
From: Miles Daniels - NOAA Affiliate <miles.daniels@noaa.gov>
Sent: Friday, April 12, 2019 12:19 PM
To: Evan Sawyer - NOAA Federal
Cc: Eric Danner - NOAA Federal; Cathy Marcinkevage - NOAA Federal; Garwin Yip - NOAA Federal
Subject: Re: Summary/abstract on your IEP spring pulse/summer temp talk?

Hi Evan,

Sorry for the delay in replying. Yes, it is fine with me if you include those figures. Responses to questions below, but feel free to follow up with more questions if I'm not being clear.

1) Water cost is showing the estimate of how much more water (TAF) would be needed to conduct the spring pulse, which is just taking the discharge time series of the pulse scenario and subtracting it from the discharge time series of no pulse scenario. The reason why this is not just a single number for a given year is because we ran a series of model simulations for each year, where the pulse started on a different day from May 1st to May 15th for a given year to quantify the range in expected water cost.

2) Yes, the mortality results are essentially showing an estimate of how using the additional volume for the pulse will impact temperature management later in the season and impact temperature-dependent egg survival. In this example we are considering the entire time period from the pulse to the end of December for a given year to look at temperature effects on survival. It is important to recognize that even though the pulse occurred in May, the impact to temperature management might not occur till the end of the season as that is when the volume of cold pool is likely at its lowest.

-Miles

On Wed, Apr 10, 2019 at 12:05 PM Evan Sawyer - NOAA Federal <evan.sawyer@noaa.gov> wrote:
Hi Miles,

Thanks, but yeah that doesn't provide much more information.

After looking, I found your IEP presentation which Katrina Harrison (@ BOR) had forwarded to me. Could you (with supervisor approval) provide some detail on slides 6 and 7? Also would it be alright to use the figures on those slides (they say draft preliminary results <-- which is ok to use in a BiOp)?

Can you help explain slide 6 and 7 where you have figures of "Pulse water cost" and "winter-run egg survival" and how you got the results? Some specific questions:

- (slide 6) I don't understand what is meant by "water cost associated with sensitivity to pulse start date"?
- (slide 7) Are the survival/mortality results based on the change in survival caused by the change in Shasta storage associated with the pulse volume? For example in 2012 (BN) it looks like the mean pulse water cost would be ~26 TAF and the change in mean WR egg survival is a little less than 2%, is the change in survival just because of the ~26 TAF change in storage? Is that for a particular date of storage?

- This may also be important as we're also trying to assess the relative effect of Reclamation's allocation of the (discretionary) agricultural service contracts which have a relatively small impact on Shasta storage but maybe (looking at your figures) could have an impact on temps/survival?

Thanks,
Evan

On Wed, Apr 10, 2019 at 10:57 AM Miles Daniels - NOAA Affiliate <miles.daniels@noaa.gov> wrote:
Hi Evan,

Attached is the IEP abstract, but it does not provide much detail. Let me know if you want more details or to talk about it more.

-Miles

On Wed, Apr 10, 2019 at 9:29 AM Evan Sawyer - NOAA Federal <evan.sawyer@noaa.gov> wrote:
Hi Miles,

Do you have a summary or abstract for your IEP presentation on the relation between a spring pulse and summer storage/temp? I had included some information based on the presentation slides and our discussion of them but Maria is asking for some more details including any figures (apologies I know you sent me the presentation but I can't seem to find it atm).

Thanks,
Evan

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