

Trends, Survival, and Productivity of Wild Steelhead in Idaho



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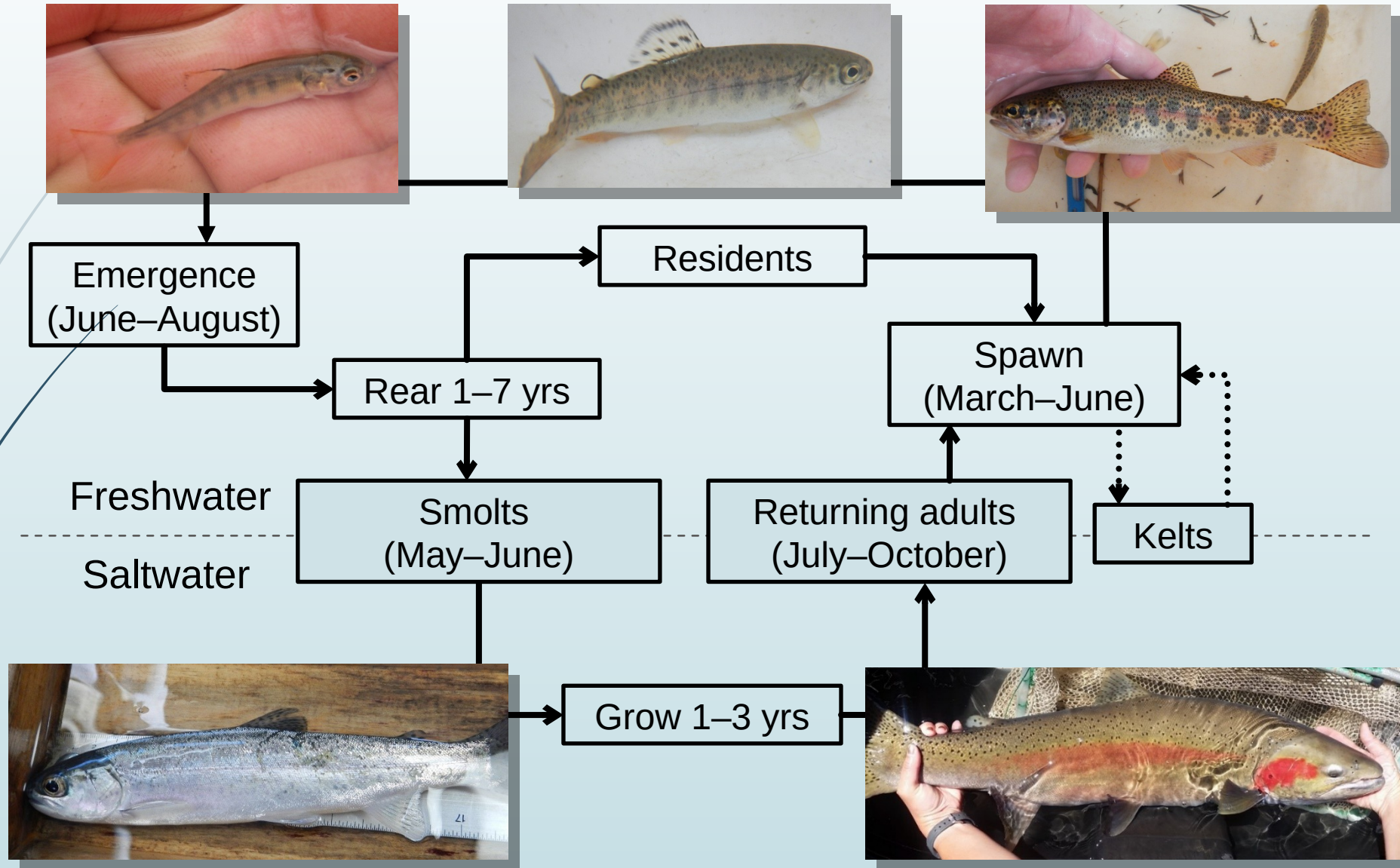
Brett J. Bowersox, Tim Copeland, Eric J. Stark

Introduction

- Snake River basin steelhead listed in 1997
- Watershed refuge for wild steelhead in Idaho
- Popular mainstem fisheries



Steelhead Life History Diversity



Objectives

1. Describe trends of juvenile and adult abundances
2. Describe diversity in migration timing and age composition of juvenile and adult steelhead
3. Examine age-specific and brood year survival of smolts to Lower Granite Dam
4. Estimate abundance of smolts at Lower Granite Dam
5. Examine recruitment of juveniles and smolts by spawner abundance

Study Area



Lower Granite
Dam

Clearwater River

Fish Creek

Lochsa River

Snake River

Study Area

Lower Granite
Dam



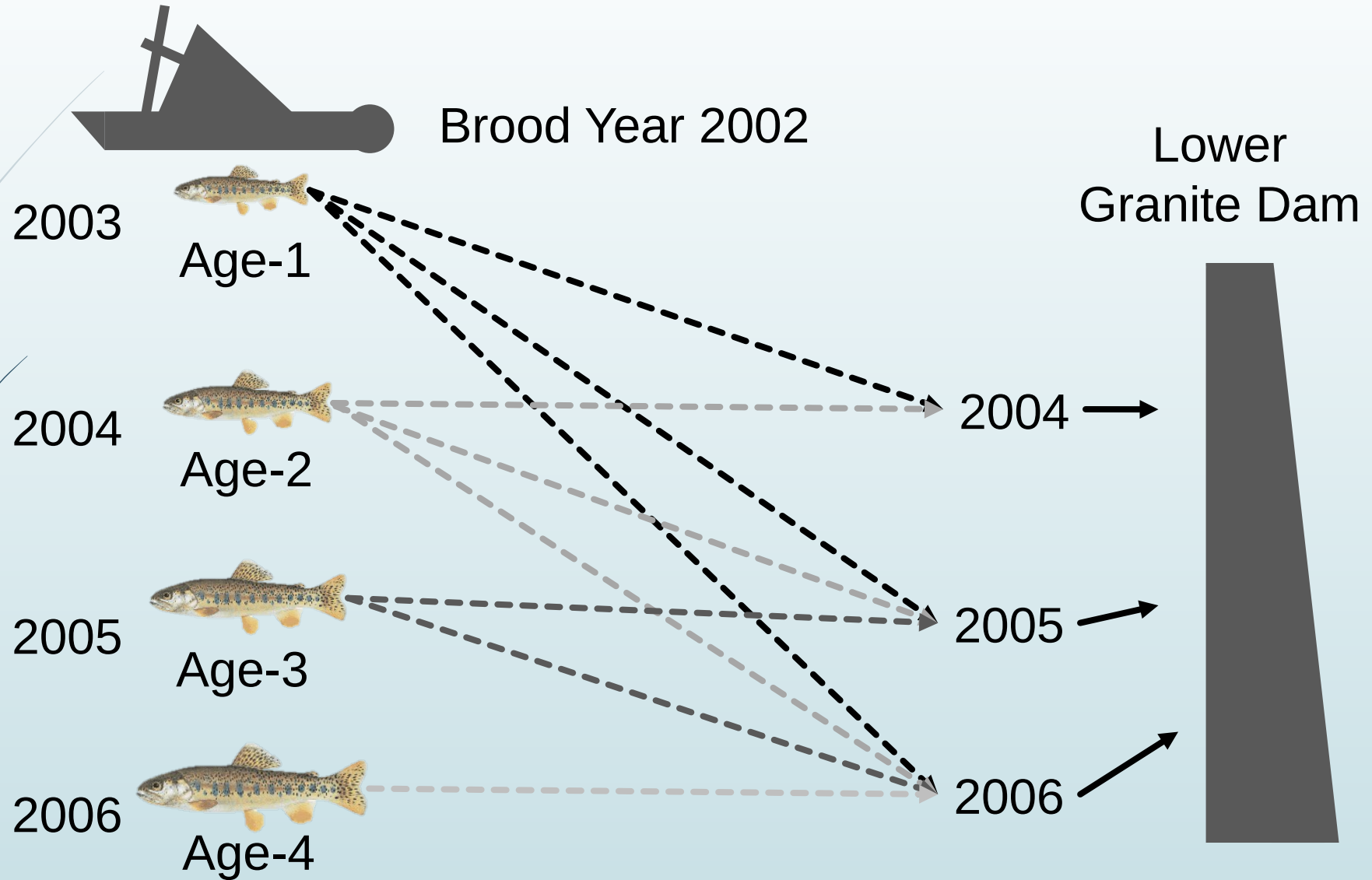
LOCHSA RIVER



Methods



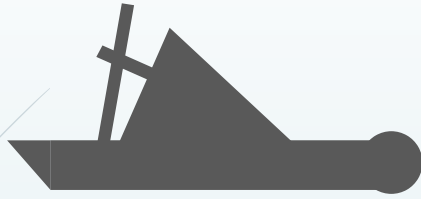
Migration Pathways



Juvenile Rearing and Migration

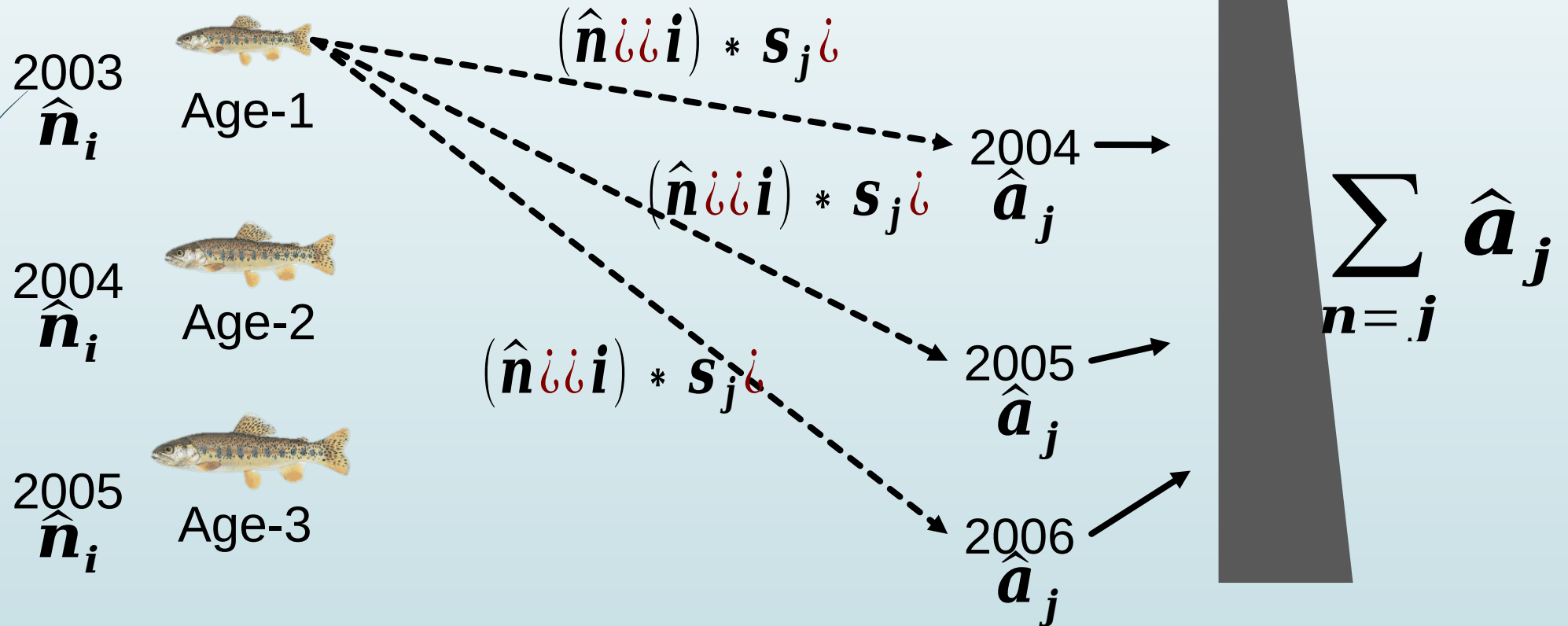


Estimating Cohort Survival

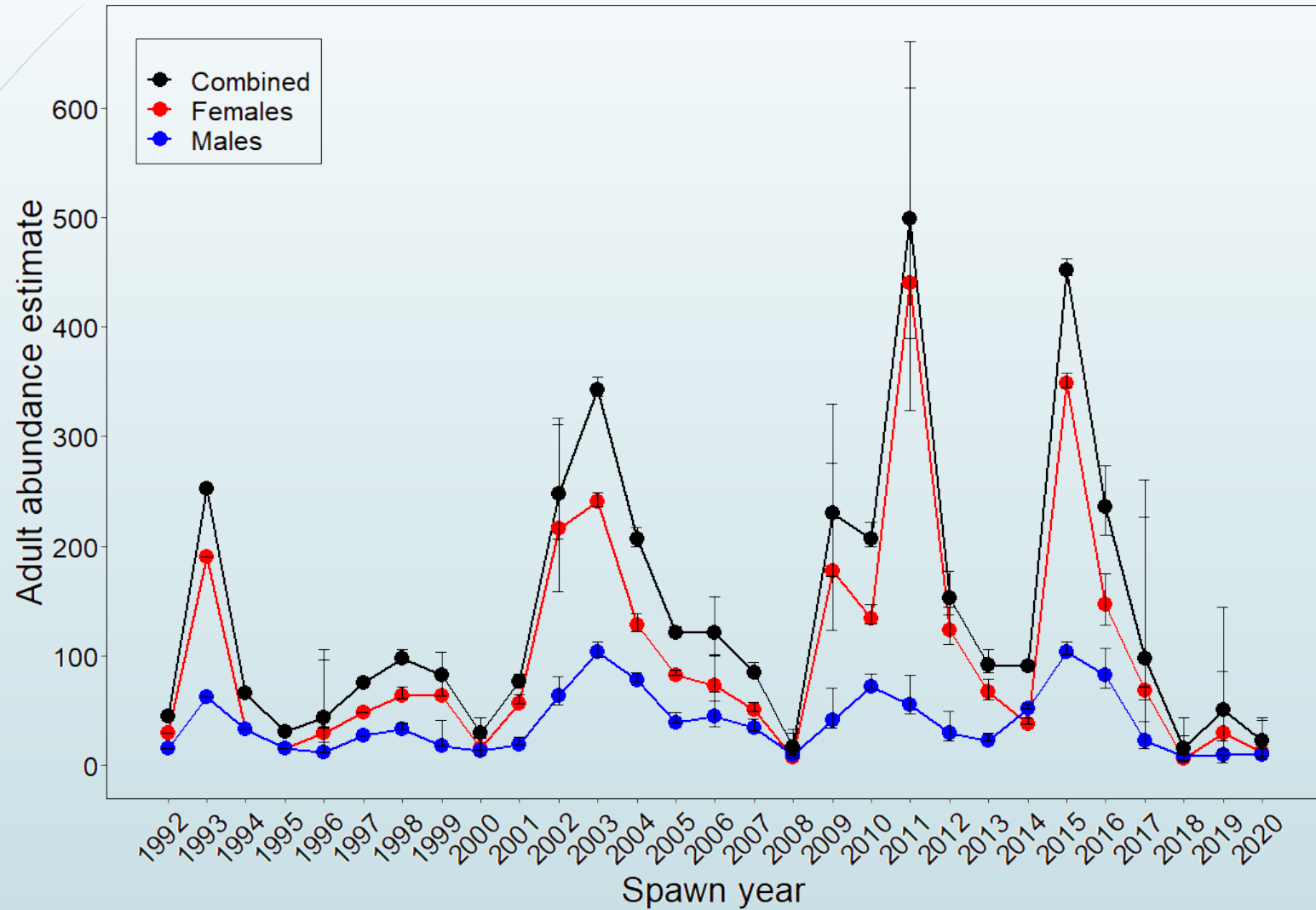


Summer and fall tagged fish

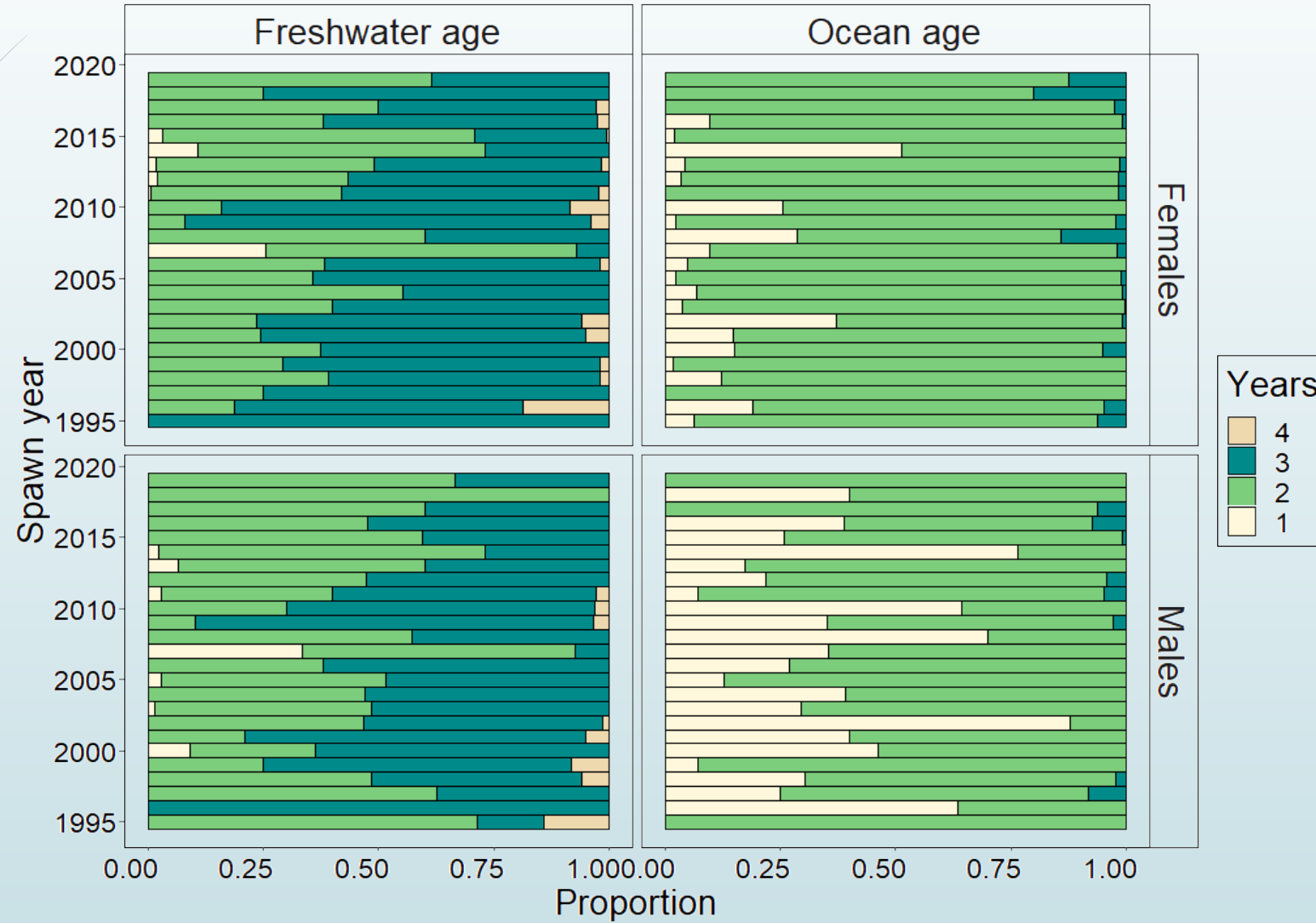
Lower
Granite Dam



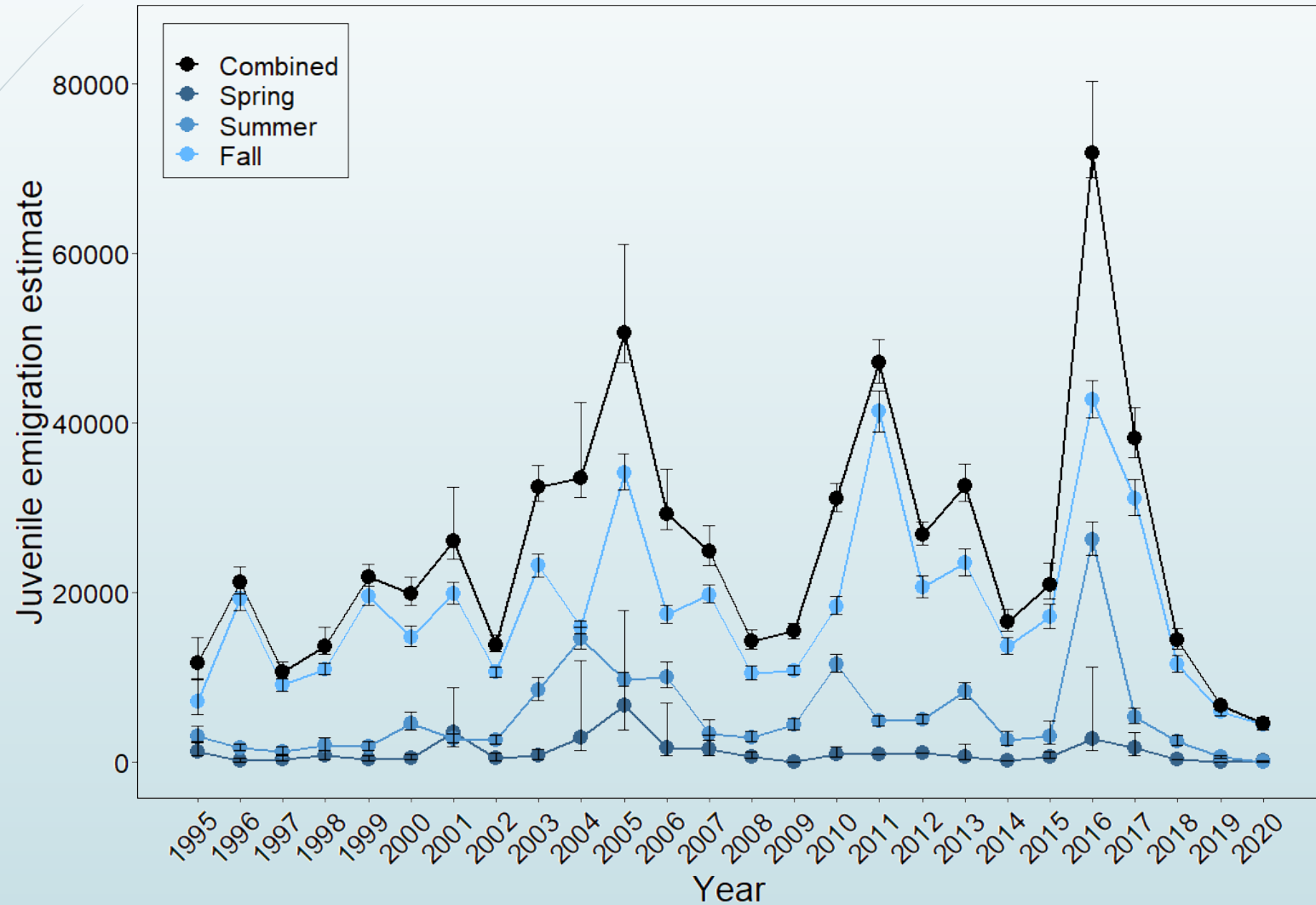
Adult Abundances



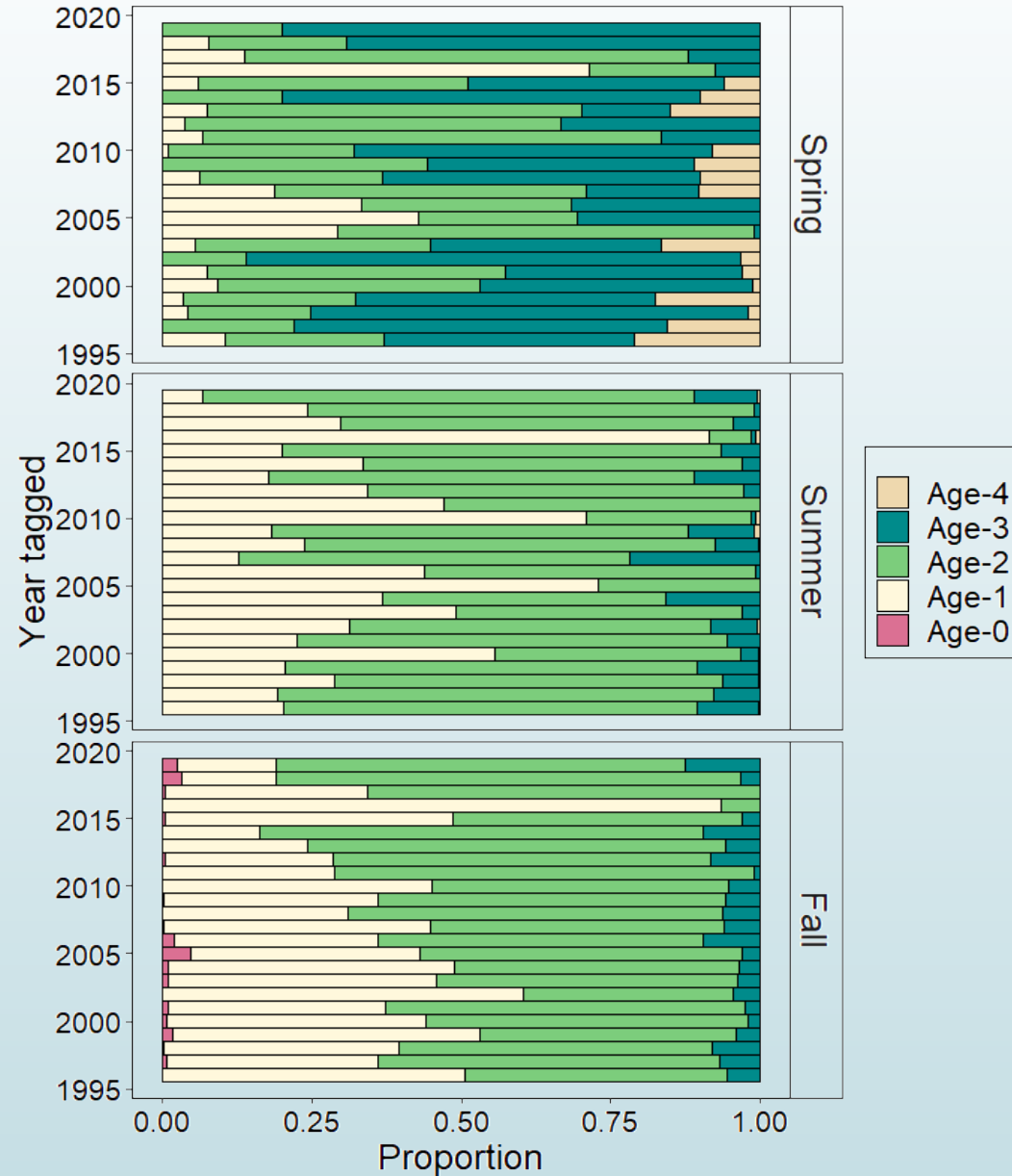
Adult Age Composition



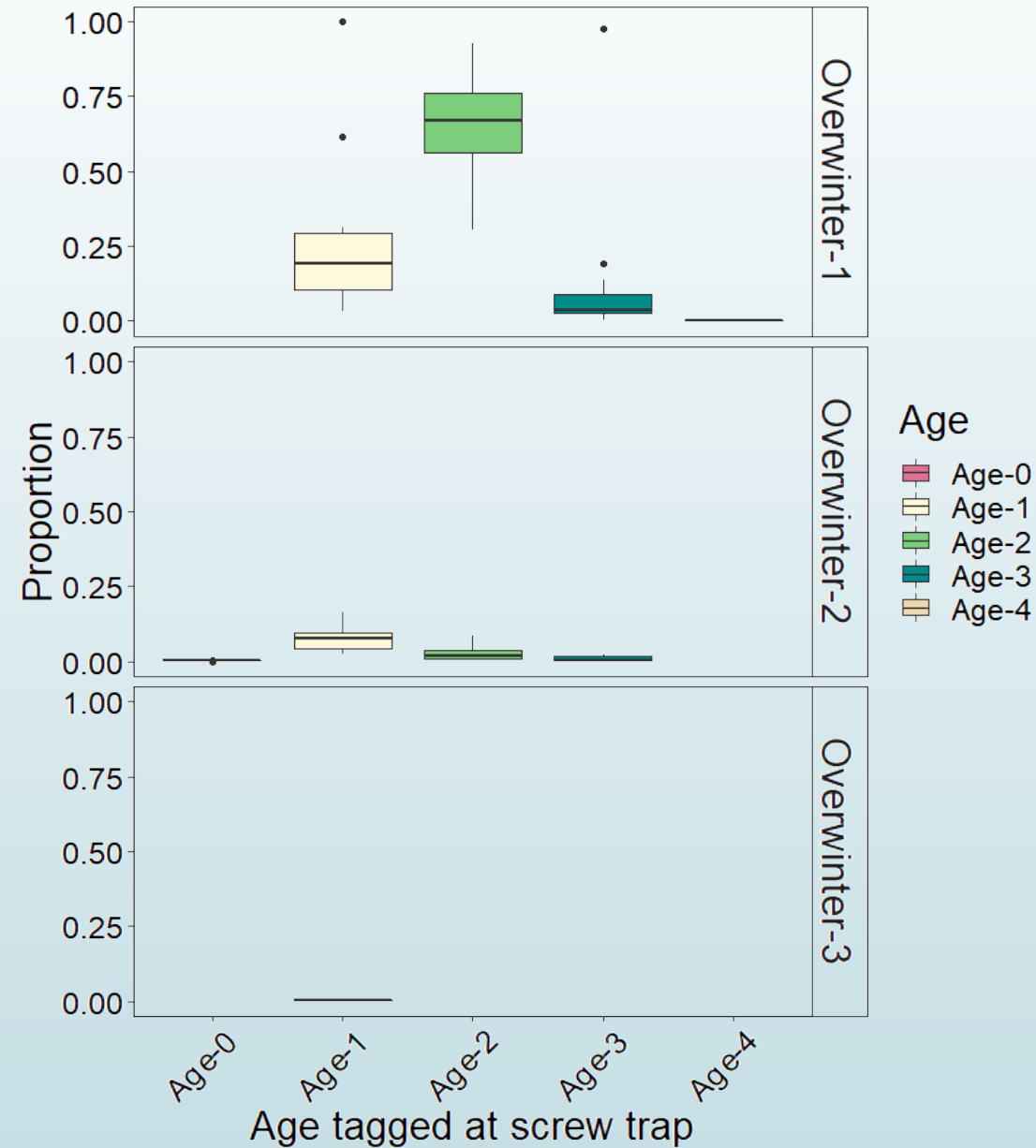
Juvenile Abundances



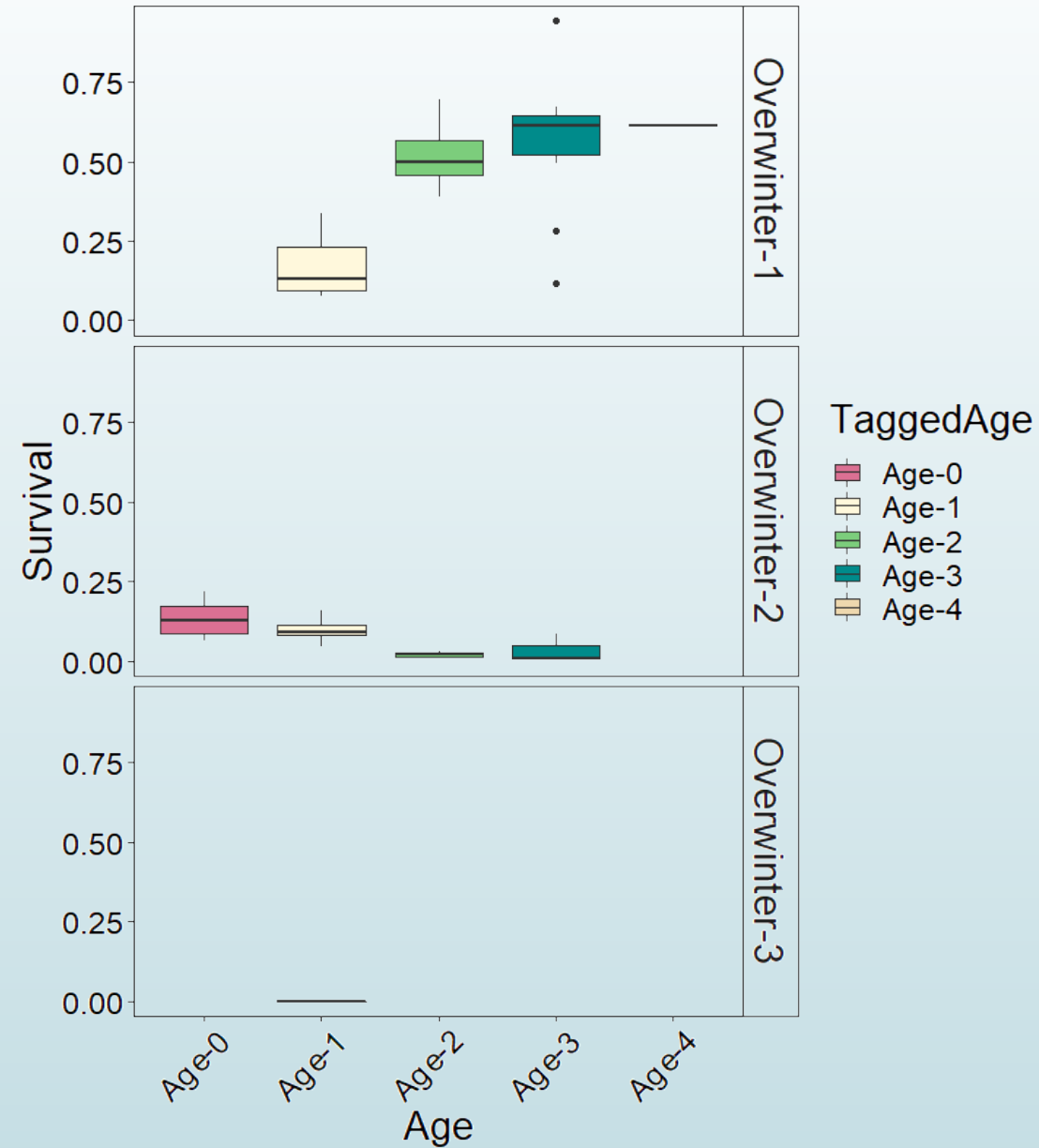
Juvenile Age Composition



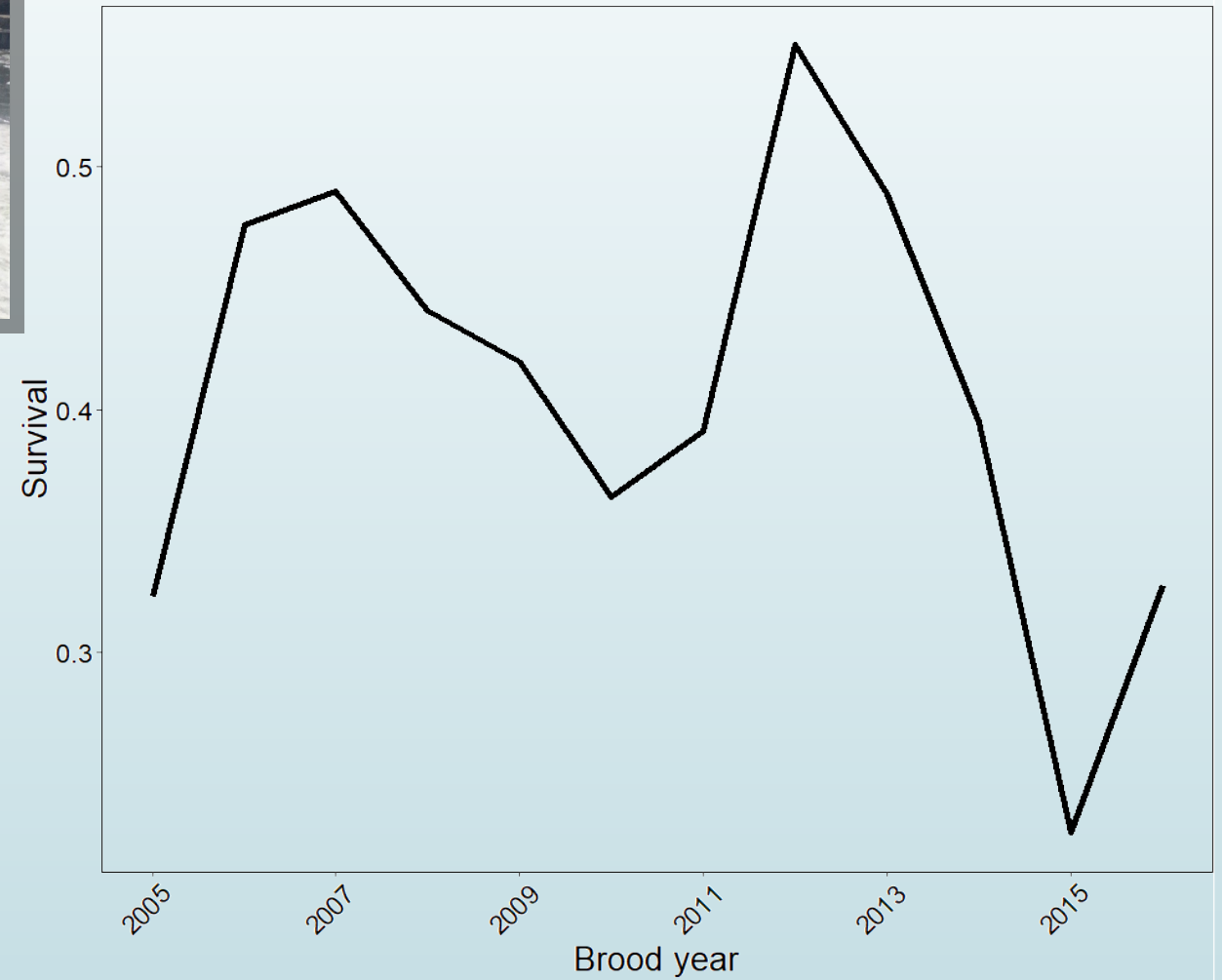
Ages and Migration Pathways



Survival by Age and Migration Pathway



Brood Year Survival



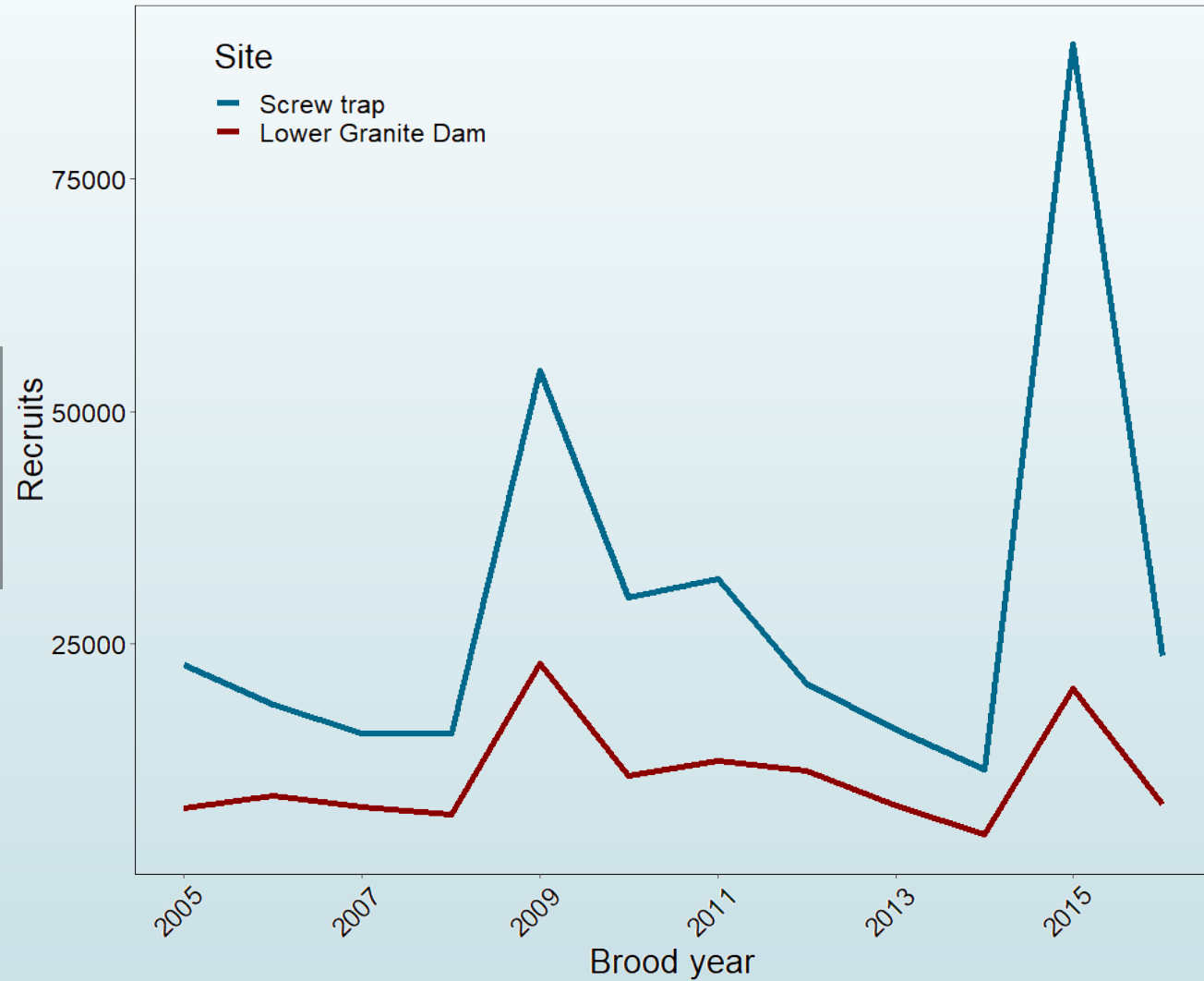
Juvenile and Smolt Abundances



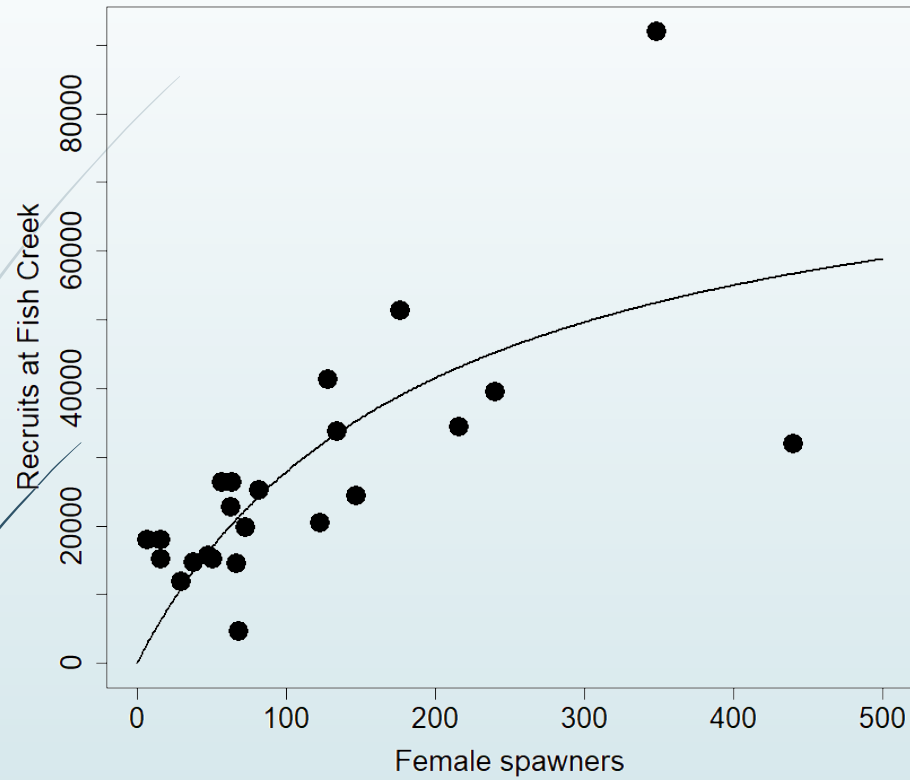
Fish Creek screw trap



Lower Granite Dam

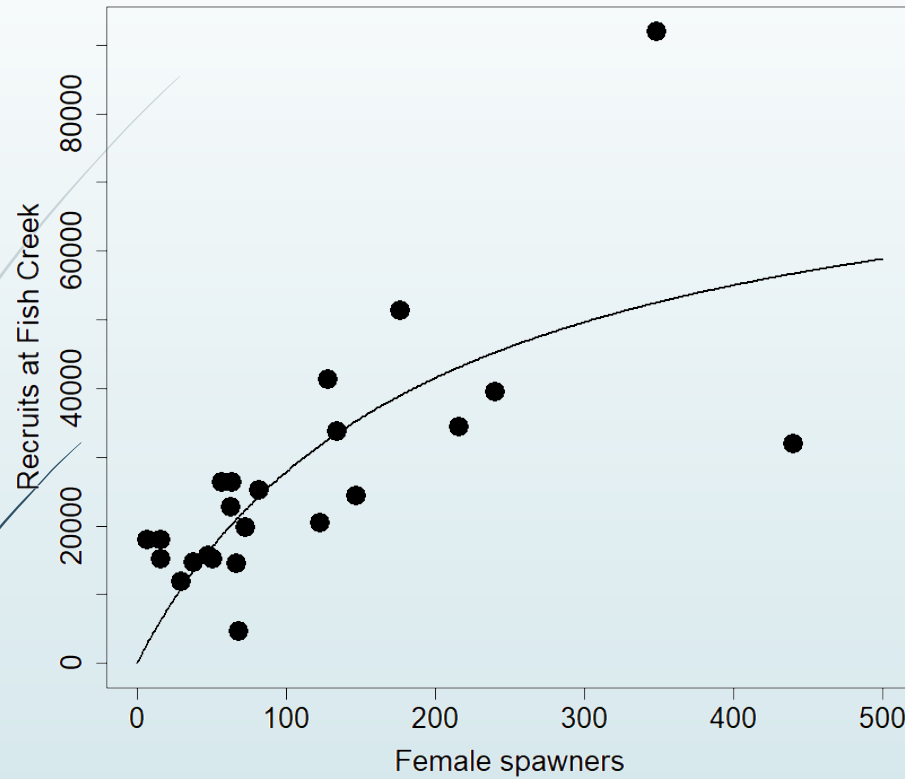


Juvenile and Smolt Recruitment

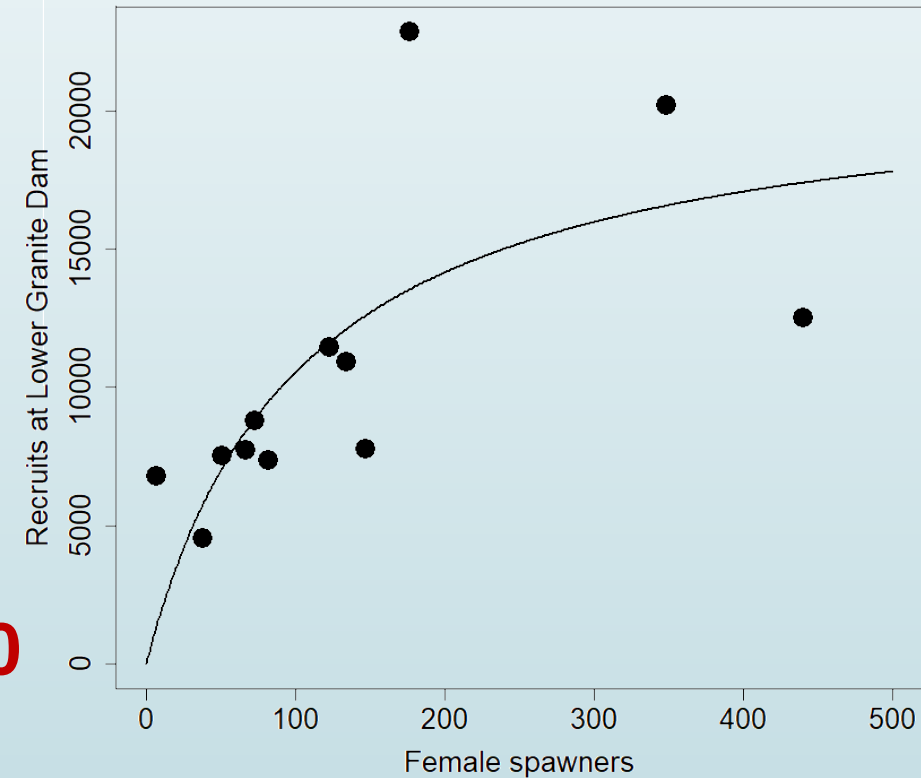


81,447

Juvenile and Smolt Recruitment



81,447



21,490

Stream and Fish Dynamics



Summer habitat

- Temperature
- Predators

Overwintering conditions???



Discussion

- Fish Creek dataset is a gold standard for wild steelhead populations
 - Data lacking for other wild steelhead populations
 - Much of this data is being collected at other Idaho sites
- Unknowns regarding where juveniles overwinter
 - Can survival improve?
- Manage fish and habitat to preserve natural life history diversity

The background of the slide is a photograph of a forest stream. The water is flowing over dark, smooth rocks, creating a soft, blurred effect. The surrounding forest is dense with tall, thin evergreen trees. The sky is a pale, hazy blue. A semi-transparent white rectangular box is centered over the image, containing the title and list of acknowledgements. On the left side of the slide, there is a dark vertical bar with a stylized, light-colored graphic of reeds or grasses. At the top left, there is a dark grey arrow pointing to the right.

Acknowledgements

Rebecca Buchanan (Columbia Basin Research)

Jim Lady (Columbia Basin Research)

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Nampa Aging Laboratory (IDFG/PSMFC)

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Various screw trap and weir operators