MANUSCRIPT REVIEW FOR FISH 507

Review Overview

1. Peer review lies at the heart of scientific publication and awarding of grants. It is a means of insuring that the content, merit, approach, etc. of the material is indeed worthy of publication/award. In most cases, the identities of the reviewers are kept confidential so as to allow them to “speak their minds” while protecting them from retribution.
2. We will be using a double-blind review process whereby both the paper’s author(s) and reviewers will remain anonymous from one another. This is not very common in the ecological literature (*Ecology & Society* is an exception). You’ll only be reviewing a small number of papers, and chances are high that the authors whose papers you’re reviewing will not be reviewing yours. There’s little positive outcome that could come by revealing your identity – even to lab mates.
3. The purpose of these reviews is to be constructive, honest, and helpful. Things to consider as you’re writing your review:

* Put yourself in the shoes of an extra committee member/advisor for the person whose paper you’re reviewing. Is your feedback useful in helping their paper get published?
* Put yourself in the shoes of the person whose paper you are reviewing. How would you respond to receiving a review like the one you’re writing?
* Put yourself in the shoes of someone reading this paper for a journal—do you feel like work is exciting, or are you thinking “I can’t believe a journal would publish this rubbish!!”

1. Remember that you are being graded both on the paper you turned in for the final project, and on the 2 reviews you complete during finals week. Reviews should be at least one page, preferably ~2. Short thoughtful comments that help improve the quality of the paper will be given higher peer-review grades than comments that are less detailed (or comments that only focus on the writing/grammar, but not at all on the ideas/concepts).
2. Try not to focus too much on grammar, word choice, etc. Each author is going to have a different writing style—likely one that is different from yours. Instead, focus on the big picture—are their choices of model and conclusions supported?
3. For both of your reviews, please complete the following 3 components on the following pages: (1) rate the paper numerically according to the criteria below; (2) provide a summary of your major comments, including areas that you’re concerned about, broad suggestions, etc; (3) provide minor comments. Examples of (2) and (3) are listed in those sections below. For (3), it is generally easiest for the reviewers, editor, and author(s) if specific comments are referenced by page and line number, or just by line number (if cumulative throughout the paper).

**QUANTITATIVE SCORING**

**1. Please rate this paper’s “wow” factor: given their dataset, did the author present a cool interesting story? Would you recommend this paper to a lab mate? Is the paper a standalone contribution to the field (you can understand it and its relevance without having to read all of the papers they cite)?**

Needs Major Improvement Excellent

1 2 3 4 5 6

**2. Please rate this paper’s overall clarity. Did the author leave out any key details? Could you replicate their analysis if you were given the data?**

Needs Major Improvement Excellent

1 2 3 4 5 6

**3. Please rate this paper’s overall statistical analysis. Did the author justify biological reasons for using the model(s) presented? Did they do a thorough job assessing convergence / diganostics / outliers / etc? Did they address all major problems and / or obstacles?**

Needs Major Improvement Excellent

1 2 3 4 5 6

**4. Please rate this paper’s presentation of figures and tables: did they include information about the study area / data? Did all of the figures and tables add to the story, or were some of them unnecessary? Were they understandable without having to refer back to the paper?**

Needs Major Improvement Excellent

1 2 3 4 5 6

**5. Please rate the results and discussion. Are their conclusions supported by the results? Are conclusions wildly overstated? Does the discussion set the broader context for the paper and help you understand the results?**

Needs Major Improvement Excellent

1 2 3 4 5 6

**MAJOR COMMENTS**

*For example*

The authors describe a modeling study designed to evaluate how projected climate change (CC) might affect various components of the life-cycle of Atlantic salmon. Using 3 different scenarios for changes in river temperature, river flow, and the ocean environment, the authors conclude that reductions in growth and survival in the ocean “are potentially the most threatening factor for the persistence of southern European salmon populations.” From a management standpoint, however, river flow control offered the best possible source of mitigation.

An individual-based model of the Atlantic salmon life cycle lies at the core of the analyses, but the details of the model are contained wholly in another manuscript, which is simply cited as “submitted” (see P 6, L 9-14). Without a copy of that manuscript, or considerably more detail in the current paper, there is no way for me to ascertain how the model assumptions, structure, etc. affect the results. As it stands, many of the statements about effects of changing growth conditions on life-history “decisions” (e.g., years at sea) do not seem novel given basic life-history theory.

The manuscript also ignores a large body of relevant literature examining CC effects on Pacific salmon. Although different in many respects, there are various similarities between the genii that would make a good comparison (e.g., Crozier et al. 2006, 2008), especially steelhead (*Oncorhynchus mykiss*) (e.g., Satterthwaite et al. 2009, 2010). There has also been some recent modeling work looking at evolutionary and plastic responses of Pacific salmon to CC (e.g., Reed et al. 2010, 2011a, 2011b).

**MINOR COMMENTS**

*For example*

P 4, L 13-14. All fishes are poikilotherms, and as such, are dependent on water temperature (not just cold water species).

P 7, L 20-21. A Gompertz model is deterministic, but the variable name (NoiseSea) makes me think it was a stochastic process. This is exactly one of the reasons I need more details about the model itself.

P 9, L 8. The temperature scenarios indicate increases of 0, 1, and 2 C, but Figs 3 & 4 both indicate 0, 2, and 4 C.

P 9, L 14. The authors state that they “assumed that the simulations started around 1990”. Why is there uncertainty in the start date of the model? They must have specified it in the code somewhere.

P 9, L 17-19. You should have roughly 20 years of data (1990-2010) with which to compare model results with observations. How does the model do? Is it a reasonable approximation to reality?

P 10, L 3. The results presented in Fig 2 would be much better shown in a table.

P 13, L 3-4. There is no way for me to evaluate the accuracy of the statement of this model being “comprehensive and cohesive.”

P 13, L 13-15. I don’t think this statement applies only to Atlantic salmon. Surely it would difficult to draw conclusion about the anticipated effects of CC on other taxa in other locations as well if the conclusions were based on “a few case studies.”

P 16, L 16-19. It’s not solely numerical models that would predict that changes in growth should lead to changes in maturation. Those predictions come from basic life-history theory, and from empirical data (as indicated in the next sentence).

P 17, L 4-5. Again, this doesn’t seem like a novel outcome. Presumably there is a model underlying the “decision” to mature as 1SW vs later years, and this model likely assumes an increase in proportion of 1SW with increased size.

P 17, L 6-8. The connection between sea age and NAOI is not immediately clear, nor is it for river growth conditions. Please elaborate.

End of review.