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**From:** Vamsi Sridharan - NOAA Affiliate <[vamsi.sridharan@noaa.gov](mailto:vamsi.sridharan@noaa.gov)>  
**Sent:** Sunday, March 24, 2019 6:43 PM  
**To:** Perry, Russell  
**Cc:** Eric Danner - NOAA Federal; Noble Hendrix; Adam Pope; Doug Jackson  
**Subject:** Re: [EXTERNAL] Draft justification document for ROCon for the regional office [ROC\_AR\_Unsure]

Hi Russ,

In my opinion, the fact that the ePTM is undergoing upgrades currently means that STARS is the best model out there. Once the effect of the exports is taken into account, I feel it should definitely at the very least be used as a point of comparison, particularly in the in-sample years.

Folks, I'm off the Baton Rouge for the next two weeks, and will be available by phone and email full time should you need me for anything.

Regards,  
Vamsi

On Fri, Mar 22, 2019 at 12:37 PM Perry, Russell <[rperry@usgs.gov](mailto:rperry@usgs.gov)> wrote:

Vamsi,

Thanks for putting this together. You have done a nice job documenting our workflow for the re-consultation and rationale for the modeling decisions that were made.

All,

I am a bit disappointed that we're not using STARS. Although based on a statistical model, STARS is simulating the daily reach-specific migration (travel time), routing, and survival; aggregating spatially over the Delta and temporally to the monthly level; and fully propagating statistical and process uncertainty. So I think it is a better tool for the job of simulating responses to operational scenarios that fundamentally vary on a daily timescale relative to a statistical model (Newman et al.) that is based on parameters estimated over a much coarser spatial and temporal scale, and with likely greater uncertainty.

That said, I understand that exports is an important management knob to which STARS is insensitive. It is so important, in fact, that the model is rendered unusable for evaluating management actions that include exports as a facet of the action. Therefore, we are modifying our Bayesian mark-recapture model to estimate survival in reach 8 (Interior Delta) as a function of exports. The first run should finish over the weekend. We will share the results and request feedback on alternative parameterizations or covariates (e.g., IE ratio). Although it won't be done in time for the re-consultation, we need to have a model that is sensitive to key features of management actions so that it can be used in the future as one useful model among the suite of available models.

Cheers,  
Russ

Russell W. Perry, Ph.D.  
Research Fisheries Biologist  
Quantitative Fisheries Ecology Section  
USGS Western Fisheries Research Center  
Columbia River Research Laboratory  
5501A Cook-Underwood Road  
Cook, WA 98605  
Phone: (509) 538-2942  
Email: [rperry@usgs.gov](mailto:rperry@usgs.gov)  
Website: <http://wfdc.usgs.gov>

On Sun, Mar 17, 2019 at 6:15 PM Vamsi Sridharan - NOAA Affiliate <[vamsi.sridharan@noaa.gov](mailto:vamsi.sridharan@noaa.gov)> wrote:  
Dear all,

I have synthesized a draft document explaining what we have done for the RoCon w.r.t. to the Delta, as well as justification for our choices. Please modify as needed.

Regards,  
Vamsi

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Vamsi Krishna Sridharan, Ph.D.  
Assistant Project Scientist (Hydrodynamics)  
*Division of Physical and Biological Sciences*  
*University of California, Santa Cruz*

110 McAllister Way, Santa Cruz, CA 95060  
[vamsi.sridharan@noaa.gov](mailto:vamsi.sridharan@noaa.gov) | +1-831-420-3905  
<http://www.vamsikrishnasridharan.wordpress.com>

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Vamsi Krishna Sridharan, Ph.D.  
Assistant Project Scientist (Hydrodynamics)  
*Division of Physical and Biological Sciences*  
*University of California, Santa Cruz*

110 McAllister Way, Santa Cruz, CA 95060  
[vamsi.sridharan@noaa.gov](mailto:vamsi.sridharan@noaa.gov) | +1-831-420-3905  
<http://www.vamsikrishnasridharan.wordpress.com>