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**From:** Ford, John@DWR <John.Ford2@water.ca.gov>  
**Sent:** Friday, March 1, 2019 9:43 AM  
**To:** Byrne, Barbara@NOAA  
**Subject:** FW: [EXTERNAL] Modeling Assumption of -3500 cfs OMR Limit in April and May of AN and BN Year Types

**From:** Harrison, Katrina <kharrison@usbr.gov>  
**Sent:** Friday, March 1, 2019 9:41 AM  
**To:** Ford, John@DWR <John.Ford2@water.ca.gov>  
**Cc:** Israel, Joshua <jaisrael@usbr.gov>; Derya Sumer <dsumer@usbr.gov>  
**Subject:** Re: [EXTERNAL] Modeling Assumption of -3500 cfs OMR Limit in April and May of AN and BN Year Types

Hi Mike -

You are correct in 1 and 2 I believe.

3. You are not correct here. We are replacing that with the following: Wild Central Valley Steelhead Protection: Reclamation and DWR would operate to OMR of -2,500 cfs for 5 days whenever more than 5 percent of Steelhead are present in the Delta and the natural-origin Steelhead loss trigger exceeds 10 Steelhead per TAF. The timing of this action is intended to provide protections to San Joaquin origin Central Valley Steelhead, but the loss-density trigger is based on loss of all Steelhead since there is currently no protocol to distinguish San Joaquin-basin and Sacramento-basin Steelhead in salvage. Reclamation would use the current loss equation for Steelhead or a surrogate. This action will no longer be required after May 31.

In addition to 1, 2, and 3:

Salvage or Loss Thresholds: Reclamation and DWR propose a cumulative annual loss threshold equal to 1 percent of the abundance estimate based on EDSM for adult Delta Smelt; 1 percent of the Winter-Run Chinook Salmon JPE (genetically confirmed or 2 percent based on length at date); 1 percent of the Spring-Run Chinook Salmon JPE (or 0.5 percent of Spring-Run surrogates); 3,000 juvenile Central Valley Steelhead, and 100 juvenile Green Sturgeon. Reclamation and DWR may operate to a more positive OMR when the daily salvage loss indicates that continued OMR of -5,000 cfs may exceed the cumulative salvage loss thresholds as described below:

- Restrict OMR to a 14-day moving average OMR index of -3,500 cfs when a species-specific cumulative salvage or loss threshold exceeds 50 percent of the threshold. The OMR restriction to -3,500 cfs will persist until the species-specific offramp is met.

- Restrict OMR to a 14-day moving average OMR index of -2,500 cfs (or more positive if determined by Reclamation) when cumulative salvage or loss threshold for any of the above species exceeds 75 percent of the threshold. The OMR restriction to -2,500 cfs will persist until the species-specific offramp is met.

Species specific OMR restrictions will end when the individual species-specific off ramp from "End of OMR management criteria," below, are met.

In my discussions with Josh, he thought that we would hit the Spring-run cumulative salvage threshold in April / May of AN and BN years, hence our modeling assumption for that.

Katrina

On Fri, Mar 1, 2019 at 9:13 AM Ford, John@DWR <[John.Ford2@water.ca.gov](mailto:John.Ford2@water.ca.gov)> wrote:

Katrina and Josh,

I am still trying to “wrap my mind” around the assumption made for ROC Modeling of the -3500 cfs OMR limit in April and May.

I just want to be able to explain it coherently to John Leahigh, if asked, and I am definitely not there right now! Here’s what I think I understand.

1. Current I/E limits per Action IV.2.1 of NMFS Bi Op are ***eliminated***.
2. The .35 E/I limit in D-1641 and the 1:1 export/Vernalis flow relation for 30 days of April-May period are ***maintained***.
3. The projected steelhead salvage density of 8 fish/taf and 12 fish/taf during the April-May period (-3500 cfs OMR limit for 5 days and -2500 cfs OMR limit for 5 days, both per Action IV.2.3 of NMFS Bi Op) are ***maintained***.
4. The combination of (1), (2) and (3), as listed above, is estimated to result in a -3500 cfs OMR limit for both April and May of **AN and BN year types**.

**Why are W, D and C year types excluded from this?**

Please correct and supplement my understanding of this issue as you have time! ☺

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