

Written evidence from Centre for Environment, Fisheries and Aquaculture Science (CEFAS) (PAE0019)

Submitted by: Dr Michaela Schratzberger, Science Director, on behalf of the Centre for Environment, Fisheries and Aquaculture Science, Cefas [20 April 2023]

1. What are the key aspects of Cefas' role with regards to protected areas at sea?

- 1 Cefas provides scientific evidence and advice on protected areas at sea, to Defra and statutory nature conservation bodies in the UK, i.e. the Joint Nature Conservation Committee (JNCC) and Natural England, and to Governments and other stakeholders in Overseas Territories. Depending on the jurisdiction, Cefas performs various functions, including acquisition and interpretation of data and evidence, monitoring of MPAs and associated applied research, stakeholder engagement, training, and capacity building.

2. What is Cefas' latest assessment of the current environmental state of the protected areas in England and the UK more widely at sea which might be included in the commitment to protect 30% of land and sea by 2030, across the different protected areas designations?

- 2 Assessment of environmental state of MPAs is beyond Cefas' remit. Assessments of condition within protected areas are conducted by Natural England (English inshore MPAs) and JNCC (MPAs in UK offshore waters beyond territorial waters, and UK MPA network).

3. What are the existing monitoring methods used to assess environmental condition in the different protected areas designations at sea, what gaps in monitoring and data exist with regards to the '30 by 30' target, and what improvements could be made to monitoring?

- 3 Natural England and JNCC are responsible for assessments of environmental condition of MPAs, using best available evidence, including that acquired through the Cefas-led Secretary of State (SoS) MPA Monitoring Programme, alongside other sources of data on pressures and environmental state (on which Natural England and JNCC advise).
- 4 The SoS MPA Monitoring Programme is funded by Defra Grant in Aid to Cefas. This is an annual programme of evidence collection and reporting, directed by the evidence requirements of Natural England and JNCC. The programme funds the acquisition of physical samples and remote sensing data (to create habitat maps and establish statistically robust monitoring 'baseline' data on environmental parameters and biological communities within protected areas), and the subsequent processing, analysis, interpretation and reporting in support of condition assessments.

- 5 The current programme budget supports monitoring observations and sample collection to take place at approximately four to six MPAs across both inshore and offshore areas per year (depending on MPA size and monitoring requirements), of the SoS network of 178 MPAs. Following sample collection, it currently can take two years or more to see these samples processed, data generated, and interpreted into data products and advice that subsequently feeds into condition assessments. Programme funding has significantly reduced over the past 10 years, and has remained flat over the last two years of the current spending review period, with further reductions for the final year in 24/25. Conversely, costs of conducting monitoring surveys and activities have been rising significantly and continue to do so.
- 6 To our knowledge, there is no specific SoS/UK monitoring commitment associated with the 30x30 target. However, the Environment Act requires that 70% of designated features in our Marine Protected Areas are restored to a favourable condition by 31 December 2042, with the rest in a recovering condition. This target sets, for the first time, a time-bound target for the recovery of protected features in MPAs.
- 7 In terms of informing upon this target and demonstrating recovery, the current and continuing downward trajectory in funding is in stark contrast to the rising policy ambition, and is insufficient for: a) generating a clear understanding of what constitutes 'favourable' and 'recovering' condition for the wide variety of designated features in MPAs, b) capturing the critical linkages between pressure and environmental state, and c) generate the repeated, statistically robust time-series sampling points required to reliably track an improvement in condition. Critical areas for research and development have been identified to support points a and b, but there is currently no funding available to progress them. The most critical requirement is the development of indicator metrics which are readily measurable and demonstrate a strong link between pressure and state (thus demonstrating recovery). Modelling and Artificial Intelligence technology could be used to improve efficiency and better understand relationships between pressure and state in the marine environment. These areas require greater investment and a clear strategy linking scientific evidence and assessment processes.

4. What in Cefas' view are the main factors affecting the environmental state of England's protected areas at sea, including stressors and positive management practices?

- 8 Fishing using bottom-contacting gears, which still occurs in the majority of MPAs, is widely understood to be the most damaging activity to marine seafloor environments. Other pressures and activities impact MPAs (to varying degrees dependent on the pressure and the designated features). Natural England and JNCC assess the condition of individual MPAs in relation to these pressures, and they are therefore best placed to advise.
- 9 In terms of positive management practice, considering the large scale of the MPA network and the limited funds available to monitor recovery at the individual site and network scale, a precautionary approach would involve reduction of the most damaging pressures within the entire MPA (as opposed to areas within it) to the lowest possible level.