



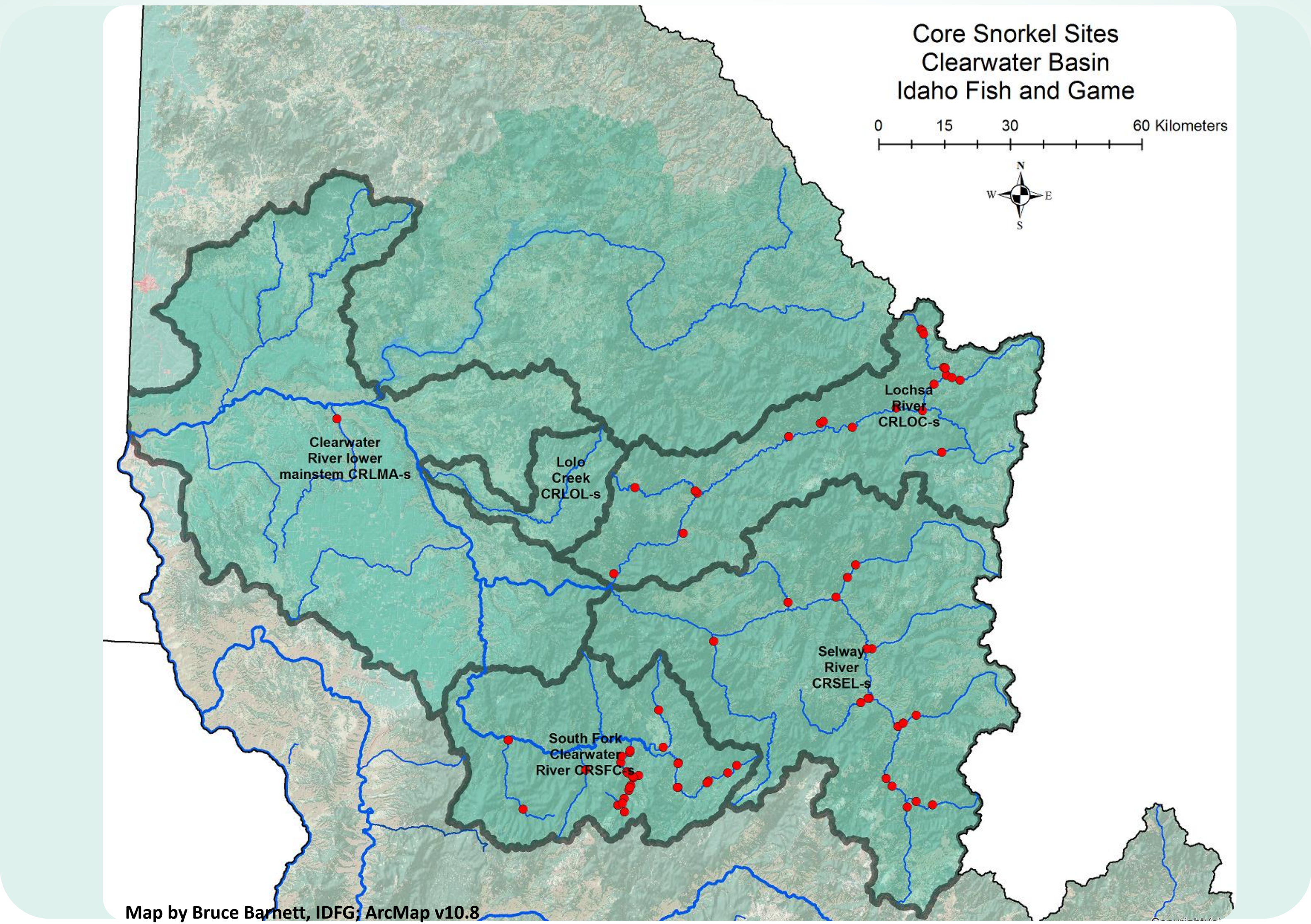
VISUALIZING THE CORE OF IDAHO'S ANADROMOUS PARR PROGRAM



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INTRODUCTION

Abundance and spatial structure are key metrics for understanding the viability of Snake River steelhead *Oncorhynchus mykiss*. The Idaho Department of Fish and Game (IDFG) uses snorkel surveys to monitor the occupancy, density, and spatial distribution of Snake River Steelhead parr within and among populations. The agency's General Parr Monitoring program was established in 1985 to monitor long-term trends in parr density at “core” survey locations in Idaho’s Snake River Basin (n=216). Understanding spatial and temporal variation within independent steelhead populations is necessary for managing localized spawning and rearing habitat for this declining species. Here we summarize mean parr densities at survey locations in the Clearwater River basin over time and across the landscape.



RESULTS

- The Clearwater Basin five-year mean for 2016-2022 (2.3 fish/100m²; SE = 0.4) was 48% of the 1985-1990 mean (4.8 fish/100m²; SE = 1.0; Figure 1).
- Within the Clearwater Basin, mean parr density in the Upper Selway River subbasin (2.3 fish/100m²; SE = 0.3) has generally fallen below the overall basin average, while Lochsa River subbasin density (5.9 fish/100m²; SE = 0.6) has generally been higher than the basin average (Figure 1).
- Within the Lochsa subbasin, mean parr density in Crooked Fork Creek (2.4 fish/100m²; SE = 0.5) is generally lower than the subbasin average, while Fish Creek densities (12.3 fish/100m²; SE = 1.1) are generally higher than the subbasin average (Figure 2).

METHODS

- Core sites were originally subjectively chosen based on suitable Steelhead and Chinook Salmon (*O. tshawytscha*) habitat.
- Sites are snorkeled annually, biannually, or triennially.
- Data is collected for species, estimated length (nearest inch), water quality, and site area (m).

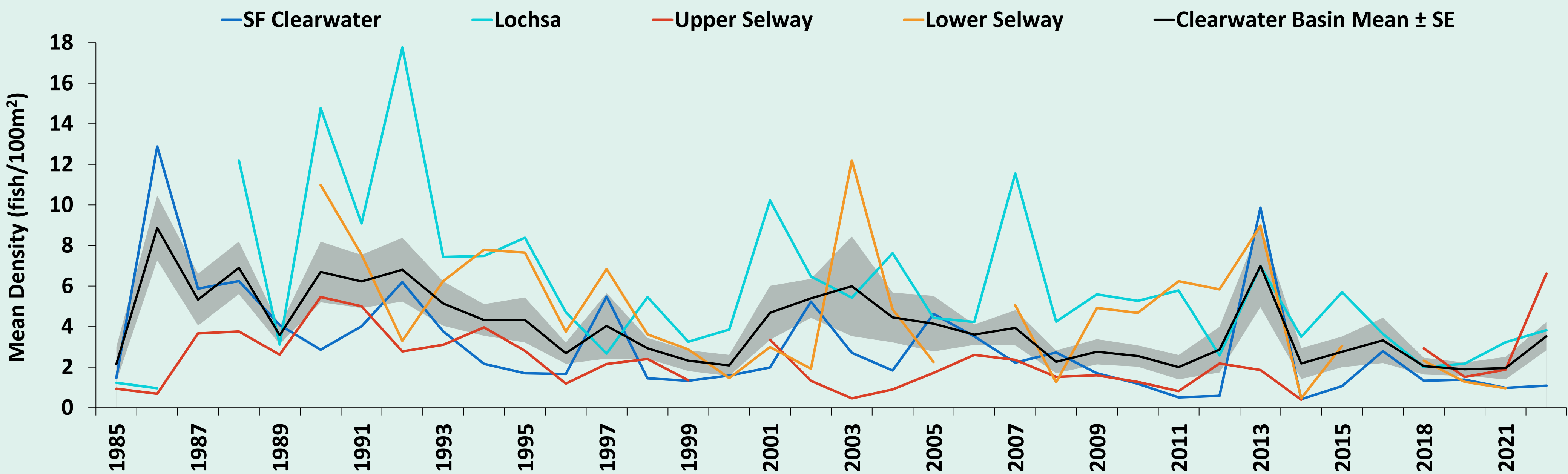


Figure 1. Mean steelhead parr density (fish/100m²) in Clearwater River subbasins, compared to the overall Clearwater Basin mean. Shaded area around Clearwater Basin mean represents standard error.

CONCLUSIONS

- Steelhead parr densities have steadily declined over the last 36 years in the Clearwater River basin, despite transient peaks in density.
- Steelhead parr densities in the Clearwater Basin vary across the landscape and management decisions should consider the needs of independent populations.
- Continuing to conduct snorkel surveys at core locations whilst developing a better understanding of steelhead life history and detectability across habitats will help provide a baseline for such management.



CROOKED FORK CREEK

Elevation	1196m
Temp	13° C
Visibility	5.8m
Habitat Type	Riffle/Pool

Figure 3. Site photo and sample data for a core snorkel site in Crooked Fork Creek, ID.

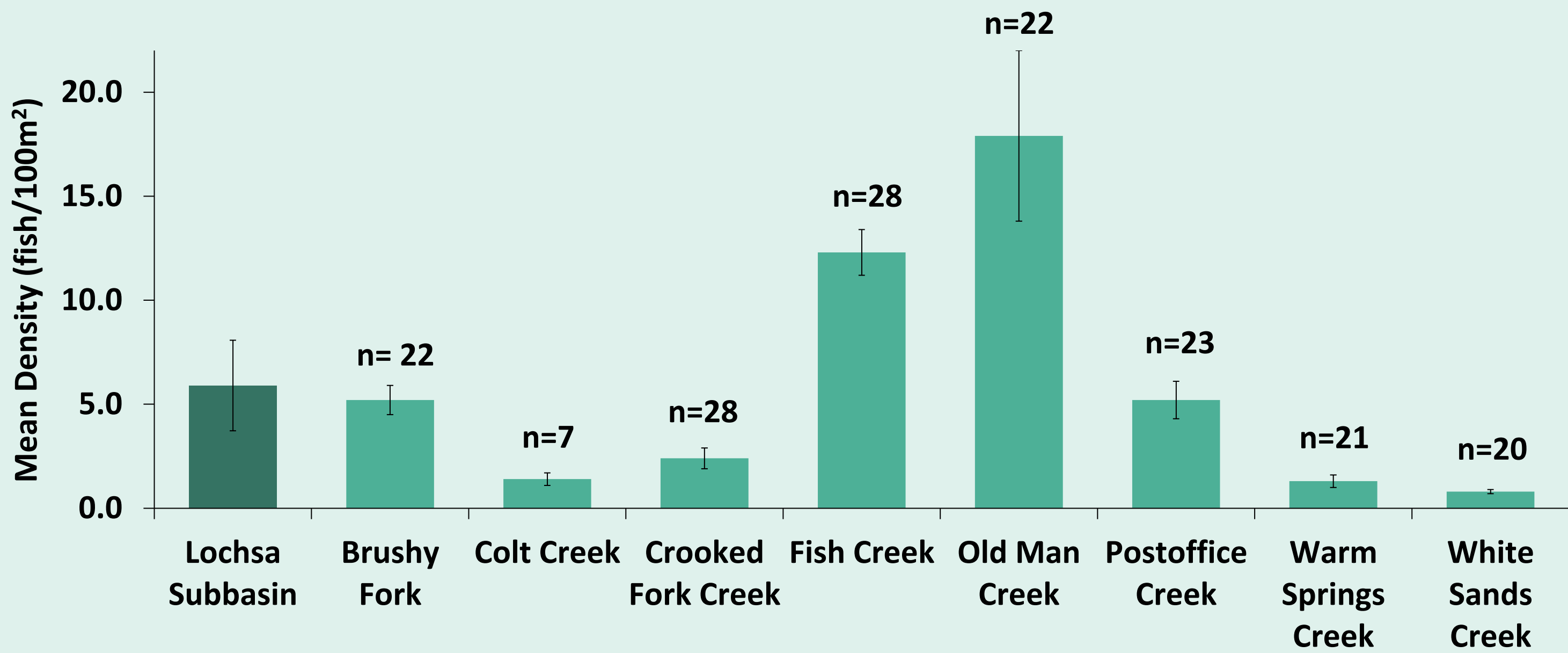
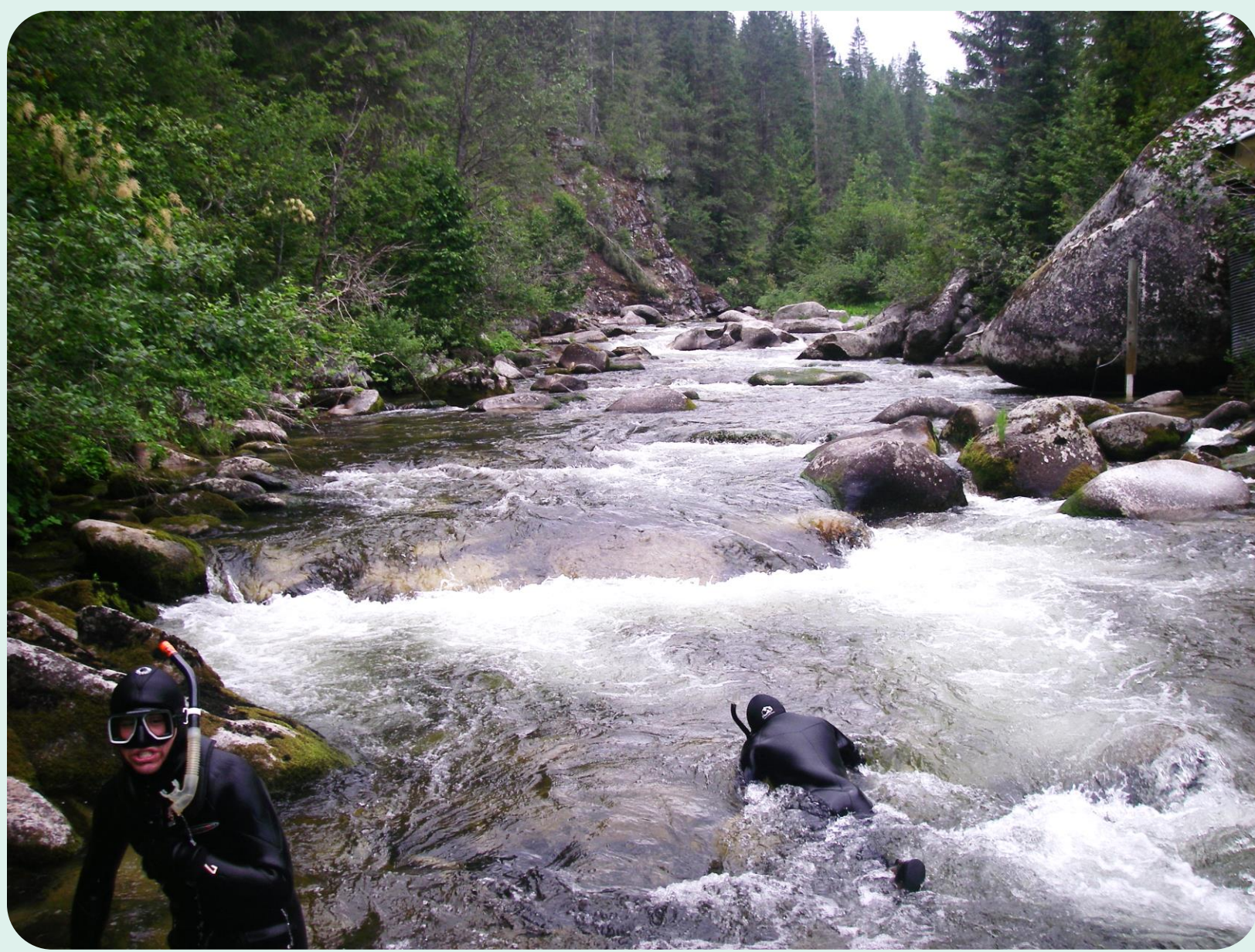


Figure 2. Overall mean steelhead parr density (fish/100m²) at survey locations in the Lochsa River subbasin. Sample size indicates number of years a location was surveyed since 1985.



FISH CREEK

Elevation	2117m
Temp	16° C
Visibility	2.4m
Habitat Type	Riffle/Pocket /Pool

Figure 4. Site photo and sample data for a core snorkel site in Fish Creek, ID.