

August 8, 2008

MEMO FOR: Andrew Kolosseus (WDOE), AMT Co-chair  
Agnes Lut (ODEQ), AMT Co-chair

FROM: Jason Sweet (Bonneville Power Administration), Fisheries Biologist

SUBJECT: Comments on CRITFC adult passage memorandum.

Dear Mr. Kolosseus and Ms. Lut:

BPA staff has reviewed the adult passage memorandum prepared by CRITFC and concurs with the comments submitted to you by the Corps of Engineers on 1 August, 2008.

We feel that there can be substantial impacts to adult passage and that these impacts must be considered on a project specific basis. As the Corps commented, there has been a great deal of research performed at Bonneville Dam that shows the correlation between adult fallback and increased spill levels. Much of this research, (e.g. Boggs, 2005 and Caudill, 2006) was not considered in CRITFC's memorandum. A synthesis of some of that adult passage research showed that adult fallback increased 3.1% between low spill treatments and high spill treatments at Bonneville Dam. This increase was even higher (5.6%) when passage through the Bradford Island ladder at Bonneville was isolated (U.S. Army Corps of Engineers, 2002).

Impact to adult passage based on increased spill volumes is not isolated to Bonneville Dam. During the initial period of court-ordered summer spill in 2005, spill to the gas cap at Little Goose dam blocked adult passage until spill was reduced to 30%. Increased spill volumes may also reduce the effectiveness of attraction flow to fishway entrances, delaying adult migration timing.

An additional point that we'd like to emphasize is that all surface passage routes may not be well suited for adult passage. The region is in the process of testing the effectiveness of surface passage at McNary Dam and John Day Dam using temporary spillway weirs (TSWs). A similar device will be installed at Little Goose Dam in the spring of 2009. TSWs were intended to test how effective surface passage can be at these projects and a great deal of time and effort has been spent to make them as benign as possible for downstream juvenile passage. As these structures have initially been intended as a "proof of concept" of surface passage for juveniles, we have been testing survival rates over these structures for juveniles, but not for adults. These structures should still be considered experimental in nature and not necessarily a preferential route for adult passage. For CRITFC to classify all surface passage routes, along with spill, as "...the safest downstream passage route for adult migrants, whether they are fallbacks or steelhead kelts heading seaward" is likely a premature and overly optimistic generalization.

Boggs, C.T. 2005. Fallback, reascension, and adjusted fishway escapement estimates for adult Chinook salmon and steelhead at Columbia and Snake River dams, 1996-2003. NOAA Fisheries Technical Report to U.S. Army Corps of Engineers, Portland District.

Caudell, C.C. 2006. Adult Chinook salmon and steelhead dam passage behavior in response to manipulated discharge through spillways at Bonneville Dam. University of Idaho Cooperative Fish and Wildlife Research Unit Technical Report 2006-5.

U.S. Army Corps of Engineers. 2002. Bonneville Decision Document- Juvenile Fish Passage Recommendation. Available at:

<https://www.nwp.usace.army.mil/pm/e/reports/afep/config/BonnDecDoc.pdf>

For additional literature regarding adult passage see:

<http://www.nwfsc.noaa.gov/publications/displayinclude.cfm?incfile=proj103.inc>

<http://www.cnr.uidaho.edu/uiferl/Archives.htm>