**McMillan, John R – Trout Unlimited**

**Presentation Title: Explaining movement of juvenile steelhead during early-stages of recolonization in two tributaries to the Elwha River**

Abstract for the 2018 Pacific Coast Steelhead Management Meeting

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Removal of large dams presents a unique opportunity to understand how anadromous fishes recolonize habitats formerly used prior to construction of dams. Two large dams were removed in the Elwha River between 2012-2014, which allowed anadromous *Oncorhynchus mykiss* (steelhead) to recolonize both main-stem and tributary habitats they had not occupied since the early-1900’s. An important aspect of dam removal is understanding how mobile fishes such as juvenile steelhead respond to different habitats during the early stages of recolonization. Each summer from 2012 to 2017 we captured, measured, and monitored movements of juveniles with electro-fishing, PIT tags and smolt traps in two adjacent tributaries (Indian Creek and Little River) that have different environmental characteristics. We used the data to determine; 1) whether there were differences between tributaries in the rate, direction and timing of movement by juveniles, and 2) the extent to which movement is explained by juvenile body size, juvenile density, stream flow, and water temperature. Preliminary results suggest there are differences in juvenile steelhead growth between the two streams, and that the rate and direction of movement varies depending on individual size, time of year and environmental conditions. The findings provide insight into juvenile steelhead growth and behavior during the early-stages of recolonization, and illuminate how variation in environmental conditions shape whether fish remain in or move from their natal habitats.