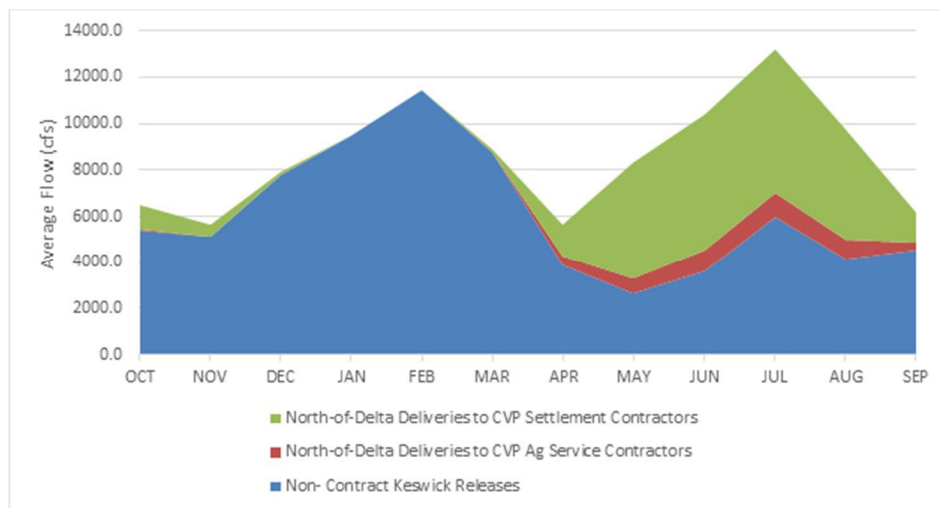

From: Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov>
Sent: Thursday, May 9, 2019 4:22 PM
To: Evan Sawyer - NOAA Federal
Subject: Re: A Few Shasta Things

A few more things...not urgent for today.

RE: this text, is "northern" referring to OR and WA? do we know?

Based on the studies in the Central Valley, and on studies of temperature requirements for **northern** races of Chinook salmon, temperatures from 39.2 to 53.6°F tend to produce relatively high survival to hatching and emergence, with approximately 42.8-50°F being optimum (Seymour 1956, Slater 1963, Healey 1979, Boles 1988, U.S. Fish and Wildlife Service 1999, EPA 2001, Myrick and Cech 2004).

Also....where did we get the plot of NOD deliveries? did you make that from the calsim results that Derek provided? Or is that historical?



On Thu, May 9, 2019 at 3:50 PM Evan Sawyer - NOAA Federal <evan.sawyer@noaa.gov> wrote:
No documentation. This occurred pre-furlough during PA discussions regarding Shasta. During those discussions Peggy Manza told the group that 4 MAF is the lake level that allows for blending of water from the upper gates. She subsequently revised the number to 4.1 MAF saying that Randi Field had said that that volume provided a greater assurance of being able to meet temperatures for the temperature management season.

On Thu, May 9, 2019 at 3:21 PM Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov> wrote:

Do you have the Peggy Manza documentation? Or is it in meeting notes or question answers?

On Thu, May 9, 2019 at 1:53 PM Evan Sawyer - NOAA Federal <evan.sawyer@noaa.gov> wrote:
Garwin beat me to the draft so I'm locked out but my comments are below:

On Thu, May 9, 2019 at 11:31 AM Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov> wrote:

I have, or will soon, save V12 to the server. I'm heading to school meetings so now until 1:30 is a good time to poke your head in if you can! Things to check:

The two sections with the 20% vs 30% issue. I think I fixed those, but a scan by another set of eyes is useful.

I looked and it seems consistent in the tables and text.

p. 8 with tracks on. See maria's comment regarding blending on the 3.65 MAF number. I realize that this is from the BA, but any thoughts on her comment?

I would address the (apparent?) discrepancy by changing this: "A minimum of 3.65 MAF in Shasta storage enables use of the TCD upper gates, which allows for the blending of warmer upper reservoir levels and less reliance on the cold water pool." to: *While, a minimum Shasta storage of about 3.66 MAF is necessary to access the upper gates of the TCD, Reclamation has stated (Peggy Manza 2019 pers. comm.) that a greater volume (4.1 MAF) of Shasta storage is necessary for operations to effectively blend water from the warmer upper reservoir levels and thereby reduce reliance on the more limited cold water pool. <-- or something like that.*

All for now. Thanks for your help!

On Thu, May 9, 2019 at 10:23 AM Evan Sawyer - NOAA Federal <evan.sawyer@noaa.gov> wrote:
See below: (I went with a [lavender](#) today)

On Thu, May 9, 2019 at 9:27 AM Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov> wrote:

A few things I could use a second set of eyes/confirmation on are below. I'm looking at Maria's V11, for the record. Version control is going to drive me to cocktails.

P. 15 with Track On, there's this:

An interagency workgroup may advise Reclamation to take additional actions, including export curtailments, if necessary to conserve storage.

Garwin's comment is "really?" Do you know if this is in the BA or was it from meetings?
Actually this is characterization of the COS so this is from the 2009 BiOp. From RPA I.2.2.B: "In the event that the updated hydrology indicates a very dry pattern and consequent likely reduction in storage, the work group [referring to "a group including NMFS, USFWS, and CDFG, through B2IT or other comparable workgroup"] may advise Reclamation to take additional actions, including export curtailments, if necessary to conserve storage" <-- In writing the section in the ROCON BiOp I tried to avoid specifically referring to "the '09 RPA" but this is an example where maybe it would be better to? I mean this element also gets to the "modeling uncertainty" and whether the COS was accurately described in the modeling? Did reclamation curtail exports to build storage in the modeling?

And some QA on the 20% vs 30% risk stuff that I messed up....

P. 30 Table 5. Winter-spring Minimum Flows

This should be 20% because it is talking about "when" rec would reduce flows based on storage <2.2 MAF, which occurs with 20% probability in Sept. Text in narrative changed accordingly.

Also caveat that we do not expect flows to ever go below 3250 based on *description* in PA.

For this point and the next, do you want me to go through and make the changes? I can but I ask because I don't want create more version control issues? If you're working off of the V11mr version, and I made the changes to that version as well I think we could merge docs/version without much trouble?

P. 67 Table 18. Fall and Winter Refill and Redd Maintenance

This is the table you have in the excerpt you worked on. This should also change to 20% and text changed to match (which you provided).

Right so I used 20% in text for the "fall flows" based on the EOS storage <2.2 MAF (not the modeled flows in October and November which are all higher) but the table still reflects the 30%. Do you need me to revise the table?

These are the only places where I see this issue.

All for now. Thanks!

--

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