

Rearing Effects on the Seasonal Diet of Steelhead from an Integrated Hatchery Program

We compared the diet of hatchery-reared steelhead produced from an integrated hatchery program and their sympatric wild counterparts, both as spring smolts and as non-migrating summer parr. Our results suggest that although there is a potential for hatchery fish to affect wild steelhead populations due to dietary overlap and salmonid fry predation, diet composition appears to be more strongly affected by seasonal and yearly differences in prey abundance and presence rather than differences in rearing environments. Hatchery and wild steelhead showed small but important dietary differences. Hatchery smolts did not consume as many fry as wild fish and hatchery residuals showed stronger surface oriented feeding behavior than wild parr. Predation by hatchery smolts was related to release timing, but not experience with native fry. Because most hatchery smolts emigrated shortly after release and the overall number of residuals in the study creek was low, we speculate that in this case dietary similarities and predatory behavior exhibited by hatchery steelhead produced from an integrated hatchery program had little adverse affect on the native steelhead population.

Will Simpson
Fishery Biologist
U.S. Fish and Wildlife Service
Abernathy Fish Technology Center
1440 Abernathy Creek Road
Longview, WA 98632
360-425-6072 x346