
From: Barbara Byrne - NOAA Federal <barbara.byrne@noaa.gov>
Sent: Monday, May 6, 2019 10:53 AM
To: Cathy Marcinkevage
Subject: a few questions for Steve re: Zeug and Cavallo 2014 and the salvage density method
Attachments: Methods from Water Fix BA_Fig_description_salvage density.docx; Zeug and Cavallo 2014_ Controls on the entrainment of juvenile Chinook salmon into large water diversions and estimates of population level loss.pdf

Attached are Zeug and Cavallo 2014 and the CWF writeup on the salvage density method. Here are a few questions for Steve:

1. Table 5 of Zeug and Cavallo 2014: Consider the line with Migration mortality of 64.9% and relative loss of .449%. Is it correct to interpret that as saying that 99.551% of the through-Delta mortality occurs elsewhere in the Delta, as a sort of measure of the "tip of the iceberg" (in that direct loss at the export facilities is not the whole story for in-Delta mortality).
2. The CWF model write-up only mentions winter-run:
 - a. Were the same methods used for the spring-run, steelhead, and sDPS green sturgeon salvage density results provided?
 - b. If so, would you caution that the interpretation for steelhead and green sturgeon presume that the mortality dynamics are the same as for Chinook (more true for steelhead than sturgeon, probably).
3. I assume that the parameters for the zero-inflated negative binomial regression come from the CALSIM modeling (and some sub-monthly DCC assumptions?), but what is assumed to "insert" fish into the system? The 2014 paper has specific timing, location, and numbers of releases, but what is assumed for the salvage density analysis provided to us for the current consultation? Is there explicit "insertion" of fish from both Sac and SJ sides, and if so, based on what info? The 2014 paper has specific timing, location, and numbers of releases, but what is assumed for the salvage density analysis provided to us for the current consultation?
4. Should we consider the numbers for WR, SR, and steelhead to represent wild fish, hatchery, fish, or both?

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