**Estimating residency and anadromy using sex ratio estimates – Haley Ohms, OSU**

To fully understand steelhead abundance and demographics it is important to consider the sympatric rainbow trout in those populations. To date, we have very little data on how many resident fish there are relative to steelhead because this type of data is very difficult to collect. I propose a novel method for estimating the proportion of steelhead and residents with sex ratios. Using a simple mathematical model I will show how sex ratios depend on the proportion of steelhead and residents in a population and how this dependence can be used to infer the proportions of steelhead and residents. I provide several examples where the proportion of steelhead and residents can be estimated using previously collected sex ratio data. This model has potential as a tool for management and restoration with a relatively small amount of sex ratio data collection.