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**From:** Eric Danner - NOAA Federal <eric.danner@noaa.gov>  
**Sent:** Wednesday, March 20, 2019 11:19 AM  
**To:** Evan Sawyer - NOAA Federal  
**Cc:** Cathy Marcinkevage - NOAA Federal  
**Subject:** Re: Seasonal habitat capacity

Hi Evan,

Definitely by Monday. As for the proposed tiers, we are working on that. There are some questions of whether the necessary data are available, and Miles is asking Derek Hilts about it. More soon...

Eric

On Wed, Mar 20, 2019 at 10:36 AM Evan Sawyer - NOAA Federal <[evan.sawyer@noaa.gov](mailto:evan.sawyer@noaa.gov)> wrote:  
Hey Eric,

I mean at this point everything is urgent but this is relatively "less" urgent. Is by Monday a possibility?

Also, maybe more urgent, did we ask you/Miles to run the mortality models (Martin and Anderson) by the proposed tiers? If we hadn't is that something you could do? I hope it would just entail partitioning results you already have?

Thanks,  
Evan

On Wed, Mar 20, 2019 at 10:00 AM Eric Danner - NOAA Federal <[eric.danner@noaa.gov](mailto:eric.danner@noaa.gov)> wrote:  
Hi Evan,

What is your timeline on this? It is pretty straight forward, but want to make sure we have it right.

Eric

On Mon, Mar 18, 2019 at 9:43 PM Evan Sawyer - NOAA Federal <[evan.sawyer@noaa.gov](mailto:evan.sawyer@noaa.gov)> wrote:  
Hey Eric,

Here is the short description of the modeling results you shared. I felt like I had a better understanding of it when we talked so this description seems a little off? Can you take a look and provide any feedback?

Figures 1-X describe the difference in habitat capacity modeled by the WRLCM, between the COS and the PA by season (or WYT) for the Upper Sacramento River (Keswick Dam to ...), Lower Sacramento River (... to the Fremont Wier (?)), and the Yolo Bypass. Overall there is no trend and little difference in the average habitat capacity between the COS and the PA. Furthermore, since the model results are clustered around zero, those instances where there is a difference between the COS and the PA do not carry through in way that would effect the species (e.g. affecting the cohort replacement rate).

Also I must not be understanding it correctly because I can't really explain what's going on in the Yolo in the "Summer?" It looks to me like there should some kind of negative trend but the average is still at zero? Is

this zero-inflated? Is there a way (or a reason?) to look at this differently? Does a log scale make sense, or is there a way that corrects for (what I think are) so many zeros?

Thanks,  
Evan

On Mon, Mar 18, 2019 at 3:13 PM Evan Sawyer - NOAA Federal <[evan.sawyer@noaa.gov](mailto:evan.sawyer@noaa.gov)> wrote:  
Hey Eric,

Thanks, for this. I have some questions. Can I give you a call either today after 3:30 or tomorrow?

basically: is the red line on zero the average difference between COS and PA? Or is there an average difference, like average PA habitat capacity in "fall" is XX millions of fish more than the COS?

Thanks,  
Evan

On Mon, Mar 18, 2019 at 3:05 PM Eric Danner - NOAA Federal <[eric.danner@noaa.gov](mailto:eric.danner@noaa.gov)> wrote:  
Here is another one by WYT.

Eric

On Fri, Mar 15, 2019 at 9:43 AM Evan Sawyer - NOAA Federal <[evan.sawyer@noaa.gov](mailto:evan.sawyer@noaa.gov)> wrote:  
Hey Eric,

Thanks for the information yesterday. Can you provide a comparison of habitat capacity (from the WRLCM) between the PA and COS for the following "seasons":

Winter (Dec 1 - March 1)

Spring (March 1 - May 15 [maybe needs to be June 1? or May 1?])

Summer [temp mgmt.] (May 15 [or June 1] - Nov 1)

Fall (Oct. 1 - Dec 1) <-- I realize there's overlap with Fall.

These "seasons" generally correspond to the timing of Reclamation's operational decisions, so it may be a way to describe any differences in the operations (PA to COS). If there's no difference that's useful information too.

Thanks,  
Evan

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