From: Evan Sawyer - NOAA Federal <evan.sawyer@noaa.gov>

Sent: Friday, March 1, 2019 11:27 AM

To: J. Stuart - NOAA Federal

Cc: Cathy Marcinkevage - NOAA Federal; Barbara Byrne; Sarah Gallagher - NOAA Federal;

Joe Heublein - NOAA Federal; Brian Ellrott; Garwin Yip; Howard Brown; Justin Ly - NOAA

Federal; Seth Naman - NOAA Federal; Kristin McCleery - NOAA Affiliate

Subject: Re: ROC FAST TURNAROUND METHOD NEED

Hi Cathy,

So for the Upper Sacramento there are a few things that could be useful but it depends on what information/variables are used and the sensitivity of the models? I would likely look at the Flow & WUA relationships on the Sacramento although I understand WUA can be manipulated such that the results can be less useful (misleading?).

Outside of the green highlighted models I would use:

the redd dewatering analysis. This would be useful especially considering Reclamation's "Fall and Winter Refill and Redd Maintenance" where Reclamation will employ a "risk analysis" to determine fall flows. That said, what we really need is for the model(s) to be able to describe Reclamation's risk analysis and and the likelihood of dewatering.

SALMOD. I like that SALMOD has quantifiable results. It also has some issues and it conflates a number of stressors but still useful.

Floodplain Inundation Area vs. Flow Relationships: Would be useful for describing changes in Yolo and Sutter Bypasses. Does it include acre days? There's information in appendix D on flow to the bypasses but it's not otherwise described in the BA. Anyway it's not clear to me if there is an effect on the bypasses (there are differences but may be net zero?) so really anything that provides further explanation would be useful.

Thanks, Evan

On Fri, Mar 1, 2019 at 11:04 AM J. Stuart - NOAA Federal <<u>j.stuart@noaa.gov</u>> wrote: Hi Cathy,

None of these modeling methods really brings usable information to impacts in the Delta from the proposed actions. They all seem to be "upper watershed" focused and not applicable to the Delta. Correct me if I am wrong. The only models that might be useful would be those looking at floodplain inundation in the lower sections of the rivers and the bypasses, but that may be out of my "Delta-specific" territory.

Jeff

On Thu, Feb 28, 2019 at 2:31 PM Cathy Marcinkevage - NOAA Federal < cathy.marcinkevage@noaa.gov> wrote:

All --

Please see the attached list of WUA and IFIM related methods. This is in response to an initial request from us to ICF. The green rows are more specific to our request, and the rest are similar/related by weren't asked for specifically.

Please respond by noon tomorrow with an indication of methods that you would like completed for your division.

Note that the last column is ICF's take on the method -- if you have more "on the ground" or update knowledge that differs, you should defer to your own expertise.

Let me know if you have any questions.

Thanks! Cathy

----- Forwarded message -----

From: **Ellis, Gregg** < <u>Gregg.Ellis@icf.com</u>>

Date: Thu, Feb 28, 2019 at 1:50 PM Subject: Available models.xlsx

To: Cathy Marcinkevage - NOAA Federal (cathy.marcinkevage@noaa.gov)

<<u>cathy.marcinkevage@noaa.gov</u>>

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