



JOHNSON CREEK ARTIFICIAL PROPAGATION ENHANCEMENT MONITORING AND EVALUATION

Results from a long-term supplementation program maintaining
100% wild origin broodstock





BACKGROUND

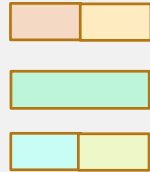
- Started in 1998 (small-scale 'safety-net'/conservation initiative)
- Has consistently relied on **100% Natural Origin Broodstock**
- Relies upon 1:1 spawning (no repeat-spawning)
- Allows **all** hatchery-origin returns to spawn naturally
- 150,000 juvenile production level 100% marked by PBT and CWT
- Direct release hatchery smolt into Johnson Creek

STUDY AREA

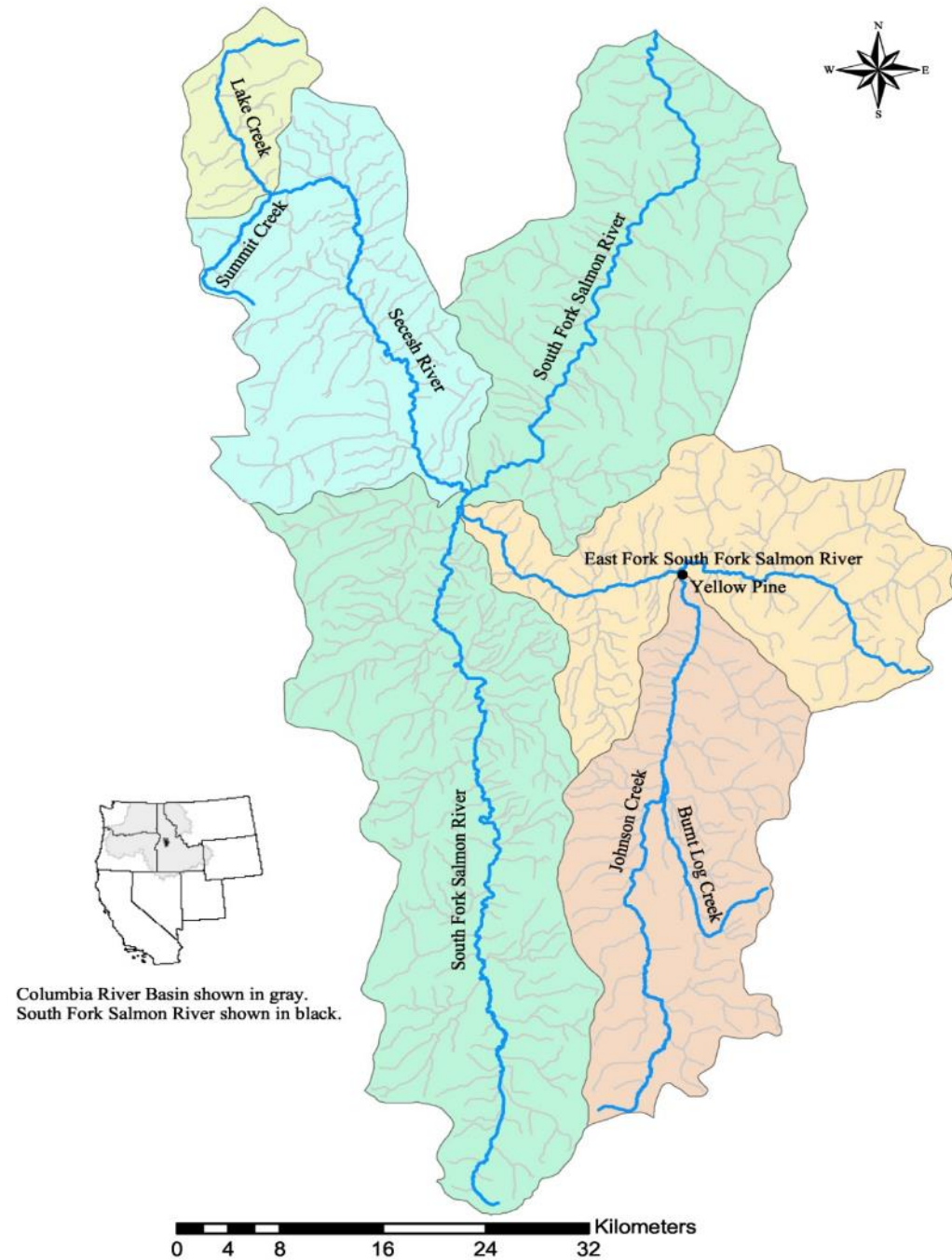
- South Fork Salmon MPG

Populations:

- East Fork South Fork Salmon (supplemented)
- South Fork Salmon (supplemented)
- Secesh (unsupplemented)



South Fork Salmon River Subbasin



METHODS

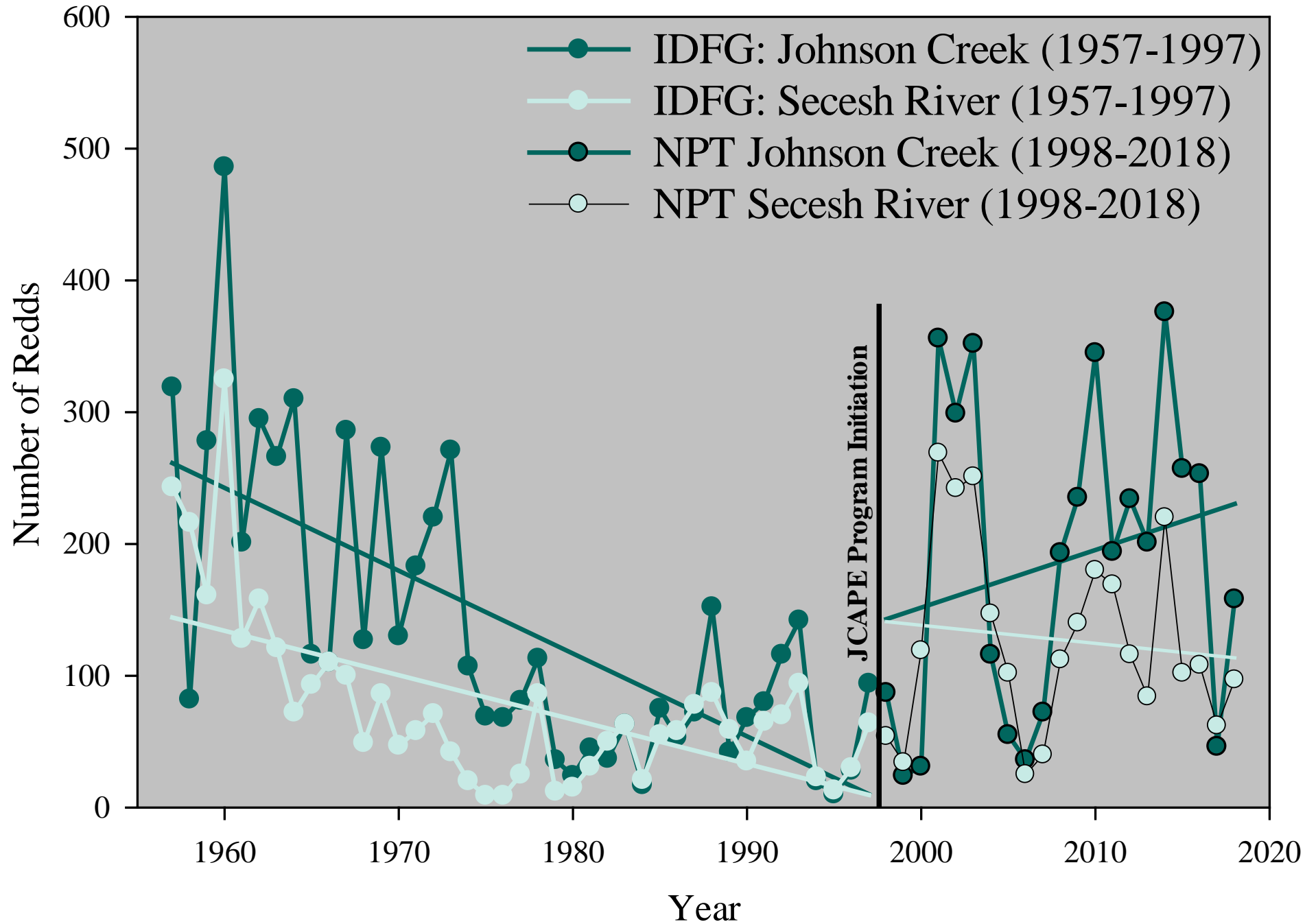
- Spawning ground surveys
- Removable picket weir
- Rotary screw traps





SPAWNER ABUNDANCE

REDD COUNTS

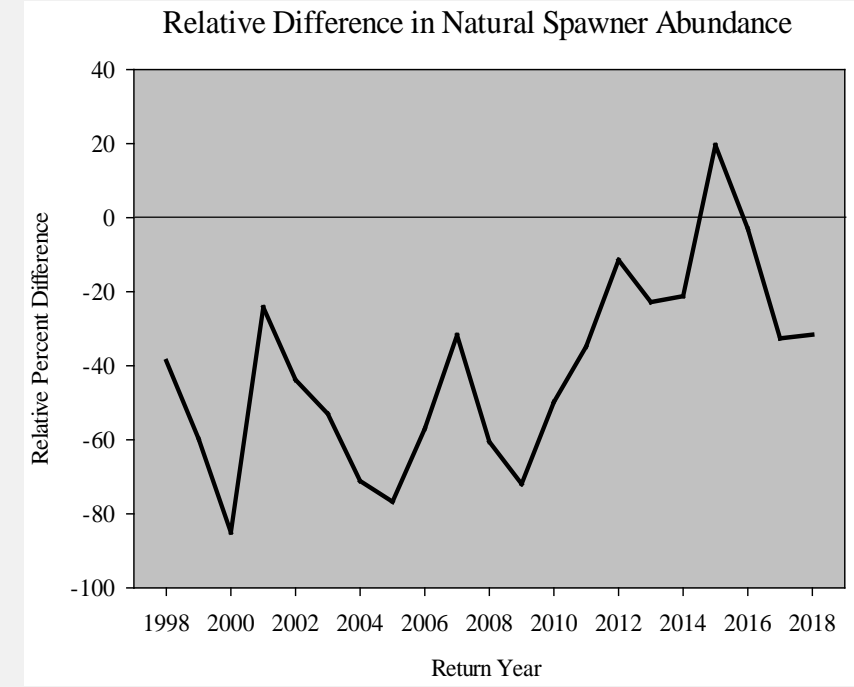
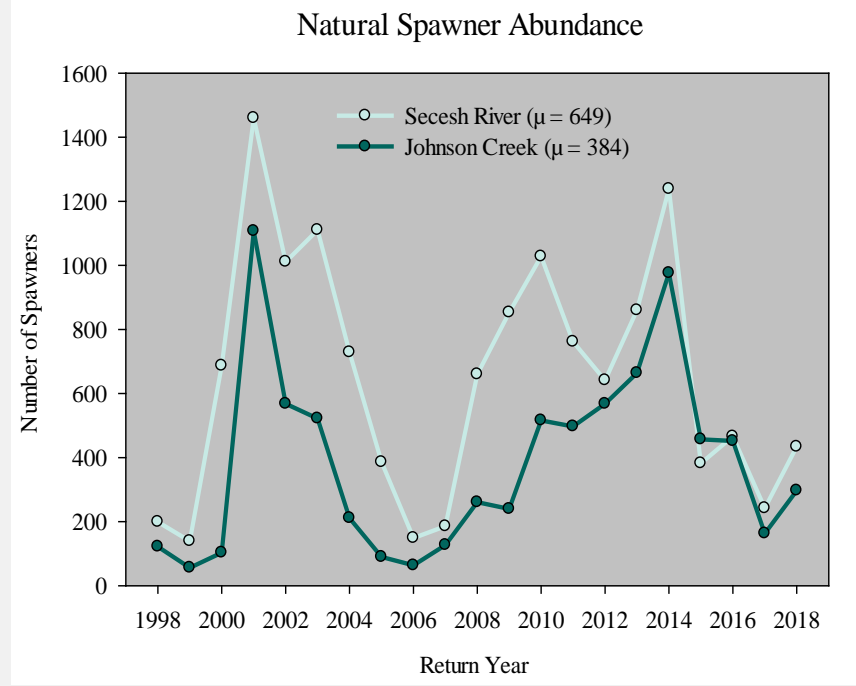


SPAWNER ABUNDANCE

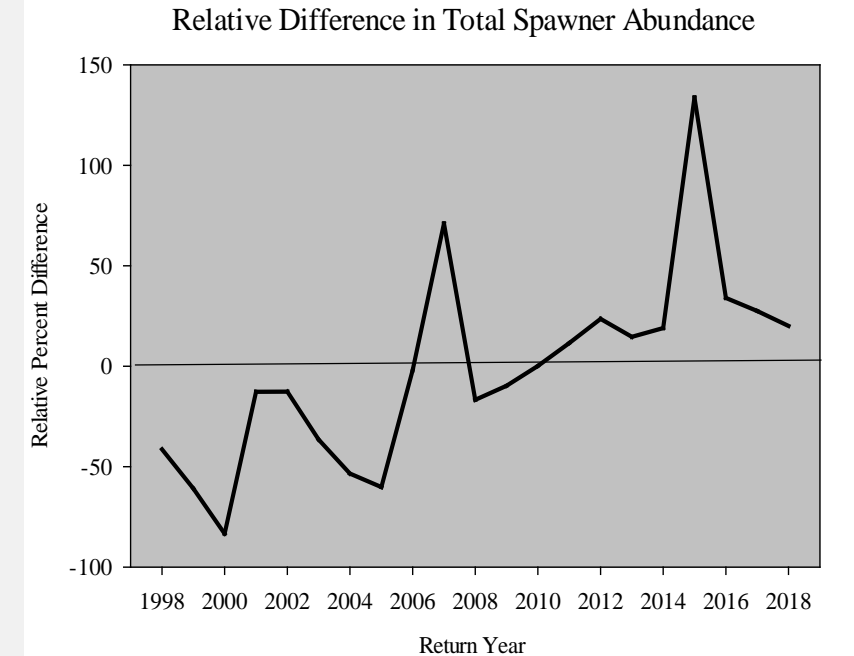
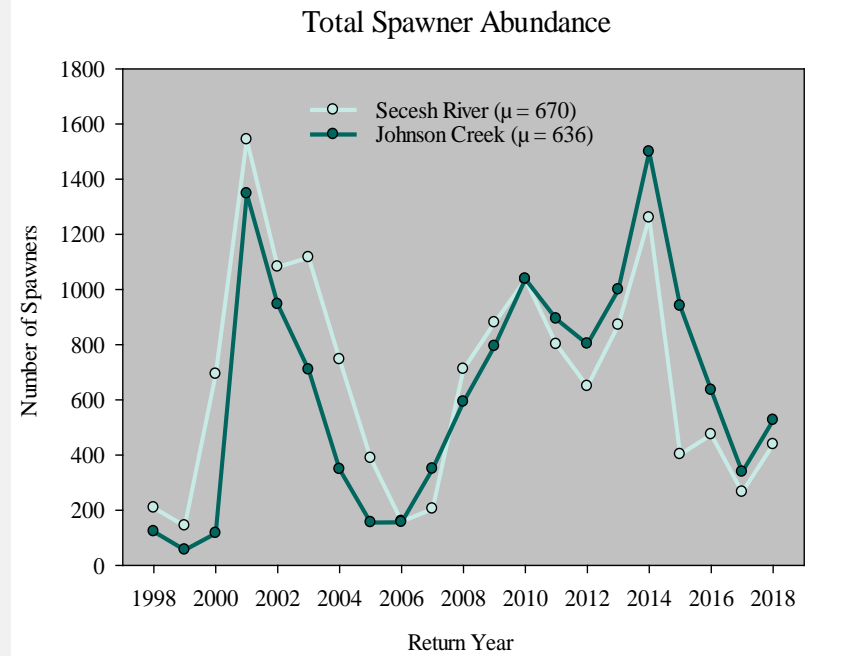


SPAWNER ABUNDANCE

NOSA (Natural Origin Spawner Abundance)

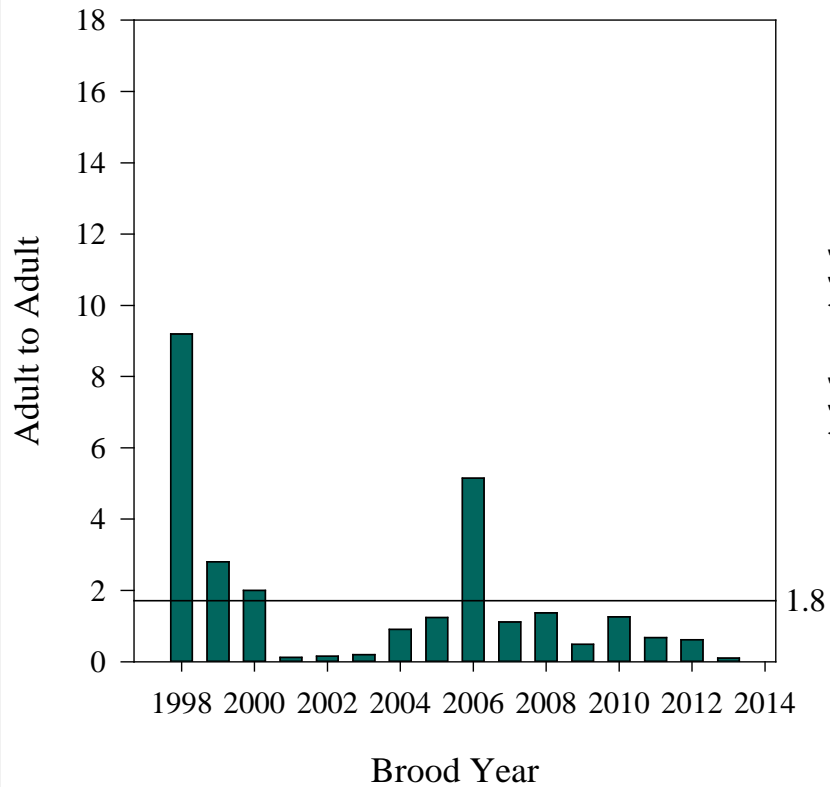


TOSA (Total Spawner Abundance)

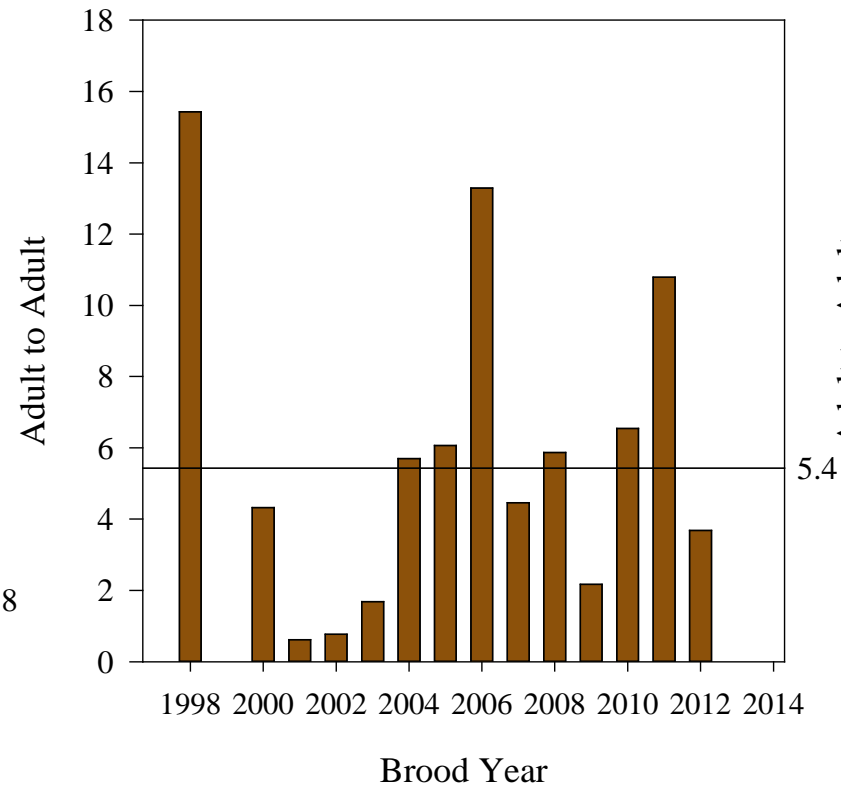


PRODUCTIVITY: ADULT TO ADULT RATIOS

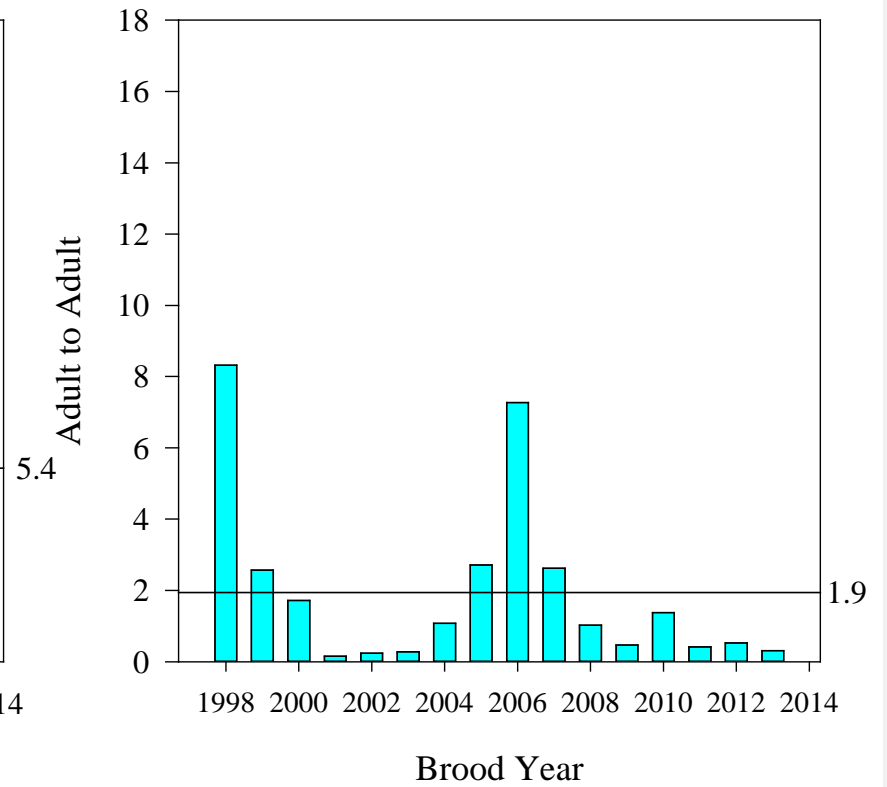
Johnson Creek Natural Origin



Johnson Creek Supplementation Origin

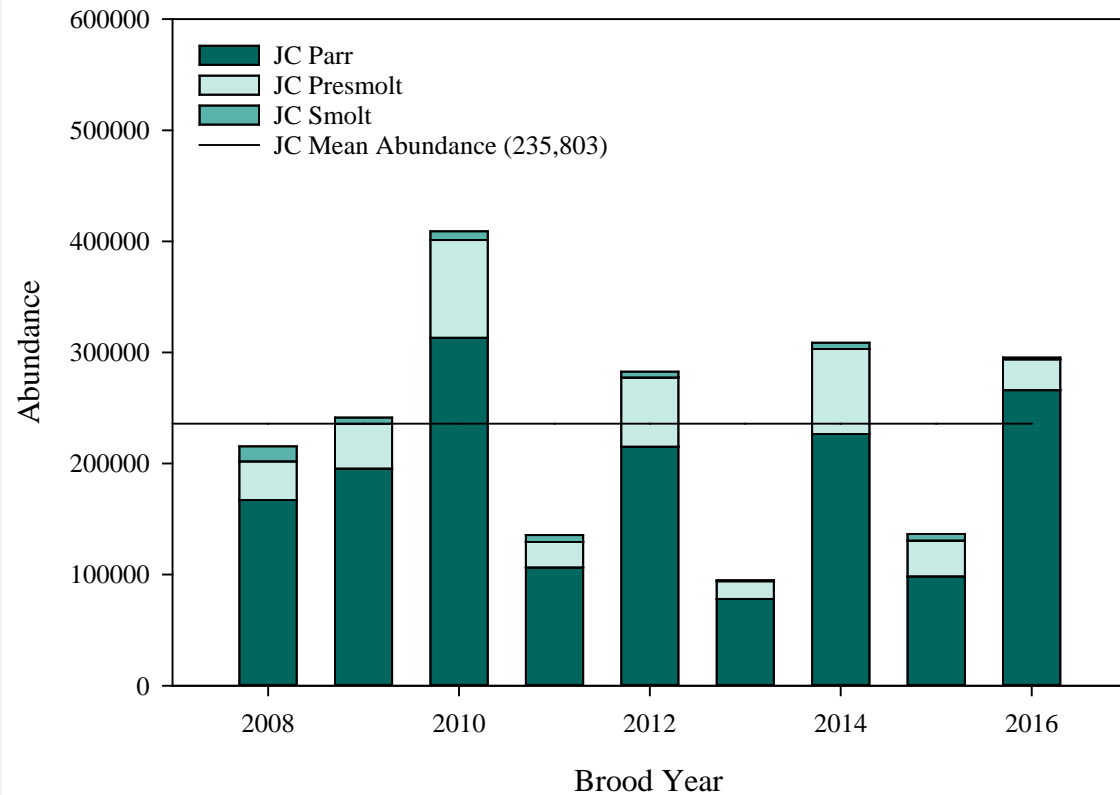


Secesh Natural Origin

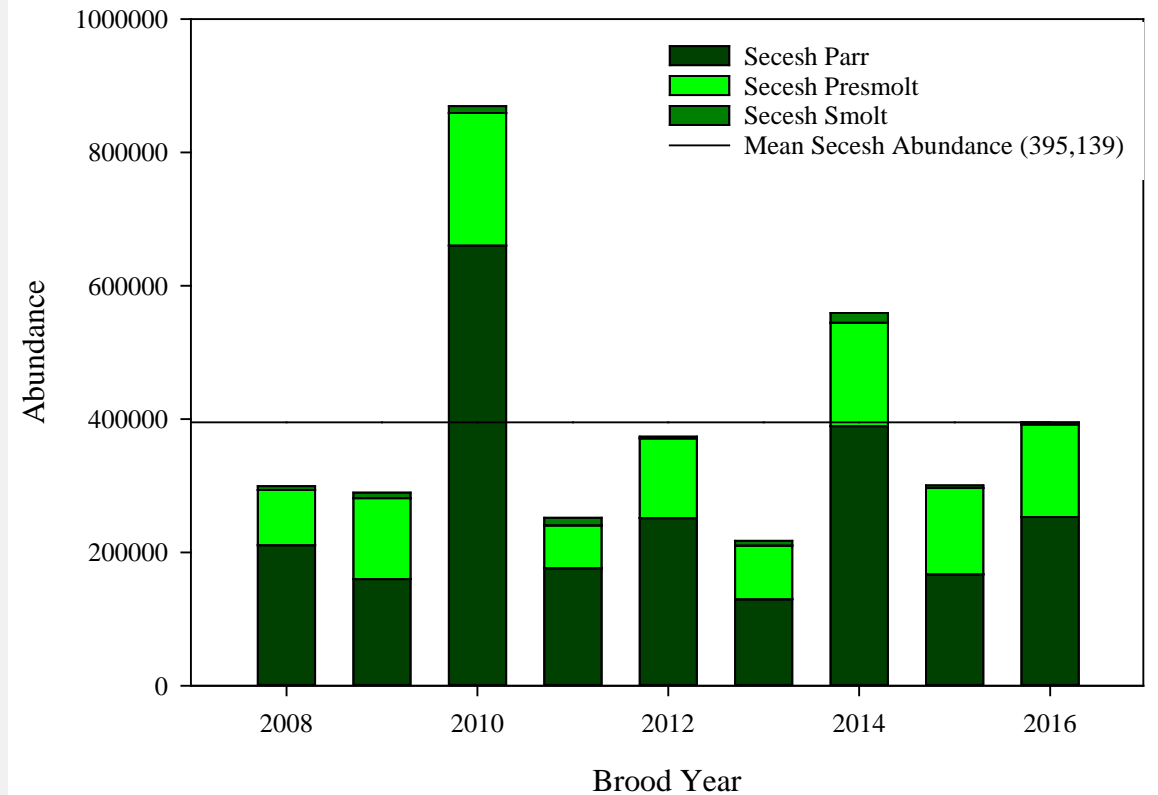


JUVENILE ABUNDANCE (TRIBUTARY)

Johnson Creek Juvenile Abundance

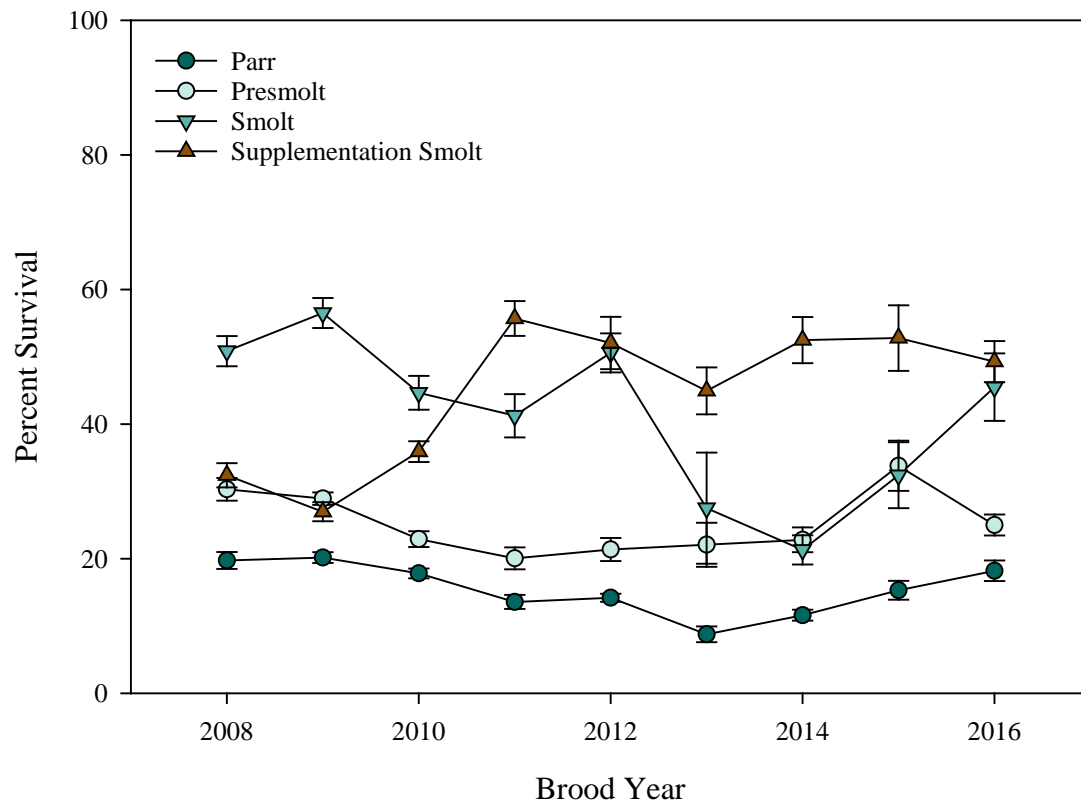


Secesh Juvenile Abundance

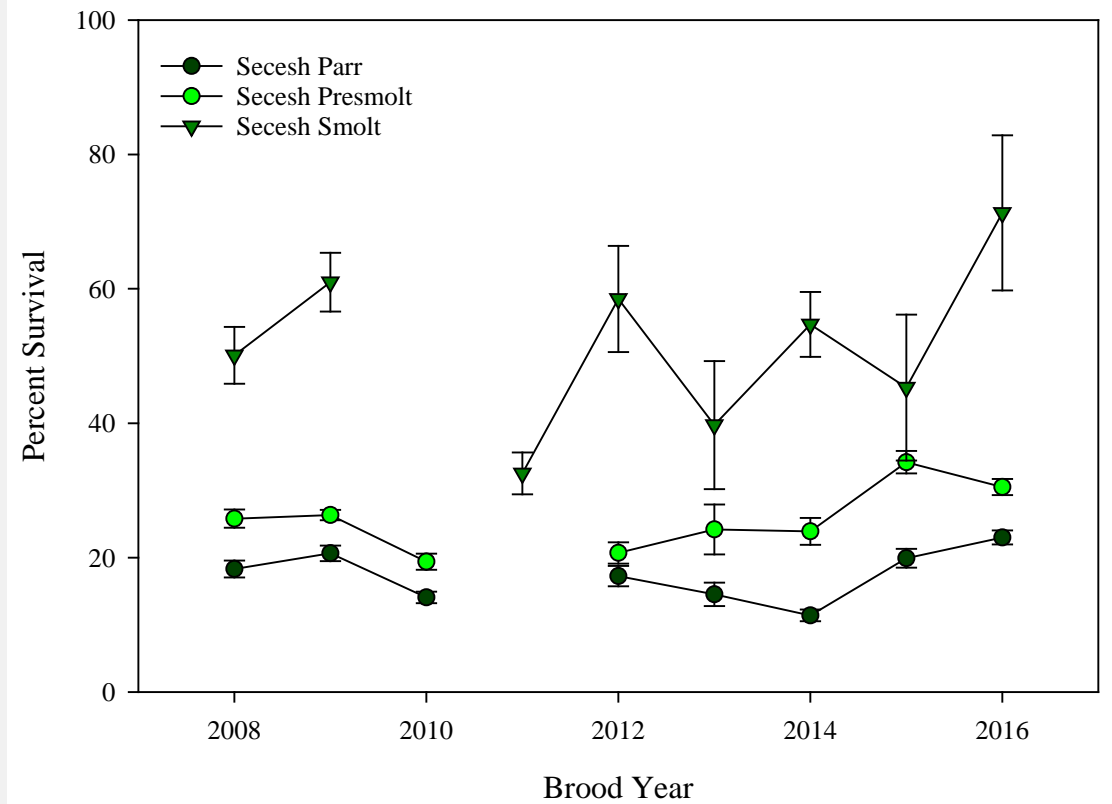


JUVENILE SURVIVAL TO LOWER GRANITE

Johnson Creek Juvenile Survival: Tributary to Lower Granite

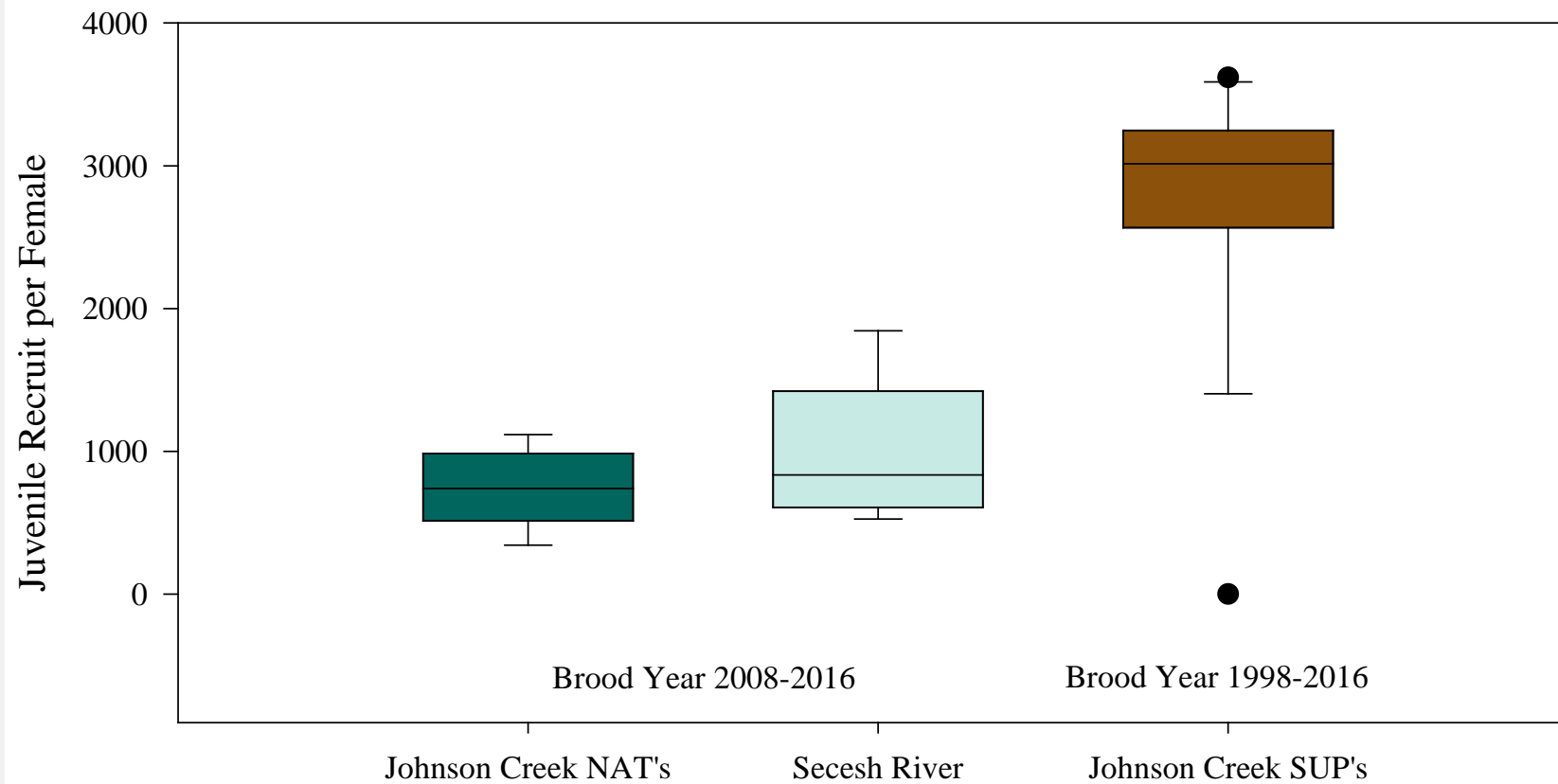


Secesh Juvenile Survival: Tributary to Lower Granite Dam



JUVENILE RECRUITS PER FEMALE

Juvenile Recruit per Female: Tributary



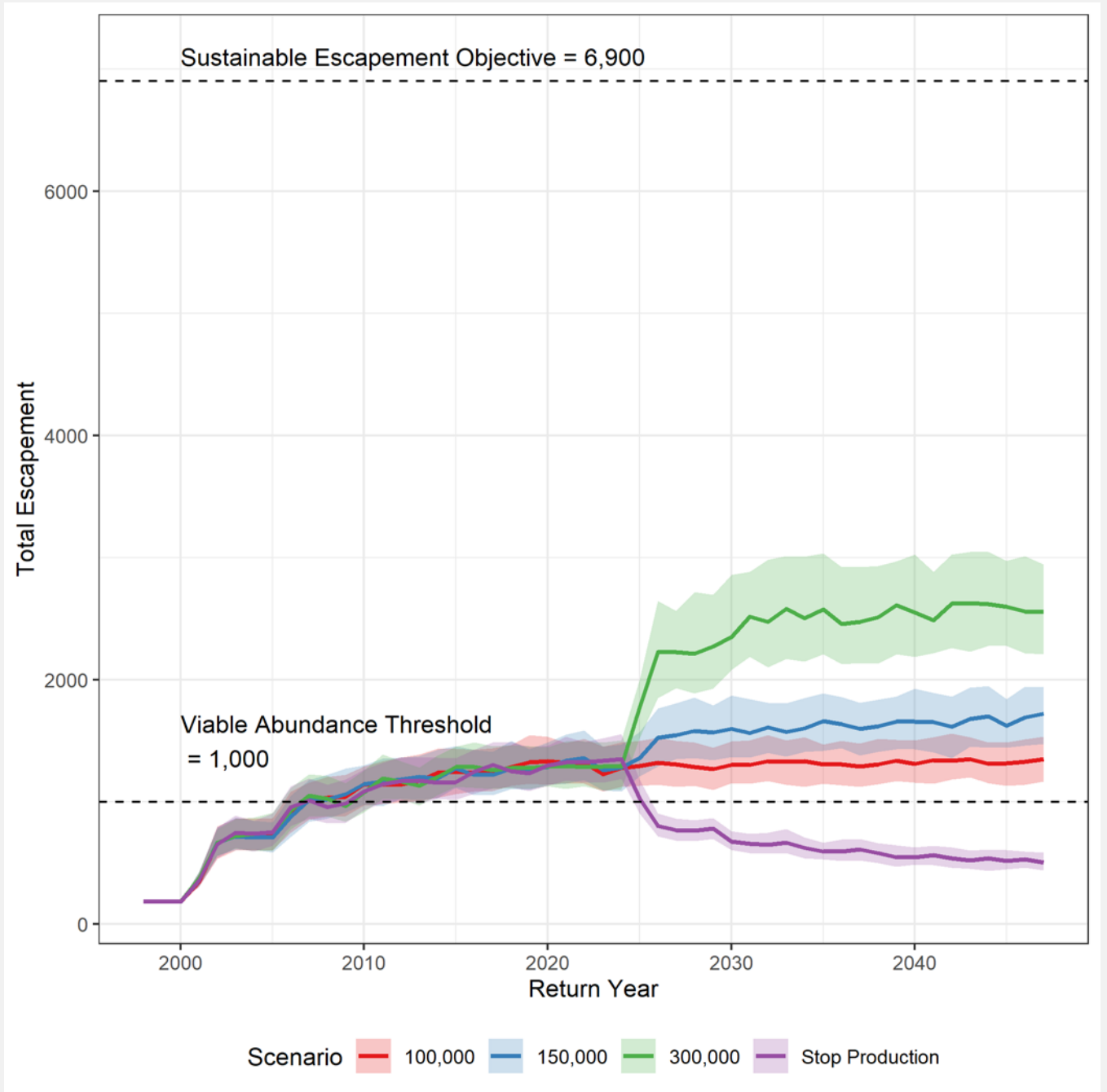


FUTURE DIRECTION

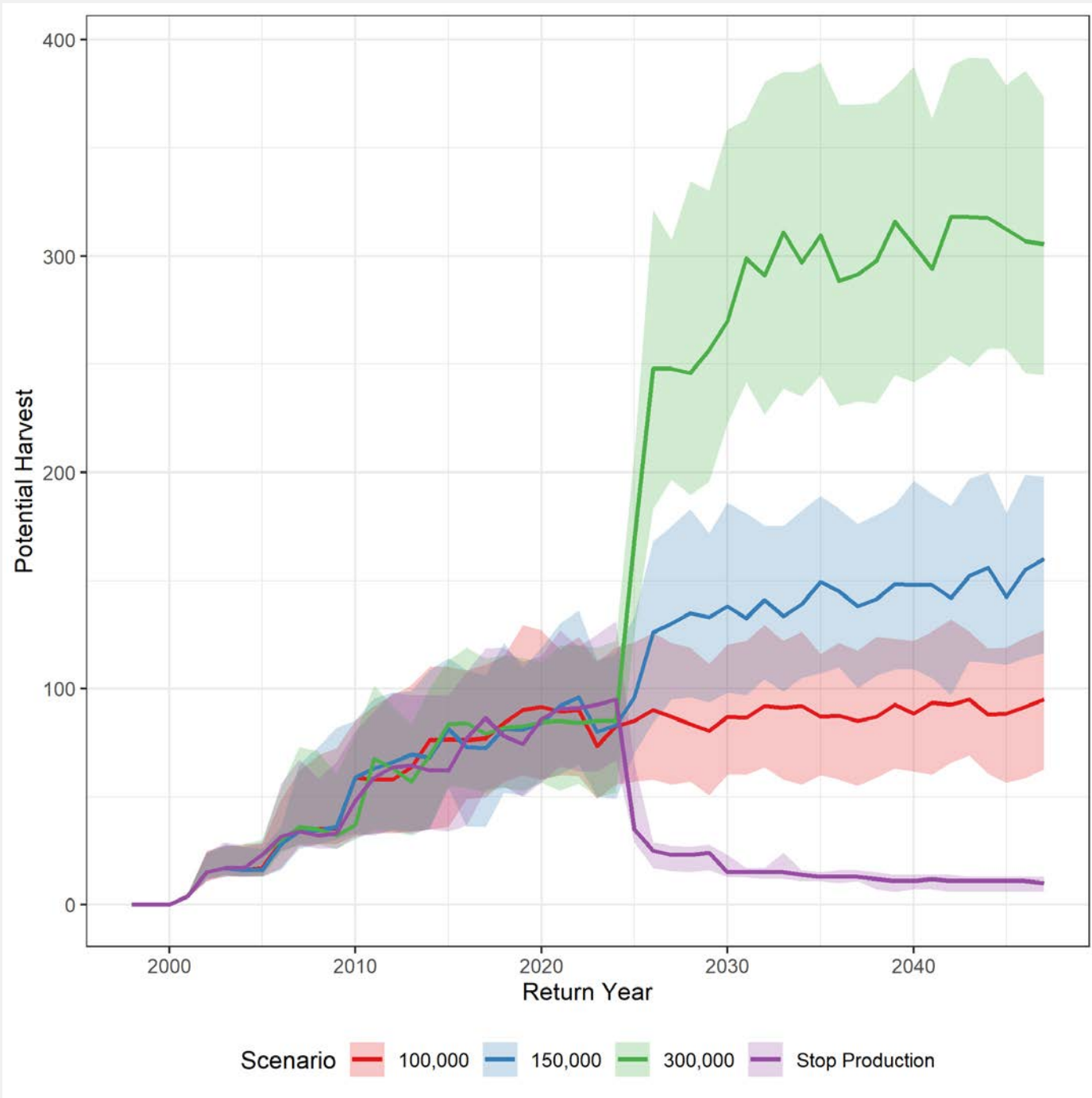
Subbasin	Population	Designated Stronghold	Viable Abundance Threshold	Sustainable Escapement Objective	Ecological Escapement Objective
South Fork Salmon River	Little Salmon	X	1,000	5,100	14,000
	South Fork Mainstem	X	750	8,600	24,000
	Secesh	X	2,000	5,400	15,000
	East Fork/ Johnson Cr	X	1,000	6,900	19,000

(2013) Nez Perce Tribe Department of Fisheries Resources Management Department Management Plan – 2013-2028

FUTURE DIRECTION



FUTURE DIRECTION





SUMMARY

- Since inception of the JCAPE program, we've observed positive trends in redd production, natural spawner abundance, and total abundance.
- Supplementation in Johnson Creek has provided the population a demographic boost that is otherwise not evident in similar unsupplemented populations.
- The high out-of-basin mortality rate provides the continued need for supplementation
- We've found that the application of unique hatchery protocols, such as using 100% natural origin broodstock, can yield fish that survive the same, fish that spawn the same, and fish that come back in similar numbers.
- The Tribe views supplementation as a tool that can be modified to address different management outcomes, ranging from restoration to harvest.