

Working towards a

# Blue Future

Promoting Sustainability, Environmental  
Protection and Marine Management  
across the UK Overseas Territories

A Blue Belt Programme Frontiers in  
Marine Science Research Topic

**Editors:** Dr Paul Whomersley (Centre for Environment, Fisheries and Aquaculture Science), Dr James Bell, (Cefas), Joanna Stockill (Marine Management Organisation), Dr Martin Collins (British Antarctic Survey), Dr Sam Weber (Exeter University), Dr David Feary (MRAG), Elizabeth Clingham (St Helena Government)

 UK Government

# Creating an evidence base for policy makers

Around the world, our oceans are experiencing unprecedented rates of change caused by human activities. The structure and function of marine ecosystems are fundamentally changing due to habitat degradation, biodiversity decline and global climate change.

To sustainably manage and protect our oceans into the future, it is crucial that we understand the structure, function and resilience of marine ecosystems through the creation of robust evidence bases. Achieving sustainable and effective management requires decision makers to carefully consider the evidence available, along side a range of competing concerns – from environmental to socio-economic.

**Working Towards a Blue Future** is a Blue Belt Programme Research Topic (a collection of peer-reviewed scientific papers). It provides new insights and answers key questions which support the UK Overseas Territories (UKOTs) to protect and enhance their marine environment.



## Bringing together 23 peer reviewed scientific papers

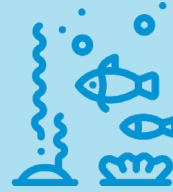
The 23 papers included are highly multidisciplinary, and focus broadly on six key themes:



Ecology and status of key fisheries species



The impact of climate change



Integrated and sustainable marine management



Investigating vulnerable marine ecosystems



Marine surveillance and enforcement



Marine pollution

The work demonstrates the importance of scientific evidence collection, and shows how it has been utilised to inform current management decisions and strategy development.

## A global research base

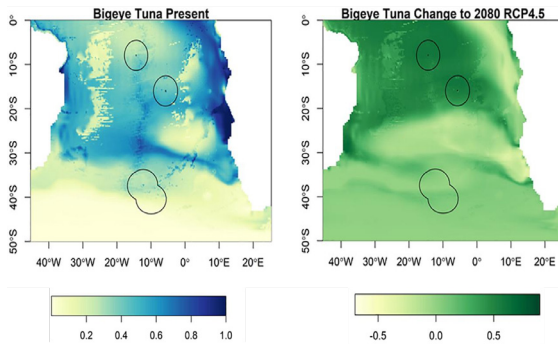
The geographic scope included within the Research Topic highlights the amount of work being undertaken in partnership with many UKOTs, as they seek to protect and sustainably manage their marine estates.

Geographic spread of articles within *Working Towards a Blue Future* →



## Modelling climate change impacts on fisheries

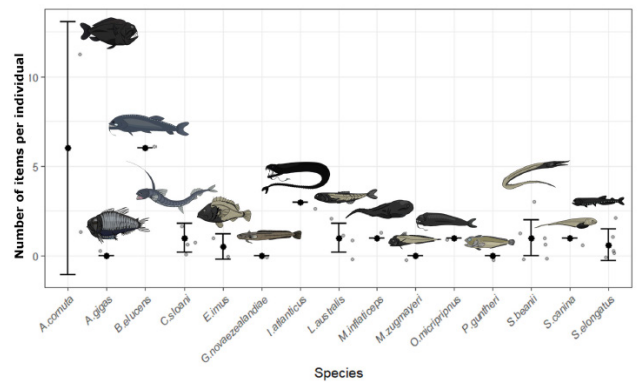
The distribution of commercially important fish species may be effected as a result of climate change. Projection models were used to assess potential impacts on fish stocks around Ascension Island, St Helena and Tristan da Cunha. This provides important information on how climate change may affect the livelihoods of small island communities.



Modelled changes in habitat suitability for bigeye tuna; yellow areas are the most suitable, and the dark blue the least suitable

## Informing effective management

Effective marine management requires an integrated and adaptive approach across different sectors. These approaches are informed using scientific data, such as microplastic assessments or risk evaluations of different human activities. Case studies from two Overseas Territories have been developed to share learnings.



The number of plastic fibres ingested by four distinct groups of species separated by their feeding

# The research in action

## Ensuring marine protection

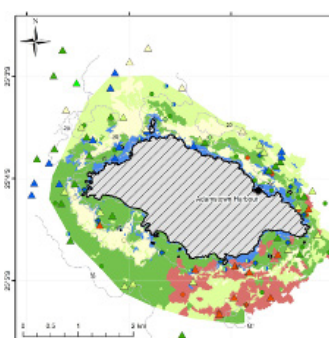
The effectiveness of an MPA depends on whether marine users follow management measures. Evidence shows that stakeholder engagement and outreach programmes reduces non-compliance. Research also shows that creating a sense of responsibility and ownership within communities helps to ensure MPAs are respected. This also reduces the need for costly enforcement measures (e.g. vessel patrols).



Fisheries observer monitoring fishing vessel activity within the Ascension Island Exclusive Economic Zone

## Investigating vulnerable marine ecosystems

To protect vulnerable marine species, we need to understand the habitats they rely on. Research was carried out to map marine habitats around Pitcairn Island. The findings informed a range of MPA management measures to conserve the key and vulnerable habitats.



Seabed habitat map around Pitcairn Island, pink colour indicates high densities of coral



# Working Towards a Blue Future

These papers represent the scientific outcomes of policy-driven, applied research. They fill critical knowledge and evidence gaps in the marine decision-making process. The findings have already helped influence major policy decisions within the UKOTs, including:

- the designation of large MPAs,
- the safeguarding of fisheries resources,
- the protection of vulnerable ecosystems,
- and the sustainable use of the marine environment.

The articles highlight many of the challenges that have been overcome while working in remote locations with varying levels of infrastructure and governance.

They demonstrate the importance of communication and what can be achieved through partnership working between government agencies, non-governmental organisations, academic partners, and local stakeholders.

**Find all *Working Towards a Blue Future* research papers here >>**

**For more information about the Blue Belt Programme:**

**Web:** [www.gov.uk/government/publications/the-blue-belt-programme](http://www.gov.uk/government/publications/the-blue-belt-programme)  
**Email:** [Bluebelt@cefas.co.uk](mailto:Bluebelt@cefas.co.uk)  
**Twitter:** [@UKGovBlueBelt](https://twitter.com/UKGovBlueBelt)