

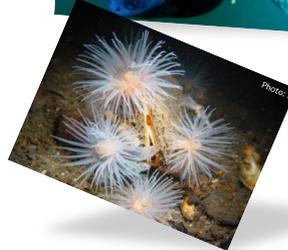
Introduction

The benefits of Marine Protected Areas (MPAs) have been greatly discussed.

MPAs could also be very important for increasing resilience in the context of climate change; healthy oceans being more able to cope and adapt to changing conditions.

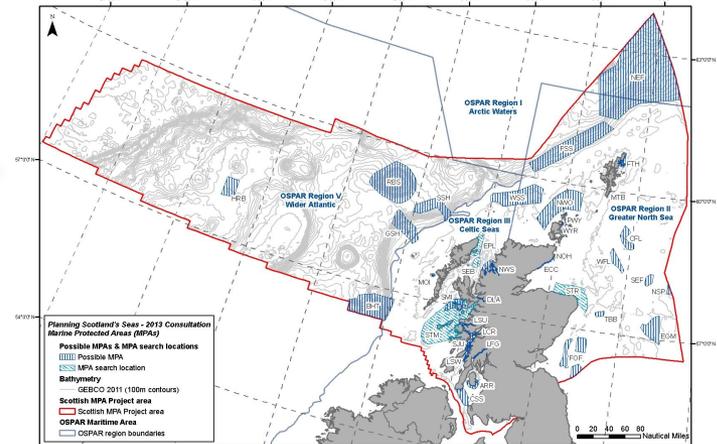
But are we designing, managing and monitoring MPAs with climate change resilience in mind?

What can Scotland learn from international examples?



Scotland's MPA Network

Figure 1: Possible Nature Conservation MPAs and search locations in Scotland's seas



5 stage process
for MPA selection

Draft MPA Network handed
to Scottish Ministers

Public
Consultation

Well Managed
Network

2011

2012

2013

2016

Methods

Using Qualitative Research Methods to explore Climate Change Resilience in MPA Design, Implementation, Management and Monitoring.

Semi structured interviews conducted with knowledgeable individuals in 4 international case study locations and current policy, legislative and informational documentation collected.

©Nvivo Software used to sort and code each interview and collected case study data.

Data organised, summarised and analysed using matrices and diagramming techniques for in-case study and inter-case study comparisons.

Overview

Vancouver is in the beginning stages of designing an MPA network, and progress is slow.

California is a world leader in considering climate change in the management of an MPA network.

The Great Barrier Reef has witnessed strong impacts of climate change.

New Zealand has a long history of MPA implementation but now must adapt to current and future conditions.



Preliminary Results

A total of 20 interviews in 4 case study locations

Key themes and common ideas

MPAs can help reduce the loss of key species and habitats in the face of climate change.

Good network design is essential and should be based on sound ecological principles.

Monitoring changes has a key role in an adaptive network.

Policy processes can be long and it can be difficult to adapt the process in light of changing environmental needs.

There is a need for clear goals and objectives.

Climate change is often considered after the design process.

Implications for Scotland

Scotland has followed clear principles for an ecologically coherent network.

Scotland is protecting habitats important for Carbon sequestration: Kelp forests, seagrass beds and saltmarshes.

Scotland needs clear objectives and goals for each MPA and the MPA network as a whole.

A clear monitoring framework using climate change indicators is required.

Impacts outside of MPA boundaries need to be considered within management and monitoring.

Scotland must ensure the management of the network is adaptive to address emerging pressures.