

Date: May 27, 2004

To: Joe Hymer, PSMFC

From: Todd Hillson, WDFW

Reason: 2003-04 Duncan Creek Project Progress Report

A total of 81 adults (42 males and 39 females) were taken to Washougal Hatchery for spawning. No adults died prior to being spawned, one female was not ripe when spawned. Two other females were found to be still green on spawning day. These two females along with two males were taken to the Duncan Creek spawning channels and released above the south weir. Those 36 females yielded 87,608 green eggs. Two releases, totaling 75,952 fry, were made on May 20 at night from the Skamania Landing boat ramp. Survival from green to eyed egg stage was 93.7%, eyed egg to ponding was 95.2%, ponding to release was 97.4% with the overall survival from green egg stage to release being 89.2%.

A total of 52 adults (26 males and 26 females) were released above the weirs into the spawning channels at Duncan Creek. Potential egg deposition (PED) and actual egg deposition (AED) of females that spawned in the channels were calculated via predictive regression formulas, derived from phenotypic traits of females that were spawned at the hatchery and by sampling females soon after death to enumerate retained eggs. The expected AED in the channels was 75,429 eggs. Trapping activities began on February 27 and ended on April 28. Fry trapping was halted early this season due to very low spring rainfall that threatened to strand fry in the channels. Daily combined trap totals had been below 100 for a week prior to stopping. An additional 2,059 fry were seined out of the channels over the course of the last two days of trapping. Fry trapping at the two weirs resulted in 43,391 fry captured while outmigrating. Combining these two totals results in 45,450 fry captured from the channels. Resulting in a combined estimated egg-to-fry survival rate of 60.26%. Trapping mortality was 0.19%. All fry captured were strontium marked prior to release in 2004. Fry were marked by immersion in a bath of 1000ppm strontium chloride hexahydrate for four-hours. Eight fry died during the strontium marking process, 35 marked fry were sacrificed for voucher samples and one of 564 fry in the test group (0 out of 566 in the control group) died during the 48-hour delayed mortality testing, resulting in 45,318 marked fry being released. Daily trapping and season cumulative passage percent can be found in Figure 1.

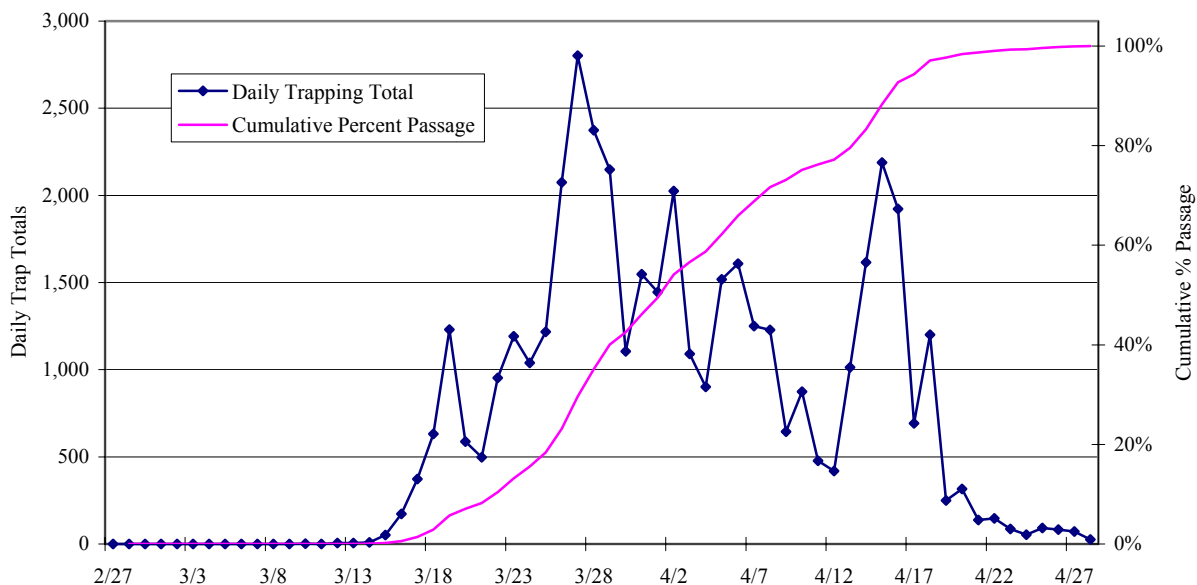


Figure 1. Daily Combined Fry Trap Totals and Cumulative Percent Passage at the Duncan Creek Spawning Channels, 2004.