Dr. Favoretto,    
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UNITED STATES  
    
Aug 28, 2025    
    
Manuscript Number: ISCIENCE-D-25-10442    
    
"Why Ocean Protection Is Stalling—and How to Regain Momentum"    
    
Dear Dr. Favoretto,    
    
Thank you for submitting your manuscript to iScience. I am including the comments that reviewers made on your paper. The referees expressed interest in the study, but they also have a number of criticisms and suggestions. We would be interested in considering a revised version of the manuscript that addresses these concerns in detail.    
    
We have currently set the due date for this revision to be Oct 27, 2025. We are flexible about this schedule if more time is needed to complete important experiments. Please let us know if you require additional time. We understand that changes to your circumstances or those of your colleagues can lead to challenges in completing revisions. If that is the case for you and it has an impact on your ability to revise your manuscript, please let us know, and we will be happy to work with you on a plan that works for you to keep your paper moving forward.

* **STAR Methods:**Please keep in mind that should we publish your paper, it will need to comply with our publication guidelines. This includes the STAR Methods format, which Cell Press introduced to improve the rigor in reporting methods and resources for reproducibility. At this stage, we strongly encourage you to use the STAR Methods format so that both the editors and the reviewers can review the details of the experimental procedures and consider a version of the manuscript that closely reflects what would be published. This section replaces the Transparent Methods section. For detailed instructions on STAR Methods and a template for the Key Resources Table, see our [STAR Methods webpage](https://urldefense.com/v3/__https:/track.editorialmanager.com/CL0/https:*2F*2Fwww.cell.com*2Fstar-authors-guide/1/010f0198efb31ce2-ad8e78a4-b042-4ce1-b8a4-9e93b3af12b5-000000/wKgE_qeAeJL23uq_KijnyWyd8TWxzsil3RDgxdjfdWs=226__;JSUl!!Mih3wA!EndNNHA9YsNcAJ7Xyb_qU0xmlYL1oFxZ6_w3GhiRH6bV4w6KKPXtyCnk4Lgt4AE2UTMIDNLBEVP57QnrKyU$). You may also create the Key Resources Table using [this interactive webform](https://urldefense.com/v3/__https:/track.editorialmanager.com/CL0/https:*2F*2Fstar-methods.com/1/010f0198efb31ce2-ad8e78a4-b042-4ce1-b8a4-9e93b3af12b5-000000/TZJ4EHPspZcjidA2tQZ6GMZURHrmdKHxaPxjrvFGYm0=226__;JSU!!Mih3wA!EndNNHA9YsNcAJ7Xyb_qU0xmlYL1oFxZ6_w3GhiRH6bV4w6KKPXtyCnk4Lgt4AE2UTMIDNLBEVP5a6T8jiM$). Please contact me if you have any questions about restructuring your manuscript using the STAR Methods format.
* Please refer to our online guide for information about how to organize the Supplemental Information of your paper. Please note that, in particular, ALL the methods related to the manuscript should be placed in the STAR Methods section of the main document. However, the STAR Methods should not contain figures (aside from chemical reaction schemes) or tables that are complex or numbered. Additional characterization (such as NMR spectra) should be included as supplemental figures in the Supplemental PDF.
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* Should your manuscript be accepted for publication in the future, we’ll encourage you to contribute any of these optional features:
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* If any changes to the authorship are needed (addition, removal, or a change in order of authors), we require that an [authorship change form](https://urldefense.com/v3/__https:/track.editorialmanager.com/CL0/https:*2F*2Fwww.cell.com*2Fpb-assets*2Fjournals*2FCell-Press-authorship-change-form.pdf/1/010f0198efb31ce2-ad8e78a4-b042-4ce1-b8a4-9e93b3af12b5-000000/g4-6S1RTWN6KU6Vo5-ttI07qSwRNgPHobrgtLPn3sOM=226__;JSUlJSU!!Mih3wA!EndNNHA9YsNcAJ7Xyb_qU0xmlYL1oFxZ6_w3GhiRH6bV4w6KKPXtyCnk4Lgt4AE2UTMIDNLBEVP5EHQ39vY$) be provided with the revised manuscript that indicates the reason for the change and provides written consent for the change from all authors, including any that were removed.

When your revisions are complete, please submit your revised paper online at: [https://www.editorialmanager.com/iscience/](https://urldefense.com/v3/__https:/www.editorialmanager.com/iscience/__;!!Mih3wA!EndNNHA9YsNcAJ7Xyb_qU0xmlYL1oFxZ6_w3GhiRH6bV4w6KKPXtyCnk4Lgt4AE2UTMIDNLBEVP5W7HaZYM$) and include a point-by-point list of the revisions made to address the reviewers' comments. For future reference, please note that papers cannot be accepted until any necessary accession numbers are provided.     
   
​Also, we recently updated our reviewer questionnaire to help reviewers and authors get the most out of the peer review process. We would appreciate your feedback. Please visit the survey [here](https://urldefense.com/v3/__https:/track.editorialmanager.com/CL0/https:*2F*2Fwww.surveymonkey.com*2Fr*2FSPSVBFD/1/010f0198efb31ce2-ad8e78a4-b042-4ce1-b8a4-9e93b3af12b5-000000/d1uKA-NXfJDaWyLkzdxWxBpmGhDMt8Y6nevUAT1UqtE=226__;JSUlJQ!!Mih3wA!EndNNHA9YsNcAJ7Xyb_qU0xmlYL1oFxZ6_w3GhiRH6bV4w6KKPXtyCnk4Lgt4AE2UTMIDNLBEVP5QKLk1jY$).

Thanks again for submitting your work to iScience. I look forward to reading your revised manuscript.    
    
Sincerely,    
    
Avinash Alagumalai  
Associate Scientific Editor, iScience    
    
Reviewers' comments:    
Reviewer's Responses to Questions

**Main findings** *(seen by authors, reviewers, and editors)*  
What are the main findings/advancements the paper makes with respect to literature?  Your thoughts on the importance/interest of the manuscript to a specific or interdisciplinary community would be helpful.

Reviewer #1: A key advancement is the development of a strategic framework to prioritize upgrades of existing MPAs based on enabling conditions, including governance quality, institutional capacity, and social equity indicators. This approach reframes marine conservation discourse from quantitative expansion alone to qualitative improvements, highlighting that upgrading protection levels within existing MPAs could be a more realistic, impactful, and politically feasible pathway to achieve biodiversity, climate resilience, and socioeconomic goals.

Reviewer #2: The authors argue in this paper that they have identified the reasons why ocean protection is stalling, and that they are presenting a way forward on how to regain momentum to solve those structural problems.  
  
They present, as main conclusions: 1. that MPA expansion has stalled since 2018 (until 2024), and most new MPAs are minimally protected; 2. that the percentage of full protection covering representative habitats is minimal; 3. unless the current approach shits 30x30 will not be met; 4. stalling is caused by: MPAs being established where its easy (remote areas, no fishing interests); 5. effectiveness of MPAs correlates with strong governance, NGO presence, and low natural resource dependence— but under current global socioeconomic conditions, further MPA expansion is considered unlikely (based on a paper cited).

**Revisions required for publication** *(seen by authors, reviewers, and editors)*  
For each of the main points of the paper indicated above, please discuss whether the data sufficiently support the conclusions. If the point is not sufficiently supported, please indicate the kind of evidence you feel is required for that specific point, include any suggestions for specific additional work, and the reason for this additional work. Please assess any critical flaws with reported research design and data robustness.

Reviewer #1: (No Response)

Reviewer #2: The reasons of the stalling are however not clear from the arguments presented. The conclusion that fully protected MPAs cause greater short-term social and economic disruption is at odds with multiple examples where those disruptions were not met (for instance in remote large scale MPAs, or in several costal MPAs where stakeholder engagement was strong and governments supported the transition process.  
  
Moreover, the benefits of full protection presented by the authors, have been the subject of numerous research papers and are not new (see e.g. Sala, Enric and Giakoumi, Sylvaine 2017. ICES Journal of Marine Science).  
  
Therefore, beyond the assessment that increase in area has slowed down in recent years, the analysis presented don’t seem to add much to what is already publish about MPAs and protection levels. One can also not escape the reality that, with full and high protection at only 2.9% and with 9.6% declared as having some tyope of legal protection (according to the recent information of the Marine Protection Atlas based on the WDPA/Protected Planet database), these low numbers contain a diversity of situations and reasons behind them that cannot be generalised in simple conclusion.  
  
The authors analyze the recent trends in marine protected areas (MPAs) creation, in face of the international commitments and propose that, due to the recent slowing in MPA creation and the lack of ambition on the levels of protection, instead of continuing to create minimally protected MPAs, governments should focus on moving the existing ones to full protection.  
  
The main paper proposal is therefore that an immediate focus should be towards upgrading existing MPAs rather than creating new ones.  
  
The fact that focusing on 30x30 MPA ocean coverage alone will not help drive the ocean into a better state if current patterns of MPA creation are not changed, has been stated in several previous research and has been a high priority of action for many institutions that try to drive effective and meaningful ocean protection – see for example, Pike et al. 2024. Conservation Letters. 2024;17:e13020. The authors recognise precisely this by stating that While area-based targets remain central, there is now broader recognition that effective conservation requires attention to ecological function, social equity, and enforcement capacity—not just spatial coverage.  
  
Moreover, the 30x30 target was negotiated only in January 2024, assuming precisely that a stronger engagement of the international community is needed to achive protection of 30% of the ocean by 2030. This means that there is wide recognition that the way MPAs have been established on a one-by-one or piece by piece approach, need to change to EEZ wide networks and, in the high seas, to the implementation of the BBNJ treaty.  
  
The analysis presented in this paper reveal that there was an large increase in MPA coverage through time from 2010 to 2019 and then things stalled. However, recent MPAs are, in percentage of annual growth, more strictly protected than minimally protected. This trend can be seen in Figure 1 B. This seems to create a problem in the rational presented by the authors that full protection is not realistic in new MPAs.  
  
The authors then propose that a more successful route will be to upgrading existing MPAs in places where there is political will, strong institutions, and engaged communities, rather than creating new MPAs.  
  
This proposal presents two problems in my view:  
  
1. The reasons for the stalling/ low level of protection are not going to be addressed.  
2. We will be assuming that we will fail 30x30.  
  
In fact, the single most important fact about the failure seems to have escaped the analysis presented. Conflict with fishing and the political weight/influence the fishing industry/ fishers have towards decision-makers. The fact that MPAs are presented as costs and not investments, and the fact that in the scientific community there is not a consensus towards MPAs and in particular full protection in many fisheries scientists, has led over and over again to a failure in MPA establishement, downgrade of protection levels of absence of effectiveness. However, when properly established, based on science, with a strong staeholder engagement, and leading by governments with the communities, MPAs succeed.  
  
So one could argue that the reasons for the stalling are the same as the reasons for the low levels of full protection (social resistance, lack of scientitic consensus and social pressure towards decision makers) and these conditions, if not tacked, will prevail and will not allow to move the current MPAs from minimally protected to fully protected. The reasons why the current difference bewteen the 2.9% fully or highly protected and effective to the 6.9% total, making up the material to work the auhtors proposal of scaling up these protection levels instead of implementing new MPAs, are the same that are preventing an increase in the area under protection overall.  
  
Moreover, with the authors proposal, that does not seem to be based in any realistic scenario (why would the governments that established minimally protected MPAs will all the sudden implement fully protected ones?), there is no pathway to achieve 30x30.  
  
Additionally, the policy mechanisms and finacial tools to support this change (such as blue bonds) are not explained in any detail and do not seem to have a realistic base of success either.  
  
For the world to achieve the recently approved Kunming-Montreal Global Biodiversity Framework (GBF), with quality rather than only quantity, there are two fundamental conditions that need to be met:  
  
1. every ocean state needs to implement EEZ wide plans to protect 30% of their ocen (with fully or highly protected and effective MPAs), where OECMs should be incorporated but with minor area expression to allow the integration of small scale coastal fishers and indigenous Peoples interests;  
2. The BBNJ treaty, after adoption (which seems to be realistic still in 2025), should move to protected the High Seas with equally fully and highly protected MPAs.  
  
This will only seem possible if MPAs are seen as investments and not costs; full protection becomes the norm; short term impacts are compensated; transition schemes implemented; and fisheries are restructured.  
  
Within this mix, the quality upgrades that the authors suggest are surely necessary, but the fundamental problems causing the lack of progress need to be addressed at the same time.  
  
The results presented by the authors that MPA progress is stalling, might merit a short communication but should integrate the recent developments coming, namely, from the United Nations Ocean Conference in Nice.

**Optional and minor work recommended to authors** *(seen by authors, reviewers, and editors)*  
Please list additional work which would strengthen the paper, but is not strictly necessary to prove its main claims.

Reviewer #1: (No Response)

Reviewer #2: (No Response)

**Transparency of reporting** *(seen by authors, reviewers, and editors)*  
Does the paper adequately report the methods, statistics, data, and code? Are data and code availability sufficient to evaluate the manuscript? If not, please elaborate.

Reviewer #1: (No Response)

Reviewer #2: No. The information analysed is not presented.

   
Reviewer #1: This manuscript provides an insightful analysis of why global ocean protection efforts have stalled, emphasizing the limited ecological effectiveness of minimally protected MPAs and proposing strategic upgrades to existing areas. Overall, the manuscript is well structured, clear, and policy-relevant. However, there are two important aspects that appear underexplored:  
First, the discussion does not consider the growing role of Other Effective area-based Conservation Measures (OECMs) as complementary or alternative strategies to MPAs. The recent stagnation in MPA expansion might not solely indicate a conservation slowdown, but rather reflect an emerging shift towards OECMs and other innovative conservation models (e.g., national parks with marine components, Indigenous and community-conserved areas, or sustainably managed marine zones) that may not be classified strictly as MPAs but contribute significantly to biodiversity conservation targets. Integrating OECMs into the conceptual framework and policy recommendations would provide a more comprehensive understanding of contemporary ocean protection dynamics and pathways towards 30×30 targets.  
Second, the analysis heavily focuses on coral reefs, seagrasses, mangroves, saltmarshes, and cold-water corals. While these are globally critical habitats, the selection underrepresents mid- to high-latitude ecosystems, such as temperate rocky reefs, kelp forests, and polar benthic habitats. These systems play key roles in regional biodiversity, fisheries, and climate adaptation but are often overlooked in global assessments dominated by tropical habitat priorities. Expanding the habitat scope or at least discussing this limitation would enhance the generalizability and representativeness of the conclusions.  
In summary, while the manuscript offers valuable contributions to the debate on marine protection strategies, addressing the potential role of OECMs and ensuring broader habitat representativeness would strengthen its policy relevance and global applicability.  
  
  
Reviewer #2: See above