

## **Yukon River Coho Salmon Genetics**

Here we examine the extent and pattern of genetic diversity in Yukon River coho salmon by assaying eight microsatellite loci. Yukon River coho salmon are geographically structured ( $GST=0.103$ ), with a strong genetic disjunction between lower and upper river populations. Upper river populations have much lower levels of genetic diversity in comparison to the lower river populations and to other populations from around Alaska. This deficit is likely the result of a founder or bottleneck effect. Mixed-stock analysis using microsatellite variation assayed here can accurately (95%–99%) and precisely (S.D. 1%–3%) allocate coho salmon in mixtures to regions providing data that can increase the knowledge base and ability to actively manage Yukon River coho salmon. Finer geographic scale management may be possible by increasing baseline sample sizes, improving baseline representation, and, if necessary, assaying additional diverse loci.

**Citation:** Flannery, B., L. Luiten, and J. Wenburg. 2006. Yukon River Coho Salmon Genetics. U.S. Fish and Wildlife Service. Conservation Genetics Laboratory. Alaska Fisheries Technical Report Number 93. Anchorage, Alaska.