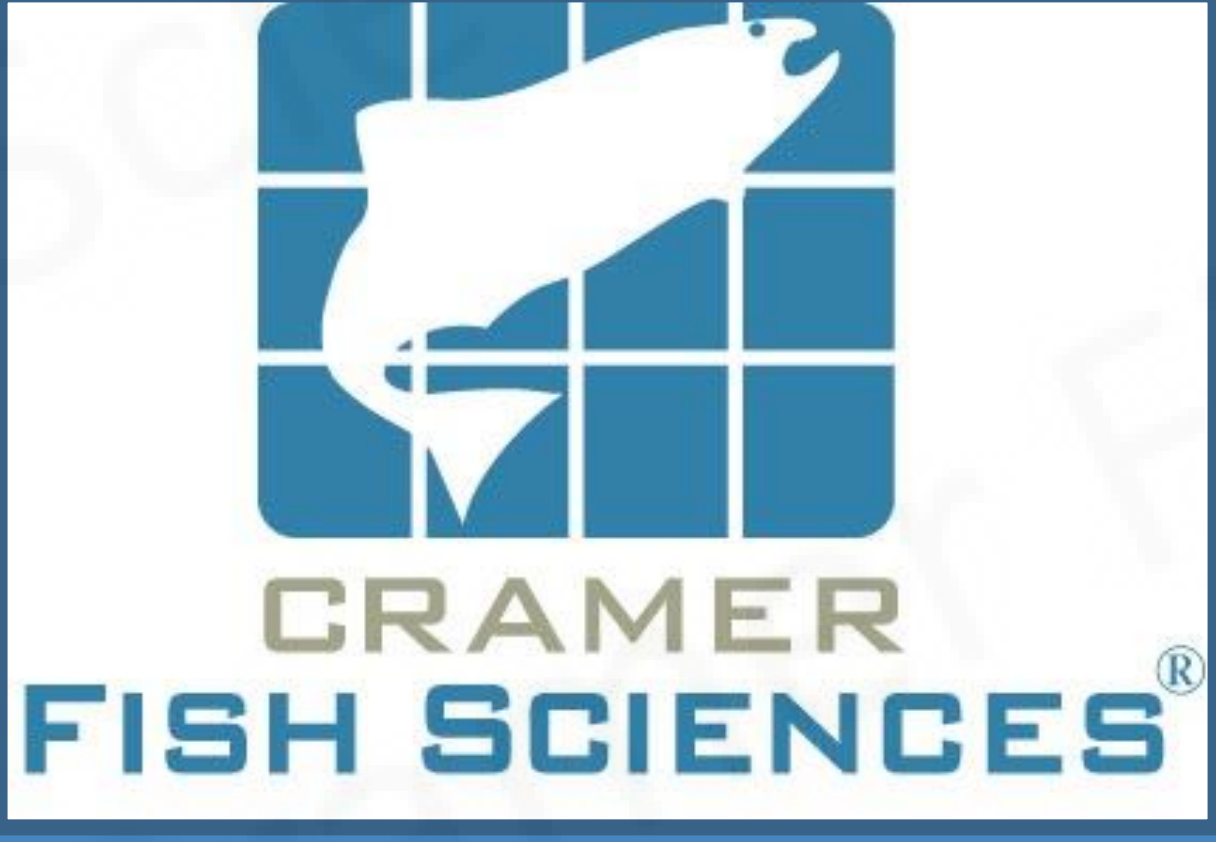




Fish Community Associations Along a River Continuum

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Question: Is there a relationship between the fish community at lower Yuba River sites and their location along the river continuum?

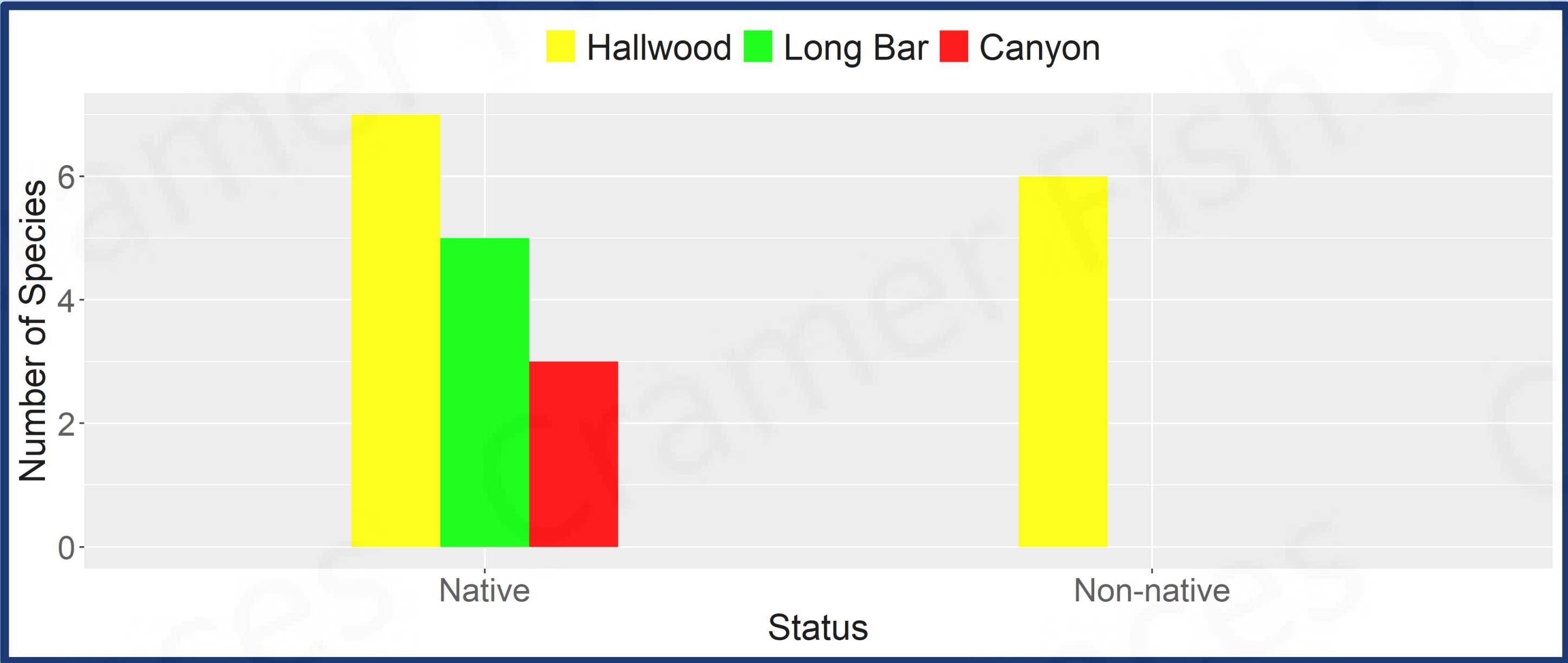
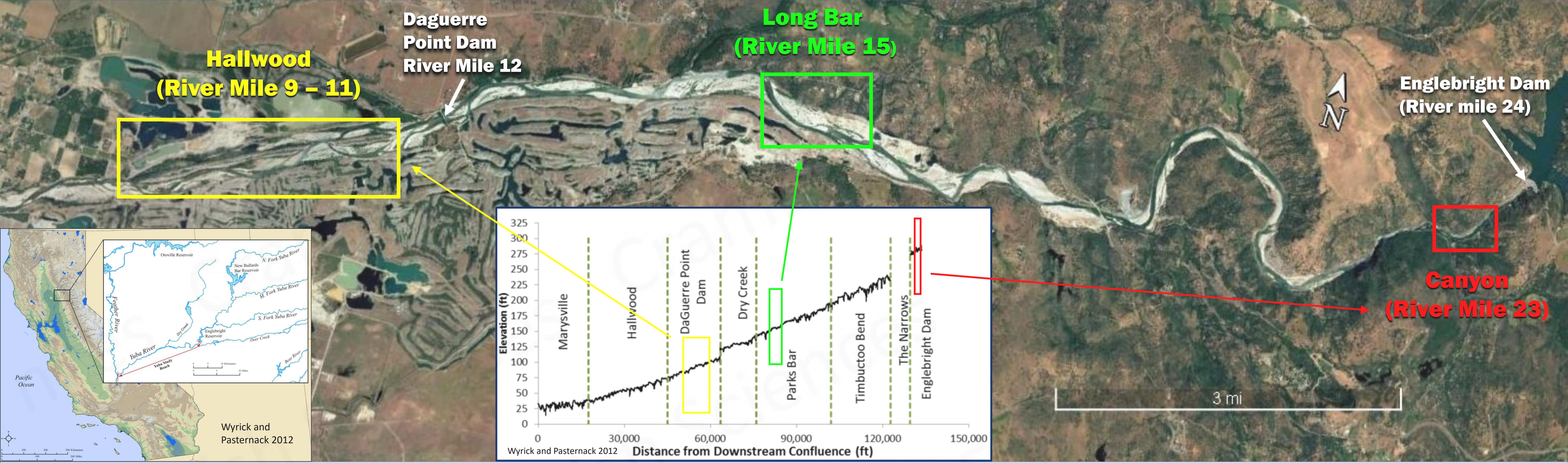


Figure 1. Number of native and non-native fish species observed at the three study sites.

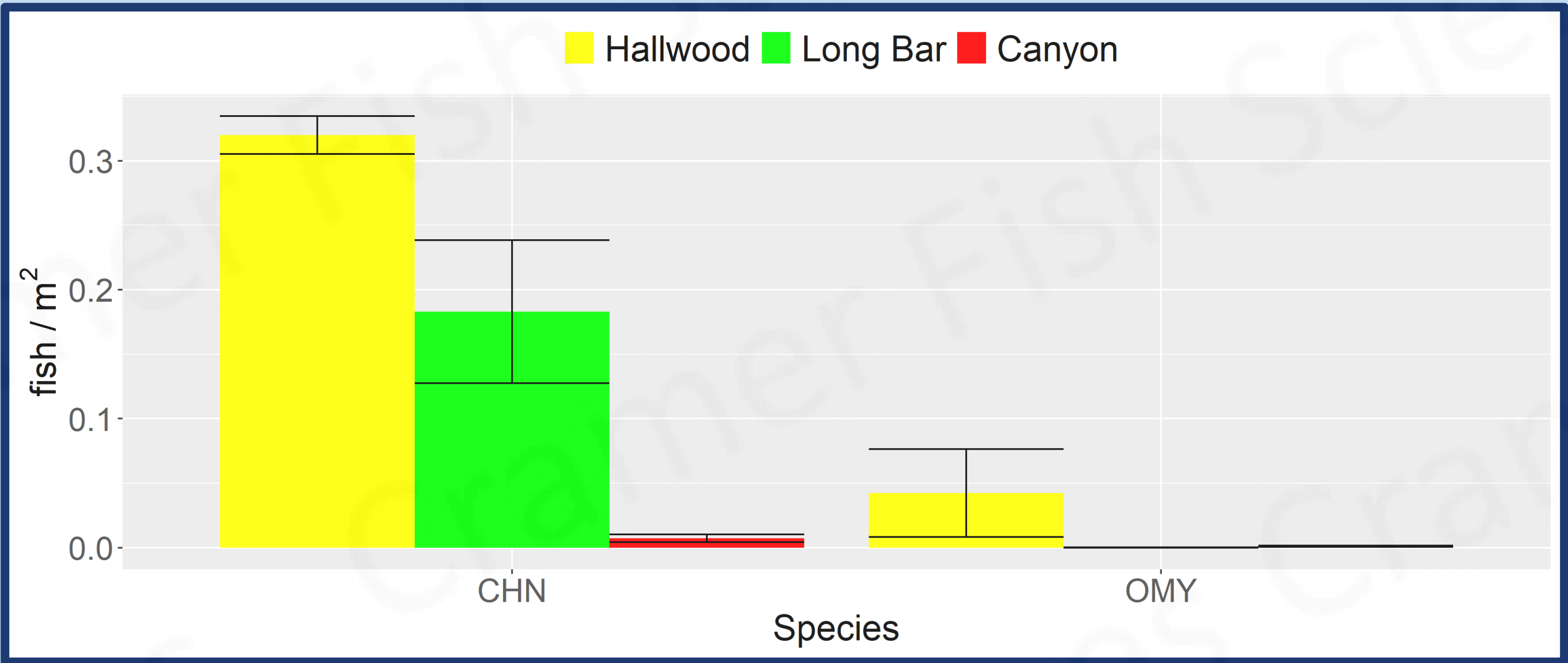


Figure 2. Density (fish/m²) of juvenile Chinook Salmon (CHN; *Oncorhynchus tshawytscha*) and *O. mykiss* (OMY) across the three study sites.

Methods

Spring (February to June) snorkel surveys at three proposed salmonid habitat restoration sites along the river continuum.



Results

- Spring fish observations along lower Yuba River support river continuum hypothesis
- Total number of fish species (Figure 1) and density of juvenile Chinook Salmon and *O. mykiss* (Figure 2) increased moving downstream in the lower Yuba River
- Non-native fish species only observed below Daguerre Point Dam at **Hallwood** (Figure 1)

Discussion

- Fish community controlled by changes in riverbed gradient, physical habitat, including water temperature, and presence of natural and anthropogenic barriers
- Restoration actions upstream of Daguerre Point Dam can focus on improving native fish refugia
- Restoration actions downstream of Daguerre Point Dam should take presence of non-native fish into consideration. Deep pools that may harbor predatory fish species under warmer thermal regimes may be sources of predation below Daguerre Point dam, while above this barrier they are likely to provide refugia for adult Spring Run Chinook Salmon .