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**From:** Hilts, Derek <derek\_hilts@fws.gov>  
**Sent:** Friday, May 17, 2019 4:05 PM  
**To:** Barbara Byrne - NOAA Federal  
**Cc:** J. Stuart; Cathy Marcinkevage; Garwin Yip - NOAA Federal; Kristin Begun - NOAA Affiliate  
**Subject:** Re: [EXTERNAL] Fwd: Additional ROC on LTO figures from STARS model

Hi Barb, [et.al.](#)

First off, I could not quickly identify any code changes related to DXC operations. The input appears to be the same as well. That makes sense given the documentation you excerpted. I have no clue where the daily routing came from that was in your second attachment. According to the COS and PA CalSimII results I have, the gates changed in 35 months out of 984 months.

Of those 35, 22 of them are explained by the flow in one simulation being under the 25,000 cfs Freeport threshold while the other simulation was not.

I suspect the other 13 are due to some logic related to closing the gates due to WQ, but I'm not intimately familiar with that logic, so I can't be sure without days of study.

There are two additional months in the COS simulation in which the final Freeport flow is a little above the 25,000 cfs threshold but the gates are positioned as if the flow were a little below the threshold. I chalk up that apparent inconsistency to the nature of CalSimII - doing multiple cycles within a month, e.g., Freeport may have been slightly below the threshold in the cycle when the gates position was set, then in a subsequent cycle a little more flow was added that caused the final Freeport flow to be slightly over 25,000.

Finally, there is one additional anomolous month where the PA simulation's final Freeport flow is slightly below the 25,000 cfs threshold but the DXC flow suggests the gates were closed during a previous cycle when the preliminary Freeport flow was slightly above the threshold.

Sorry I don't know more without days of researching how the NMFS RPA is implemented within the cycles of the code.

Derek

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On Fri, May 17, 2019 at 12:17 PM Barbara Byrne - NOAA Federal <[barbara.byrne@noaa.gov](mailto:barbara.byrne@noaa.gov)> wrote:

Derek -- Could you take a look at the ROC CalSim inputs/outputs and help us understand why DCC ops differ

in the PA vs. COS? The model assumptions (see my compilation, attached) say DCC representation in PA is same as in COS. However, we recently got some detailed summaries from Russ Perry (top plot on each page of Delta routing summary from Russ shows DCC opening or closing) that show differences in DCC ops.

Could you please check (a) are the DCC rules in the PA and COS indeed the same? and (b) if so, what are the underlying factors leading to different DCC ops under the same rule in the PA vs. COS.

Thanks!

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**Barb Byrne**

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