Marine Management Organisation

MMO1421: Evaluating MPA Management Measures

Aim

To develop and test a consistent impact-evaluation framework that assesses how the Marine Management Organisation's (MMO) management measures affect environmental, social, and economic outcomes in Marine Protected Areas (MPAs). Provide practical guidance that supports MMO's statutory 5-year reviews and informs future improvements to MPA management effectiveness with regards to fishing activities and marine non-licensable activities.

Introduction and methodology

The MMO is required to review the effectiveness of its management measures in MPAs every five years. To support this requirement, the MMO commissioned ICF, Plymouth Marine Laboratory, and Live Economics to design a general approach to undertaking an impact evaluation of an MPA, to test this approach through application to a set of case study MPAs, and to provide guidance to support future MPA impact evaluation. This work recognises that MPAs aim to recover and protect sensitive marine habitats and species, and that management interventions, such as byelaws or voluntary measures, must be assessed for how well they reduce pressures and contribute to achieving conservation objectives.

The study followed a three-stage approach. Firstly, the team developed an initial MPA management impact evaluation framework; including a Theory of Change, evaluation questions, and methodological guidance grounded in MMO's evidence needs and available data. Secondly, the framework was tested through four detailed case studies, using a literature review, secondary data analysis, and stakeholder interviews. The case study sites selected were: Studland Bay Marine conservation Zone (MCZ), West of Walney MCZ, Haisborough, Hammond and Winterton Special Area of Conservation (SAC), and Start Point to Plymouth Sound and Eddystone SAC.

Finally, lessons from the testing phase were used to refine the framework and produce practical guidance (Annex A) to support the MMO's future MPA management reviews.

Results

The project had an objective of establishing a blueprint for evaluating MPA management measures across all MPAs. We found contexts varied across all case studies making a one-size fits all scenario difficult. For these four case studies, we found MMO management measures to be effective at reducing specific and targeted pressures. We saw reductions in activities such as bottom-towed fishing and anchoring, and some early signs of improved or stable environmental condition, though outcomes varied according to baseline differences and external pressures like pipelines, cable protection and wider marine use. Socio-economic impacts also varied, ranging from minimal or already-embedded changes in some sites to cumulative pressures perceived by fishers at West of Walney, while strong local partnerships and eco-moorings supported smoother implementation at Studland Bay despite some remaining tensions. Evidence availability differed significantly across MPAs, making stakeholder interviews essential for understanding real-world impacts and highlighting the importance of local context in shaping behaviour, compliance and perceptions. Overall, the work demonstrated that the evaluation framework is practical, adaptable

and capable of capturing the complex ways management measures influence environmental conditions and stakeholder communities.

Conclusions and recommendations

The main conclusions drawn on investigating four case studies are:

- Evidence limited to the four case studies showed MMO management measures to be effective at reducing the specific pressures they target, such as anchoring and bottom-towed fishing.
- Environmental outcomes vary by site due to differing baseline conditions and external pressures.
- Some MPAs show improved, or maintained, feature condition following management.
- Socio-economic impacts differ widely and often reflect cumulative non-MMO pressures.
- Evaluations are constrained by limited monitoring and incomplete fisheries data.
- Stakeholder evidence is critical where quantitative data is weak.

The main recommendations of importance to the MMO are:

- Improve and better fund long-term environmental monitoring across MPAs.
- Align MMO evaluations with Natural England's condition assessment timetable.
- Engage MMO data teams early to secure required fisheries analyses.
- Use a staged stakeholder engagement process starting with MMO internal teams.
- Consider the use of third-party interviewers where stakeholder sensitivity is expected.
- Clearly present evidence limitations and confidence levels in all evaluations.
- Support sustainability of key compliance-enabling mechanisms such as eco-moorings.

MMO comments

The primary end use of the work is to provide the MMO with a consistent, practical framework to support its statutory five-year evaluations of MPA management measures and to inform future decisions on whether measures should be maintained or adjusted. The research indicates a need to place-based or case study research into MPA effectiveness. The work also serves to improve internal MMO processes, offering a structured approach for data collection, stakeholder engagement, and evidence interpretation when evaluating MPA performance.

However, use of the framework is constrained by several limitations, including uneven environmental and fisheries data availability, misalignment with Natural England's condition assessment cycle, and the influence of external pressures such as offshore infrastructure that cannot be controlled by management measures. The approach also relies heavily on qualitative evidence when monitoring data are limited, meaning that outcomes cannot always be clearly attributed to specific management actions and must be interpreted within their local context.

Further information

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