Daniel Goethel, PhD  
Southeast Fisheries Science Center  
National Marine Fisheries Service  
National Oceanic and Atmospheric Administration  
75 Virginia Beach Drive  
Miami, FL 33133  
USA

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Dear Dr. Goethel,

Thank you for considering another revision of manuscript cjfas-2019-0424.R1, **“Improving the communication and accessibility of stock assessment using interactive visualization tools”** by Paul M. Regular, Gregory J. Robertson, Robert Rogers and Keith P. Lewis. We have carefully considered the latest round of suggestions and below we outline how we have addressed each point.

We submit this revised manuscript for your consideration and look forward to your decision.

Sincerely,

Paul Regular  
Fisheries and Oceans Canada  
Northwest Atlantic Fisheries Center  
80 East White Hills, St. John’s, NL  
A1C 5X1, Canada  
E-mail: [Paul.Regular@dfo-mpo.gc.ca](mailto:Paul.Regular@dfo-mpo.gc.ca)  
Phone: (709) 772-2067

Comments to the Author:

The revised manuscript has undergone review by two of the original reviewers, both of whom have noted that all of their concerns had been addressed. I agree with the reviewers and have noted only a few minor issues and typos (outlined below). The article is well-written and presented in a straightforward way that, through the use of three excellent examples, demonstrates the power of interactive graphics/documents for presenting fisheries data and stock assessment results. I think the article will be of wide interest across the full complement of CJFAS readers including researchers, managers, and even fisheries stakeholders, which is further aided by its easily approached format and word-choice (i.e., general minimization of scientific/assessment jargon).

It is worth noting that both the supplemental files are in html format. I found these files, particularly supplement 1 (interactive tutorial on how to develop your own dashboard for presenting interactive fisheries, or any other type, data), extremely useful and added greatly to the article itself. It will be important to provide readers access to these files, but I am not sure the best way to do so. The CJFAS editorial staff may have to work with the authors to determine the best approach. I was thinking perhaps a link on the abstract page, as well as, in the final document (maybe under the acknowledgements section). Hopefully, we can figure that out easily, but these files should definitely be accessible to readers.

Once you address the minor issues outlined below, the revised manuscript should be ready for publication in CJFAS.

*We are thankful for the kind words and the helpful suggestions.*

Thank you for you submission, Daniel Goethel

Note from Editorial Assistant: Supplementary files are provided to readers in the exact format you provide them so I suggest you upload the supplementary files as html but make sure you use the supplementary file designation.

Line 30: ‘to stock assessments’

*We have re-phrased this line to state “…these advances have surely improved the advice provided on stock status.”*

Lines 31-34: Bit of a long sentence. I would suggest ending the first before the ‘however’ and beginning the second with it.

*Agreed, we have split this sentence as suggested.*

Line 148: Should start “A screen shot of the cod…”

*Done.*

Line 150: Should say “the recovery positions”.

*Done.*

Lines 164-167: This statement is a bit too close in nature to the exact wording used throughout the Maunder and Punt (2013) reference. For instance from their abstract: “Contemporary use of integrated analysis involves using all available data, in as raw a form as appropriate, in a single analysis.” And from the current paper: “Such issues have largely been curtailed in contemporary stock assessments thanks to advances in statistical computing that have facilitated the analysis of all available data, in as raw a form as appropriate, in a single integrated analysis.” Please just reword the sentence a bit or use an exact quote from the reference.

*Agreed, the wording was very similar. The sentence now reads “Such issues have largely been curtailed in contemporary stock assessments as advances in statistical computing have enabled integrated analyses of data from multiple monitoring programs (Maunder and Punt 2013).”*

Line 182: What are ‘partial fishery landings’? It might be worth explaining or just say ‘fishery landings’ to avoid unnecessary confusion.

*What we did not outline in the text is that the recreational fishery is not accounted for in the reported landings so we call the landings partial. Rather than get into these details, we have replaced “partial” with “reported” to avoid confusion and to keep things simple.*

Line 217: It is probably not worth going back and changing the NCAM explorer, but the use of ‘comps’ here is a bit confusing. I was expecting this to be an age/length composition tab not a model comparison tab.

*We understand this expectation and we changed the page name to “Model comparison”.*

Line 218: I think saying explicitly ‘from different model runs’ would avoid confusion, because this could be interpreted as completely different assessment models were applied.

*Done.*

Figure 5: I think the figures were updated without refining the caption text. The caption seems to focus only on the right hand part of the figure and ignores the larger figure on the left. Also, I do not see any red/blue coloring defining pos/neg values as stated in the caption.

*That was an oversight after the last revision; we have now revised this caption to reflect the revised dashboard. The caption now reads “Screenshot of the ‘RV survey’ tab from the NCAM dashboard where total observed (dots) and NCAM model predicted values (lines) for the DFO RV survey index are shown in the left panel and standardized log residuals by year, cohort, age, and expected value (dots), with lowess curves (lines), are shown in the right panel.”*

Figure 6: Same as above. Left hand figure is abund, bio, and b/blim…recruitment is not shown. Also, it might be worth just stating the basis of Blim (e.g., B30…) in parenthesis, while also noting what the dashed line at 823kt represents.

*Done, the caption now reads “Screenshot of the “Trends” tab which displays stock status estimates (abundance, biomass, and biomass relative to Blim [average biomass through the 1980s]) on the left panel, and mortality rates (average F, M, and Z) on the right panel."*

292: Delete ‘along’.

*Deleted.*

Line 302: Should this read ‘to document in a pipeline’?

*We have revised the sentence to read “…commonplace for the full data pipeline to be open and accessible.”*

Line 315: Delete the ‘a’.

*Deleted.*

Lines 316-318: I don’t really understand what this sentence is saying. It appears to be somewhat contradictory. I imagine the idea is along the lines of ‘developing dashboards that document the full pipeline allow better access to details regarding model development decisions compared to current stock assessment practices that might be fully open but effectively inaccessible’. I’m not sure if this is correct or how exactly to word it, but please clarify the statement.

*In hindsight we see that this sentence was not clear. We hope this revision does a better job of conveying what we are trying to say: “Although these tools do not reveal the entire data pipeline, a wide range of stakeholders and scientists can easily access and review details of an analysis without running a line of code. For most participants of a stock assessment, even if the entire pipeline was completely open, the details would remain inaccessible simply because most participants are already overcommitted (Banks 2011) and do not have the time to fully review and recreate a particular analysis in its entirety.”*

Line 325: Delete ‘of’.

*Deleted.*

Line 329: I might suggest replacing ‘their’ with something along the lines of ‘extend the utility of data visualizations or graphics by….’

*Done.*

Line 349-351: Just a wording suggestion, could say "…that the upfront time investment needed to develop interactive visualization tools has already improved efficiency in delivering….’

*We have rephrased the sentence to read "…that the upfront time investment has been worthwhile considering the improved efficiency of delivering…*

Reviewer: 1

Comments to the Author I agree with the authors that the paper has substantially improved and am now recommending it for publication without further changes.

Reviewer: 2

Comments to the Author The changes improve the manuscript and address the issues that I raised in previous review (in which I already only suggested minor changes).