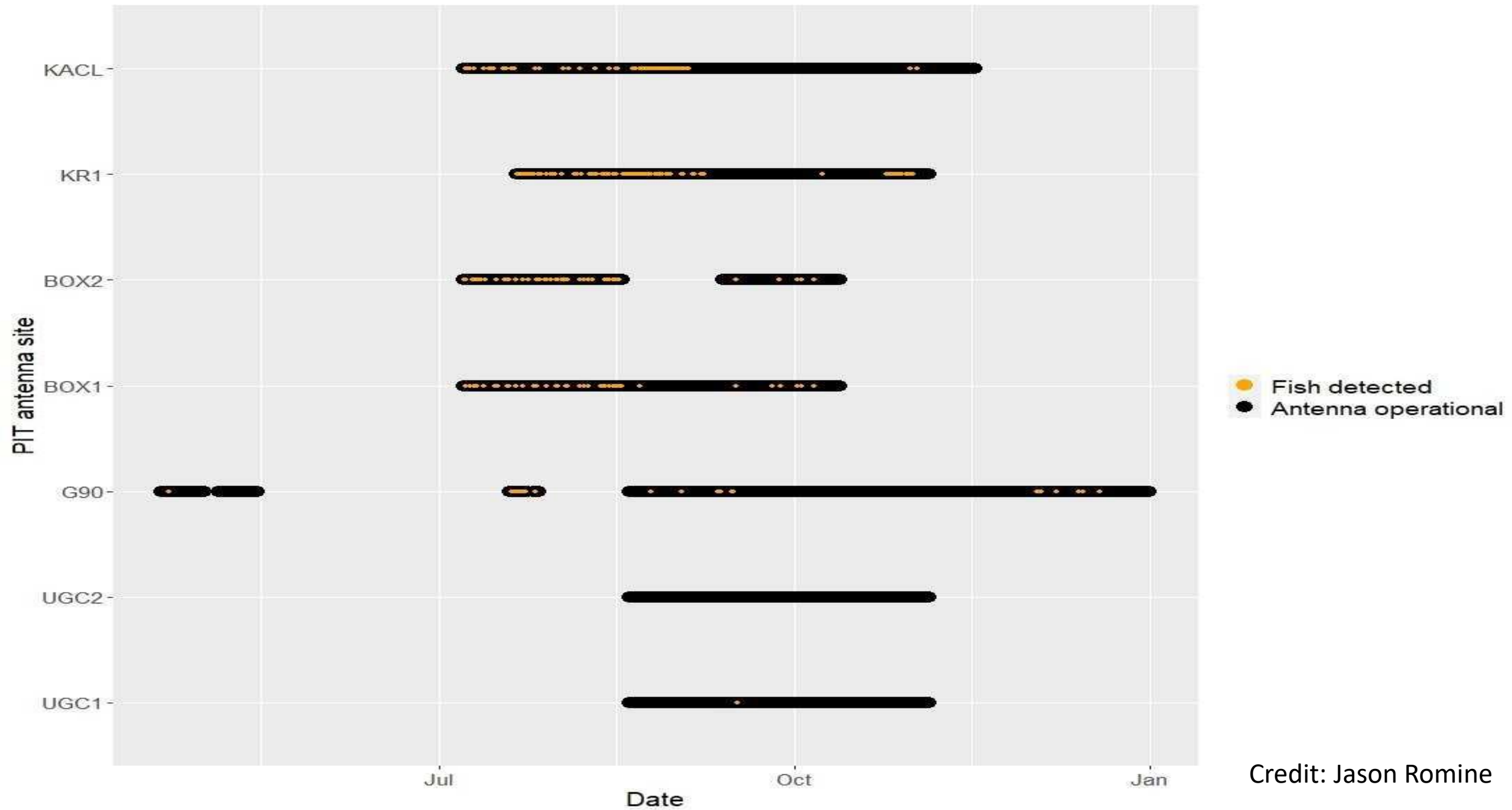
<u>Year</u>	<u>Gold</u>	<u>Kachess</u>
2017	0	0
2018	0	0
2019	78	167
2020	98	554
2021	99	488
2022	7	13
<b>Total</b>	<b>282</b>	<b>1222</b>

<u>LaSalle Detection Summary</u>					
	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>Total</u>
<b>Gold Creek</b>	0	31	45	11	87
<b>Kachess River</b>	0	1	8	12	21
<b>Box Canyon</b>	0	2	18	24	44

<u>WDFW Detection Summary</u>					
	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>Total</u>
<b>Gold Creek</b>	0	11	3	0	14
<b>Kachess River</b>	0	12	4	15	31
<b>Box Canyon</b>	0	0	0	0	0



# Upper Yakima PIT antenna operations and detections in 2022



Credit: Jason Romine



# Additional Monitoring

## Observations:

- 2 LaSalle fish observed during WDFW Demographic surveys. (1 Box Canyon & 1 Kachess River)
- 2 LaSalle fish captured and released in Keechelus tributaries by Paul James of CWU.
- 1 LaSalle fish captured below Kachess Dam by USFWS and relocated to Kachess Lake.

## Future Monitoring Goals:

- Deploy additional acoustic tags
- Install additional or upgrade existing PIT tag antenna sites
- Continue tagging rescued juveniles and LaSalle releases





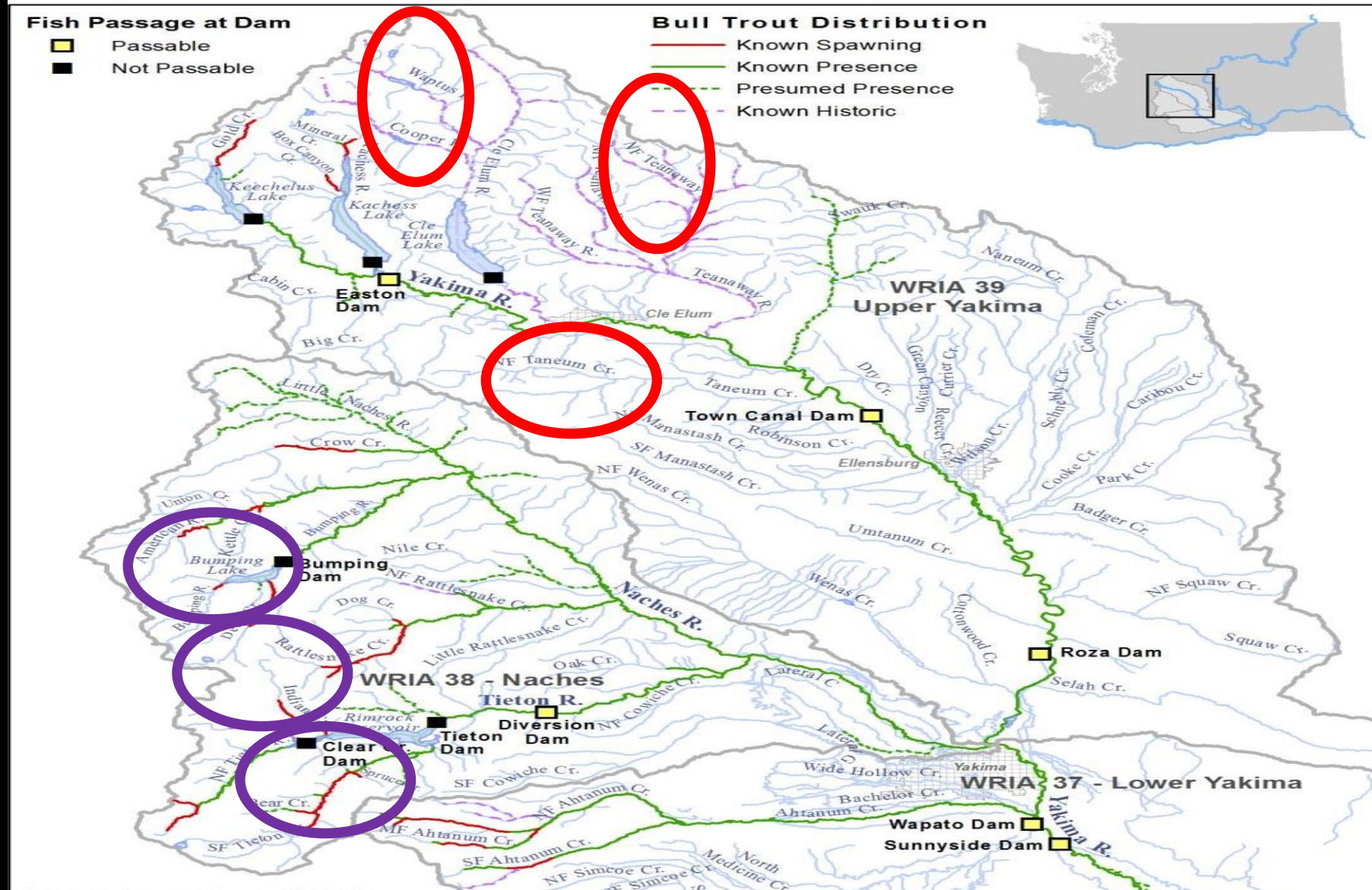
# Bull Trout Reintroduction

## Potential Donor Source

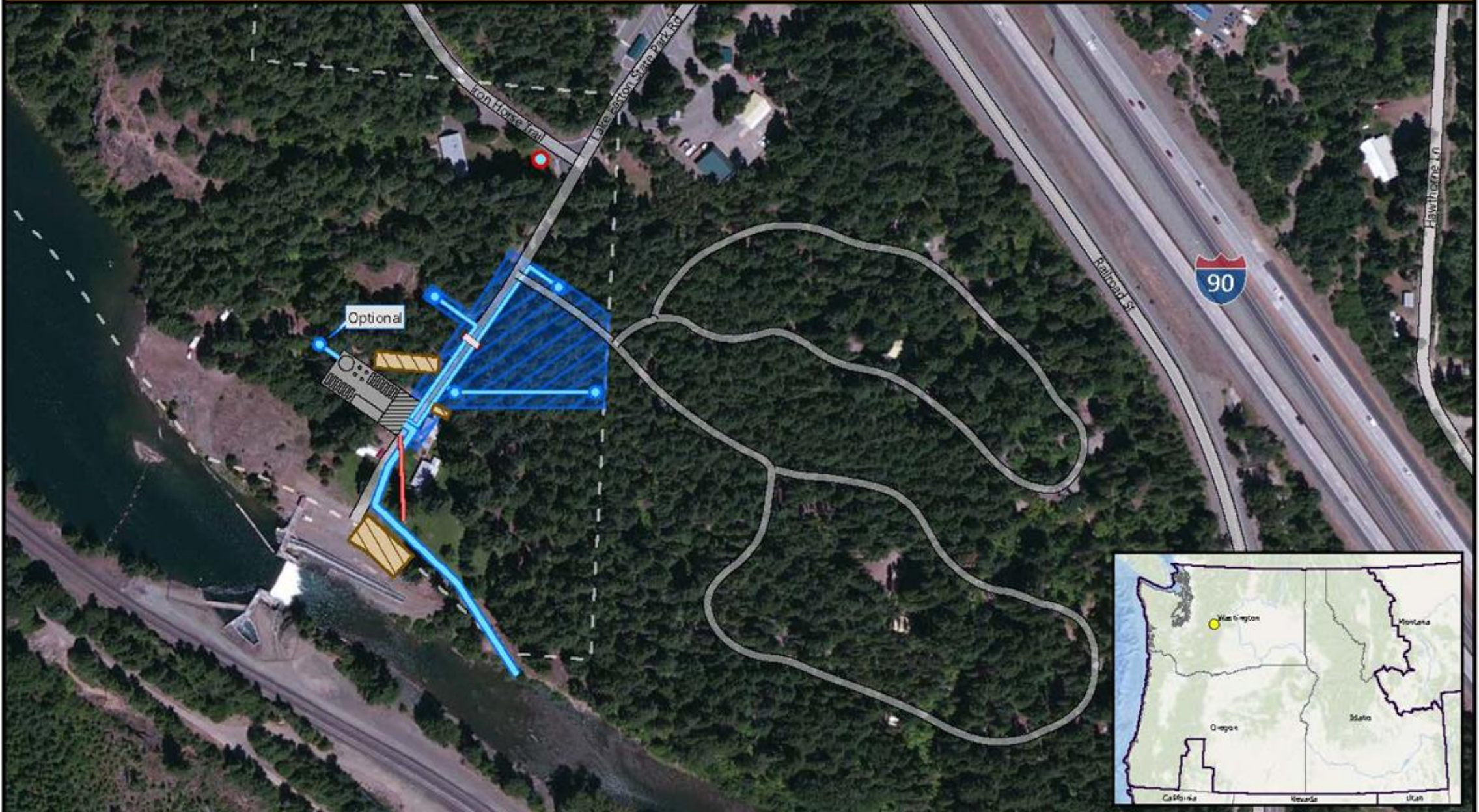
- SF Tieton River
- Indian Creek
- Deep Creek

## Reintroduction Streams

- Taneum Creek
- NF Teanaway River
- Waptus River











# Hall of Fame



2022: 317mm



2022: 305mm



2021: 270mm







Washington  
Department of  
**FISH and  
WILDLIFE**

# Questions?



— BUREAU OF —  
**RECLAMATION**

