

# SITE SUMMARY DOCUMENT

## Outer Belfast Lough Marine Conservation Zone (MCZ)

Ocean quahog (*Arctica islandica*) on Subtidal sand



Department of  
**Agriculture, Environment  
and Rural Affairs**

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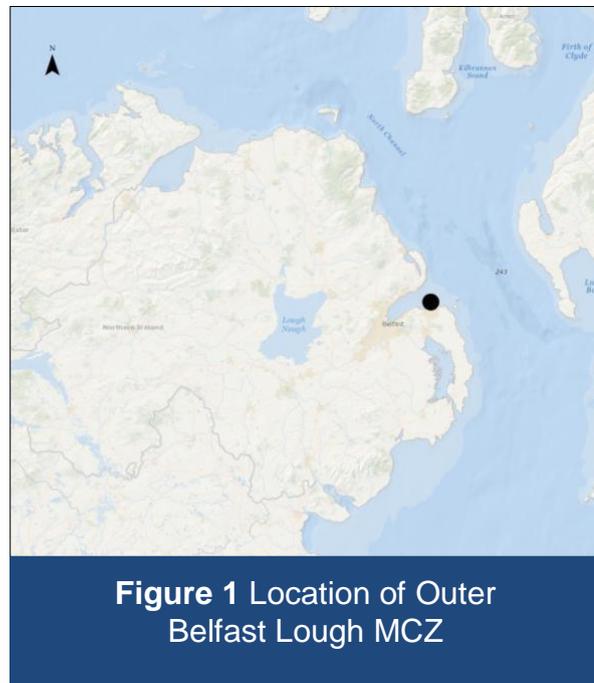
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## Outer Belfast Lough MCZ

Belfast Lough is a large sea inlet situated at the mouths of the Lagan, Farset and Blackstaff Rivers on the eastern coast of Northern Ireland. Outer Belfast Lough MCZ is an exposed area and is located within 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 sand and subtidal mixed sediments, sediment dominated bays and rocky shores. The Subtidal (sublittoral) sand habitat in the MCZ provides an ideal substrate for the long-lived Ocean quahog *Arctica islandica*.

The MCZ has been designated due to the presence of a well established population of Ocean quahog that lives buried in the sediment. Although distributed throughout Northern Ireland, Ocean quahog is present in a dense aggregation in Outer Belfast Lough; it is thought that the species is well conserved here due to continuous recruitment and high population numbers (Figures 2 and 3).



**Figure 1** Location of Outer Belfast Lough MCZ

The Ocean quahog is a large suspension feeding bivalve mollusc that can reach over 400 years in age. The oldest recorded Ocean quahog from Belfast Lough was approximately 220 years old. This species can survive for long periods of time buried in the sediment, enabling it to avoid predation.

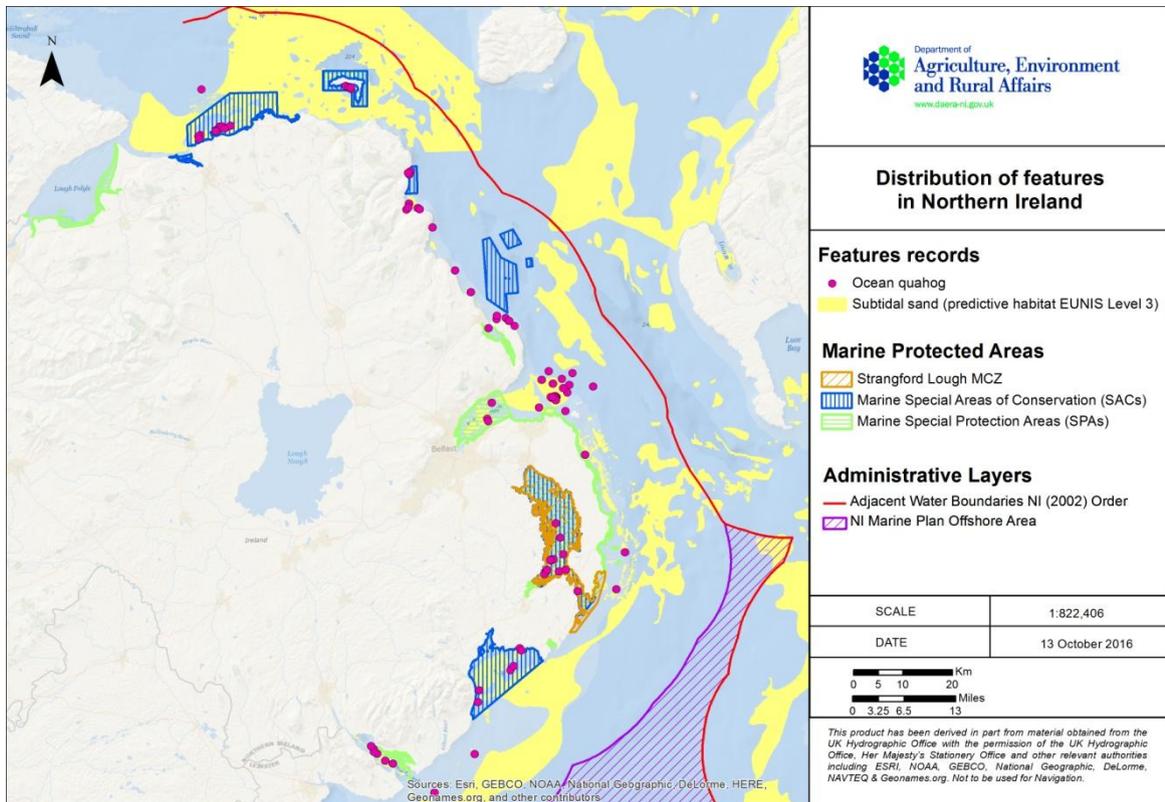
The Ocean quahog is an important food source for several species of fish, including cod. In other countries it is commercially fished and is also of academic interest as a marine palaeoclimate archive and a model for age research.

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/m<sup>2</sup>. This species is known to inhabit a range of sediments from coarse sand to muddy sand, over a wide depth range from 4m to 400m+. However, within the MCZ it predominately occurs on sublittoral firm sediments at 20-25m.

This area is also designated for the protection of the MCZ feature Subtidal (sublittoral) sand. This heterogeneous habitat incorporates occasional small patches of gravelly muddy sand. The Masked crab (*Corystes cassivelaunus*), King scallop (*Pecten maximus*) and Sand burrowing brittlestar (*Amphiura brachiata*) have been recorded within the MCZ; these are representative species associated with the seabed type.

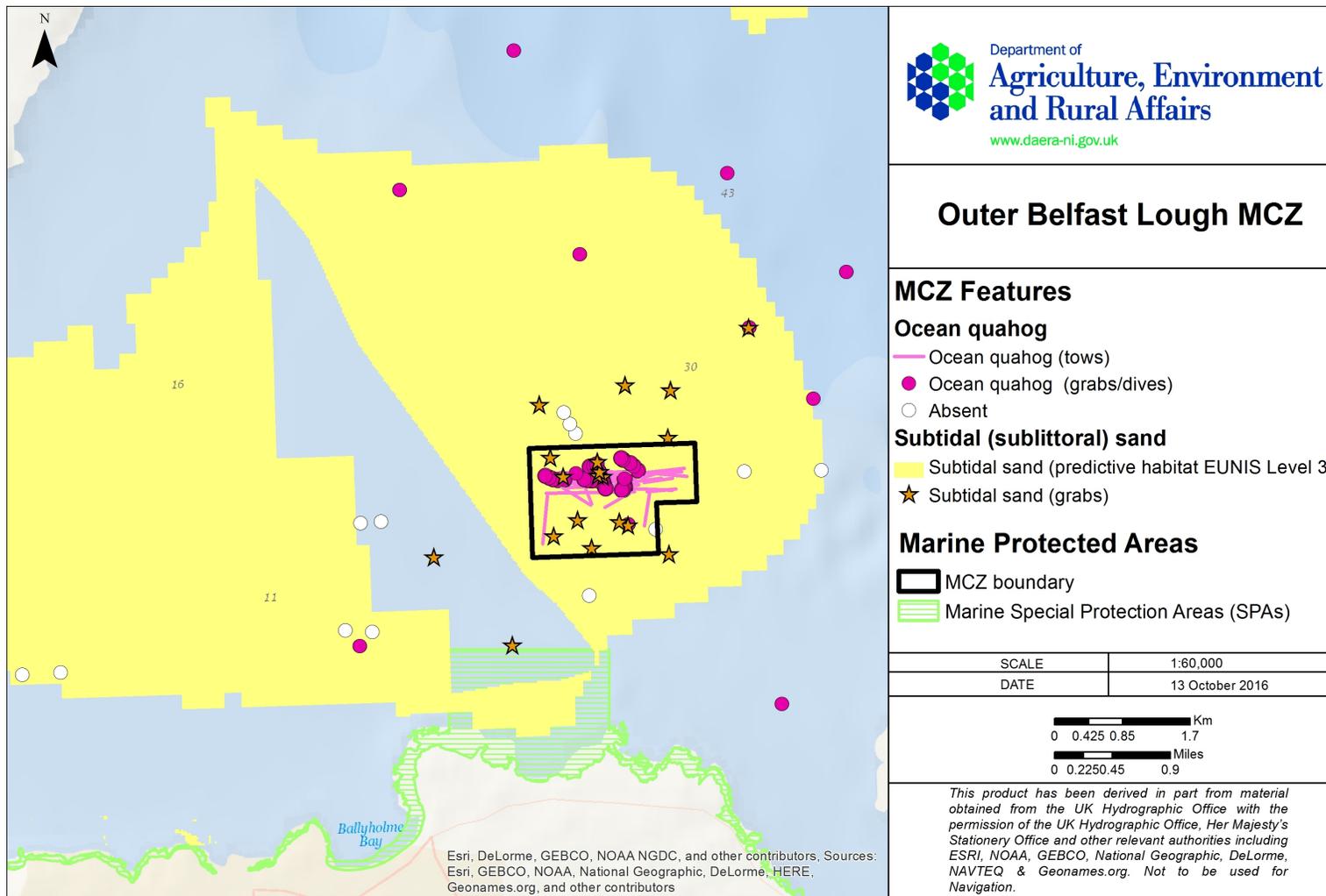
Ocean quahog (*Arctica islandica*) buried in Subtidal (sublittoral) sand





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

The boundary of Outer Belfast Lough MCZ (Figure 3) was drawn around the extent of Ocean quahog records (main feature) and includes a buffer equivalent to four times the depth (~25x4=100m) in accordance with Joint Nature Conservation Committee (JNCC) guidance. This enables the MCZ to conserve Ocean quahog while representing and maintaining the integrity of all features present.



**Figure 3** Location of the boundary and features in Outer Belfast Lough MCZ

**Location (Centroid): 54° 42.368' N 5° 35.795' W**

**Area: 2.507km<sup>2</sup>**



Left, Masked crab (*Corystes cassivelaunus*); Right, King scallop (*Pecten maximus*) on Subtidal (sublittoral) sand

### MCZ Features

Species:

- Ocean quahog (*Arctica islandica*)

Habitat:

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

### Management options in the network

Management options include prohibiting the use of mobile fishing gear and no anchoring within the MCZ to prevent damage to the Ocean quahog population and Subtidal (sublittoral) sand habitat.

Ocean quahog is currently on the following conservation lists:

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

Records for Ocean quahog and Subtidal (sublittoral) sand range from 2005 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 2012 (under Marine and Coastal Access Act 2009)
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

## Further Information

Further information on Outer Belfast Lough MCZ and the MCZ process includes:

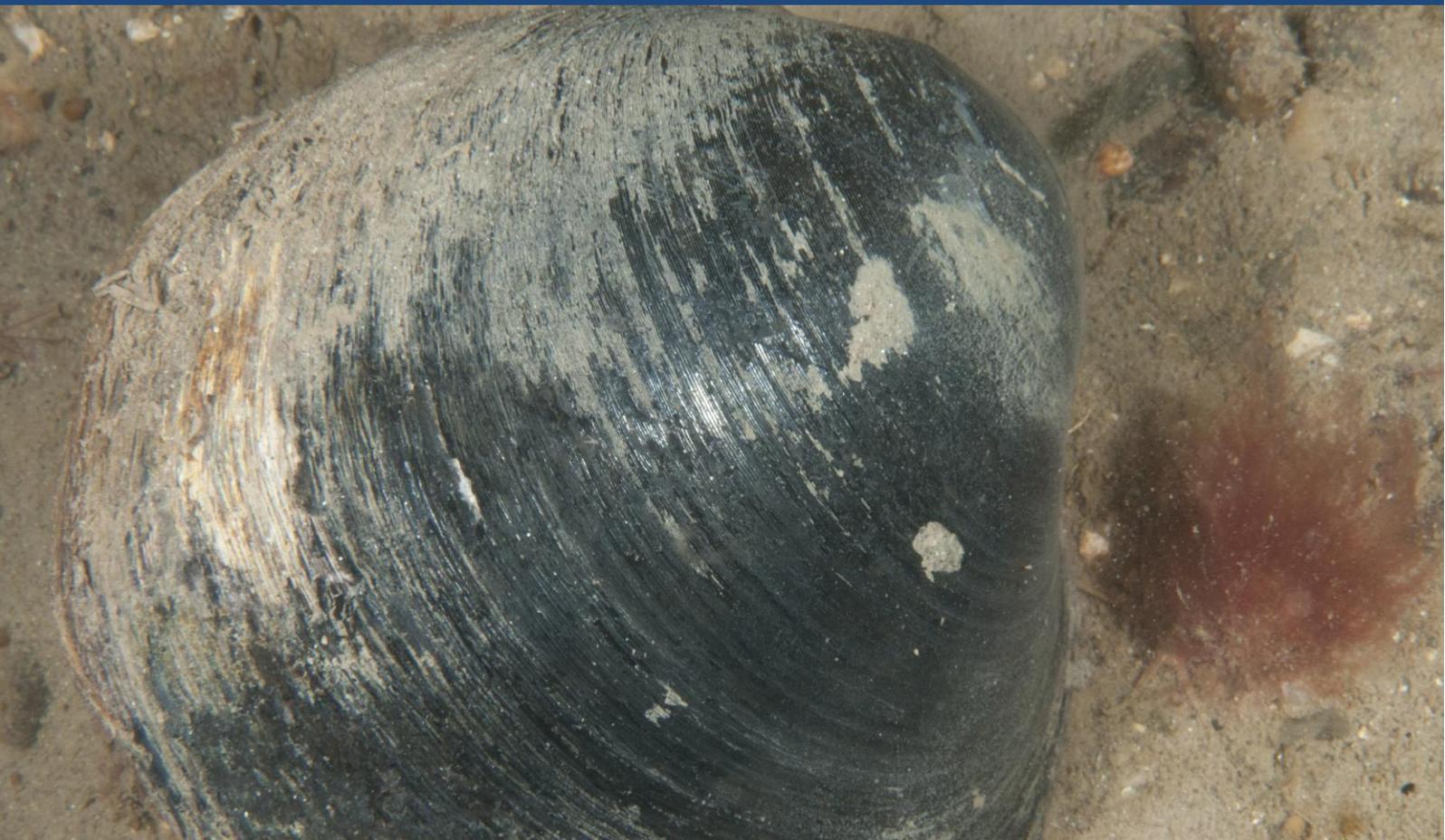
- Guidance on selection and designation of Marine Conservation Zones (MCZs) in the Northern Ireland Inshore Region
- Justification report for selection of proposed Marine Conservation Zones (pMCZ) features
- Guidance on the development of Conservation Objectives and potential Management Options
- Conservation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

All documents are available from our website:

[www.daera-ni.gov.uk/publications](http://www.daera-ni.gov.uk/publications)

[www.daera-ni.gov.uk/articles/marine-protected-areas](http://www.daera-ni.gov.uk/articles/marine-protected-areas)

Ocean quahog (*Arctica islandica*)





## DAERA Marine and Fisheries Division

2<sup>nd</sup> Floor,

Klondyke Building

Cromac Avenue

Malone Lower

Belfast

BT7 2AJ

Telephone: 028 90569262

Email: [Marine.InfoRequests@daera-ni.gov.uk](mailto:Marine.InfoRequests@daera-ni.gov.uk)

Web: [www.daera-ni.gov.uk/topics/marine](http://www.daera-ni.gov.uk/topics/marine)

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

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