

MPA NEWS



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New MPA classification system proposed; sites get scores based on what uses they allow

A joint team of Portuguese and French researchers has proposed a new system for classifying MPAs based on what activities the sites allow and how those activities could impact biodiversity. The proposed system relies on scoring. An MPA that allows relatively impactful activities like bottom trawling, for example, would receive a different score than one that allows less impactful activities, like spearfishing. And both MPAs would receive a different score from an MPA that allows no fishing at all. The system also scores MPAs according to the presence or absence of aquaculture, oil/mineral extraction, anchoring, and boating.

Under the system, the more activities an MPA allows, the higher its accumulated "MPA index". Sites with the highest index scores are classified as "unprotected". Four other possible classifications are fully protected, highly protected, moderately protected, and poorly protected.

The system also accounts for zoned MPAs. It generates a score for each zone, then integrates those scores in the site's overall index. So a site that has an equal mix of no-take zones and fishing zones would have a different index score than one that is mostly or fully no-take.

In response to IUCN categories

Published in the journal *Marine Policy*, the system is a response to IUCN's current framework of MPA management categories (<https://oct.to/Z4J>). The IUCN system bases its categories on management objectives rather than a site's actual regulations. According to the Portuguese/French team, this results in three main inefficiencies:

1. The main objectives of MPAs are often not clearly described in their management plans.
2. MPAs' actual regulations may be inconsistent with their originally stated objectives.
3. The IUCN system was not designed to account for the fact that many MPAs are multi-purpose and comprise various zones with different rules.

The newly proposed system is designed to address each of those inefficiencies. The research team considers its proposed system to be a robust but simple classification — "providing an alternative to or complementing the current IUCN system of categories for MPAs."

MPA News spoke with the first author of the paper, Bárbara Horta e Costa, and with Emanuel Gonçalves and Joachim Claudet, who were co-principal investigators on the project.

MPA News: You wrote that your classification system could potentially be used in conjunction with IUCN's system. What might that look like?

Bárbara Horta e Costa: Ideally, we hope that the wide use of our classification could lead it to be adopted in the future by IUCN. In the meantime, the use of both systems is not precluded since each MPA could be classified according to both their objectives (IUCN categories) and regulations (our classification system). Ideally a third classification should complement them: the level of enforcement associated to those regulations. Inconsistencies between IUCN's and our systems will emerge (which is informative as well), but we hope that this could guide the selection and definition of future objectives and regulations of MPAs.

Joachim Claudet: Having a globally applicable, meaningful and unambiguous system to classify and distinguish zones and MPAs is central to assessing conservation achievements. That includes understanding what we are protecting under the Convention on Biological Diversity and Aichi Target 11.

Do you have a website or tool where people can enter the criteria for a particular MPA and its zones and generate a score?

Emanuel Gonçalves: We are developing a website that will allow users to easily classify zones and MPAs. After entering the information online, users will be able to submit it to a global database that we aim to compile on regulations for MPAs. The submitted and validated information will be made freely available to everyone. Users will also be able to simulate hypothetical situations, such as for planning a future MPA.

Claudet: In the meantime, while the website is being developed, it is easy to generate scores for zones or MPAs simply by following the steps in our journal paper, which is freely downloadable.

To test your proposed system, you applied it to a range of 100 MPAs around the world. An appendix to your study shows the index score for each MPA. What did you find in these tests?

Costa: We had MPAs classified as unprotected (worst rank) and fully protected areas (best rank). In both cases we found single-zone and multiple-zone MPAs.

What are your next steps for the classification system?

Gonçalves: We plan to continue revising it. We hope the global MPA community starts using this system and sending feedback. Additionally, we will be submitting another paper shortly, assessing the ecological effectiveness of the different classes of partially protected areas through a meta-analysis of available studies.

Claudet: As a final note, we have considered incorporating management effectiveness in our classification system, but such information is not yet available at a global scale. Two MPAs with similar scores may have different ecological (and socio-economic) outcomes depending on, among other factors, how well they are managed. We hope this gap can be addressed in the near future and this information could then be integrated in our classification. We have started pilot studies in the Mediterranean and Portugal looking at management effectiveness, which might bring some interesting developments. Stay tuned and contact us for any questions!

For more information:

Bárbara Horta e Costa, CCMAR – Centre of Marine Sciences, Portugal. Email: barbarahcosta@gmail.com

Emanuel Gonçalves, MARE - Marine and Environmental Sciences Centre, ISPA – Instituto Universitário, Portugal. Email: Emanuel@ispa.pt

Joachim Claudet, National Center for Scientific Research, CRIOBE, France. Email: joachim.claudet@gmail.com

The paper "A regulation-based classification system for Marine Protected Areas (MPAs)" in *Marine Policy* journal is available for free at <https://oct.to/Z43>. Appendices to the paper include infographics on how to calculate MPA index scores, and a table of the several dozen MPAs worldwide that were tested with the system.

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