

Parasitic Copepods (*Salmincola sp.*) and Fish Species Composition in Upper Willamette Reservoirs

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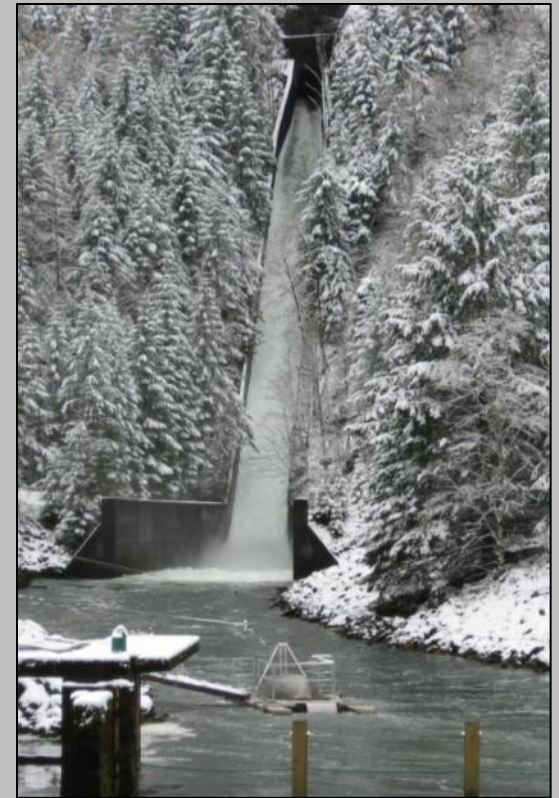
Objectives:

1. Present Observations of Gill Parasites (*Salmincola sp.*) in Cougar and Detroit Reservoirs.
2. Compare Fish Community Among Upper Willamette Reservoirs.
 - Numbers of Native and Introduced Species
 - Relative abundance
 - Possible effects on juvenile spring Chinook
 - Management implications

Methods:

1. Gill Parasites

Screw Trapping Below Cougar Reservoir.



2. Fish Community in Upper Willamette Reservoirs

Oneida Traps



Gill Nets



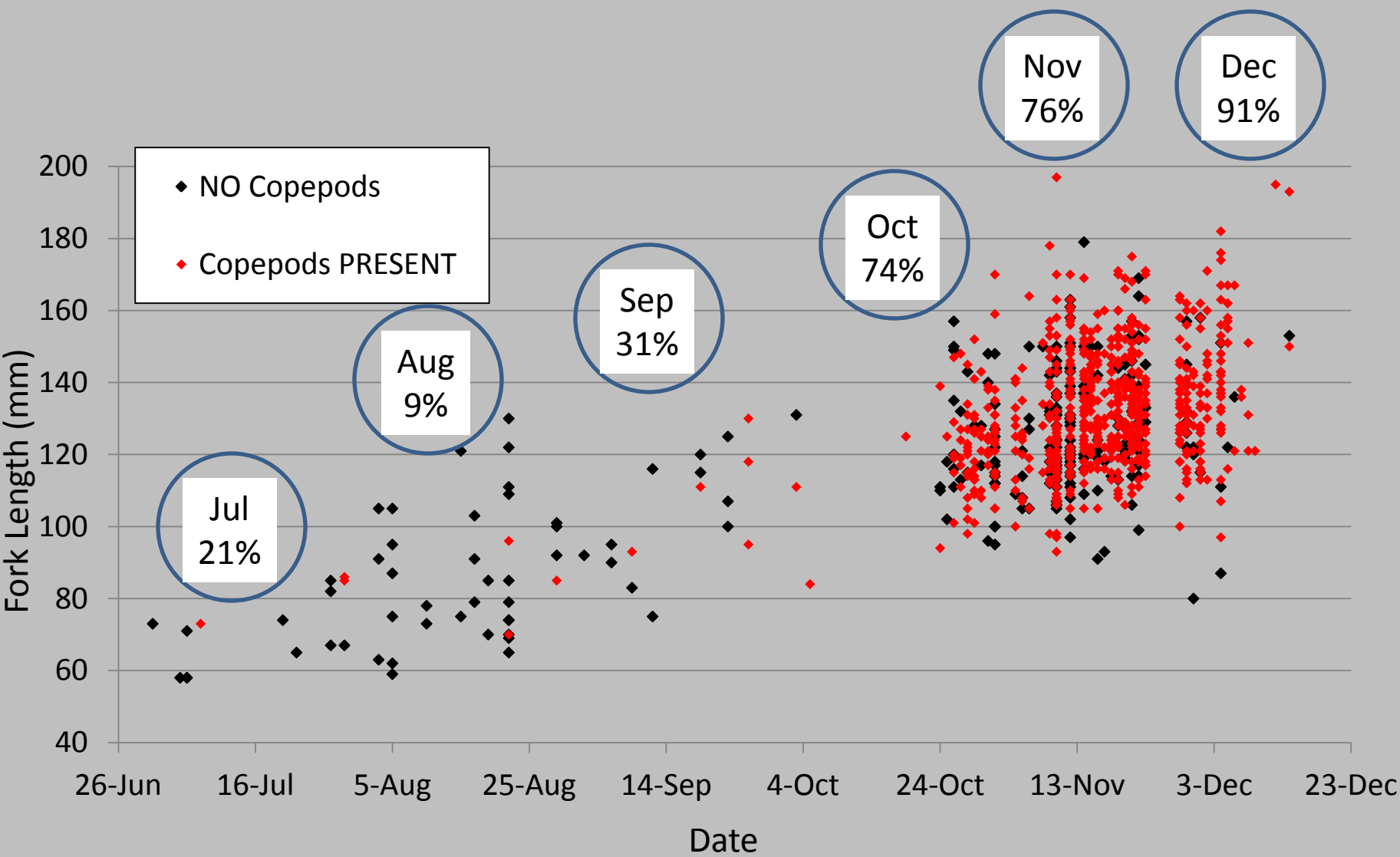
Boat E-fishing

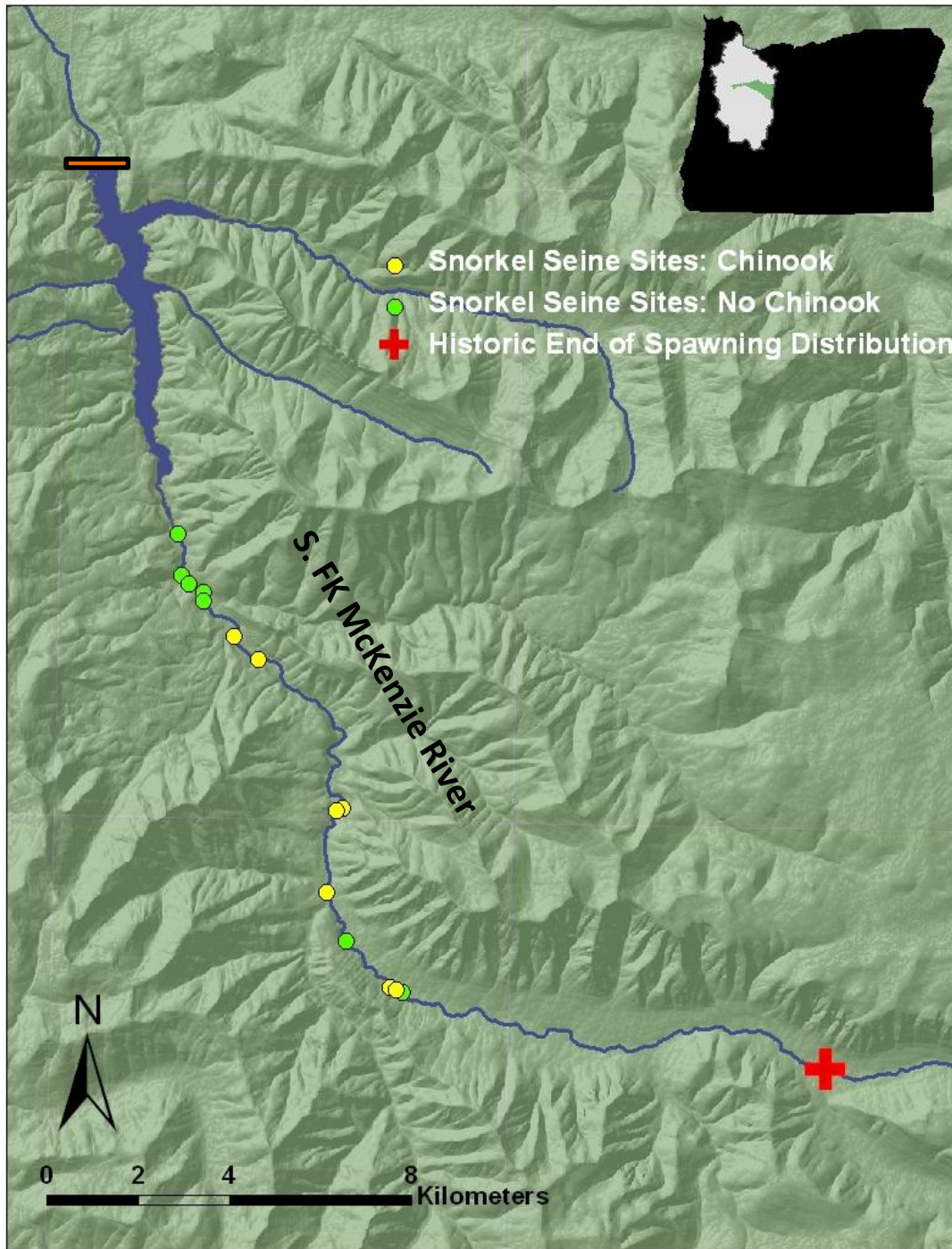


Juvenile Spring Chinook Captured Below Cougar Dam

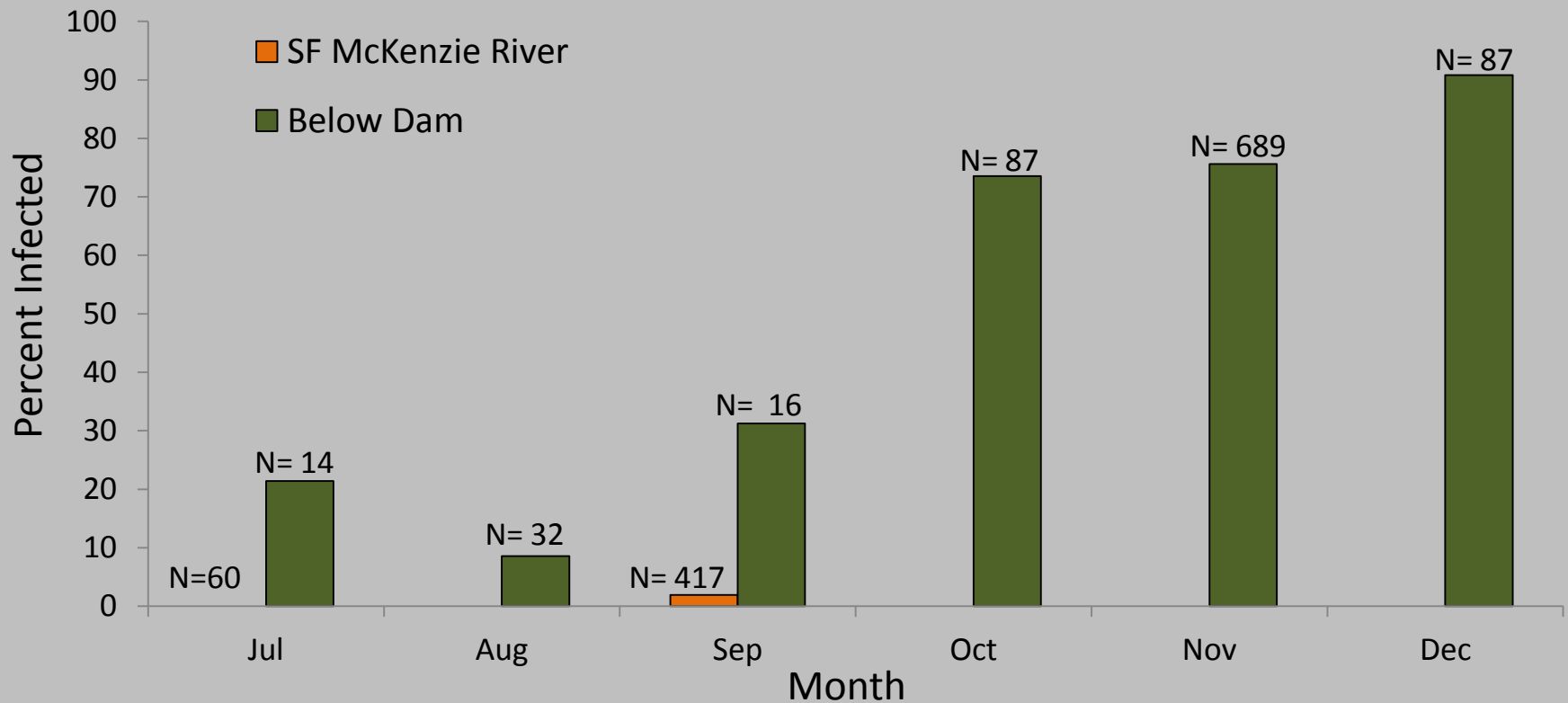


Juvenile Spring Chinook Captured Below **Cougar Dam**

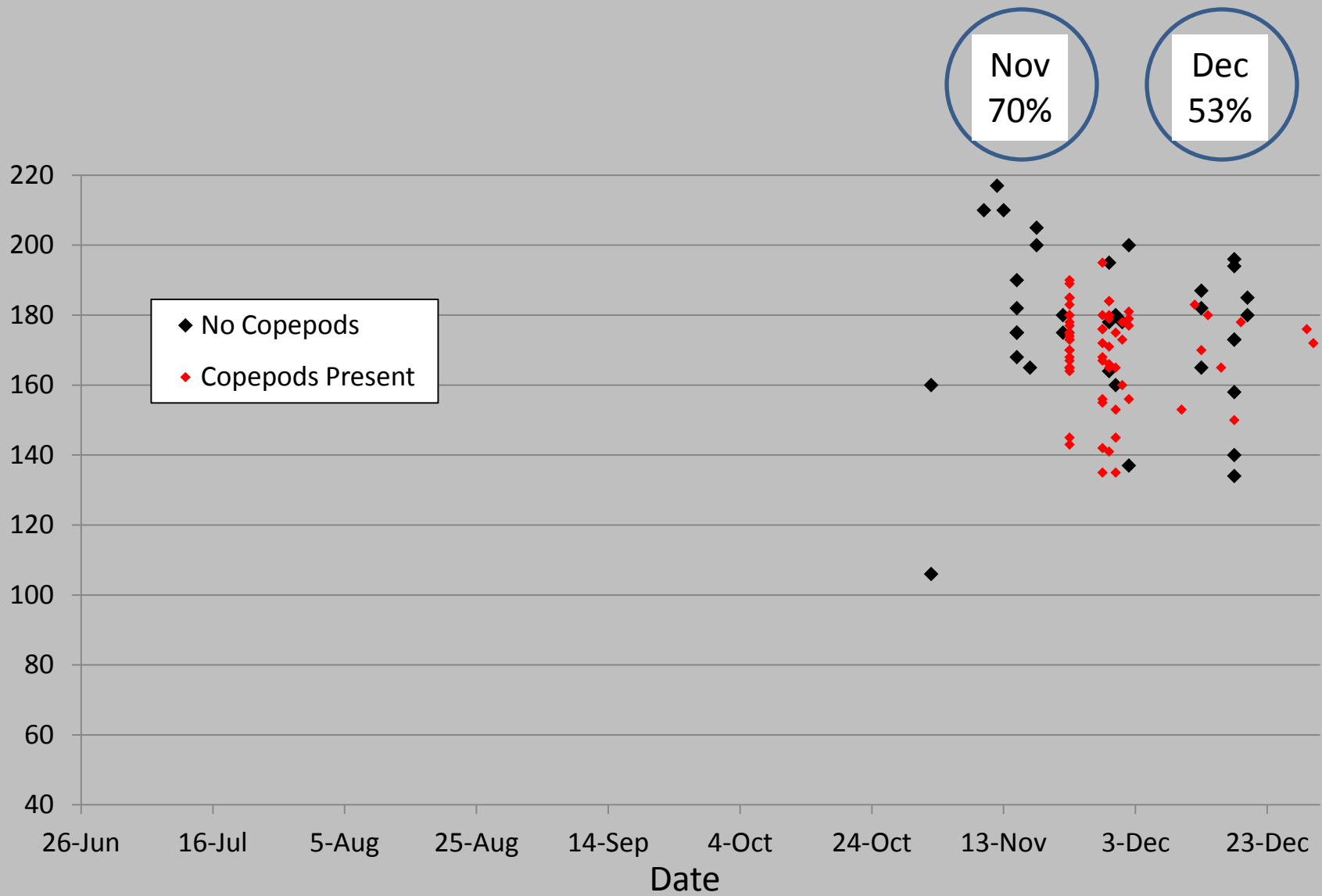


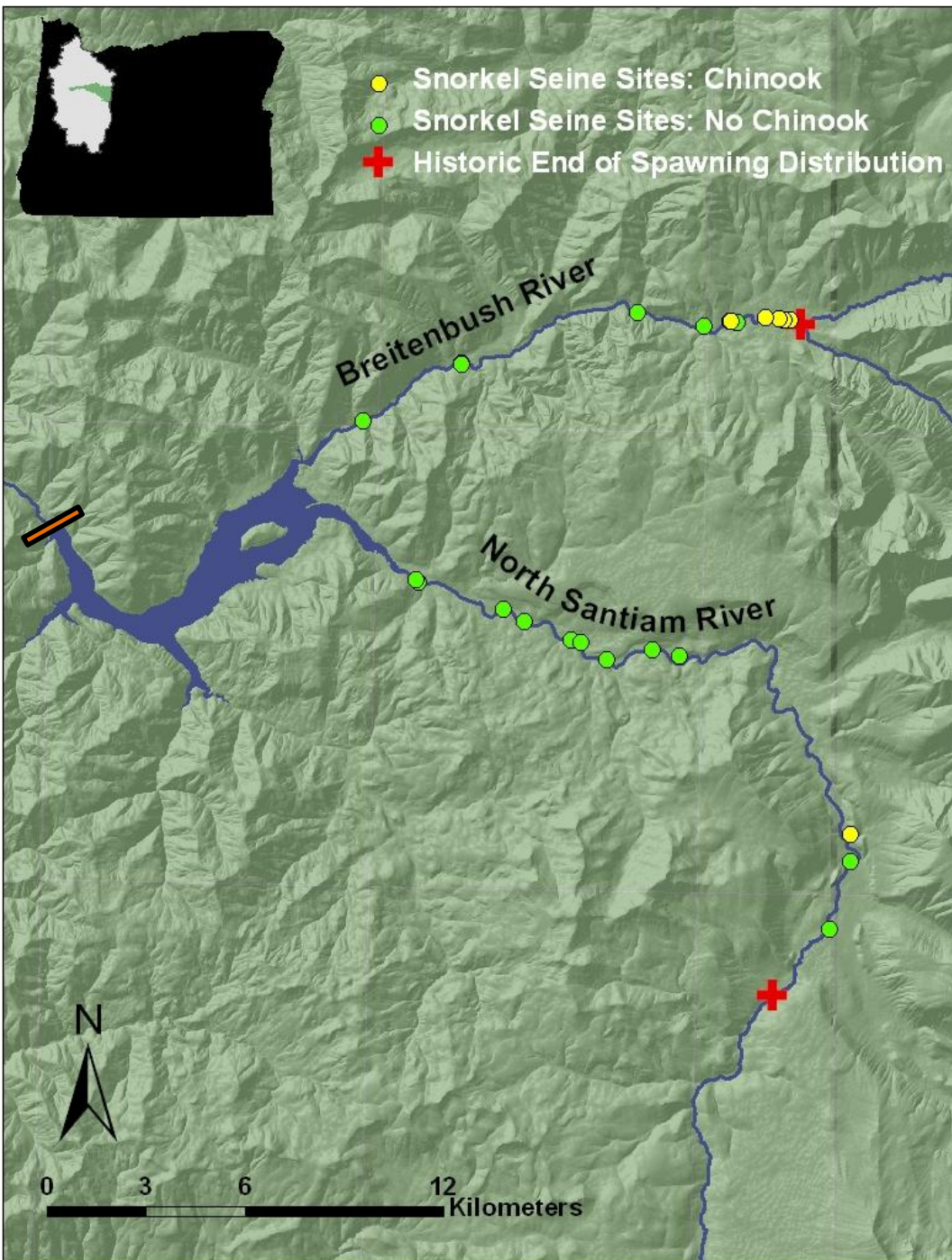


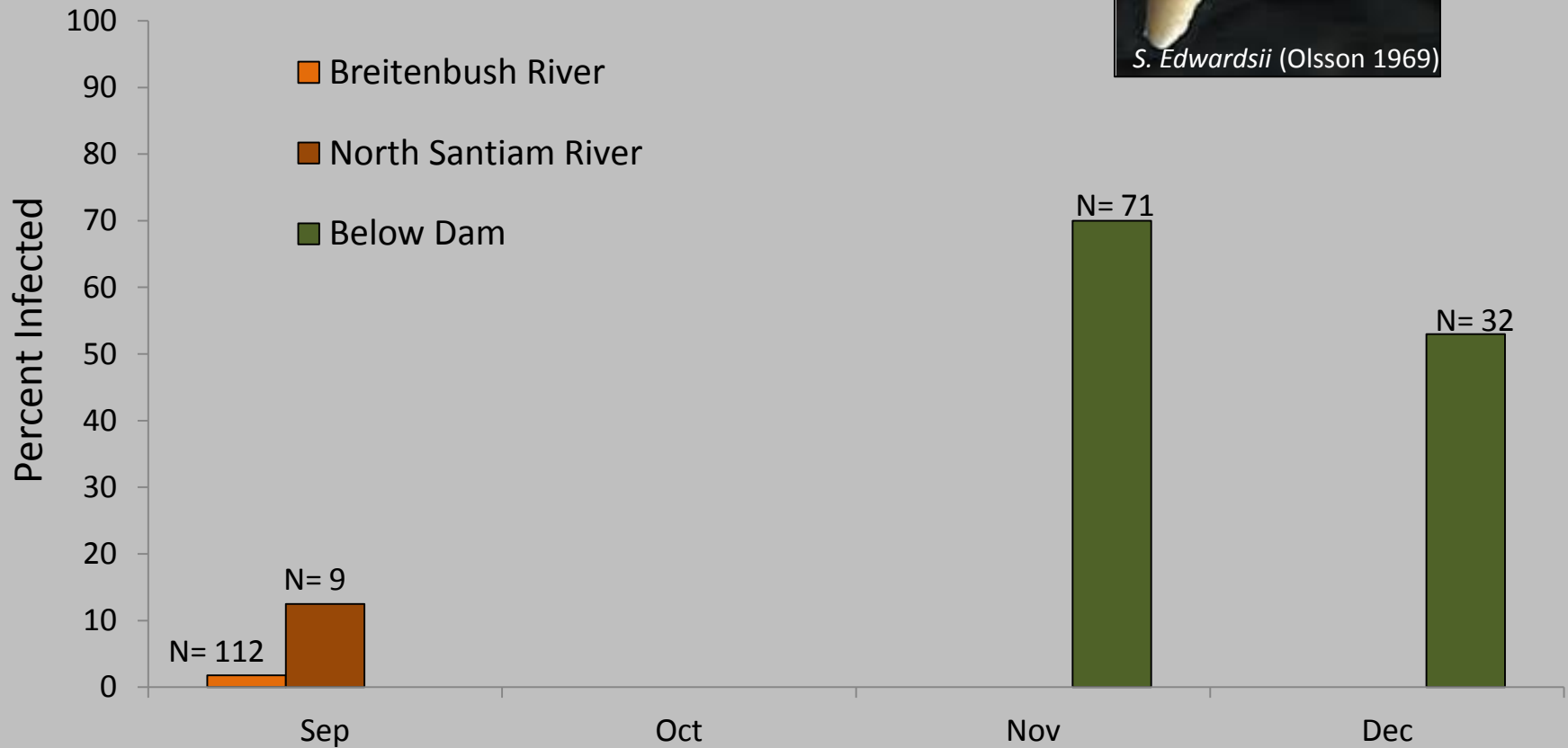
Juvenile Spring Chinook Upstream vs. Downstream of Cougar Res.



Juvenile Spring Chinook Captured Below **Detroit Dam**







Objectives:

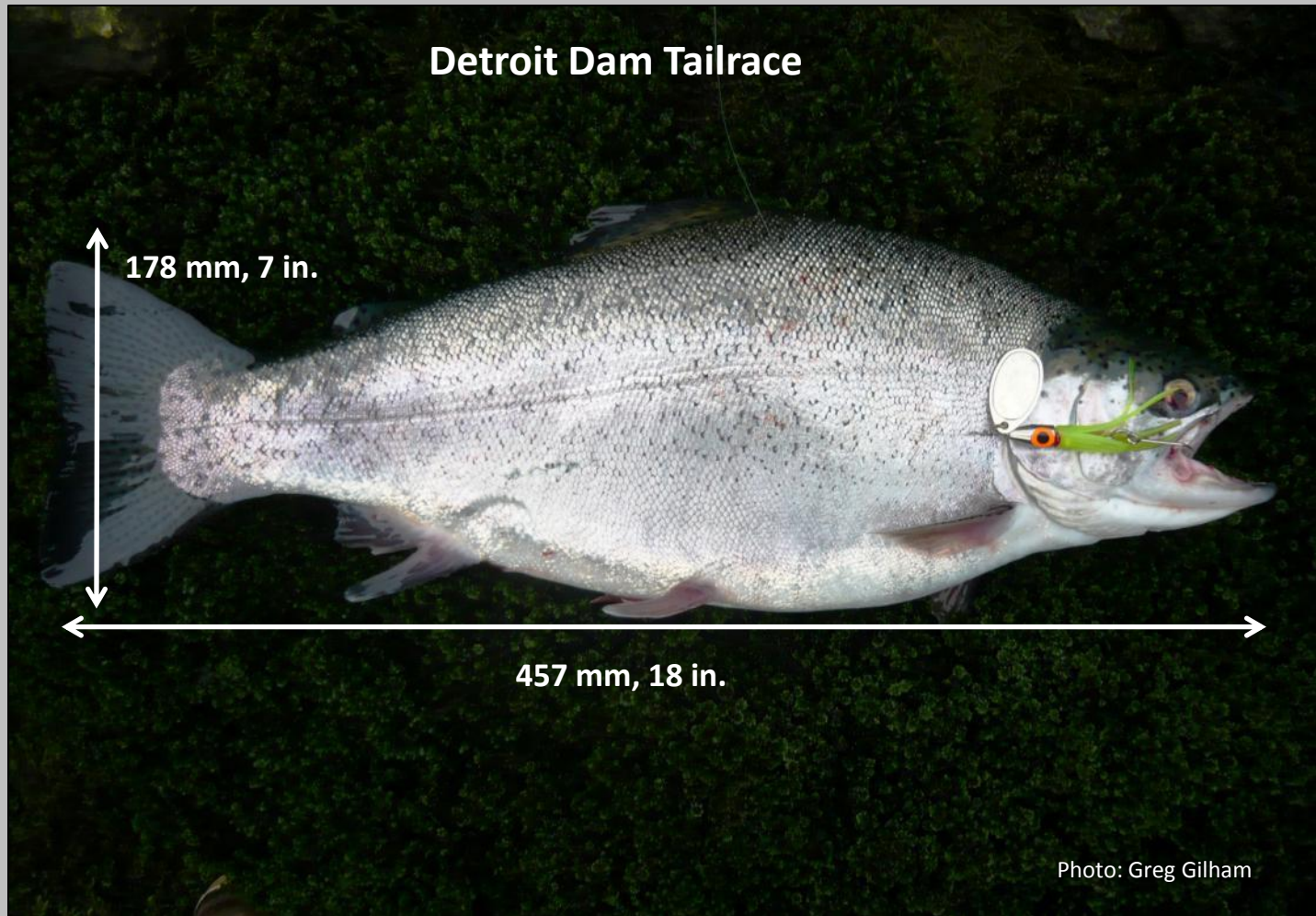
2. Compare Fish Community Among Upper Willamette Reservoirs.

- Numbers of Native and Introduced Species
- Relative abundance
- Possible effects on juvenile spring Chinook
- Management implications

Species Composition in Upper Willamette Valley Reservoirs

Species	Number captured			Size (mm)
	Detroit	Cougar	Lookout Point	Min. - Max
Native				
Rainbow Trout (<i>Oncorhynchus mykiss</i>)	1880	132	198	36 - 440
Cutthroat Trout (<i>Oncorhynchus clarkii</i>)	1	73	39	67 - 394
Bull Trout (<i>Salvelinus confluentus</i>)	0	12	0	215 - 537
Mountain Whitefish (<i>Prosopium williamsoni</i>)	13	158	1	33 - 330
Northern Pikeminnow (<i>Ptychocheilus oregonensis</i>)	0	0	577	33 - 590
Sucker (<i>Catostomus spp.</i>)	0	0	527	60 - 565
Dace (<i>Rhinichthys spp.</i>)	14079	28707	62	31 - 95
Redside Shiner (<i>Richardsonius balteatus</i>)	0	0	357	52 - 113
Sculpin (<i>Cottus spp.</i>)	5	4	53	46 - 223
Exotic				
Kokanee (<i>Oncorhynchus nerka</i>)	400	0	0	42 - 165
Bass (<i>Micropterus spp.</i>)	0	8	160	30 - 475
Walleye (<i>Sander vitreus</i>)	0	0	26	187 - 755
White Crappie (<i>Pomoxis annularis</i>)	0	0	271	47 - 380
Black Crappie (<i>Pomoxis nigromaculatus</i>)	0	0	6	75 - 290
Bluegill (<i>Lepomis macrochirus</i>)	127	0	11	53 - 170
Pumpkinseed (<i>Lepomis gibbosus</i>)	5297	0	3	64 - 135
Brown Bullhead (<i>Ameiurus nebulosus</i>)	254	0	89	25 - 395
Yellow Bullhead (<i>Ameiurus natalis</i>)	0	0	9	120 - 260

Detroit Reservoir



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Cougar Reservoir



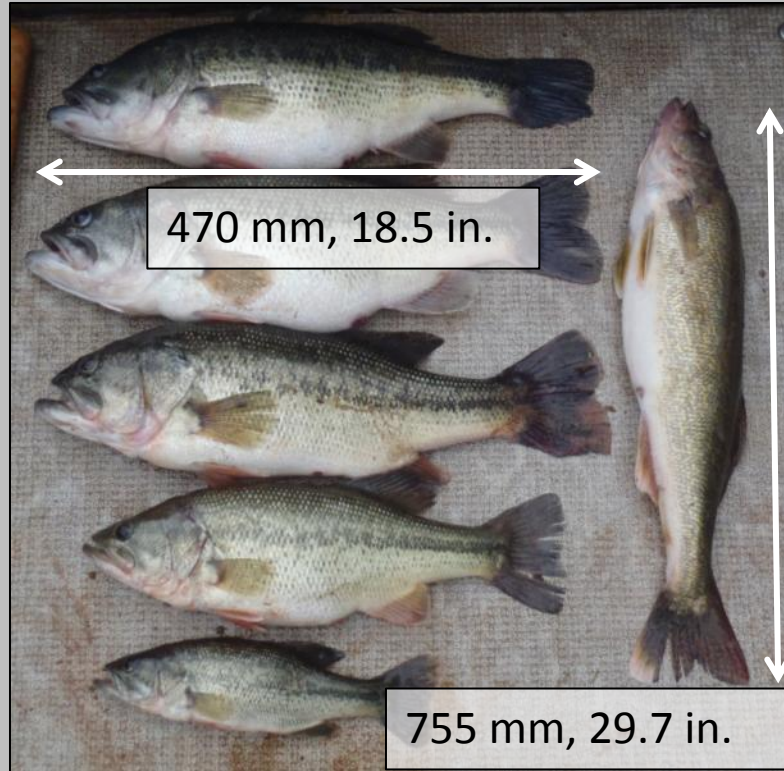
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Lookout Point Reservoir



Courtesy: Oregon Dept. of Fish & Wildlife



USGS 2004

In Conclusion:

Copepods

- *Salmincola* prevalence appears to increase with the duration of time spent in reservoirs.
- Copepod infection seems rare in stream-rearing juveniles.
 - Need information on how copepods affect saltwater transition (physiology, parasitology).
 - Need standardized protocol to record intensity of infection.
 - Are fish infected in the reservoir?
 - Do *Salmincola* negatively affect survival?

Species Composition

- Large abundance of piscivorous predators in Lookout Point Reservoir.
 - Currently processing diet samples collected in Spring and Fall 2011.
- Drawdown in Lookout Point could decrease abundance of predatory fish.
 - Downstream effects ?
- Detroit Reservoir - Hatchery Rainbow Trout prey on juvenile Chinook
 - stream, reservoir, below the dam

Acknowledgements



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