**Spatial clustering of spawners and limited dispersal capacity of fry influence habitat accessibility for juvenile steelhead *(Oncorhynchus mykiss)*.**

The population dynamics of species with high mortality and limited dispersal capacity early in life may be influenced by the spatial distribution of nest sites. For anadromous salmonids with extended freshwater rearing periods dispersal distance during the first months of life is generally thought to be limited but to our knowledge has never been explicitly quantified for steelhead trout. Dispersal distance of steelhead fry from single and clustered redd sites was measured during the first two months following emergence in 2021 and 2022 in the mainstem Skagit River, WA. At all sites, more than 90% of observed fry remained within the same habitat unit as their redd site, and dispersal generally occurred downstream. Dispersal kernels representing the location of 90% of observed fry dispersing from single isolated redds covered a median and maximum range of 178m of 270m of linear stream channel, respectively. At sites with clustered redds the dispersal kernels accounting for 90% of observed fry had a median and maximum range of 450m and 750m. These estimates suggest density dependent dispersal may be occurring within small habitat patches, however successful dispersal into adjacent habitats accounted for a small proportion (< 10%) of observed fry. This apparent limited dispersal ability of steelhead fry indicates that the amount of habitat accessible to fry is limited and existing models may overestimate the amount of habitat fry can reach prior to the end of the period of high mortality, particularly at low escapements with uneven redd distributions. Models which account for the dispersal capacity of fry and distribution of spawners could improve our understanding of the freshwater population dynamics of steelhead and improve the estimation of population vital rates and biological reference points for management.