
From: Barbara Byrne - NOAA Federal <barbara.byrne@noaa.gov>
Sent: Tuesday, May 28, 2019 6:16 PM
To: Joe Heublein - NOAA Federal
Cc: Ellrott, Brian
Subject: updated population context for steelhead I&S

FYI, I cleaned up the method we used initially (corrected back to loss, and adjusted for LAD error) to put the steelhead loss numbers into a population context. The updated paragraph from the Delta effects section is below; please check that the ranges of effects for COS and PA are carried over correctly into the steelhead I&S:

NMFS put the combined CCV steelhead loss in a screening-level population context (see caveats in Section 2.5.5.8.3.1) by expressing the estimated annual combined loss as a percentage of the steelhead population in the Delta. Estimated annual combined loss from the COS is 6,560 juveniles, and estimated annual combined loss from the PA is 7,988. Good et al. (2005) estimated the CCV steelhead population at approximately 94,000-336,000 juveniles, and Nobriga and Cadrett (2001) estimated the CCV steelhead population at 413,069-658,453 juveniles. Applying the estimated annual combined loss to the lowest and highest juvenile population estimates provides ranges of 1 ($6,560 \div 658,453$) to 7 ($6,560 \div 94,000$) percent loss of the juvenile CCV steelhead population in the Delta for the COS, and 1 ($7,988 \div 658,453$) to 8 ($7,988 \div 94,000$) percent loss of the juvenile CCV steelhead population in the Delta for the PA.

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