

# DIFFERENTIAL POST-HYDROSYSTEM MORTALITY OF TRANSPORTED AND IN-RIVER PASSING SPRING CHINOOK FROM THE SNAKE RIVER

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## ABSTRACT

Differential post-hydrosystem survival of Snake River spring Chinook from transport and in-river passage routes (D) was evaluated with a multi-linear model that represent the differential effects of passage route, energy density, fish length, and estuary arrival time. Using data provided by W. D. Muir on spring Chinook collected at Lower Granite Dam over the years 1997-2005, the model fit the observed within and across year D for hatchery fish ( $r\text{-sqr} = 0.67$ ). The dominant factor was the difference in cumulative temperature exposure between transport and in-river migrants, which in the model, reflects their differential energy density at estuary arrival. For wild spring Chinook, the differential estuary arrival time was the weakly correlated with D, but no other factor was significant ( $r\text{-sqr} = 0.32$ ).