

Radio Telemetry of Hatchery-Reared and Stream Acclimated Chinook Salmon and Summer Steelhead Smolts from Ochoco Creek, 2022

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Introduction

- Background:
 - Improvement in SWW collection rates in 2021
 - Chinook Salmon 30-50% 102,000 released
 - Steelhead 14-23% 115,000 released
 - Crooked River releases much lower in 2021
 - Chinook Salmon 12-13% 20,128
 - Steelhead 2-3% 19,300
 - 2022: CHS – 13% 17,500 and STS – 1.5% 2,100
- Objectives:
 - Track smolts to determine movement patterns in the Crooked River from Prineville to SWW
 - Identify migration barriers

Radio Telemetry Fixed Stations

SWW Fish Collector

RM 0

Crooked River Arm Fixed Receiver

Opal Springs

RM 7

Holechek Fixed Station

RM 20

Smith Rock
State Park

Ochoco Creek Release Site

RM 45

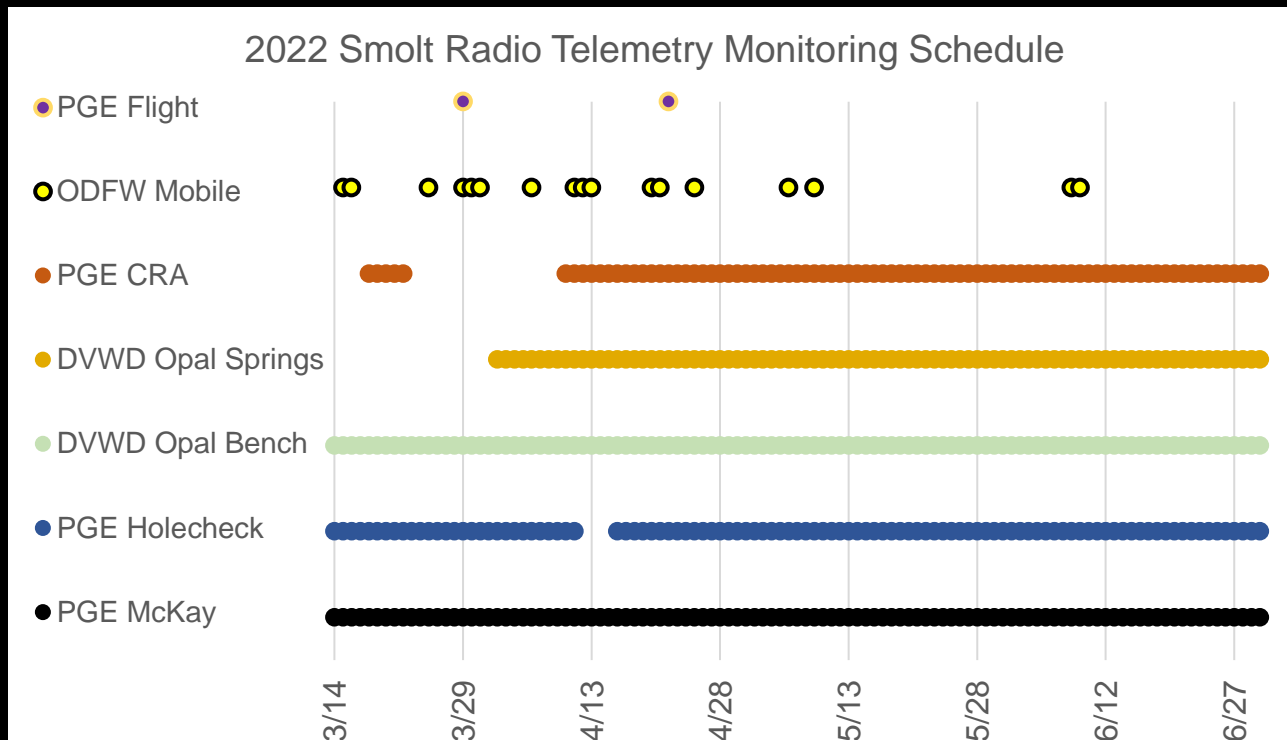
Crooked River Central Diversion

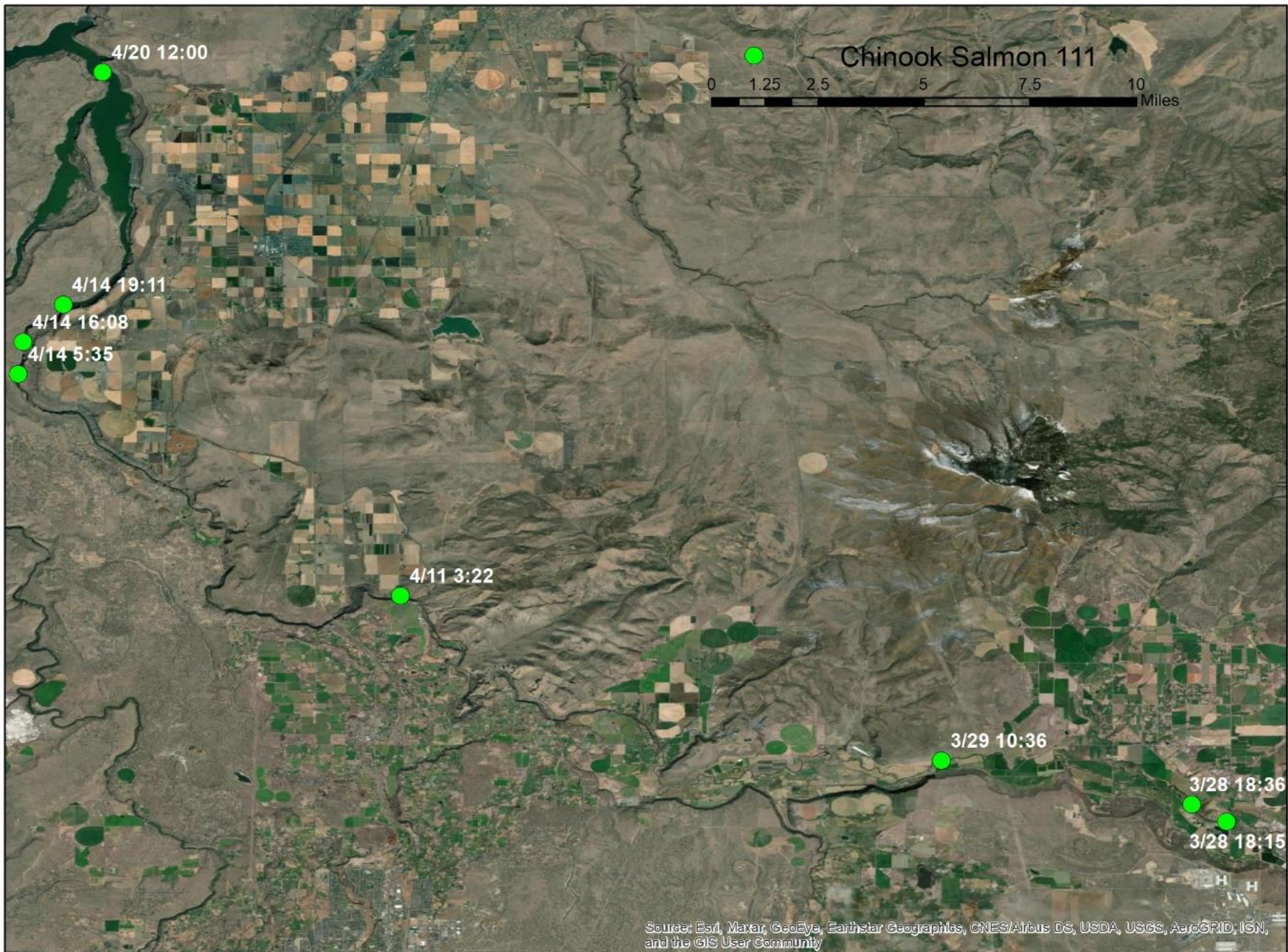
McKay Fixed Station





Monitoring Schedule





Final Smolt Tag Locations



Spring Chinook Salmon



Summer Steelhead

SWW Fish Collector

Lake Billy Chinook

Crooked River Arm Fixed Station

Opal Springs

Holechek Fixed Station

Smith Rock State Park

Ochoco Creek Release Site

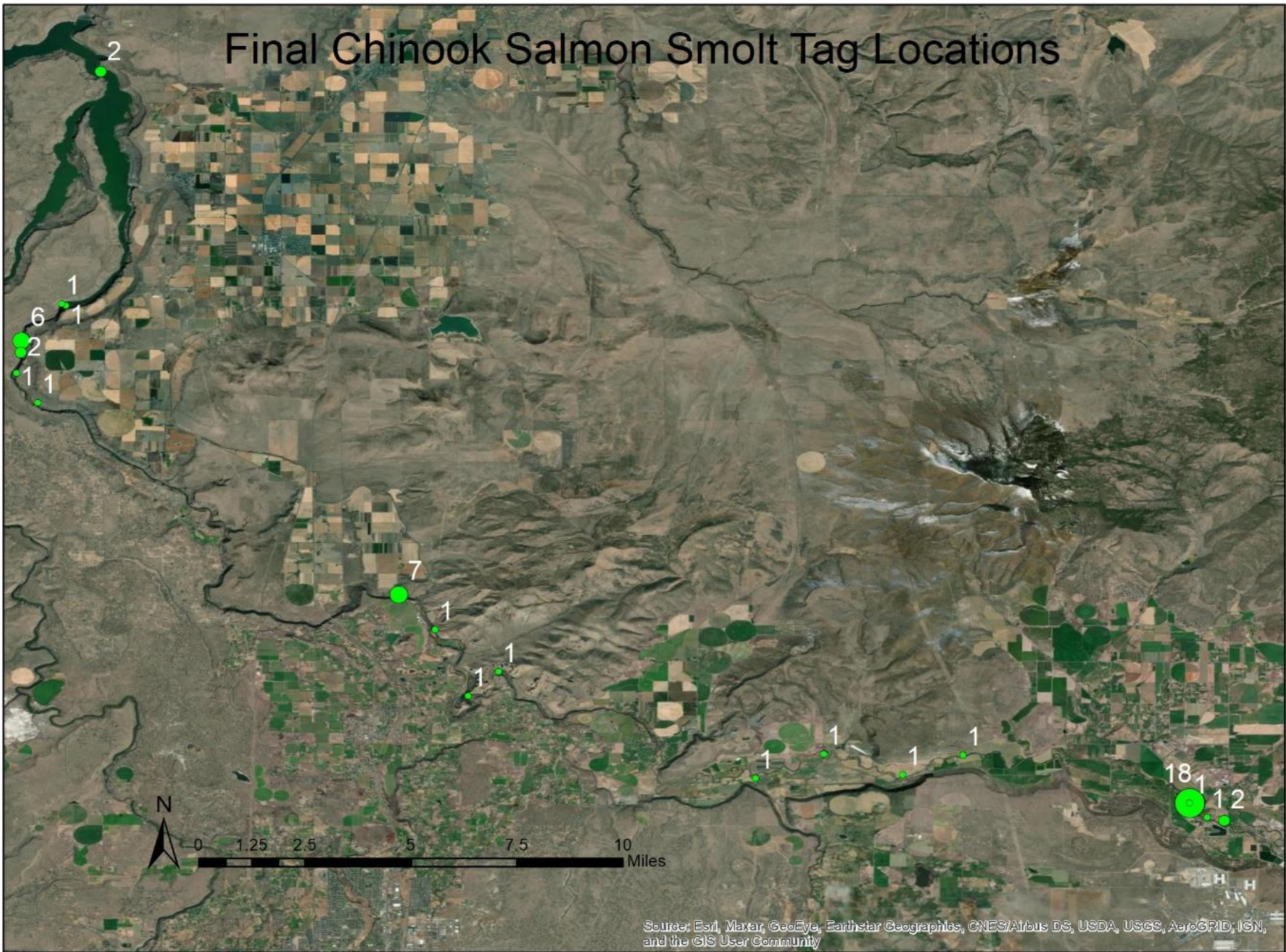
Crooked River Central Diversion

McKay Creek Fixed Station

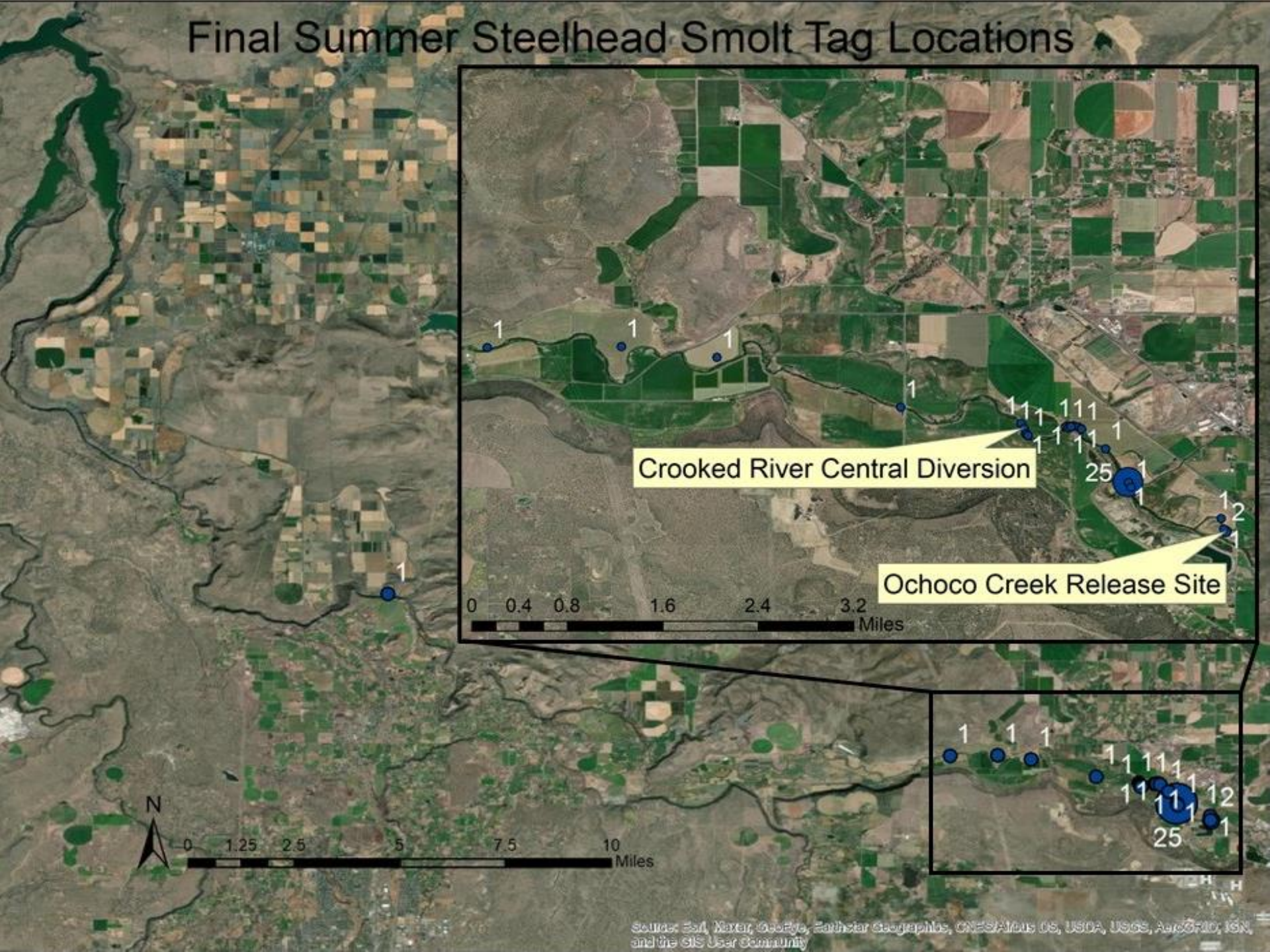


Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Final Chinook Salmon Smolt Tag Locations



Final Summer Steelhead Smolt Tag Locations



Crooked River Central Diversion

Ochoco Creek Release Site

Release Group Summary

	Number Released	McKay	Holechek	Opal Springs	Crooked Arm
CHS	50	46	20	13	2
3/14	19	18	10	3	
3/28	31	28	10	10	2
StS	50	45	1		
4/6	21	17			
4/8	29	28	1		

Days to Location Post-Release

		McKay	Holecheck	Opal Springs	CRA
3/14	Number	0	10	3	0
	Mean	N/A	5.84	8.45	N/A
	Median	N/A	3.67	7.65	N/A
3/28	Number	15	10	10	2
	Mean	0.04	6.71	16.58	27.68
	Median	0.01	3.30	11.25	27.68
4/6	Number	11			
	Mean	0.59			
	Median	0.00			
4/8	Number	16	1		
	Mean	0.12	30.75		
	Median	0.00	30.75		

Final Summer Steelhead Smolt Tag Locations

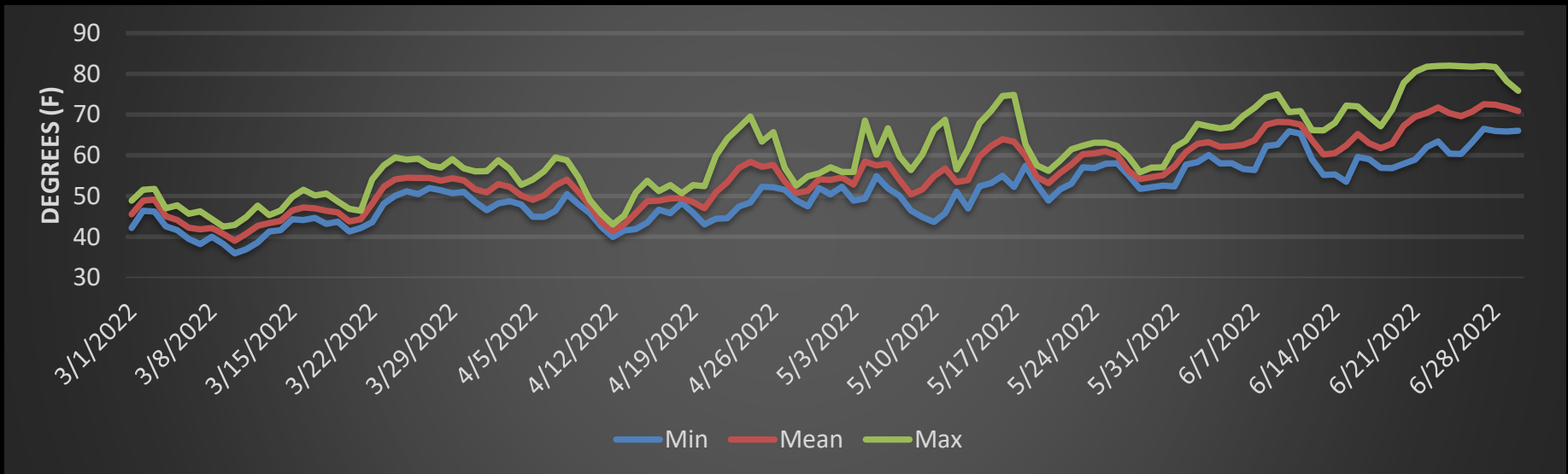
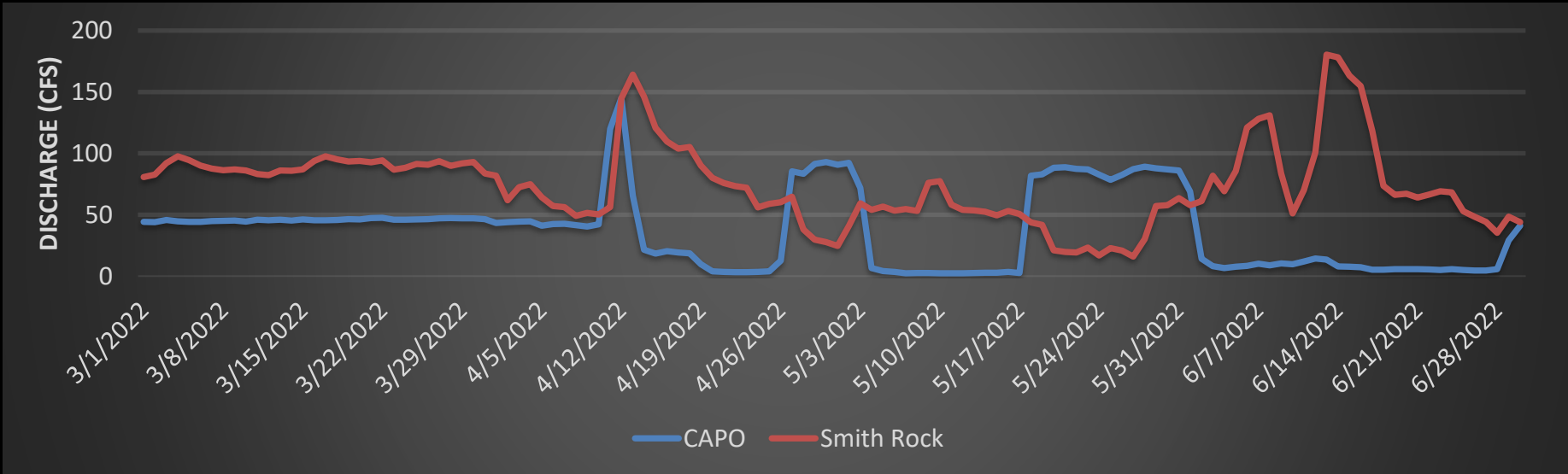
Crooked River Central Diversion Dam

0 0.05 0.1 0.2 0.3 0.4 Miles

164 cfs CRSO 4/13/2022







Recommendations

- Receiver times/operation
- More mobile tracking
- Fish passage at CRC weir
- Water management considerations
 - Winter flows
 - Monitor pulse flows
 - Consider pulse for adults