Revision History for OFR 2010-1238

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Otolith Analysis of Pre-Restoration Habitat Use by Chinook Salmon in the Delta-Flats and Nearshore Regions of the Nisqually River Estuary

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Revised and reposted May 26, 2011

The text version was modified.

Text was changed in the abstract (p. 1) and conclusion (p. 27): added complete tidal delta growth rate to the delta-flats/nearshore (DF/NS) growth rate as being the highest for unmarked and marked Chinook during 2008 compared to all other sampling years and the average complete tidal delta and DF/NS growth rates for unmarked Chinook were both consistently lower compared to marked Chinook during all years.

The word “fish” was removed from a sentence and the year “2005” was corrected to “2004” on p. 5.

Text was changed on p. 8 from “ventral” of the longitudinal axis to “dorsal” to the longitudinal axis.

A sentence was changed on p. 8 and p. 10 to clarify that emergence is associated with unmarked samples only and first feed is associated with both unmarked and marked samples.

Text was changed throughout the manuscript due to revised complete tidal delta growth rates for unmarked Chinook salmon and one-way ANOVAs/p-values. A minor error in the growth rate formula within the dataset gave inaccurate complete tidal delta growth rates and size at entry to the tidal delta for unmarked juvenile Chinook salmon only, therefore the average complete tidal delta growth rate for unmarked Chinook was changed from 0.50 mm/day to 0.47 mm/day. On p. 10 this revised one-way ANOVA resulted in a significant difference in complete tidal delta growth rate ($P \leq 0.0043$) between unmarked and marked Chinook salmon and the average complete tidal delta growth rate for unmarked Chinook resulted in lower values for marked Chinook in all years instead of two out of four years. Additional revised ANOVAs on unmarked Chinook resulted in new p-values on p. 16: complete tidal delta growth rate between Delta-flats (DF) and Nearshore (NS) habitats ($P \geq 0.207$ to $P \geq 0.748$), complete tidal delta among years ($P \leq 0.0063$, $n=20$ to $P \leq 0.0316$, $n=21$), fork length at entrance to tidal delta between years ($P \leq 0.011$ to $P \leq 0.0064$) and habitats ($P \leq 0.036$ to $P \leq 0.0308$). Due to the changes in average complete tidal delta growth rates for unmarked Chinook salmon, 2008 (mean=0.56 mm/day) resulted in the highest rate followed by 2005 (mean=0.52 mm/day) and then by 2004 and 2007 which were the same (mean=0.41 mm/day). Figure 5 on p. 15 was revised to reflect the error in the unmarked Chinook average complete tidal delta growth rates. The average complete tidal delta growth rate in 2005 was corrected to 0.52 mm/day and 0.41 mm/day in 2006. Table 5 on p. 21 was revised to reflect the error in fork lengths at entry to the tidal delta. Changed entries are located in rows 3, 7, and 11 of the table for either DF or NS values.

Corrected abbreviation on p. 23, fig. 13 (20x objective)from NS to N.