

SITE SUMMARY DOCUMENT

Outer Belfast Lough Proposed Marine Conservation Zone (pMCZ)

Ocean quahog (Arctica islandica)



Outer Belfast Lough

Proposed MCZ

Outer Belfast Lough proposed MCZ (pMCZ), located on the north-eastern coast of Northern Ireland, is an area of high biological importance and sits on the outer edge of Northern Ireland's busiest sea-lough (Figure 1).

Home to a variety of species, the Outer Lough encompasses a wide range of habitats such as subtidal mixed sediments, sediment dominated bays and rocky shores. The Subtidal (sublittoral) sand habitat in the pMCZ provides an ideal substrate for burrowing megafauna.

The pMCZ includes a well established population of the long-lived Ocean quahog (*Arctica islandica*) that lives buried in the sediment. Although distributed throughout Northern Ireland, it is thought that the species is well preserved in Outer Belfast Lough due to continuous recruitment and high population numbers (Figure 2 and 3).



Figure 1 Location of Outer Belfast Lough pMCZ

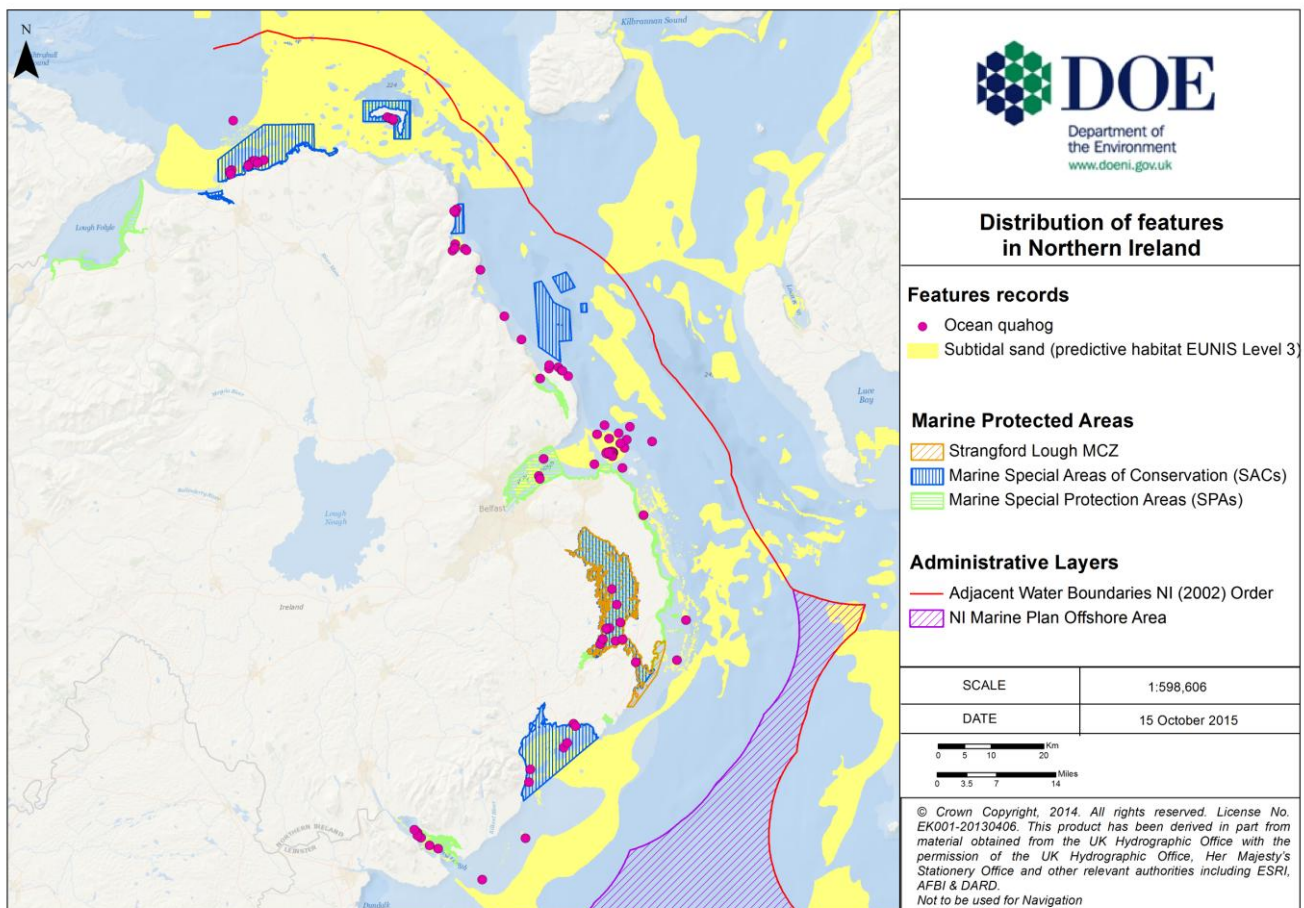


Figure 2 Distribution of Ocean quahog and Subtidal (sublittoral) sand in Northern Ireland waters

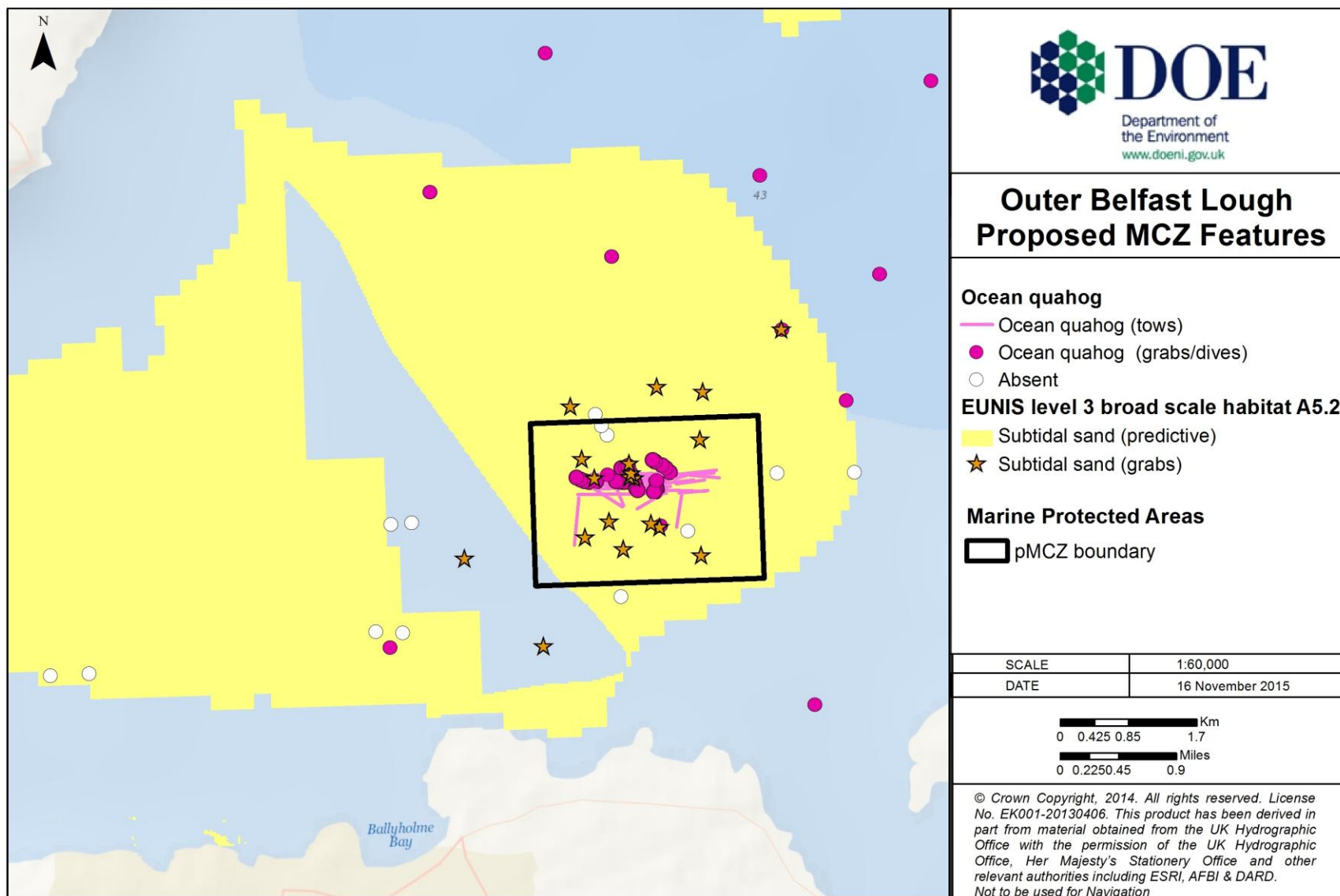


Figure 3 Location of the proposed boundary of the Outer Belfast Lough pMCZ

Location (Centroid): 54° 42.349' N - 5° 35.686' W

Area: 5.760km²



Left, Ocean quahog (*Arctica islandica*) siphons & right, King scallop (*Pecten maximus*) on Subtidal (sublittoral) sand

Proposed MCZ Features

Species:

- Ocean quahog (*Arctica islandica*)

Habitats:

- Subtidal (sublittoral) sand (Biotope: SS.SSa)

The Ocean quahog is a large suspension feeding bivalve mollusc that can reach over 400 years in age. However, in the area off Belfast Lough, the oldest recorded Ocean quahog was 220 years old. By remaining buried in the sediment this species can survive long periods of time to escape predators.

The Ocean quahog is an important food source for several species of fish, including cod. It is commercially fished in other countries and may be considered as a potential aquaculture species. It is also of academic interest as a marine palaeoclimate archive and a model for age research.

The Ocean quahog population in Belfast Lough appears to be restricted to a small area at the mouth of the Lough with recorded densities of 4.5 individuals/m². This species is known to occur in a range of sediments from coarse clean sand to muddy sand, over a wide depth range from 4m to 400m+ but within the pMCZ predominately occurs on sublittoral firm sediments at 20-25m.

This area is also recommended for the protection of the pMCZ feature Subtidal (sublittoral) sand. This heterogeneous habitat incorporates a range of sediments including mud, gravel and sands. The Masked crab (*Corystes cassivelaunus*) is also present in the pMCZ and is representative of this seabed type and is typical of wave exposed areas in deep water.

Ocean quahog is currently on the following conservation lists:

- Nationally Important Marine Feature (NIMF).
- OSPAR List of Threatened and/or Declining Species and Habitats (but not Threatened and/or Declining in Region III).

Records for the Outer Belfast Lough pMCZ features range from 2008 to 2015. The data sources include:

1. Bangor University ocean quahog Survey Belfast Lough (2005, 2008 and 2010)
2. DOE North Channel Disposal Grounds Monitoring Programme (2008-2014)
3. DOE Belfast Grab Survey (under Marine and Coastal Access Act) 2012
4. Agri-food and Biosciences Institute (AFBI) video tows and grab cruise reference CO0715 (2015)
5. DOE Outer Belfast Lough pMCZ support spyball and diving surveys 2015

Management and Site options in the network

Management options include prohibiting the use of mobile fishing gear and no anchoring within the pMCZ to prevent damage to the Ocean quahog population.

Further Information

For further information on the selection of Marine Conservation Zones in the Northern Ireland Inshore Region please contact:

MarineDivision.InfoRequests@doeni.gov.uk

Additional information on the 'Outer Belfast Lough pMCZ' includes:

- Guidance on selection and designation of Marine Conservation Zones (MCZs) in the Northern Ireland Inshore Region
- Justification report for selection of proposed Marine Conservation Zones (pMCZ) features
- Guidance on the development of Conservation Objectives and potential Management Options
- Conservation Objectives and potential Management Options for Outer Belfast Lough proposed Marine Conservation Zone (pMCZ)
- Assessment against the Selection Guidelines for Outer Belfast Lough proposed Marine Conservation Zone (pMCZ)
- Data Confidence Assessment for Outer Belfast Lough proposed Marine Conservation Zone (pMCZ)

All documents are available from our website:

www.doeni.gov.uk



Ocean quahog (*Arctica islandica*)





Department of
the Environment
www.doeni.gov.uk

Department of the Environment
Marine Division
2nd Floor
Klondyke Building
Gasworks Business Park
Belfast BT2 7JA

Telephone: 028 90569262

Email:
MarineDivision.InfoRequests@doeni.gov.uk

Photos represent Priority Marine Features
found throughout the Northern Ireland
Inshore Region

