

**STATE OF WASHINGTON
DEPARTMENT OF FISH AND WILDLIFE
SCIENCE PROGRAM**

October 25, 2006

TO: Amilee Wilson
FROM: Keith Keown
SUBJ: Questions from Steelhead Stakeholders Meeting October 24, 2006

Amilee, there were a couple of questions about impact on the rainbow population or productivity of rainbow trout above Swift Reservoir and the impact of various steelhead re-introductions on them that I did not have an answer for. I have reviewed both Settlement Agreement Documents; the Lewis River Fish Planning Document, 2004 - web address: <http://www.pacificorp.com/File/File53031.pdf>, and the Lewis River Hatchery and Supplementation Plan, 2006 - web address: <http://www.pacificorp.com/File/File63955.pdf>.

There is some allozyme information and species present before and after the hydro projects were built, but census surveys or EDT values were not conducted for rainbow (or any resident species). Below are a statement scenario (6) and the risk implication from introducing salmonids back to the upper river (2002 Technical Report - Page AQU 18 Appendix G-117 in the Lewis River Planning Document).

Statement 6

Although the resident fish populations in the upper Lewis River basin have been impacted by many of the same cultural activities that have affected anadromous fish (i.e., habitat fragmentation, loss of nutrients and habitat degradation), self-sustaining populations of bull trout, coastal cutthroat trout, rainbow trout, mountain whitefish, largescale sucker, and other native species are found throughout the watershed. Many of these species currently occupy habitat that was formerly shared by anadromous fish.

Implication

Given the limited habitat above the dams, reintroducing anadromous fish into the upper watershed will likely affect the distribution and abundance of native resident species. The most likely scenario is that reintroduced anadromous fish will benefit native resident fish.

The existing Lewis River hatchery program supports a very popular in-river recreational fishery. Although fishery management in the Lewis River basin is the responsibility of WDFW, any plans to reintroduce anadromous fish need to carefully address the potential effects on recreation fishing and the effects of fishing on reintroduced fishes. Monitoring should be implemented along with reintroduction to track changes in the distribution and abundance of native resident fishes and determine both the negative and positive effects of reintroduction.

Also, below is a statement from the Lewis River Hatchery and Supplementation Plan, 2006 - web address but most of the concern is on bull trout:

4.5 IMPACTS ON ESA LISTED SPECIES AND UPPER RIVER FISH POPULATIONS

Comments received from the ACC on the Draft H&S Plan indicated that they were concerned about the effect reintroducing anadromous fish into the upper basin may have on ESA listed bull trout and other resident species. For example, a concern was expressed that if coho entered and spawned in Rush Creek or Cougar Creek, they may negatively impact bull trout spawning success.

The H&S Plan proposes to conduct spawning/carcass surveys throughout the upper basin to collect marks, determine distribution etc. which should provide data to identify those areas where species may compete. However, unless actions such as constructing weirs at the mouths of streams like Cougar Creek to prevent coho access are implemented, then collecting data on such interactions may have little value.

The H&S Plan assumes that since bull trout and other species were present historically in the upper basin, the reintroduction program would simply restore ecological function in the system. Impacts such as bull trout feeding on anadromous juveniles or vice-versa are simply accepted.

The documents indicate that the current resident population of *O Mykiss* in the upper river inhabits productivity that was originally in balance with other species before they were denied access to the upper Lewis River and that re-introduction of steelhead, coho and spring Chinook will move to restore that balance. Also, as I mentioned at the meeting, upper river wild rainbow stock (not hatchery trout via Goldendale, South Tacoma etc.) is distinct from current steelhead allozyme results from populations in the lower Lewis River system and tributaries (J. Losterman, 2003). Based on the initial analysis, they may preserve important genetic material to be shared with re-introductions of wild steelhead that will evolve in the upper river.