

**STATE OF WASHINGTON
DEPARTMENT OF FISH AND WILDLIFE
INTERGOVERNMENTAL RESOURCE MANAGEMENT**

December 23, 2003

TO: Bill Tweit – WDFW Compact Representative
Steve King – ODFW Compact Representative

FROM: Cindy LeFleur
U.S. v Oregon Technical Advisory Committee Chair

SUBJECT: Recommendation for Tangle Net Mortality Rate

TAC met on December 17 to review the results of the 2003 PIT tag analysis of long-term mortality rates using tangle net gear. We had previously received the results of the jaw tag analysis for 2003. TAC discussed the results of both data sets including the 2001 and 2002 jaw tag results and are providing the following recommendations:

TAC Conclusions/Recommendations

- ❖ Based on the study, most of the mortality seems to occur fairly soon after tagging. The mortality rate estimate at Bonneville Dam compared to Lower Granite and Priest Rapids dams combined based on PIT tag data shows similar mortality rates.
- ❖ The better control group to use in determining a mortality rate is the group released below Bonneville Dam. This group best reflects the actual test fishery and is released in the same area as the test group. There is a survival advantage to the control group released at Bonneville Dam that the test group does not have. There are possible shortcomings with either control, but the TAC consensus was that using data from the below Bonneville control would be more reliable.
- ❖ The mortality estimates are calculated from recoveries at dams only and do not incorporate information about potential recoveries at hatcheries. Since it appears that most mortality occurs in the relatively short term, these estimates are adequate to estimate long-term release mortality that is used in fishery management.
- ❖ TAC recommends using the results of the 2003 PIT tag estimates for 2004 long-term mortality rates in the non-Indian fishery. The point estimate would be 18.5%, which includes all PIT tags recovered with a standard error of 1.4% and 95% confidence intervals of 15.8% - 21.3%.
- ❖ TAC conducted several sensitivity analyses of the data from all three years of the jaw tag results as well as the 2003 PIT tag results by using weighted averages, based on the standard errors for each individual estimate. The estimates derived from this analysis

ranged from 18.0% to 20.3%. The results of the 2003 PIT tag analysis provides a point estimate that is within this range, and a standard error that brackets nearly all of this range.

- ❖ The PIT tag estimate for 2003 falls within the range of the three years of jaw tag estimates. The 3-year average jaw tag mortality rate using controls at Bonneville Dam is 26.3% (range 11.7% to 34.6%) and 16.9% for controls below Bonneville Dam (range 3.2% to 24.8% for controls below Bonneville Dam).
- ❖ The researchers have not finished analyzing all the data such as PIT tag returns to hatcheries. Nor have they finalized a report on the 2003 study. When these data are analyzed and incorporated into their final report there may be some new information to consider. However, TAC does not anticipate major changes that would require revisiting the recommendation of 18.5% for 2004 fishery management.
- ❖ TAC will discuss the appropriate mortality rate to use for steelhead at a future meeting.

Cc: TAC