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**From:** Joe Heublein - NOAA Federal <joe.heublein@noaa.gov>  
**Sent:** Wednesday, April 17, 2019 1:36 PM  
**To:** J. Stuart - NOAA Federal  
**Subject:** Re: CV steelhead I&S review

Thanks Jeff!

I'll incorporate your changes and send this down the review line

-Joe

On Wed, Apr 17, 2019 at 6:13 AM J. Stuart - NOAA Federal <[j.stuart@noaa.gov](mailto:j.stuart@noaa.gov)> wrote:  
Morning Joe,

I have added comments and some edits to your draft. I didn't add this to the share drive version yet as it took awhile to get through and I wanted you to take a look before changing anything on the share drive. Major issue was combining critical habitat impacts from other areas into your discussions about a specific division's critical habitat impacts. Such as talking about the estuarine critical habitat issues in the Clear Creek or mainstem sections when you write about risk and "Six factors" affecting critical habitat. Maybe these references can be deleted from each section and the focus remain on the critical habitat elements impacted in each division. I would suggest focusing on the specific division and its associated risks from the PA, and then rolling it all together to show how all of the divisions integrate together (you have a good start in your summary sections prior to the Decision tables.

On Tue, Apr 16, 2019 at 1:35 PM Joe Heublein - NOAA Federal <[joe.heublein@noaa.gov](mailto:joe.heublein@noaa.gov)> wrote:  
Great, thanks Jeff

On Tue, Apr 16, 2019 at 1:31 PM J. Stuart - NOAA Federal <[j.stuart@noaa.gov](mailto:j.stuart@noaa.gov)> wrote:  
Got it Joe. Working on it right now. I have a few suggestions, such as being a little more explicit on the cumulative effects for each action region/ section (PA stressors + baseline + cumulative effects = cumulative impact for each tributary, then roll it up with the additional impacts from migrating down the Sac or SJ rivers, then at the end add in the Delta effects to get the whole package). My logic is that we have tributary issues (Clear Creek, American River and other tributaries that must use the Sac river to get to the Delta) then we have issues with moving down the Sac River, then finally we have all of these fish hitting the Delta with its own set of issues. Same thing with the SJ River - Then if you are lucky (like winning the lottery) you make it alive to the ocean! I will send you a copy of the edited section in a separate document. I haven't added it to the ROC on LTO folders in case you don't agree with my edits or comments.

Jeff

On Tue, Apr 16, 2019 at 1:19 PM Joe Heublein - NOAA Federal <[joe.heublein@noaa.gov](mailto:joe.heublein@noaa.gov)> wrote:  
Hi Jeff,

Please add content wherever you see fit in the CV steelhead I&S review. I was in a major time crunch to get that done last Friday and it could probably use more detail especially in the critical habitat portion.

Also, I was thinking about discussing CV steelhead population trajectory since OCAP and no major beneficial operational changes in the PA as support for our conclusions. Not entirely sure how of if the hatchery populations in the DPS should be included. If you have anything to add on that topic it would be much appreciated.

Thanks

Joe

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