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**From:** Ellis, Gregg <Gregg.Ellis@icf.com>  
**Sent:** Friday, April 12, 2019 9:50 AM  
**To:** Cathy Marcinkevage - NOAA Federal  
**Cc:** Westbrook, Mark; Micko, Steve/SAC; Callejo, Russell  
**Subject:** RE: [EXTERNAL] RE: URGENT Discrepancy in SJR yeartype in floodplain inundation and CalSim

Hello Cathy, understood. I will follow up with an ETA. While I know it is needed ASAP, I recall it had a little more leeway as compared to the modeling results. Can you remind me of the timeline on your end?

Thanks, Gregg

**From:** Cathy Marcinkevage - NOAA Federal [mailto:cathy.marcinkevage@noaa.gov]  
**Sent:** Friday, April 12, 2019 9:48 AM  
**To:** Ellis, Gregg <Gregg.Ellis@icf.com>  
**Cc:** Westbrook, Mark <mwestbrook@usbr.gov>; Micko, Steve/SAC <Steve.Micko@jacobs.com>; Callejo, Russell <rcallejo@usbr.gov>  
**Subject:** Fwd: [EXTERNAL] RE: URGENT Discrepancy in SJR yeartype in floodplain inundation and CalSim

Gregg --

We are still in need of the second item below:  
Compiled descriptions of the info from the SIT GitHub site noting the data sources/information behind the SIT floodplain analysis info.

Any thoughts on an ETA for this?

Thanks-  
Cathy

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

**From:** Cathy Marcinkevage - NOAA Federal <[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)>  
**Date:** Wed, Apr 3, 2019 at 10:01 AM  
**Subject:** Re: [EXTERNAL] RE: URGENT Discrepancy in SJR yeartype in floodplain inundation and CalSim  
**To:** Ellis, Gregg <[Gregg.Ellis@icf.com](mailto:Gregg.Ellis@icf.com)>

Hi Gregg --

I think that most things are taken care of. What I have listed as outstanding are the following:

Updated American River temperature plots (like Figures 6-26, 6, 28, and 6,32 from 2009 BiOp) for William Pond. These were in an email request to Katrina on March 26.

Compiled descriptions of the info from the SIT GitHub site noting the data sources/information behind the SIT floodplain analysis info.

Some of these may have come in, I'll admit it has been tough to track the last few days since Katrina is out and we have a lot moving.

Thanks!  
Cathy

On Tue, Apr 2, 2019 at 4:13 PM Ellis, Gregg <[Gregg.Ellis@icf.com](mailto:Gregg.Ellis@icf.com)> wrote:

Hello Cathy, I just wanted to close the loop and confirm that you received everything from us that you were expecting?

Thanks, Gregg

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**From:** Unger, Sophie  
**Sent:** Wednesday, March 27, 2019 3:00 PM  
**To:** Cathy Marcinkevage - NOAA Federal <[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)>; Ellis, Gregg <[Gregg.Ellis@icf.com](mailto:Gregg.Ellis@icf.com)>  
**Cc:** Harrison, Katrina <[kharrison@usbr.gov](mailto:kharrison@usbr.gov)>; Barbara Byrne - NOAA Federal <[Barbara.byrne@noaa.gov](mailto:Barbara.byrne@noaa.gov)>  
**Subject:** RE: [EXTERNAL] RE: URGENT Discrepancy in SJR yeartype in floodplain inundation and CalSim

Hi Cathy,

Here's the file with corrected Clear Creek plots for dry and critical water year types. Actually, I've included the plots for all water year types because in this case it as simple to include all water year types as to include the dry and critical years only.

I believe this completes the list of information you requested. Please let me know if you need anything else.

Thanks,

Sophie

**From:** Cathy Marcinkevage - NOAA Federal [<mailto:cathy.marcinkevage@noaa.gov>]  
**Sent:** Wednesday, March 27, 2019 10:58 AM  
**To:** Unger, Sophie <[Sophie.Unger@icf.com](mailto:Sophie.Unger@icf.com)>; Ellis, Gregg <[Gregg.Ellis@icf.com](mailto:Gregg.Ellis@icf.com)>  
**Cc:** Harrison, Katrina <[kharrison@usbr.gov](mailto:kharrison@usbr.gov)>; Barbara Byrne - NOAA Federal <[Barbara.byrne@noaa.gov](mailto:Barbara.byrne@noaa.gov)>  
**Subject:** Re: [EXTERNAL] RE: URGENT Discrepancy in SJR yeartype in floodplain inundation and CalSim

Hi Sophie and all --

Thanks for these, they are helpful.

I canvassed our staff and here's what I have in terms of priorities and needs given the timeline and time required to do things. Can you let me know if it's possible to provide these on a quick turn around?

#### Exceedance Plots

-- For all years combined for American and Clear Creek. *I think that these were unaffected by the error that we identified, correct?*

-- For critical and dry years, by WYT, for Clear Creek.

#### Other WUA Info

-- Can you provide for us the maximum WUA for each system? That is, the max WUA based on the flow-habitat relationship, independent of the modeling results and WYT.

Thanks!

Cathy

On Wed, Mar 27, 2019 at 9:57 AM Unger, Sophie <[Sophie.Unger@icf.com](mailto:Sophie.Unger@icf.com)> wrote:

| Hi Katrina,

Attached are the decile tables for all the WUA analyses. Note that some of the Sacramento River and Clear Creek workbooks have two decile tables per spreadsheet. I am also sending one file with all the floodplain habitat decile tables. I thought they might be easier to work with if they were all in one file. Also, I added a new percent change table to all of the results in both the WUA spreadsheets and the floodplain habitat spreadsheet.

I spent a little while last night working on a clustered bar chart like the one Barbara asked about, but concluded that it would take me well over a day to finish preparing a series of those.

Please let me know if you need anything else.

Sophie

**From:** Harrison, Katrina [mailto:[kharrison@usbr.gov](mailto:kharrison@usbr.gov)]  
**Sent:** Tuesday, March 26, 2019 2:30 PM  
**To:** Cathy Marcinkevage - NOAA Federal <[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)>; Barbara Byrne - NOAA Federal <[Barbara.byrne@noaa.gov](mailto:Barbara.byrne@noaa.gov)>  
**Cc:** Unger, Sophie <[Sophie.Unger@icf.com](mailto:Sophie.Unger@icf.com)>; Ellis, Gregg <[Gregg.Ellis@icf.com](mailto:Gregg.Ellis@icf.com)>  
**Subject:** Fwd: [EXTERNAL] RE: URGENT Discrepancy in SJR yeartype in floodplain inundation and CalSim

Hi Cathy, Barb -

Attached are updated WUA results based on the correct water year type. Please confirm that you would like exceedance plots as well.

Thank you,

Katrina

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

**From:** Unger, Sophie <[Sophie.Unger@icf.com](mailto:Sophie.Unger@icf.com)>  
**Date:** Tue, Mar 26, 2019 at 2:18 PM  
**Subject:** [EXTERNAL] RE: URGENT Discrepancy in SJR yeartype in floodplain inundation and CalSim  
**To:** Harrison, Katrina <[kharrison@usbr.gov](mailto:kharrison@usbr.gov)>, Micko, Steve/SAC <[Steve.Micko@jacobs.com](mailto:Steve.Micko@jacobs.com)>, Ellis, Gregg <[Gregg.Ellis@icf.com](mailto:Gregg.Ellis@icf.com)>

Hello Katrina, Barb is correct, the wrong water year types were used. Sorry about that. This is true for the WUA results as well as the floodplain inundation results.

The WUA results have been corrected and are attached. The floodplain inundation results are being corrected now and can be provided later today.

The exception for both WUA and floodplain inundation delivery timeframe has to do with the exceedance plots. Those take more time to generate - on the order of several days. Can we confirm with Cathy that they actually use the exceedance plots and if so, will they still be useful later this week given their timeline?

Thanks,

Sophie

**From:** Harrison, Katrina [mailto:[kharrison@usbr.gov](mailto:kharrison@usbr.gov)]

**Sent:** Tuesday, March 26, 2019 9:42 AM

**To:** Micko, Steve/SAC <[Steve.Micko@jacobs.com](mailto:Steve.Micko@jacobs.com)>; Unger, Sophie <[Sophie.Unger@icf.com](mailto:Sophie.Unger@icf.com)>; Ellis, Gregg <[Gregg.Ellis@icf.com](mailto:Gregg.Ellis@icf.com)>

**Subject:** URGENT Discrepancy in SJR yeartype in floodplain inundation and CalSim

Hello folks -

Gregg / Sophie - I believe you did the floodplain habitat calculations. It looks like you used the wrong water year type. Please check and confirm.

Thank you,

Katrina

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

From: **Cathy Marcinkevage - NOAA Federal** <[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)>

Date: Tue, Mar 26, 2019 at 9:11 AM

Subject: [EXTERNAL] Fwd: Discrepancy in SJR yeartype in CALSIM trend reporting tool and SIT model floodplain analysis?

To: <[kharrison@usbr.gov](mailto:kharrison@usbr.gov)>

Cc: <[barbara.byrne@noaa.gov](mailto:barbara.byrne@noaa.gov)>, <[rcallejo@usbr.gov](mailto:rcallejo@usbr.gov)>, <[howard.brown@noaa.gov](mailto:howard.brown@noaa.gov)>, <[garwin.yip@noaa.gov](mailto:garwin.yip@noaa.gov)>

Katrina --

Please see Barb's questions about a potential year type discrepancy below. This is an urgent need as it affects our key milestone for effects analysis drafting completion this week.

Thanks,

Cathy

**Cathy Marcinkevage**

*California Central Valley Office*

*NOAA Fisheries West Coast Region*

*U.S. Department of Commerce*

Office: (916) 930-5648

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[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)

Begin forwarded message:

**From:** Barbara Byrne - NOAA Federal <[barbara.byrne@noaa.gov](mailto:barbara.byrne@noaa.gov)>

**Date:** March 26, 2019 at 8:57:53 AM PDT

**To:** Cathy Marcinkevage <[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)>

**Subject: Discrepancy in SJR yeartype in CALSIM trend reporting tool and SIT model floodplain analysis?**

Cathy, Please share the concern/questions described below with Katrina for help.

\*\*\*\*\*

Attached is an excel sheet comparing what I believe to be the modeled SJR yeartype from two sources:

### Columns A & B.

File:

Reclamation\_ROConLTO\_Trend\_Reporting\_rev17cy\_DV3\_ELQ5\_CALSIM\_\_WOA11\_COS6\_PA5(woVS A)\_011519

Specific place in file: Column G of the "Conv\_Flags" tab

### Columns D, E, and F.

File: Flood\_Habitat\_Tables\_and\_Plots\_Stanislaus 3.15.2019 - Copy (which I believe is the SIT model output)

Specific place in file: Columns A-C of the "WY Type" tab

The SJR yeartype is based only on hydrology, so should be the same in all scenarios and all modeling summaries. I assume the modeled yeartype differs (in some years) from historical SJR yeartypes because the modeling is all based on the ELT Q5 climate change scenario.

**Concern: There are 21 discrepancies in yeartype designation between the two sources (see attached for details).** For example, 2001 and 2001 show as 4 ("Dry") in the floodplain workbook but as 5 ("Critical") in the Calsim "trend reporting" workbook. Those years were "Dry" in the real world.

**Questions:** I wonder if the yeartypes in the floodplain analysis are actual SJR yeartypes, rather than ELT Q5 yeartypes? If so, the summaries aren't quite right. **Can you please flag this to Katrina and ask about this discrepancy, and whether it might be an issue for all the floodplain analyses (I haven't checked the other watersheds)?**

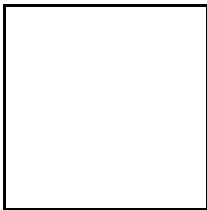
**Next steps:** If, in fact, the real-world rather than modeled yeartype was used with the modeled flows, **I think it might be possible to quickly re-summarize results by updating the WY Type lookup table to match the ELT Q5 yeartypes. At a quick glance, all the summaries are automated and should cascade correctly. Please ask Katrina to check with her folks if that's correct;** if so, I should be able to fix it myself. If not easily fixable, I want to understand the discrepancy so I can correctly capture it in the record and note why I didn't use those results.

--

**Barb Byrne**

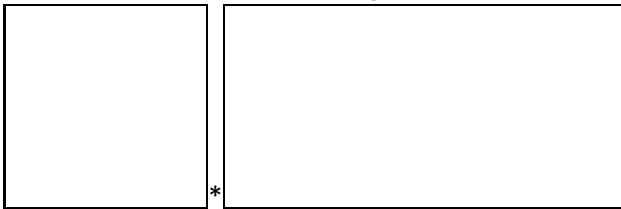
Fish Biologist  
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