Line 7 – PA needs to be defined. First time acronym.

Line 8 – May be beneficial to indicate the data year? Though is it implied that it is 2022 by the title of the document?

Line 35/36 – When you say exceeds 33,500 in 4 years, is that the 3-year average exceeds? The benchmark is intended to be measured against the generational geometric average. Just want to confirm since Figure 2 does not look like it plots the generational geo-mean.

Line 70+ – “a cap on Srep”. I would suggest describing it as a highly informative prior. Would it also not be acting more as a lower limit than a cap in the model formation? Did the word “cap” come from the “Prior\_Cap” model naming convention? It is short for, “prior on capacity”. Not for a “cap” on the prior.

Table 1 – I think that “CTC Indicator” is supposed to be “CWT” indicator, no? Also needs to be defined in the table caption as it is the first mention of it. I was also have a caveat of “current” or “active” CWT indicators.

Line 137 – With regards to the aggregate objective in the PST (and maybe an answer to Brittany’s comment) – None of the work in Decker 2014 or Arbeider 2020 have to do with the PST management reference point… When we manage the reference point in CoTC. We use the subpopulation definition and more-or-less ignore the “officially undefined” aggregate MU objective, which was never explicitly set (from my readings of the published literature).

With more background to Brittany’s comment, yes, Lynda did tell me to use my RPA analysis to “annually update” the MU aggregate benchmark, so I did it, but I can not find any written guide to say why that was “correct”. In my last year and when passing the buck to Rory and Sara, I told them just to report on if the subpopulation target was met and to stop updating the aggregate benchmark or using it.

Overall, I kind of like the “solidification” of using 35,935 based on the RPA logistic curve in this document. The RPA code was an “update” of what Korman et al 2019 had done, which *was* explicitly being used to create a PST MU aggregate benchmark. However, they had run into some problems when they were doing it and I had more and updated data, so my results (at the time) were “stable”.

Other context. With he development of the LRP Case-Studies paper, we determined that doing that type of analysis on historical data was too much “looking in the rear-view mirror”, and not necessarily appropriate, however, we struggled to create a robust subpopulation level model structure that would not have way too much variability and uncertainty due to the “finer scale” of the data structure.

Line 156 – With reference to the Umsy being lower than the PST caps. Did you calculate the Umsys when survival was 6%? Those Umsy’s would be the Umsys to use under biological conditions that satisfy an Abundant Status. I suggest this because SAS *should* be directly affecting the estimates of alpha, SMSY, and therefore, Umsy.  
Please make a copy of Table 3 when SAS = 0.06 and not the recent average SAS.

Line 292 – Historical not Historic. (I know that John received feedback on this during the last meeting).

Line 291 – Mike has a comment that says, “need to describe data sources”. Refer him to the data section that describes the data.

Line 302 and then 304-306 – There is a comment from Mike with a reply from you about smolts and fry affecting the SR relationship. Fry are explicitly accounted for in the data using assumptions about fry-to-smolt survival and then applying the specific year’s smolt-to-adult survival to calculate an unclipped hatchery return that is excluded from natural returns. There is some uncertainty due to the assumptions about this reconstruction but I would not say the impact of fry releases on the stock-recruit is unknown. I would say, it is accounted for with assumptions.

Line 357-359 – I would include this more recent sensitivity analysis that looks at how well FRAM is working relative to CWT-direct estimates of ER: [Coho FRAM Model Validation and Mixed Stock Model Updating](file:///C:\Users\arbeiderm\Documents\PSC\Coho\Annual%20FRAM%20Reports\Sensitivity%20Analysis\CohoFRAMModelValidation10_31_2022.html)

Line 374 – Comment from Mike. I agree that time and money need to be spent on assessing the SAS data and how to estimate it in a more robust manner. ER is a more of a CoTC thing, but DFO could still provide resources to assist with their work. There is also work that needs to be done around distribution benchmarks and alternative to SMY-based benchmarks that FN participants identified in the Rapid Status review.