



# FISH PASSAGE CENTER

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## MEMORANDUM

TO: The Files

FROM: Jerry McCann

DATE: July 13, 2005

RE: McNary Subyearling Cumulative Passage Index Plot Adjusted Total

Based on lower than projected collections to date at McNary Dam, FPC has revised our estimated total passage index value for the subyearling cumulative passage plot. Initially the value was estimated at 16.4 million and we have revised the total to 11.4 million after reviewing data collected at McNary Dam to date.

Our original estimated total passage index was based upon the NOAA projection of 12,305,000 collection of subyearling chinook, with an estimated fish guidance efficiency of 0.509 from their annual estimates of fish numbers arriving at dams for ESA permitting. However, based on PIT-tag analysis FPC believes that that fish collection proportion at the project is much lower than the value NOAA used to generate their estimate of collection. Also, data from the Smolt Monitoring Program (SMP) shows that collection to date appears much lower than NOAA projected.

Historically, at McNary Dam, subyearling chinook passage reaches 50% of total passage by July 1. By June 30 this year, only 3.5 million subyearlings had been collected. Assuming that timing in 2005 is similar to historic average, collection has been well below the NOAA projection through the end of June. Based on PIT-tag data, FPC estimated that fish collection at the project averaged about 0.38 prior to July 1. Adjusting the NOAA collection estimate based on our lower collection efficiency value results in an estimated collection of 4.76 million. So a decrease in collection is not enough to account for decrease. Instead, we modified the projected total based on our estimate of collection for the season after July 1 based on ratio of observed collection 3.5 million compared to the modified NOAA projection 4.76 million, based on a reduced collection rate of 0.38. We estimated the collection after July 1 would be reduced in a similar ratio to that seen prior to July 1, or about 78% of the collection NOAA predicted, divided in half to represent

the second half of the season and then adjusted for collection efficiency under the court ordered summer spill program. We estimated collection efficiency July 1 through July 8 to be about 0.22 based on PIT-tag detections at John Day and applied that value to the remaining estimated collection for the season to arrive at an estimated collection for July to August 31, of 2.02 million subyearlings.

Finally, using the season to June 30 passage index of 4,712,580 and adding the passage index of 6.7 million which represents the expansion of the 2.02 million collection for July 1 to August 31 based on roughly 70% spill for the season, FPC estimates a total passage index of 11,378,000.