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Review for **“Conservation benefits of a large marine protected area network across multiple ecosystems”**

This is a truly incredible study that spans a large variety of MPAs with different levels of protection, across a scientifically designed MPA network. The authors find positive effects of MPAs across regions and ecosystems, with clear signals of effects from regulatory protection. Conclusions are soundly backed up by the data (for example non targeted fish inside vs outside MPAs strongly indicates MPA findings are not spurious). The increased conservation performance with age is expected (and good to see from a conservation theory POV). Very exciting to see habitat diversity also increases conservation performance. A finding like that can only come from such a large-scale study involving multiple approaches to data collection and statistical analyses.

I have very few corrections/suggestions for this manuscript. The authors should be immensely proud of their effort, and the findings they have presented. I am also pleased to see this paper submitted to a society journal rather than (what is in my opinion) predatory “tabloid” journals. The methods and results presented here are incredibly compelling, and have been thoroughly explained, as science should be.

The future opportunities from data presented in this study for experiments is also exciting.

Great work folks. I am happy to look at the manuscript again, but I don't feel I need to. I have appended my very minor suggestions below. If you feel any of my suggestions are unnecessary, that is ok!

Introduction:

Fabulous. Well written, no corrections I can spot.

Methods

Clear and thorough (especially the appendix methods). Remarkable amount of effort to collect these data. Minor corrections below:

Typo in Appendix “Habitat estimates” paragraph:

“Major habitats include both nearshore/offshore (0-3000 m depth) and onshore (shoreline) characteristics identified as important during the **MLPA** planning process”  
MLPA is meant to MPA I assume?

L181-184: I completely agree!

Equation 2:

An extremely pedantic suggestion, but I spent 5 minutes looking for the sample mean ( $\bar{X}$ ) in the equation because it is hidden by the division bar! Maybe it will be sorted by the production team, but from my experience, don't count on it....

L226: “k is the number of ecosystems” should read as “where k is the number of ecosystems”

#### Results:

Clear with the key results highlighted. The SI is extremely thorough and allows readers to obtain deeper understanding of relationships if they are interested. Figure S2 will be particularly useful for readers IMO.

#### Discussion

L362-364: I know because academia is broken and we have to say things like this to get pass reviewers for impact etc, but you don't have to for me. Whether or not this is the first quantitative test of importance of habitat diversity for MPAs doesn't matter, because the study is so exceptionally well conducted, and the results are both clear and intriguing. In fact, this paper could easily be in a tabloid journal based on impact. However, I think society journals generally have papers of far higher scientific quality.

I completely agree with the sound interpretations and conclusions of this study. I really don't have any other suggestions.

#### Figures

Figure 1: Beautiful

Figure 2: Another fantastic figure

Figure 3: Great summary of specific marine park performance across geographic scales

Figure 4: Clear. Age and area as expected. Quadratic relationship of habitat diversity is interesting!