

Peer Review: Dances like wolves? Evaluating ecological replacement of apex predators in eastern North America

Alex J. Jensen¹ 

Collaborators: Tyler Brasington, Joseph Hinton, Leandra Merz, Phoebe Parker-Shames + 1 other reviewer

Accepted by 5 of 5 reviewers

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Conflicts of Interest

The author declares no conflicts of interest.

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Reviewer Summaries

Tyler Brasington

Initial Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

No

What did the authors do a good job with?

The manuscript in its entirety is very thorough, well written and researched. Author openly declared existing gaps within the research. The tables and figures represented are aesthetic and catchy, and add to the utility of the paper. Author also did a great job identifying future research (i.e., kill rate studies, indirect effects from predators, comparing human attitudes on large and smaller carnivores- how they influence attitudes on wildlife...)

How do you think this research will contribute to the field?

The findings in this paper add to the existing, present literature. One being, that smaller carnivores can partially replace the ecological roles of large carnivores. The author presents this case through a comparative analysis of dietary ecology across canid species in eastern North America.

Regarding the study design and methods, what do the authors need to fix or improve upon to be fit for publication?

The study area section could be made more concise and clear, but shifting some material around to the proceeding section. In the methods, there are some discrepancies with body size criterion (i.e, nutria as mentioned and identified by other reviewers as a rodent, doesn't fall within the normal weight range, being a large rodent). This should be adjusted. The R packages used should be referenced accordingly.

Regarding the analysis and interpretation of their findings, what do the authors need to fix or improve upon to be fit for publication?

The author should include statistical values for canids in both regions to support any in text comparisons. Some language is general in the results, and should be clarified. More descriptive captions, encompassing all aspects of figures and tables are necessary.

Is there anything else you think the authors need to fix in their article to be fit for publication?

The manuscript is well written, and with the appropriate revisions and corrections based on reviewer feedback - should be ready for publication.

Do you have any concerns about the ethics of this research?

No

Do you believe the article, in its current form, is fit for publication?

Revise and resubmit

Revised Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

No

How well did the authors respond to your comments?



3/5

What - if any - feedback do you feel the authors did not adequately respond to?

I think for most of my previous comments in past reviews, the author(s) responded well. I still think that in the process of addressing other reviewer comments, it has exposed other issues that need to be addressed.

Based on your review, what should happen next?

This paper needs major revisions and another round of peer review

Why is this article not ready to be published?

There are additional concerns that have risen in peer review, even after the authors have addressed other feedback from other reviewers.

What do the authors need to change for you to accept this article for publication?

I believe if the authors include the proposed suggestions, changes and feedback from myself and other reviewers, the paper should be reviewed again for consideration. Some of the language is too strong and implies certain findings in literature relevant to their manuscript. Minor adjustments with some figures. Some sections as noted by other reviewers, should be rewritten for clarity.

2nd Revised Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

No.

How well did the authors respond to your comments?

4/5

What - if any - feedback do you feel the authors did not adequately respond to?

N/a - I felt like all of my previous feedback has been addressed adequately.

Based on your review, what should happen next?

This paper requires minor revisions but does not need further peer review

Would you like to be listed as a Collaborator on the final publication?

Yes, please list me as a Collaborator

Joseph Hinton

Initial Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

No

What did the authors do a good job with?

Coalescing literature on canid diet data for comparison was great. Figures were also nicely done.

How do you think this research will contribute to the field?

If published, paper will be used as citation material in wolf and coyote diet papers.

Regarding the study design and methods, what do the authors need to fix or improve upon to be fit for publication?

There's a few things that need improvement. First, multiple diet studies on the same population (e.g., red wolves in NC, coyotes on SRS) should be treated as repeated measures. I wouldn't consider them independent. Second, this is more of a comparative review and less of a meta-analysis. I think



consolidating the information on one conceptual framework (i.e., middle out ecology) would help. Then the objective is to use that information to support that framework instead of using that framework to explain what could be spurious findings. I hope that makes sense. Third, there is no real conceptual framework in this paper. It seems like the author(s) have a lot to say and want to get that out there. Understandable, but provide the framework to couch it under. Finally, delimitation of canid populations is not well laid out.

Regarding the analysis and interpretation of their findings, what do the authors need to fix or improve upon to be fit for publication?

Yes. See previous comments. Adding to those, I believe conclusions (i.e., coyotes don't eat nutria, have a similar ecological role as red wolves) is well supported. I think it would be better for the author(s) to focus on study systems (e.g., Mexican gray wolf, eastern wolf, GLR gray wolf, YNP, and red wolf) where data exists already for wolves and coyotes. Instead of doing a meta-analysis, just use the systems where comparative data already exists.

Is there anything else you think the authors need to fix in their article to be fit for publication?

I think the author(s) should better consult the literature on the geographic ranges of wolves and the two eastern coyote populations.

Do you have any concerns about the ethics of this research?

Nope.

Do you believe the article, in its current form, is fit for publication?

Revise and resubmit

Revised Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

No

How well did the authors respond to your comments?

4/5

What - if any - feedback do you feel the authors did not adequately respond to?

Only knock I have on the author's responses was saying it would be a lot of work to recategorize prey items.

Based on your review, what should happen next?

This paper needs major revisions and another round of peer review

Why is this article not ready to be published?

The author needs to clarify why they lumped eastern wolves with gray wolves.

What do the authors need to change for you to accept this article for publication?

They need to explain why they grouped eastern wolves with gray wolves and provide support for that. Research suggests that eastern wolves and red wolves may be conspecific. Grouping those two species together has more support than grouping eastern wolves with gray wolves.

2nd Revised Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

No

How well did the authors respond to your comments?

5/5



What - if any - feedback do you feel the authors did not adequately respond to?

None. I thought the author(s) did a fine job responding to my comments.

Based on your review, what should happen next?

This paper is ready for publication

Would you like to be listed as a Collaborator on the final publication?

Yes, please list me as a Collaborator

Leandra Merz

Initial Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

not that I know of

What did the authors do a good job with?

The author used a creative meta-analysis approach to examining dietary overlap between wolves and coyotes in regions where coyotes have recently colonized and wolves have largely reduced ranges. The figures are great and the writing is clear. Overall, the manuscript is impressive.

How do you think this research will contribute to the field?

I think this research adds to our understanding of the potential for meso-predators like coyotes to functionally replace missing apex predators like wolves. While the question is not fully answered here, this meta-analysis provides important results and suggests additional questions/areas of future research

Regarding the study design and methods, what do the authors need to fix or improve upon to be fit for publication?

There were minor concerns noted in the document related to ensuring the data collection and analyses are clearly explained in the methods section and consider removing or defending the inclusion of the southern FL mortality datasets

Regarding the analysis and interpretation of their findings, what do the authors need to fix or improve upon to be fit for publication?

Some interpretations are based on results that are not shown to be statistically significant through p-values or non-overlapping confidence intervals. The significance should be clearly reported and discussion of non-significant or borderline significant results should be qualified.

Is there anything else you think the authors need to fix in their article to be fit for publication?

Some additional minor issues are noted in the document- generally related to increasing clarity of important concepts, removing some less key concepts, streamlining the focus to ensure writing is concise and remains focused, and fixing figures

Do you have any concerns about the ethics of this research?

no

Do you believe the article, in its current form, is fit for publication?

Revise and resubmit

Revised Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?



no

How well did the authors respond to your comments?

4/5

What - if any - feedback do you feel the authors did not adequately respond to?

The author did a good job improving the writing and flow of the text as well as inconsistencies in the data used from South Florida. There were a few comments in the text that were not adequately addressed. The author sometimes noted that addressing the comment would take too much time, but to me that is not a valid reason to ignore good feedback. While the figures have been improved, there is still concern over legibility based on contrast and text size for many of the figures.

Based on your review, what should happen next?

This paper requires minor revisions but does not need further peer review

Would you like to be listed as a Collaborator on the final publication?

Yes, please list me as a Collaborator

2nd Revised Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

no

How well did the authors respond to your comments?

4/5

What - if any - feedback do you feel the authors did not adequately respond to?

Based on your review, what should happen next?

This paper requires minor revisions but does not need further peer review

Would you like to be listed as a Collaborator on the final publication?

Yes, please list me as a Collaborator

Phoebe Parker-Shames

Initial Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

no (though I will acknowledge that I know who the author is because the name was listed on the shared code)

What did the authors do a good job with?

The paper makes novel and creative use of already published papers to answer a compelling question.

How do you think this research will contribute to the field?

This paper is addressing a question I think will be of broad interest to ecologists looking at anthropogenic effects on shifting ecosystems. There are a lot of follow up research questions that flow naturally from the discussion.

Regarding the study design and methods, what do the authors need to fix or improve upon to be fit for publication?



I think the methods need to be substantially flushed out in order to better assess them, including actually listing the models that were run (as equations or a complete list of covariates in the final model). In particular, if the author wants to be conducting a meta-analysis, the methods will need to be updated to focus on effect size and variance. Otherwise, it should be framed as a quantitative review or some other type of synthesis.

Regarding the analysis and interpretation of their findings, what do the authors need to fix or improve upon to be fit for publication?

The results are missing information, including comparative results for all species and complete model results. There also needs to be more space for acknowledging the limitations of the study. Not doing so reduces the credibility of the study, while including limitations actually provides a good opportunity to suggest future studies or research standards.

Is there anything else you think the authors need to fix in their article to be fit for publication?

Just paying attention to the comments and line edit suggestions.

Do you have any concerns about the ethics of this research?

None that I am aware of

Do you believe the article, in its current form, is fit for publication?

Revise and resubmit

Revised Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

no

How well did the authors respond to your comments?

4/5

What - if any - feedback do you feel the authors did not adequately respond to?

I made most of my comments in text but they said they would create a list of full citations for all the studies used in their analyses but seem to have still not included it. There also seemed to be several places where they did not understand the critique someone was giving and therefore did not address it, or simply chose not to where the feedback would require a large amount of effort. In those cases, even if they are not making the requested change, it usually still merits addressing in the manuscript itself (as a limitation, listing as an assumption, etc.). Perhaps that will be clarified with this latest round of feedback. I will say that the paper itself is much improved overall, but the downside for the author is that now that the flow and purpose is clearer, I can see more flaws in the methodology itself (all of which are easy enough to justify, but it's not 100% done yet). So there is a need to expand on the limitations of the study and remember that there could be study-design-related factors that influence the results as well.

Based on your review, what should happen next?

This paper needs major revisions and another round of peer review

Why is this article not ready to be published?

The authors added new concerns in their edits that need to be addressed

What do the authors need to change for you to accept this article for publication?

It's not actually major changes but I think the changes are probably substantial enough that they may need a final round of light edits, but I would also be ok if the author feels like they can make the requested changes without another back-and-forth with the reviewers. The changes would mostly be to include the missing data that was supposed to be added to the supplement, and to spend more time on justification, limitations, and alternative explanations in the methods and discussion.



2nd Revised Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

no

How well did the authors respond to your comments?

4/5

What - if any - feedback do you feel the authors did not adequately respond to?

They had some points that they disagreed about but they at least addressed everything

Based on your review, what should happen next?

This paper is ready for publication

Would you like to be listed as a Collaborator on the final publication?

Yes, please list me as a Collaborator

Kara White

Initial Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

no

What did the authors do a good job with?

The author introduced the importance of their research within the framework of ecological replacement theory. The use of a large-scale meta-analysis to compare the dietary ecology and ungulate mortality rates of coyotes and wolves was particularly commendable.

How do you think this research will contribute to the field?

This research makes a significant contribution to the field by enhancing our understanding of how mesopredator species, like coyotes, can partially or fully replace the ecological roles of apex predators, such as wolves, in ecosystems where the latter have been extirpated. By conducting a comprehensive meta-analysis of dietary ecology and ungulate mortality across eastern North America, the study provides insights into the similarities and differences in the trophic impacts of coyotes and wolves. This research can inform conservation biology and wildlife management by highlighting potential limitations of mesopredators in fully replacing apex predators, which has implications for predator recovery and management efforts. Overall, the study advances our knowledge of trophic interactions and community ecology in altered ecosystems.

Regarding the study design and methods, what do the authors need to fix or improve upon to be fit for publication?

The study provides valuable insights into coyote and wolf dietary ecology, but additional detail and justification for methodological choices are needed to strengthen the inference. For example, while the lack of temporal restrictions on red wolf data is reasonable given limited studies, the choice of a 10-year window for coyote data versus only 4 years for wolves requires further explanation. Similarly, more transparency is needed regarding the modeling framework for each objective/sub section and explicit mention of statistics used to report results. Addressing these points will clarify the robustness of the methodology and the ecological relevance of the findings.



Regarding the analysis and interpretation of their findings, what do the authors need to fix or improve upon to be fit for publication?

The complete absence of results on wolves in the results text is a significant limitation. Without this information, readers cannot adequately weigh the inferences being made about ecological replacement or evaluate the extent to which coyotes fulfill the roles of wolves. Additionally, some conclusions seem overstated given the limited data on key aspects like red wolves and nutria. The interpretation could be more strongly tied back to ecological replacement theory to clarify the broader implications of these findings for predator-prey dynamics and ecosystem management. Explicitly discussing the importance of these results in the context of ecological replacement would enhance the study's impact and clarity.

Is there anything else you think the authors need to fix in their article to be fit for publication?

There are minor inconsistencies in methodological detail (e.g., rationale for temporal scope differences among datasets) should be clarified to ensure transparency and reproducibility.

Do you have any concerns about the ethics of this research?

no

Do you believe the article, in its current form, is fit for publication?

Revise and resubmit

Revised Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

No

How well did the authors respond to your comments?

4/5

What - if any - feedback do you feel the authors did not adequately respond to?

I felt that the author adequately responded to the feedback.

Based on your review, what should happen next?

This paper requires minor revisions but does not need further peer review

Would you like to be listed as a Collaborator on the final publication?

No, I do not want to be listed as a Collaborator

2nd Revised Submission

Do you have any conflicts of interest that could bias your ability to provide an independent review?

No

How well did the authors respond to your comments?

5/5

What - if any - feedback do you feel the authors did not adequately respond to?

The author responded adequately to all reviewer comments, and the revisions made were well-aligned with the feedback provided.

Based on your review, what should happen next?

This paper is ready for publication

Would you like to be listed as a Collaborator on the final publication?

No, I do not want to be listed as a Collaborator