

**From:** Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov>  
**Sent:** Tuesday, March 26, 2019 2:18 PM  
**To:** Hilts, Derek  
**Cc:** Garwin Yip; Howard Brown; Evan Sawyer - NOAA Affiliate  
**Subject:** Re: [EXTERNAL] Shasta Modeling Questions

No problem if it is after 1:30 tomorrow -- we've got plenty to keep us busy. Just getting things in the hopper!

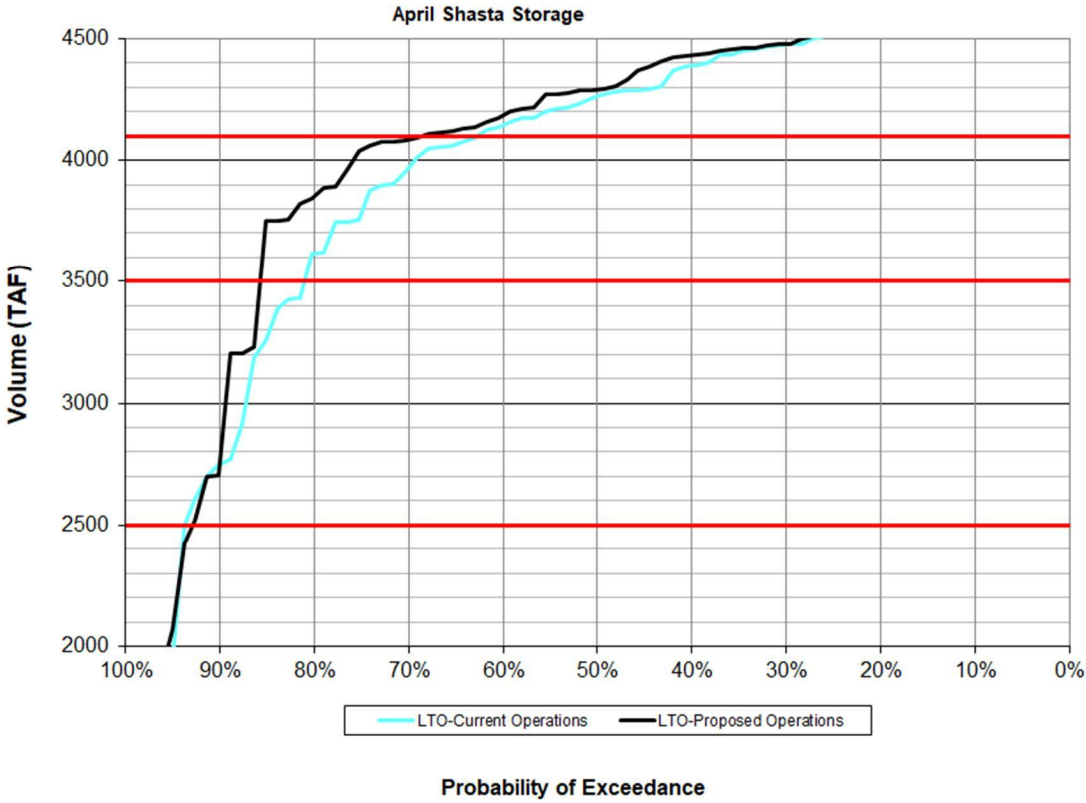
And I can't take credit for the May 1 question - that's all Maria and her experience!

Thanks!

On Tue, Mar 26, 2019 at 2:15 PM Hilts, Derek <derek\_hilts@fws.gov> wrote:

Hi Cathy,  
I can put all my email responses into one document tomorrow, hopefully before 9am. I'm tied up 9-1:30pm. I believe my one outstanding item is the frequency of the tiers based on CalSimII modeling (End-of-April Shasta storage) which is shown below (which I'll put in the combined document):

- Tier1 - ~69% of years
- Tier2 - ~17% of years
- Tier3 - ~ 7% of years
- Tier4 - ~ 7% of years



I like your question about why May 1st storage being used as an indicator instead of June 1st. Looking at BN, DRY & CRT years, Shasta storage decreases in May, on average, 147 TAF.  
Derek

Derek Hilts M.S., P.E.  
US Fish and Wildlife Service  
650 Capitol Mall Room 8-300  
Sacramento, California 95814  
Work desk phone 916.930.5633

On Tue, Mar 26, 2019 at 1:05 PM Cathy Marcinkevage - NOAA Federal <[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)> wrote:

Hi Derek --

These changes are very helpful. I suggest we adopt this as items to look into, with the assignments you have indicated (the only revision I have is for Item #1 -- I'll reach out to Reclamation on that and the other items).

I know you have some items to address at Barb's request, and I think that those should be the priority. But after that, can you start on these questions? You have already answered some of them, as evidenced by my email, and I appreciate the nearly "real-time" answers. For a cleaner documentation and record it would be helpful to compile your answers to these questions (and others you took out of our meeting) into a single document.

Do you have the bandwidth to get started on that approach? Do you see any problems with that?

Thanks!  
Cathy

On Mon, Mar 25, 2019 at 4:02 PM Hilts, Derek <[derek\\_hilts@fws.gov](mailto:derek_hilts@fws.gov)> wrote:  
with the attachment this time. Sorry.

Derek Hilts M.S., P.E.  
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On Mon, Mar 25, 2019 at 3:42 PM Hilts, Derek <[derek\\_hilts@fws.gov](mailto:derek_hilts@fws.gov)> wrote:

Hi Cathy,  
Thanks for the unfounded vote of confidence! :) Here is your document with my suggested edits.  
Derek

Derek Hilts M.S., P.E.  
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On Mon, Mar 25, 2019 at 2:58 PM Cathy Marcinkevage - NOAA Federal <[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)> wrote:

All --

I've reviewed Maria's Shasta modeling notes/questions to try to get to a specific question, and to try to designate whether they are something to ask Reclamation to do or to potentially have Derek look into.

Derek, can you take a look at this and see if there is anything that seems to mischaracterize what we talked about last week for any questions that we did talk about? Can you also review to assess your ability to address the questions that I have designated for you?

We could meet later this week to talk through some of this, but I do need to be protective of Evan's time right now since he has an effects analysis deadline. Let's converse a bit over email initially and then I could identify next steps and timeline.

Thanks!

Cathy