Age And Growth Of Bull Trout In The Lower Clark Fork River System And Factors Affecting The Relative Abundance Of Migratory And Resident Life History Forms[AFS]

Nik Zymonas, Department of Ecology, Montana State University, 310 Lewis Hall, Bozeman, MT 59717, nzymonas@state.nm.us

Bull trout exhibit resident, fluvial, and adfluvial forms, sometimes in sympatry. The mechanisms driving bull trout life history variation are poorly understood but important to management of this threatened species. In this study, we characterize the age structure of 17 bull trout populations, including age at outmigration and age at maturity. We compare age structures and growth rates between and among resident and migratory populations and discuss patterns across the study area. We examine relationships among life history form, age characteristics, and environmental variables including temperature, productivity, stream size, fish densities, population structure, species composition, and presence of migratory barriers. These findings will enable managers to better determine whether life history variation in bull trout populations can be directed to favor production of resident or migratory forms.