Theme Session E Report 2024

Developing applied evidence for biodiversity conservation and management

Conveners: Paul Whomersley (UK), Andrea Belgrano (Sweden), Will Le Quesne (UK)

Session synopsis

A growing human population and changes in sea and land use are driving exploitation of species, degradation of habitats, pollution, introduction of invasive species, and climate change, which are fundamentally altering the structure and function of marine ecosystems and leading to biodiversity loss.

The Convention on Biological Diversity's Global Biodiversity Framework (GBF) underpins global action for conservation. This sets out targets for conservation, restoration and management of threatened and degraded species, habitats and ecosystems by 2030. Meeting these targets whilst enabling productive utilisation of marine ecosystems will require both in situ and ex situ conservation.

Achieving the conservation objectives of the GBF will, amongst other challenges, need clear evidence on the nature, extent and location of human impacts on marine species and ecosystems, understanding on the structure, function and resilience of species and ecosystems, and to define thresholds for impacts. This evidence will be required for large scale ocean protection through to fine scale local conservation and restoration action and needs to be integrated with social, political, legal, cultural, and economic considerations.

The session brought together case studies and research in order to share best practice, and identify challenges associated with, the generation and provision of clear, salient and targeted evidence for applied conservation and management of marine ecosystems to ensure that marine conservation actions and policies are based on robust scientific data and evidence, and that the ocean is effectively managed into the future.

Summary of presentations

The platform presentations were split into four sub-sessions which included, the use of large-scale datasets to inform management, the development and use of indicators, tracking community change, and finally, a marine protected area (MPA) and conservation focused session. The session which focussed on the use of large datasets provided examples of how datasets from multiple sources had been brought together to provide a more holistic and evidence-based approach to the development of management advice. The indicators session provided examples of the importance of indicators and the need to agree on which indicators should be used. The presentations clearly demonstrated how they provide empirical evidence needed to assess the effectiveness of management. The tracking community change session gave examples of how the use of large datasets have been used to successfully track different elements of marine ecosystems, demonstrating how data can be collected once and used many times. The final session gave examples of how important evidence collection and analysis is, in relation to the development and assessment of management and protection strategies associated with MPAs.

Interactive discussion outputs

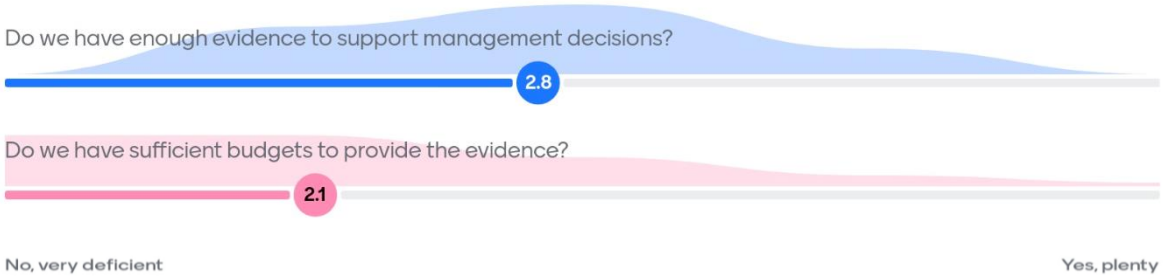
An interactive discussion session was facilitated by the conveners. Questions were focussed on five key elements of evidence provision for biodiversity management: 1) Defining clear management objectives, 2) Data collection, 3) The assessment and interpretation of data, 4) The provision of

management advice, 5) The evaluation of management. Answers were collated in real-time using Mentimeter and key points discussed in more detail.

To test this approach, two general questions were asked:

Q1. What does marine biodiversity mean to you?

Q2. Do we know enough and have enough resources?



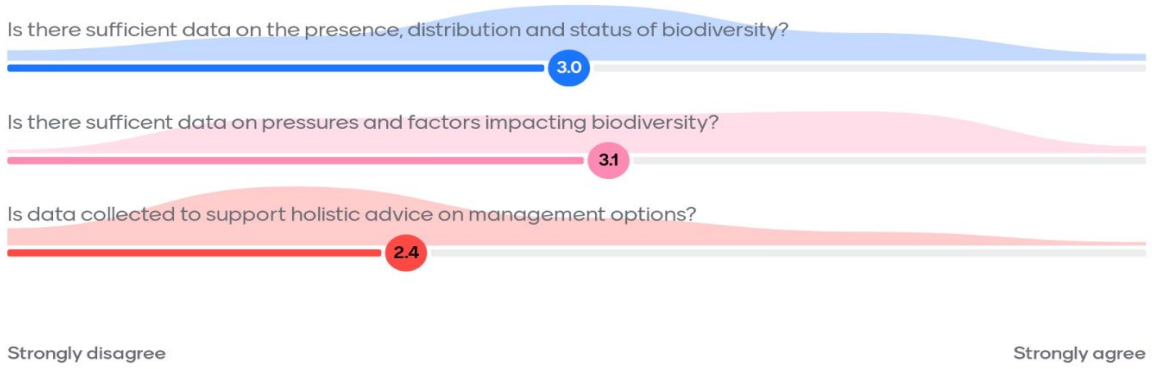
Poll results show that attendees somewhat agreed that we have enough evidence to support management decisions. However, many thought that there is insufficient budget to actually provide the evidence needed.

Two questions linked to **the development of management objective** were posed:

There was agreement that in relation to biodiversity conservation there are clear objectives linked to policy. However, the majority thought that there were no clearly defined operational targets associated with biodiversity conservation. When asked to clarify the challenges and opportunities associated with defining and meeting operational management objectives, during open discussion, the following key statements were noted:

'Resourcing, in particular, the lack of long-term funding and a need for extended funding cycles.'
'Complex cumulative impact approaches, the identification and selection of indicator metrics.'
'A lack of data to indicate if management is working.'
'A disconnect between evidence provision and use of the evidence to drive management and policy development.'

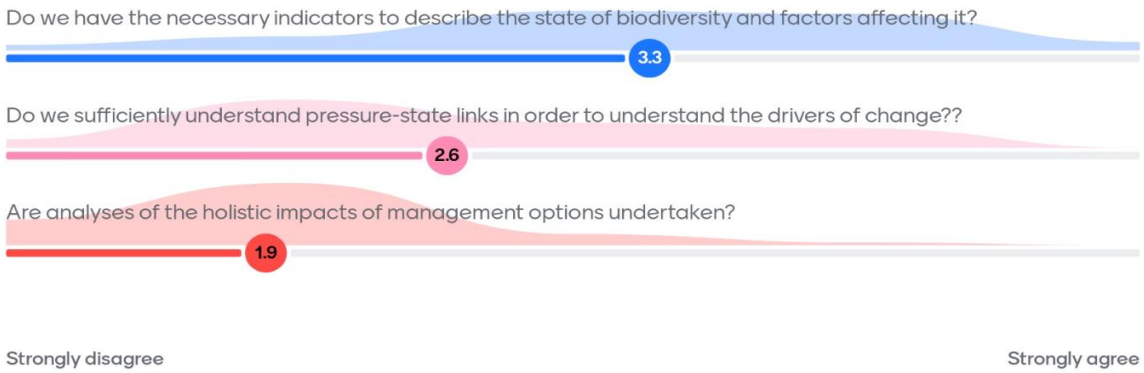
Three questions were posed in relation to **existing data relevant to biodiversity management and conservation**:



There was agreement that there was sufficient data relating to the status of biodiversity and the pressures and factors effecting biodiversity, but less positivity regarding the collection of data required to provide holistic advice linked to the development of management options. During open discussion, the following key statements were noted:

'Greater collaboration needed between Government/policy areas, regulators, Industry and Academia.'
'The need for standardised and open access datasets.'
'Increased use of non-invasive new technologies.'
'Resourcing models that are not project focussed and limited to funding cycles.'

Three questions were asked in relation to **challenges associated with the assessment and interpretation of data:**



It was agreed that we do have the necessary indicators to describe biodiversity and factors affecting it and that we understand pressure-state relationships enough to identify key drivers of change. However, many disagreed that a holistic approach to assessing management effectiveness was currently undertaken. Key statements noted from open discussion included:

'The need to develop opportunities to undertake systems level approaches and assessments.'
'The standardisation of data and agreed status thresholds, including which indicators to use.'
'A lack of data and access to existing data.'
'A need for greater collaboration and integration across thematic areas.'

Two questions were asked in association with **the provision of evidence associated with the development of management advice**.

The majority disagreed that there were clear pathways for holistic evidence provision to inform management and that current levels of evidence provision met evidence needs. Key statements noted from open discussion included.

'There is a lack of opportunity and knowledge of how to actually provide evidence and advice.'
'A need to develop clear evidence to policy communication pathways.'
'The collection of evidence needs to be more tightly linked to policy drivers.'

A final question linked to the evaluation of management effectiveness was then asked:

Overall, it was thought there was a lack of effort made to collect evidence linked to the management effectiveness evaluations and assessments. Key statements noted during open discussion included.

'A greater need to use management effectiveness tools and a commitment from managers to evaluate their actions.'
'The need to include evaluation steps during the design phase of management objectives.'
'The establishment of clear evidence to policy pathways.'

Conclusion

Several key challenges associated with evidence provision for biodiversity conservation and management were identified throughout the presentations and the facilitated discussions included in Theme E. These included a disconnect between policy requirements and applied evidence collection

and provision, a lack of long-term funding needed to facilitate the collection of integrated datasets required to inform and develop more holistic approaches to management and that there is a still a thematic and project-based approach to ongoing monitoring. A lack of effort made in relation to the evaluation of existing management approaches was also identified. Opportunities identified included a need for greater collaboration and communication, the use of new technologies a long side existing approaches to enable the calibration of existing time-series datasets and the use of AI to process and analyse large complex datasets. It was clear from this session that there is a need to consider how a more collaborative, integrated, efficient and holistic approach to evidence collection and provision could be developed in order to meet biodiversity conservation and management objectives.