Title:
Effects of Domestication on Predation Vulnerability

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Summary of Presentation:
Hatcheries have been used in an attempt to increase the production of Pacific salmonids in the Columbia River system since 1877. While able to achieve better survival from egg to release, it has been noted that hatchery-reared fish do not perform as well as their naturally reared counterparts in the natural environment. We performed an experiment where size-matched fry spawned from first generation hatchery broodstock and from wild broodstock were subjected to rainbow trout (*Oncorhynchus mykiss*) and torrent sculpin (*Cottus rhotheus*) predators in net pens at the Cle Elum Supplementation and Research Facility. Wild origin fish had significantly higher survival (P=0.049) than hatchery origin fish. Prey fish were treated identically, so any differences observed should be due to genetic changes rather than learned behavior. Genetic differences that we detect will be important because in the natural environment these returning wild fish are expected to spawn naturally and produce viable fry. This study will be performed annually for several generations of fish to help monitor the success of supplementation. This data should be considered preliminary until published in a peer-reviewed journal.