School of Aquatic and Fishery Sciences
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Dear Editor,

We greatly appreciate the constructive comments made by yourself and the two anonymous reviewers on the previous submission of our manuscript, now titled “Assessing the Population-level Conservation Effects of Marine Protected Areas” (Previous title “The Regional Effects of Marine Protected Areas”, MS# 2019-17437). We are grateful for the opportunity to resubmit our manuscript to PNAS for review. We also apologize for the long wait for resubmission; the new manuscript represents a fundamental restructuring of our analysis that took some time.

We have addressed all the reviewers’ comments, as well as the Editor’s suggestions, to the best of our ability and feel that the manuscript is substantially improved. The consensus of the last round of reviews was that we had “buried the lead” by focusing on our simulation results. We have fundamentally reframed the paper to reflect this concern. We now present the paper primarily as a case study based on the iconic Marine Protected Areas (MPAs) of the Channel Islands National Marine Sanctuary. We show why metrics such as response ratios commonly used by scientists and practitioners as evidence for MPA effectiveness are on their own not a sufficient indicator of population-level MPA effects. From there we demonstrate our alternative approach, showing that while multiple empirical strategies fail to reveal a clear effect, this finding is to be expected from MPA theory. We then provide clearer guidance as to how these results can be used by scientists and practitioners. We feel that this new framing makes a much clearer statement around “What does all this mean for the expectations we put on MPA's”.

As pointed out by the Editor in the previous round, we know of no other study that has sought to estimate the effect of such a large protected area network on such a wide array of species before and after MPA placement. We hope that the novelty of our results are now much more apparent. Given that the Channel Islands MPAs have served as a case study for protected area design around the world, we feel that the “null result” presented here is of great relevance to both scientists and practitioners concerned around the globe, and as such has sufficient novelty and importance as to be suitable for publication in PNAS.

Thank you for your consideration,

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