Marine and Coastal

Marine habitats occur below Mean Low Water Springs and where there is a saline influence, such as the higher reaches of estuaries. For the purposes of this document, they are considered out to the 12 nautical mile territorial limit. Sands and gravel dominate the sea floor habitats around much of the North-East Scotland because of the strong currents around the coast. Mud dominated habitats occur further out in the Moray Firth (6 -12 nautical miles).

The lower limit of coastal habitats is set at Mean Low Water Springs, but the inland limit is harder to define; usually taken as including habitats which are influenced by the sea, such as through salt spray or occasional sea inundation. This includes sand dunes, shingle banks, maritime cliffs, as well as estuarine mud and rock habitats. Salt marsh is a rare habitat for the region; the estuaries of the Spey and Ythan, as well as Findhorn bay, are the best places to find it.

Importance

Some of the most iconic species of the region are marine species. Bottlenose dolphins from the Moray Firth frequently travel along the Aberdeenshire coastline and further south. They are regularly observed by the mouth of the River Dee at Aberdeen harbour. Seabird colonies occur on much of the areas rocky coast, such as at Troup Head which is well known as a key breeding ground for Gannets and Puffins. The grey seal colony at Forvie is also of local renown. This wildlife is the focus of a developing wildlife tourism industry. The marine environment has also been an important source of food and income in the North East for many centuries. Peterhead is the biggest fishing port in Scotland and Europe, with 44 % of the Scottish total weight landed in 2015 in this district. This was only 31 % by value, reflecting the low proportion of high-value shellfish landed as most of the district's activity is focussed on deep sea fishing away from the coast. Fraserburgh district was third ranked for weight (6.5 % of Scottish total), but as the contribution of shellfish is high, then the value of the fishery was 7 % of the Scottish total. Norway lobster (*Nephrops norvegicus*) is an important species harvested from the muddier habitats in the Moray Firth.

Some important species associated with coastal and marine habitats

Humpback Whale
Bottlenose Dolphin
Harbour Porpoise
Common Seal
Grey Seal
Puffin
Gannet
Eider
Common Scoter
Red-throated Diver
Arctic Tern
Ringed Plover
Curlew
Oyster Plant
Kidney Vetch
Bordered-brown Lacewing
Narrow-mouthed Whorl Snail
Northern Brown Argus
Grayling
Small Blue

North-East Scotland has extensive examples of natural coastal habitats, with large, spectacular dune systems at Culbin, Spey Bay, around Fraserburgh, from Forvie down to Aberdeen and St Cyrus. They are important landforms and provide habitat for many species, providing nesting sites for waders, such as Ringed plover, and ducks, such as Eider. Characteristic plant species include Oyster Plant on shingle and Kidney vetch on sand dunes.

Between the dune systems are many miles of rocky coast, often home to breeding seabirds. These rocky shores are often topped by maritime grasslands that provide habitat for local rarities such as the rare Northern Brown Argus butterfly and the Narrow-mouthed Whorl Snail.

The geology and geomorphology of the coast is varied. Where rock is visible it ranges from the Pre-Cambrian Dalradian, visible in the cliffs south of Aberdeen, to Old Red Sandstone, best seen at

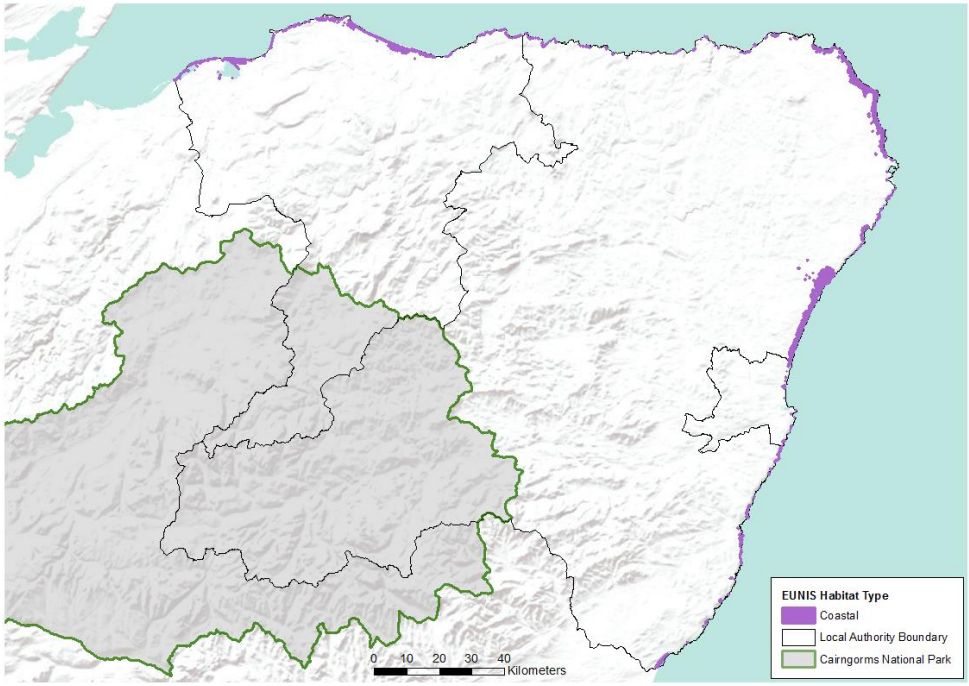
Pennan, to the granite cliffs around Peterhead, most spectacularly seen at the Bullers of Buchan. The Highland Boundary Fault emerges at the coast at Garron Point near Stonehaven. However, on much of the coast the geology is buried by extensive sand dunes and shingle banks.

Beyond their value for biodiversity, coastal habitats are important for recreation, providing largely natural and scenic places for people to visit and enjoy nature. Some are actively managed for the public such as the National Nature Reserves at Forvie and St Cyrus and the RSPB reserves at Loch of Strathbeg, Fowlsheugh and Troup Head.

The coastal environment also has an important role to play in providing a natural coastal defence which may be increasingly important with climate change. In some areas there are man-made defences to protect the coast from erosion.

Influential Factors

- Marine habitats are important for the fish and shell fish industries, with trawling affecting sea floor habitats.
- Offshore wind energy has a high potential in the region, with the Aberdeen Offshore Wind Farm exporting power for the first time in July 2018. Two demonstrator floating wind farms have been developed off the coast at Peterhead and Kincardine.
- Marine pollution, including underwater noise pollution, can impact marine and coastal habitats and species. Litter is evident on many beaches in the region.
- Climate change and its interaction with normal coastal processes will lead to sea level rise, exacerbating erosion of coastal habitats.
- Interference with natural coastal processes and a lack of management, particularly grazing, has led to invasion of some sand dunes by trees, scrub and rank grasses at the expense of many lower growing herbs.
- Recreational impacts include infrastructure (e.g. golf courses), the erosion of paths, the disturbance of breeding birds and seals by land-based recreation and the disturbance of marine mammals and seabirds by boats.



Status and Management

Assessing the status of marine habitats is problematic. However, the recent use of video cameras surveys has allowed for the assessment of a number of marine features. For instance, it has shown the Norway lobster population to be able to withstand the current levels of fishing in the Moray Firth.

None of the current Marine Protected Areas (MPA) falls within the region. However, there is a proposed MPA for the Buchan coast (Southern Trench). A wide range of SPAs, though, have been designated for birds around the coast, e.g. at Troup, Pennan and Lion's Heads, Buchan Ness to Collieston Coast and the Ythan estuary. Many of these are in unfavourable condition because of the widespread decline in seabird numbers for species such as Kittiwake and Fulmar. These population declines appear to be a result of declining food availability rather than local factors affecting breeding sites. Climate change is likely to be an important influence exacerbating the declining food supply.

A few wind turbines are already in place in the Moray Firth and plans are in place for further development. Their actual area covered will be minimal, but construction will increase noise pollution with its potential to particularly affect marine mammals, as may the risk of underwater collisions. Also, it will enhance collision risks for seabirds, but the significance of this for long-term population change is unclear. Surveys to assess the impact of the Aberdeen Offshore Wind Farm are in place.

North-East Scotland's dunes cover c.7000 ha and make up a sizeable proportion of Scotland's (22 %) and GB's (14 %) total dune area. This includes large areas of dune heath and dune slack of international importance. Culbin Sands (3,100 ha) is one of the largest dune sites in Britain and the Sands of Forvie (763 ha) is another significant dune system, but dune systems are distributed widely along the coast. In contrast, the area of shingle habitat is largely restricted to two main sites – Culbin Bar and Spey Bay, but together they

contain roughly 20 % of the Scottish area of this habitat. Culbin Bar supports the best and richest examples of northern heath on shingle and, being relatively isolated, can be seen as a system with natural structure and function. It also shelters some sea-grass beds – a rare habitat for the North East Scotland.

Many of the larger areas of coast have statutory nature protection as SSSIs, SPAs, SACs and some are National Nature Reserves or reserves managed by NGOs. This is to reflect their importance for habitats, birds, invertebrates and geology. Most of the habitat features in the statutory sites have been assessed as Favourable, in particular those on cliffs. However, there are some exceptions, particularly at Sands of Forvie and along the Moray coast, including Culbin. Invasive species and recreation/disturbance are cited as the main pressures. Recent survey work has shown that a number of sites, especially around Spey Bay, have seen substantial invasion by trees and scrub, and elsewhere ranker vegetation has replaced species-rich dune grassland. This is a result of a lack of grazing of dune vegetation and, to a certain extent, the negative effects of nitrogen deposition.

Opportunities for Marine and Coastal Habitats

- Ensuring Integrated Coastal Zone Management.
- Using Marine Spatial Planning to identify suitable areas for appropriate development or protection.
- Appropriate placement of renewable energy infrastructure.
- Management of invasive species, trees and shrubs, such as sea buckthorn.
- Restoration of grazing management to dune grasslands.
- Allow opportunity for mobile systems to shift inland.
- Well managed wildlife tourism and access to the coast.

Resources

East Grampian Coastal Partnership: http://egcp.org.uk/
Scotland's Marine Atlas mapping
https://marinescotland.atkinsgeospatial.com/nmpi/
Scottish Sea Fisheries Statistics
http://www.gov.scot/Topics/Statistics/Browse/Agriculture-Fisheries/PubFisheries
The State of the East Grampian Coast, EGCP, 2009
https://www.abdn.ac.uk/geosciences/documents/The_state_of_the_east_grampain_coast.pdf

For further information about how protection and enhancement of marine and coastal habitats are supported across North East Scotland, see Local Development Plans for Aberdeen City, Aberdeenshire and Moray Council - see Introduction for further details.