# Abstract

The WDFW molecular genetics laboratory has completed a microsatellite analysis on a total of 3,079 anadromous and resident *O.mykiss* samples from the Skagit River Basin. Genetic analysis was conducted on collections of adult and juvenile steelhead throughout the basin, and resident rainbow trout to determine if there was any population genetic structure. Preliminary analysis shows that the unclipped steelhead samples are not genetically differentiated from each other while samples collected at Marblemount Hatchery are significantly different. Collections of juveniles and adults from the same watersheds are also not differentiated from one another while collections of resident *O.mykiss* taken above barriers are genetically differentiated. Analysis of juvenile collected below barriers and resident *O.mykiss* above the barriers suggest no mixing has occurred and that the resident *O.mykiss* are not falling below the barrier and mixing with the anadromous juveniles.