



# Mingulay Reef Complex

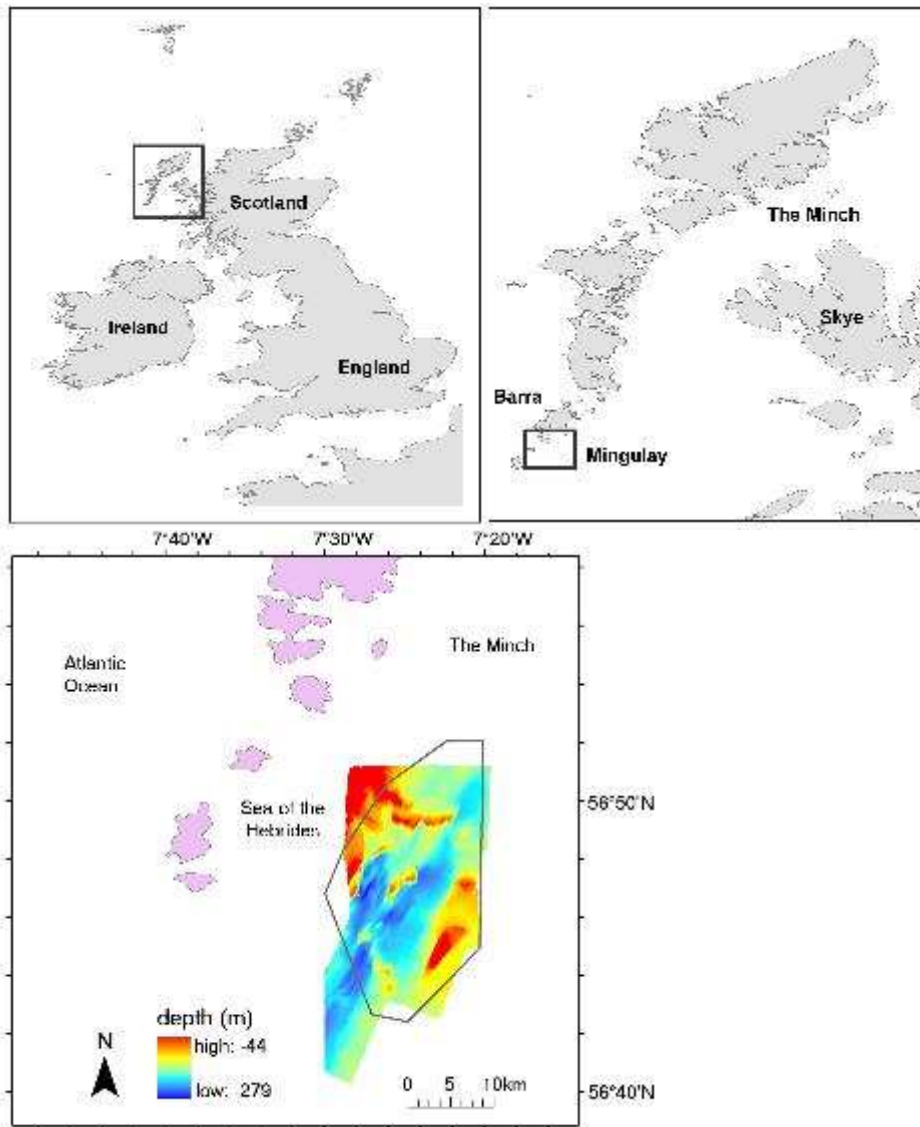
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Collaborations with Heriot-Watt University, NIOZ, BGS/NERC, MSS

# Multidisciplinary scientific campaign history



Rare inshore occurrence of OSPAR-listed CWC reefs (*Lophelia pertusa*)

Since 2003:

Mapping, biodiversity, hydrography, geology, climate change, fish habitat use, trophic dynamics, coral genetics, reproduction, ecophysiology, social psychology of MPAs

Overlap with coastal fisheries, some local interest in sea angling/tourism sector, spill-over effects of the MPA

# Examples of multidisciplinary datasets

Mapping since 2003 (SSS, MBES)

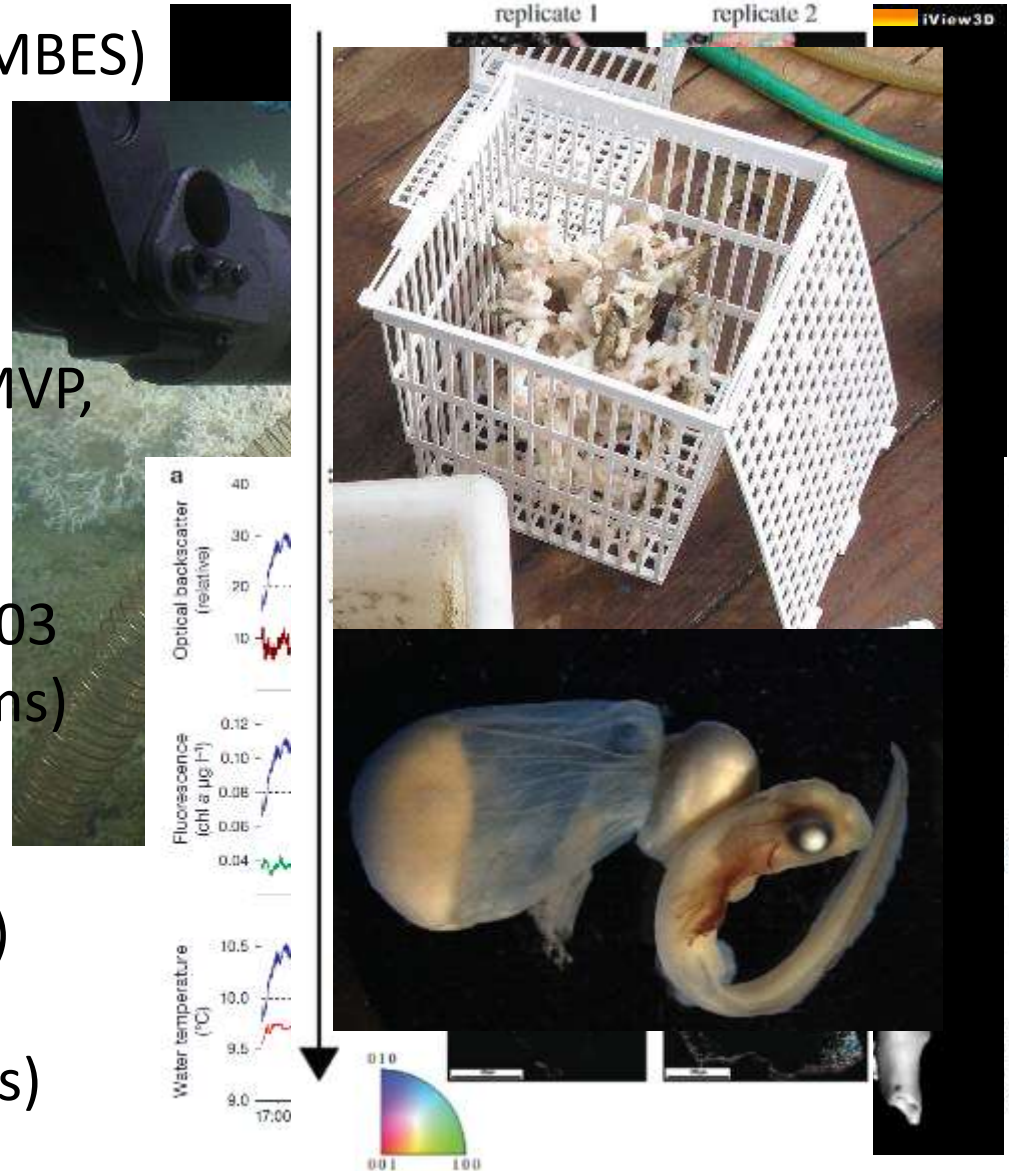
Biodiversity since 2003  
(>100 grab stations), ROV

Hydrography since 2006 (MVP,  
landers, moorings)

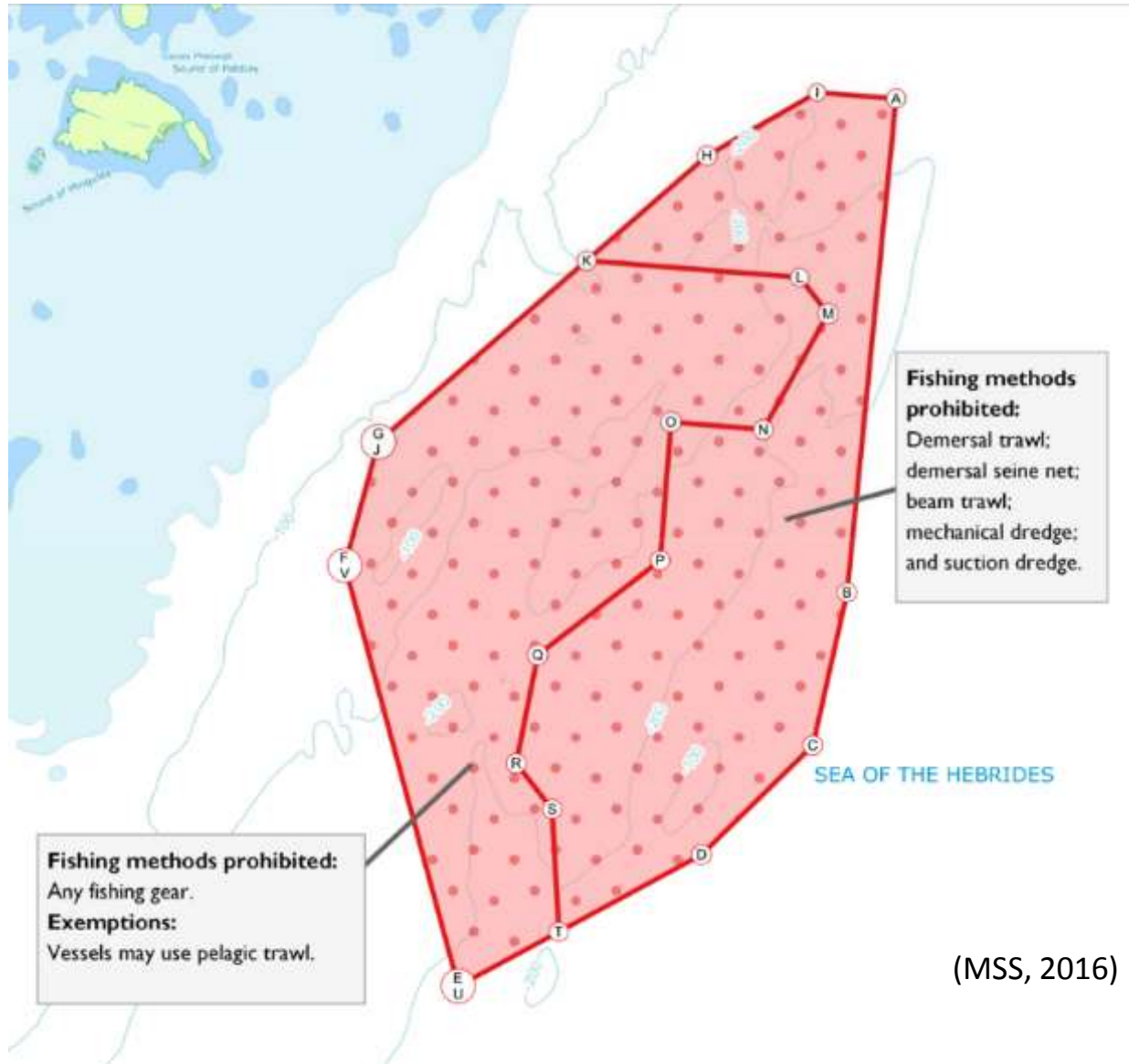
Geological history since 2003  
(vibrocore,  $C^{13}$ , U/Th, forams)

Climate change  
(OA, pH, biomineralisation)

Fish habitat use (ROV, grabs)



# Spatial management and gear conflicts in the East Mingulay Special Area of Conservation MPA

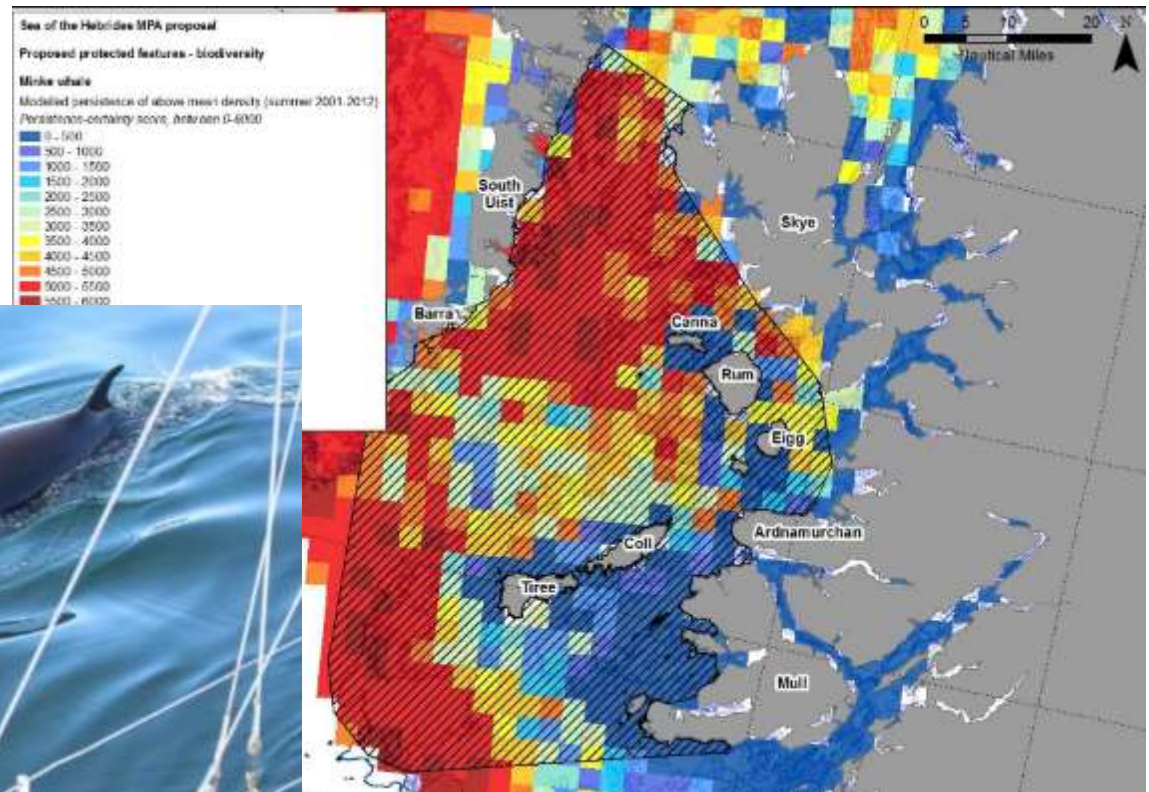




# Possible spatial management in the wider Sea of the Hebrides

In 2014, new proposed MPA for megafaunal hotspots including the Sea of the Hebrides (minke whale, basking shark) and oceanic fronts

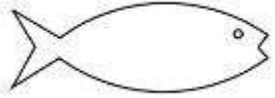
Telemetry, SDMs highlight hotspots e.g. minke whales



Also important for harbour porpoise, which lacks UK protection

# Current and Blue Growth Sectors

## Current and Blue Growth Sectors



Creelers, prawn trawling and mixed demersal whitefish mostly



## Potential sources of case study data:

100 grab samples for biodiversity, genetics, reproduction, trophics (HWU, NIOZ) **WP2,3,4**

ROV footage of coral cover (HWU) **WP3**

Hydrodynamics (HWU, NIOZ) **WP1,2**

Fish distribution in and around the MRC (HWU, MSS) **WP3,5**

VMS coarse level data **WP6**