

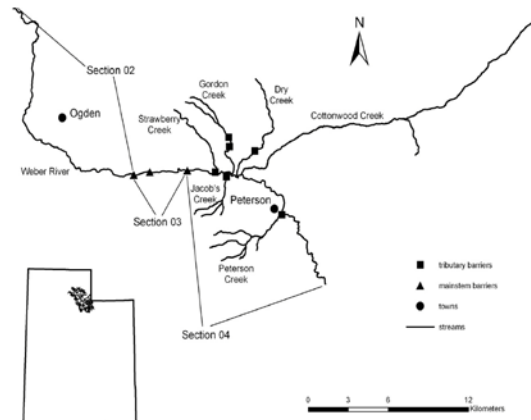
Weber River metapopulation structure and source-sink dynamics of native fishes.

Dates:

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Abstract:

The Weber River, Utah, is home to two sensitive fish species, Bonneville cutthroat trout (*Oncorhynchus clarkii utah*) and bluehead sucker (*Catostomus discobolus*). Puzzling strongholds of these species remain, despite potential impacts from habitat fragmentation, water management, and the presence of invasive species. Although populations of Bonneville cutthroat trout and bluehead sucker in the Weber River are especially important for management and conservation purposes, little is known about their specific life-histories and potential limiting factors in this system. We will test the hypothesis that a source-sink metapopulation dynamic exists between the tributaries and the mainstem populations of Bonneville cutthroat trout by using a combination of mark-recapture movement analysis, isotopic chemical markers in hard and soft tissue structures, and genetic relatedness. We will identify the locations and attributes of barriers to upstream movement in the tributaries and mainstem, and evaluate priority areas for barrier removal. A barrier in the mainstem at the canyon mouth has recently been retrofitted with a fish ladder, and we will test the effectiveness of this structure in passing Bonneville cutthroat trout and bluehead sucker through the use of a gated picket weir. We will also evaluate the population size and structure of Bonneville cutthroat trout in the mainstem Weber River and tributaries, and the bluehead sucker population size and structure in the mainstem. The main goal of this research is to identify limiting factors to these populations to allow managers to prioritize conservation actions.



Oncorhynchus clarkii utah

Funding and collaborators:

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