TRAPPING AND TAGGING OF ADFLUVIAL WESTSLOPE CUTTHROAT TROUT IN THE LOWER PRIEST RIVER

Joe Cronrath

Fisheries Biologist

Kalispel Natural Resources Department

Kalispel
natural resources

BACKGROUND

2010 | 2011 | 2012 | 2013 | 2014 | 2015

Prior to 2010: Little was known about Westslope Cutthroat (WCT) within the lower Priest River

2010-2011: Adult WCT discovered staging at confluence of Priest & Pend Oreille rivers

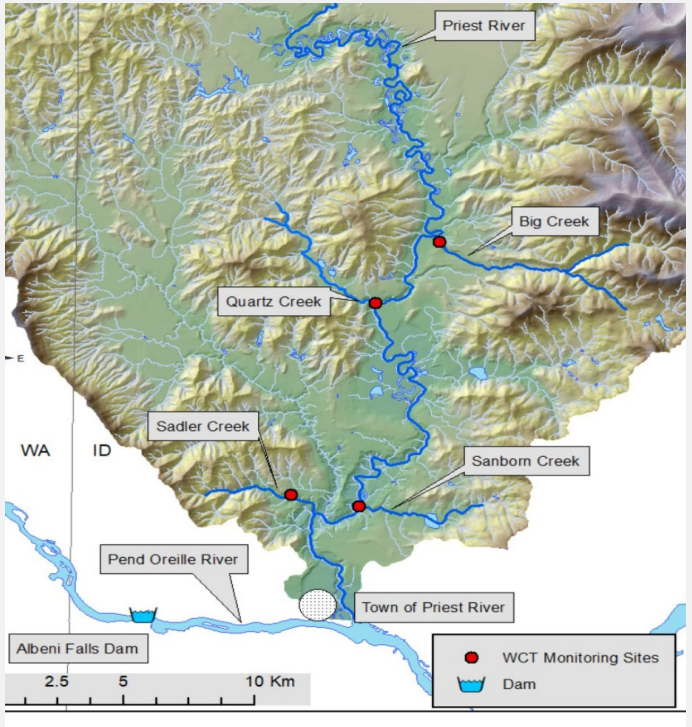
2011 – 2012: Radio-tagging of 55 adults @ mouth of Priest River, tracking of adult movements in basin

2013-2014: Major spawning tributaries identified in Lower Priest River

2014-Present: Trapping and PIT Tagging of WCT

Priest River WCT February 2011

Radio-tag

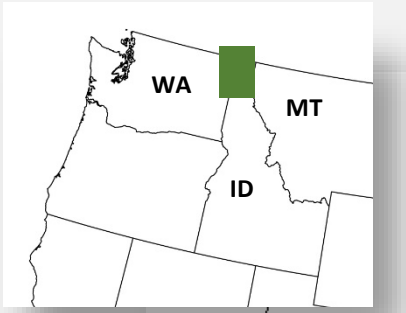


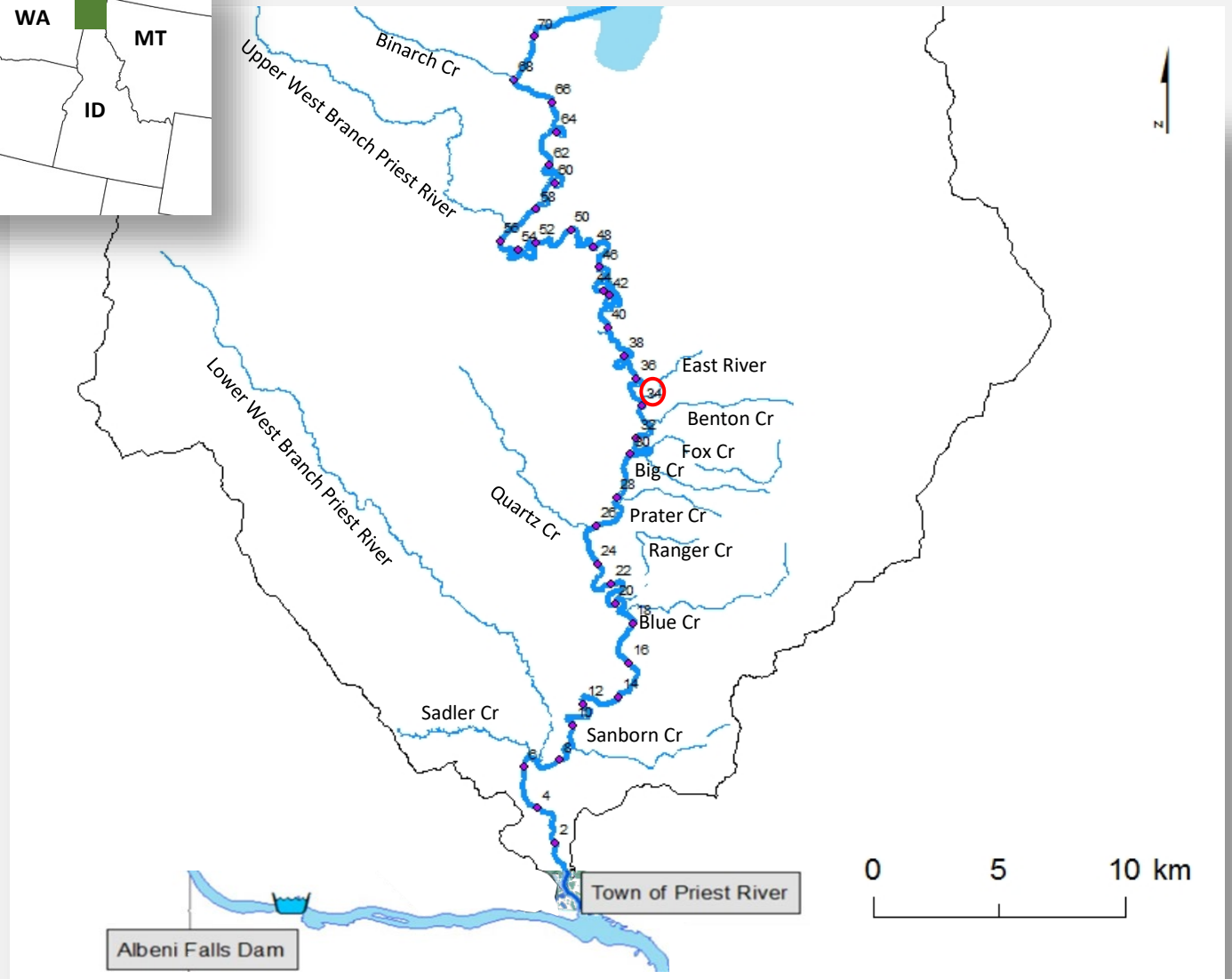
4 major adfluvial tribs

Tributary Traps

Adult WCT

Study Area





East Priest River

Westslope Cutthroat Trout at various sizes

TRAPPING METHODS

- Incline-plane traps
  - Designed for use in small rivers
  - Operated 1st week of April – Mid June
  - Captured WCT are PIT-tagged, weighed, measured, and genetics are collected (fin clip)
- Trapping stations are paired with PIT-tag arrays
  - Monitor movement in and out of creeks
    - Document tag returns, migration timing
  - Generate trap efficiency and abundance estimates
  - Arrays operate March – November

Incline-plane trap

Captured WCT adult

PIT-tag array antennas

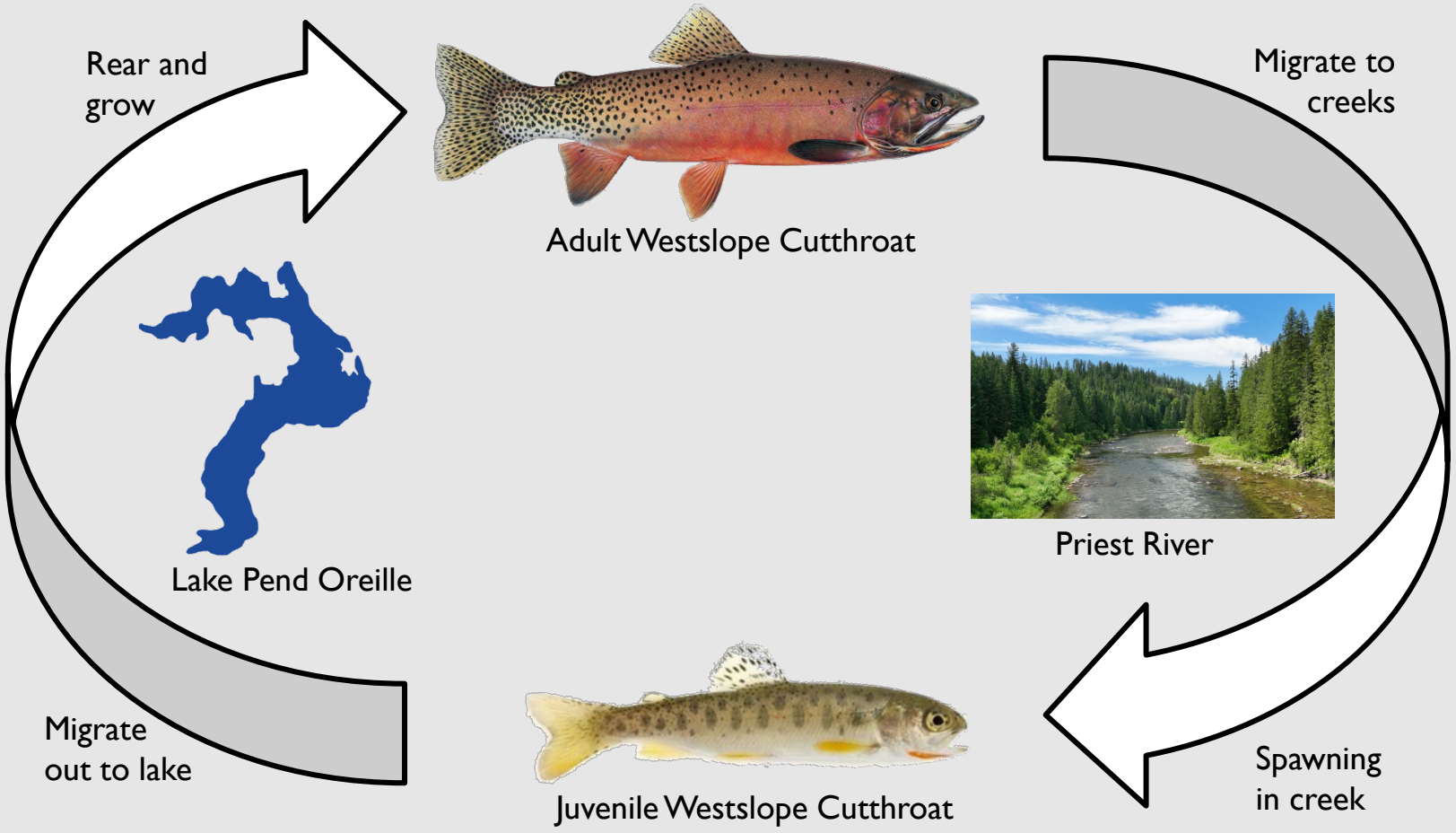
RESULTS

PRIEST RIVER WESTSLOPE CUTTHROAT LIFE CYCLE

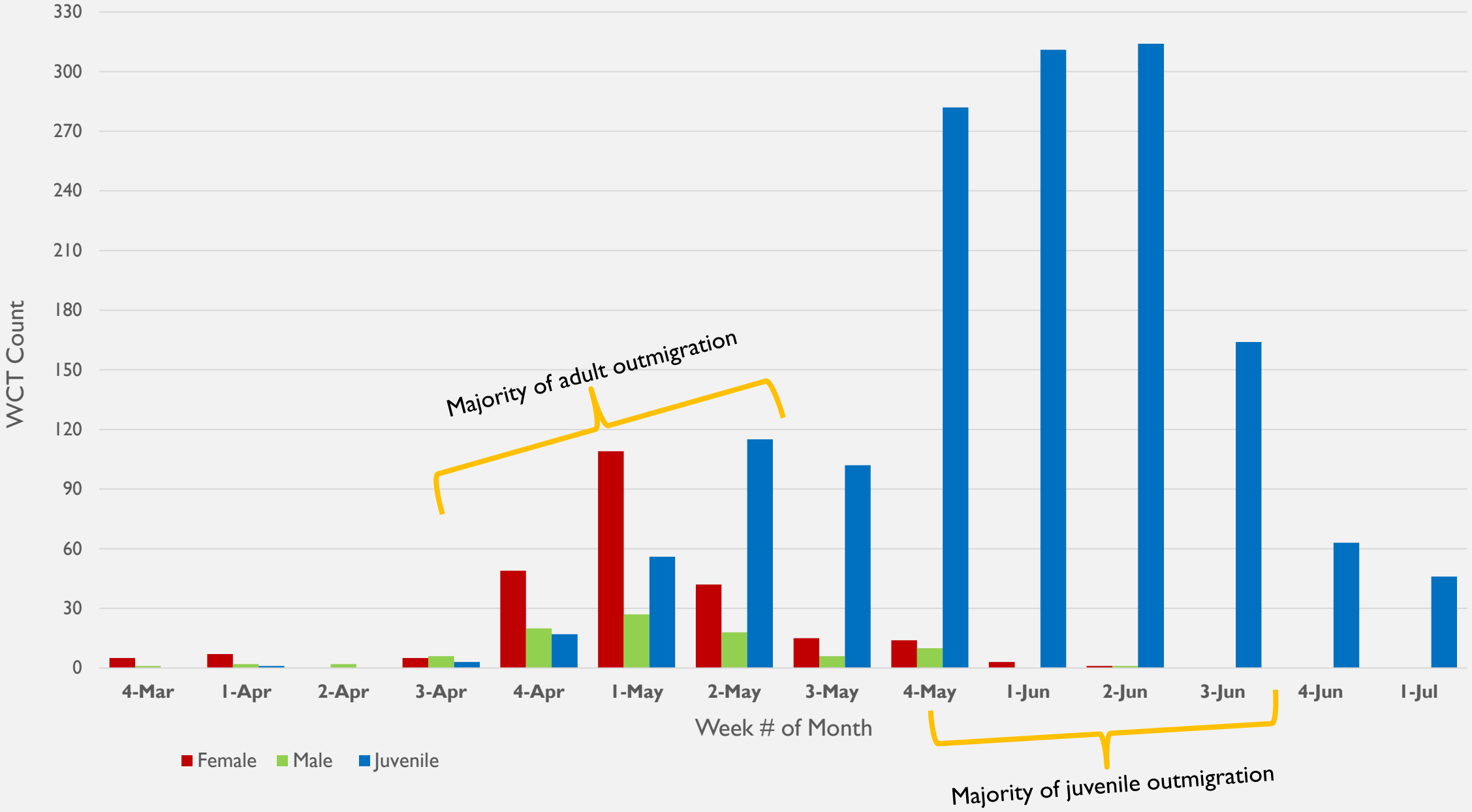
"Adfluvial" – Life History Strategy

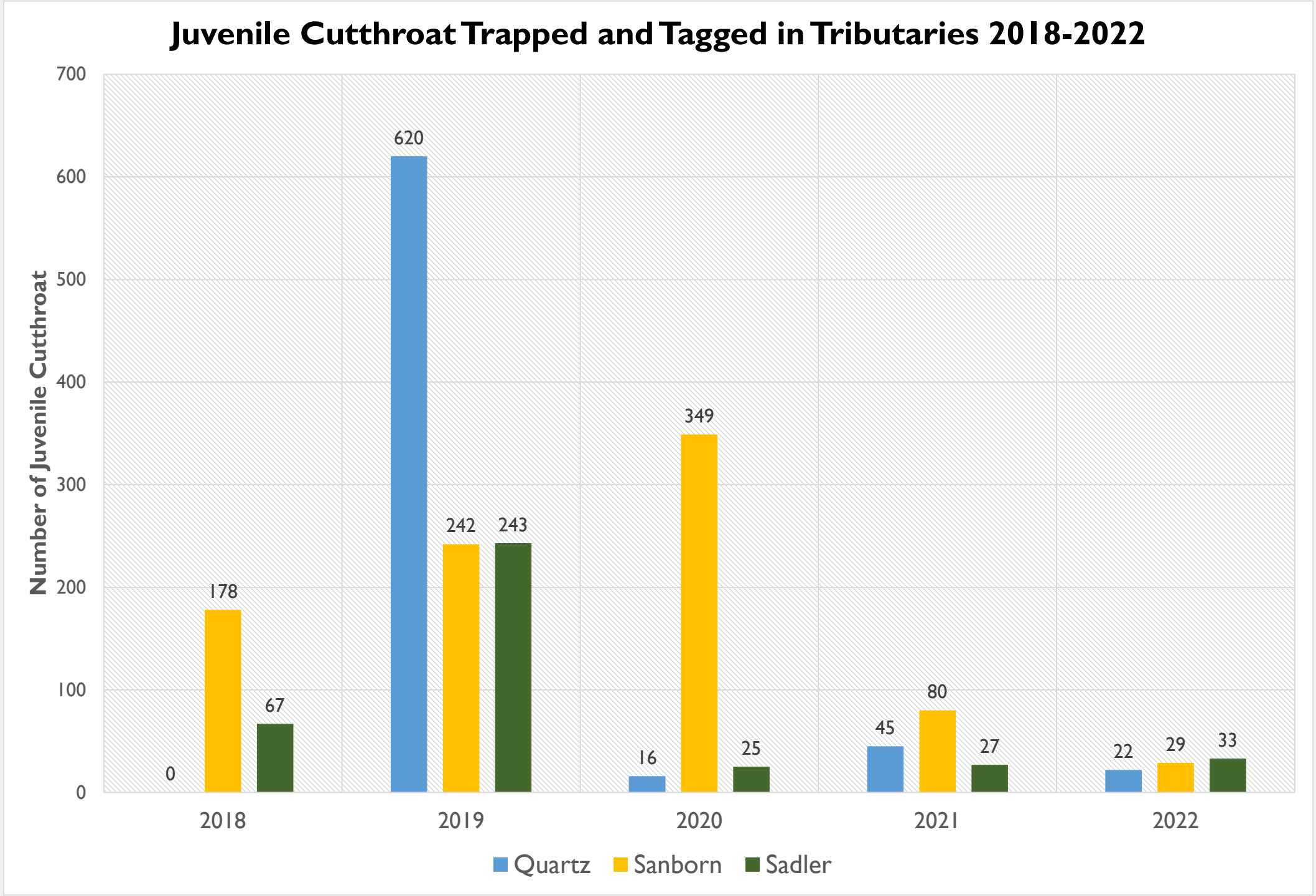
- fish that undergo migrations from a lake system to spawn in tributary streams

1. Adults migrate to Priest River tributaries to spawn
2. Eggs hatch and juveniles rear in tributaries for several years
3. Juveniles outmigrate to Lake Pend Oreille
4. Juveniles grow to adults in Lake Pend Oreille

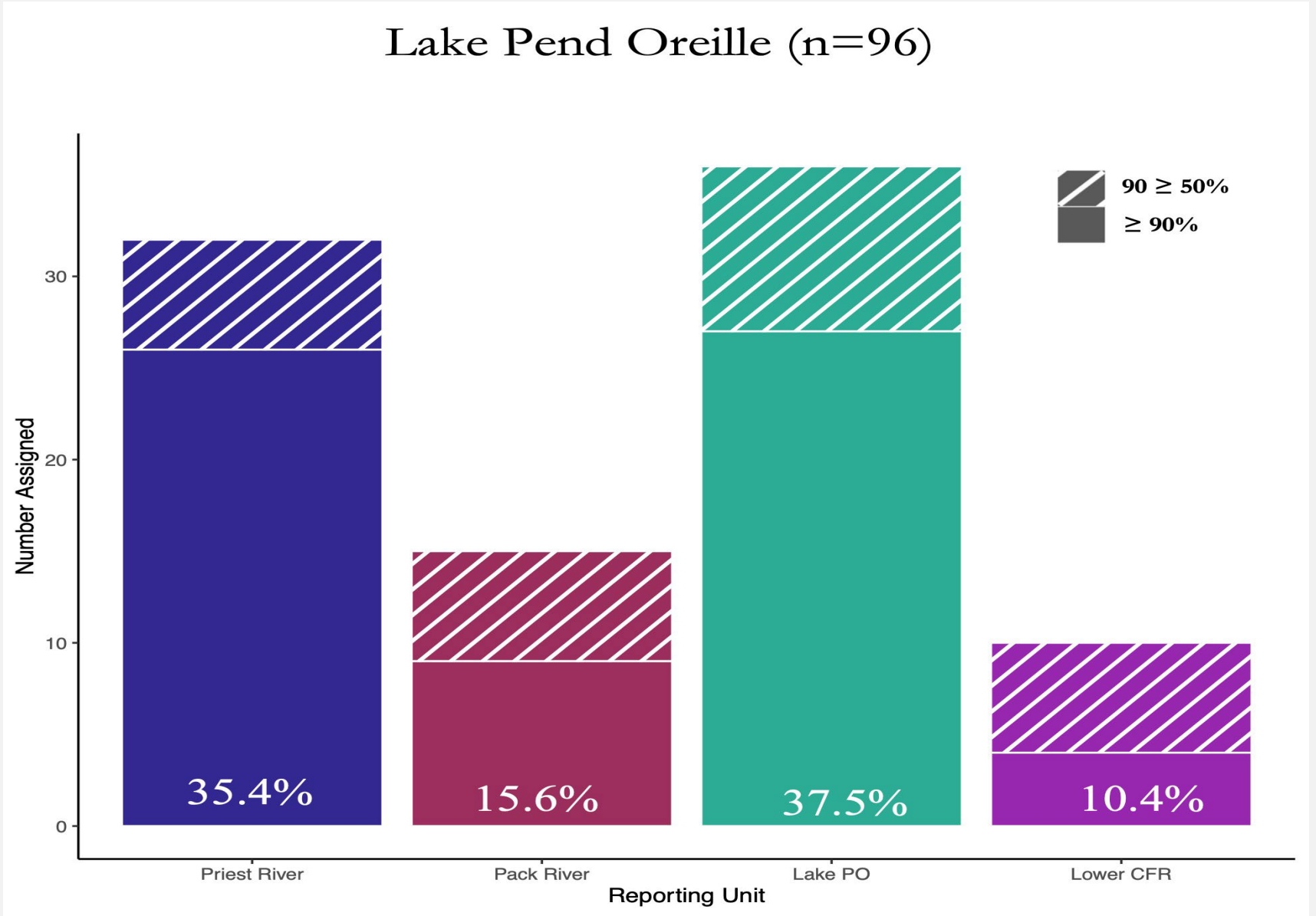


Outmigration Timing Results (2018-2021)




Juvenile Cutthroat Trapped and Tagged in Tributaries 2018-2022
Number of Juvenile Cutthroat
700
600
500
400
300
200
100
0
0
178
67
620
242
243
16
349
25
45
80
27
22
29
33
2018
2019
2020
2021
2022
Quartz
Sanborn
Sadler

GENETIC REPRESENTATION



SUMMARIZED PROJECT FINDINGS…

- Adult WCT enter the Lower Priest River Tributaries in early March and spawning occurs until late March/April
- After 2 - 3 years of "rearing" within tributaries, Juveniles exit in May/June, often at lengths of 4 to 8 inches
- Return as adults 1 to 2 years later at lengths averaging 12 to 16 inches, but up to 20 inches have been documented
- Repeat spawning has been documented with PIT Tag returns in subsequent and sequential years, with the vast majority of WCT returning to their home creek
- "Adfluvial" life cycle of migrating from Lake Pend Oreille to the Priest River to spawn, where juveniles rear before migrating back to Lake Pend Oreille
- Several Hundred WCT tagged by AVISTA in the Clark Fork below Cabinet Gorge Dam have been detected entering Priest River Tributaries, a 90km (55 mile) migration
- The number of outmigrating juveniles has been declining in Priest River Creeks over the past 3 years. 2023 saw the lowest returns in project history.
- Roughly 35% of WCT collected during sampling in Lake Pend Oreille genetically map to Priest River tributary fish. Indicating the Lower Priest River locally is incredibly important to Westslope Cutthroat regionally

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QUESTIONS?