

# Memorandum

To : Richard D. Beland

Date : July 19, 1984

From : Department of Fish and Game -Region 2

Subject: Addendum to June 22 Memo Re: Salmon Smolt Survival Downstream  
From the Glenn-Colusa Fish Screen

I have discussed my June 22 memorandum with Alan Baracco and Marty Kjelson. They pointed out that the survival of April/May emigrants is much better than June smolts. Based on trawling at Chipps Island, Marty estimates survival of June emigrants as: 1977 BY - 1%; 1978 BY - 6%; 1979 BY - 46%; 1980 BY - 2%; and 1981 BY - 100%. Survival seems to be related to outflow; on poor survival years, outflow was less than 10,000 cfs but on good years was 14,000 and 28,500 cfs (June, 1980 and 1982). Marty calculated that whereas the June, 1981 smolts had a 2% survival, the May, 1981 smolts had a 24% survival. Hallock and Reisenbichler, 1979 calculated from ocean and inland returns of fin-clipped smolts that mortality of May releases from Coleman NFH to Rio Vista was 58% in 1960-62 (59-61 BY) but only 29% in 1969-71 and 58% for 1969-71 Nimbus FH fish.

A similar lower mortality rate in May, presumed because of lower water temperature, was calculated for smolts (75-78 mm) released at the entrance to Clifton Court Forebay in April 25-May 5, 1984. The Forebay loss was estimated to be 63% compared to prior losses of 88% and 97% of salmon released in October.

Whereas the May losses are still high, they are within tolerable limits to maintain the spawning runs under existing harvest conditions.

Operating the Glenn-Colusa fish screen in April and May may have some benefit to the wild salmon production of the upper Sacramento River.



Fred Meyer  
Associate Fishery Biologist

cc: A. Baracco, P. Ward, C. Young, L. Preston

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