

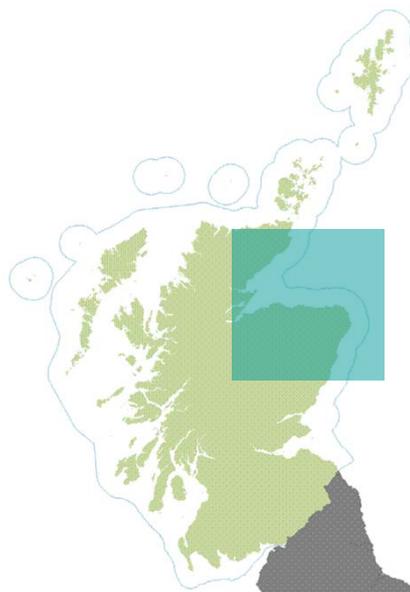
## 4. **NORTH EAST**

The North East Region includes one Plan Options and three Scoping Areas of Search.

The Plan Option is Beatrice and the Scoping Areas of Search are:

- NE1 (Moray Firth);
- NE2 (Moray Firth); and
- NE3 (North East).

This Region represented by two maps: Northeast and Moray Firth, in order to increase visual detail.



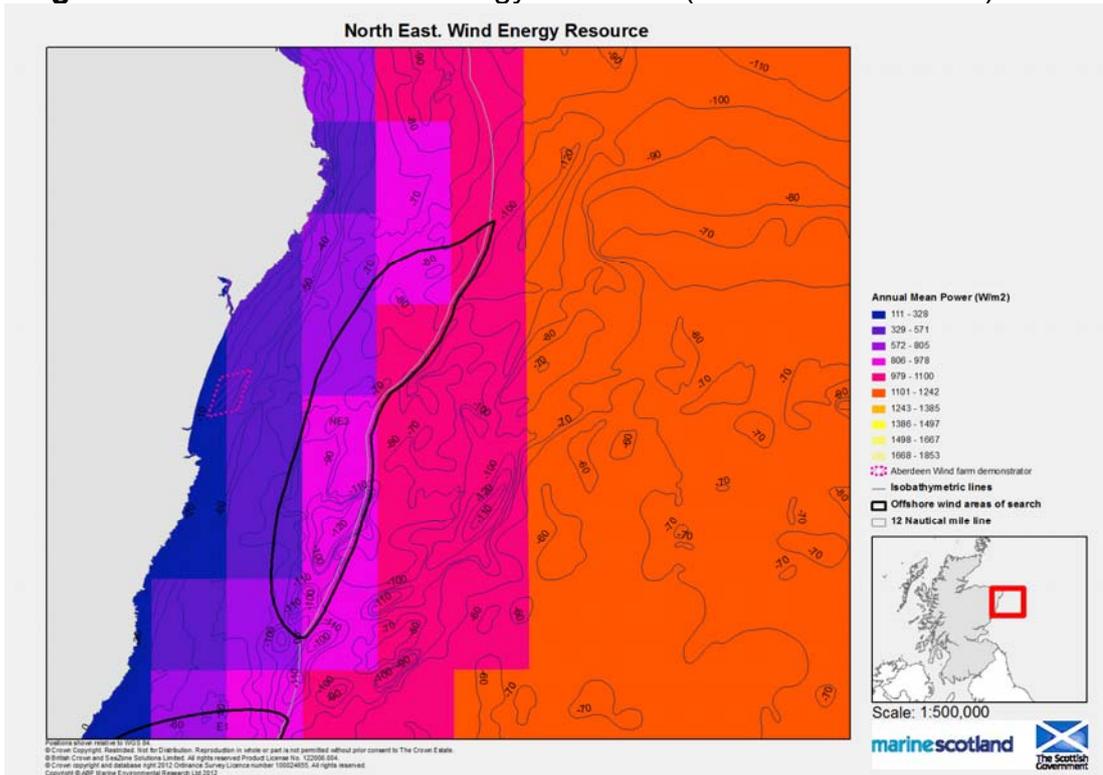
### 4.1 **Resource**

4.1.1 The area of search NE3 located to the East of Aberdeen has a mean annual power density of  $1 \text{ kWm}^{-2}$ . The mean wind speed at this area of search shows a maximum of  $9.8 \text{ ms}^{-1}$  and a minimum of  $7.8 \text{ ms}^{-1}$ . Seasonal mean power densities vary from  $0.5 \text{ kWm}^{-2}$  from  $7.6 \text{ ms}^{-1}$ , mean wind speed in summer to  $1.7 \text{ kWm}^{-2}$  from  $11.9 \text{ ms}^{-1}$  in winter.

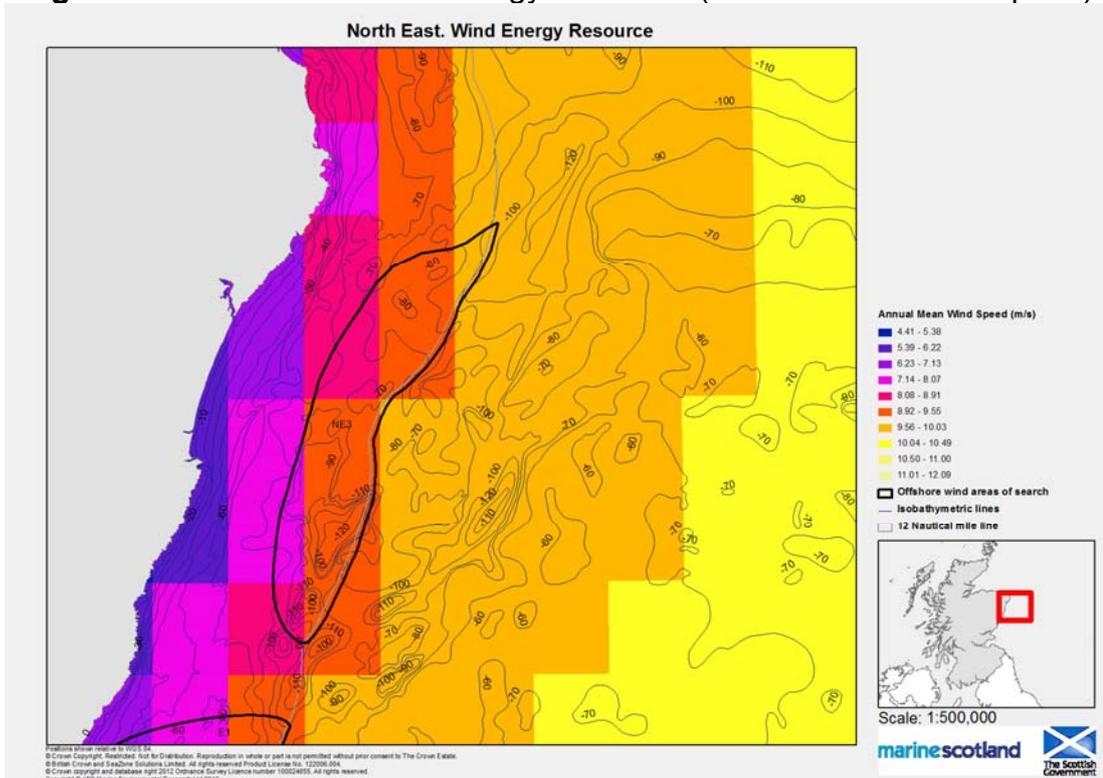
4.1.2 Area of search NE2 located is estimated to have a mean annual power density maximum of  $1 \text{ kWm}^{-2}$  and a minimum of  $0.8 \text{ kWm}^{-2}$ . Wind speed can be expected to reach an annual average of  $9.6 \text{ ms}^{-1}$  within this area of search. Winter wind power exceeds that of summer ( $1.8 \text{ kWm}^{-2}$  from  $12 \text{ ms}^{-1}$  vs  $0.5 \text{ kWm}^{-2}$  from  $7.5 \text{ ms}^{-1}$ )

4.1.3 Within the Moray Firth and specifically within area of search NE1, the wind resource is less than in the more offshore areas of search. In NE1, the mean power density reaches a maximum of  $0.8 \text{ kWm}^{-2}$  and a minimum of  $0.4 \text{ kWm}^{-2}$  close to the shore. Mean annual wind speeds can reach a maximum of  $8 \text{ ms}^{-1}$ , this decreases to around  $6 \text{ ms}^{-1}$  closer to the coast. The summer mean power density is  $0.36 \text{ kWm}^{-2}$  from  $6.8 \text{ ms}^{-1}$  of wind speed compared to that in the winter of  $1.2 \text{ kWm}^{-2}$  from a mean annual wind speed of  $10.46 \text{ ms}^{-1}$ .

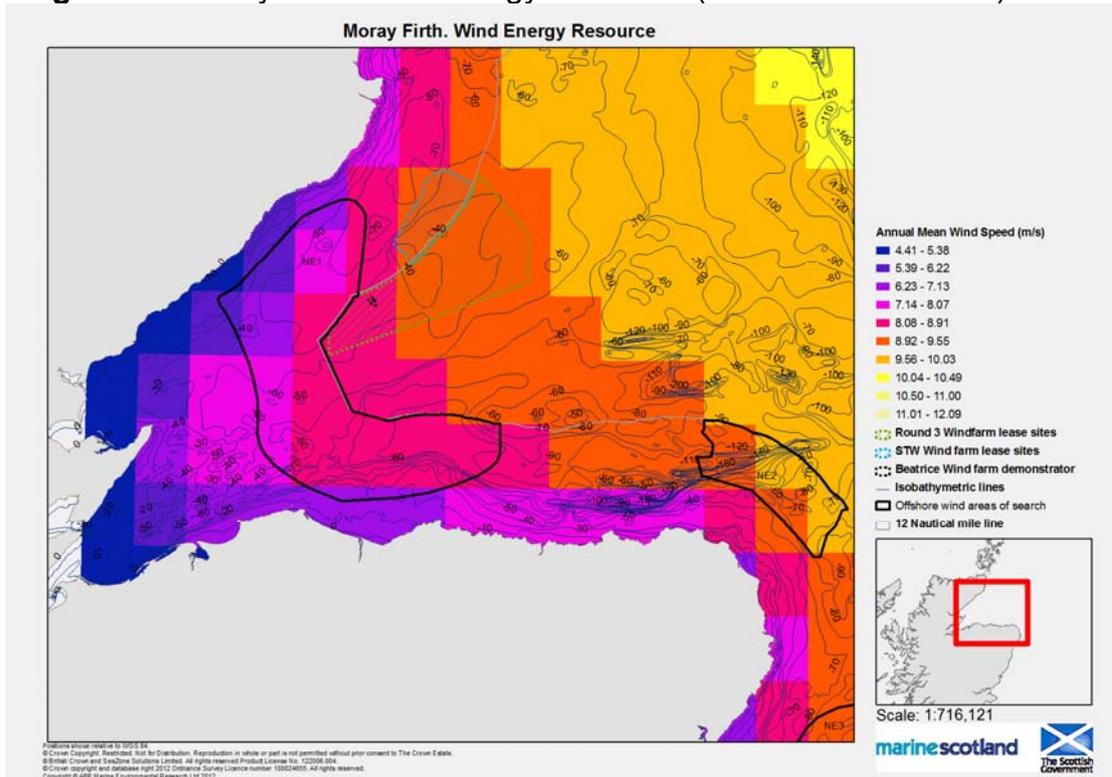
**Figure 4.1 North East Wind Energy Resource (Annual Mean Power)**



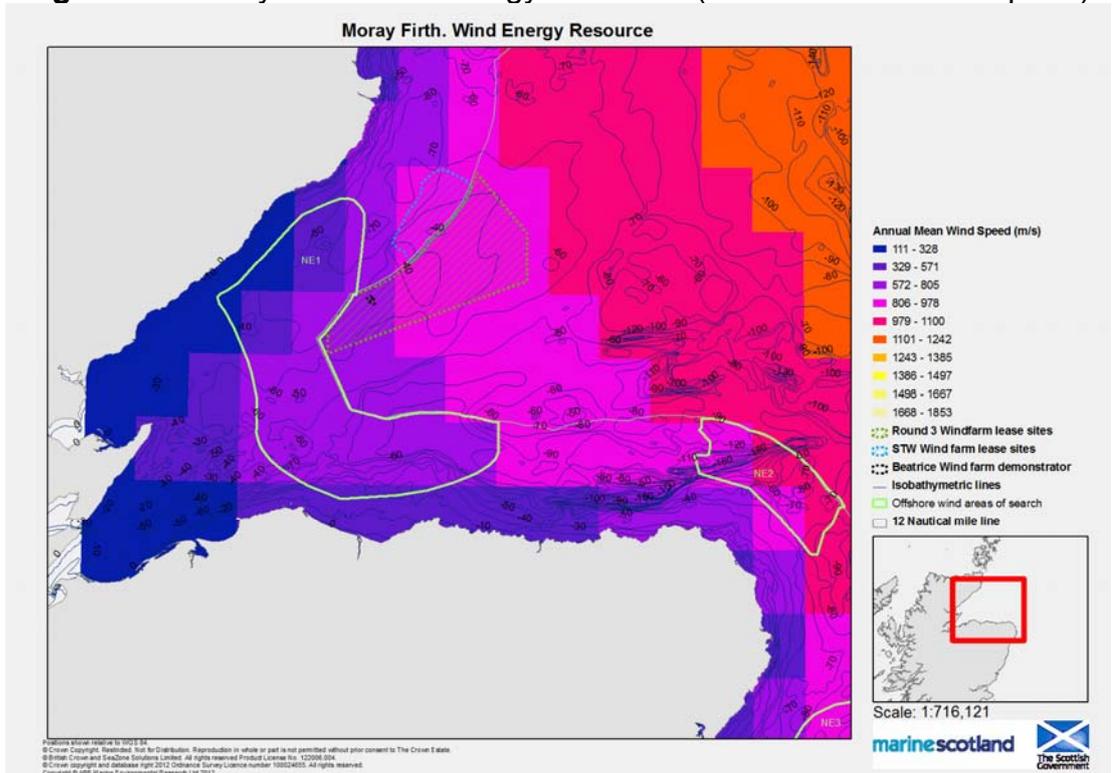
**Figure 4.2 North East Wind Energy Resource (Annual Mean Wind Speed)**



**Figure 4.3 Moray Firth Wind Energy Resource (Annual Mean Power)**



**Figure 4.4 Moray Firth Wind Energy Resource (Annual Mean Wind Speed)**

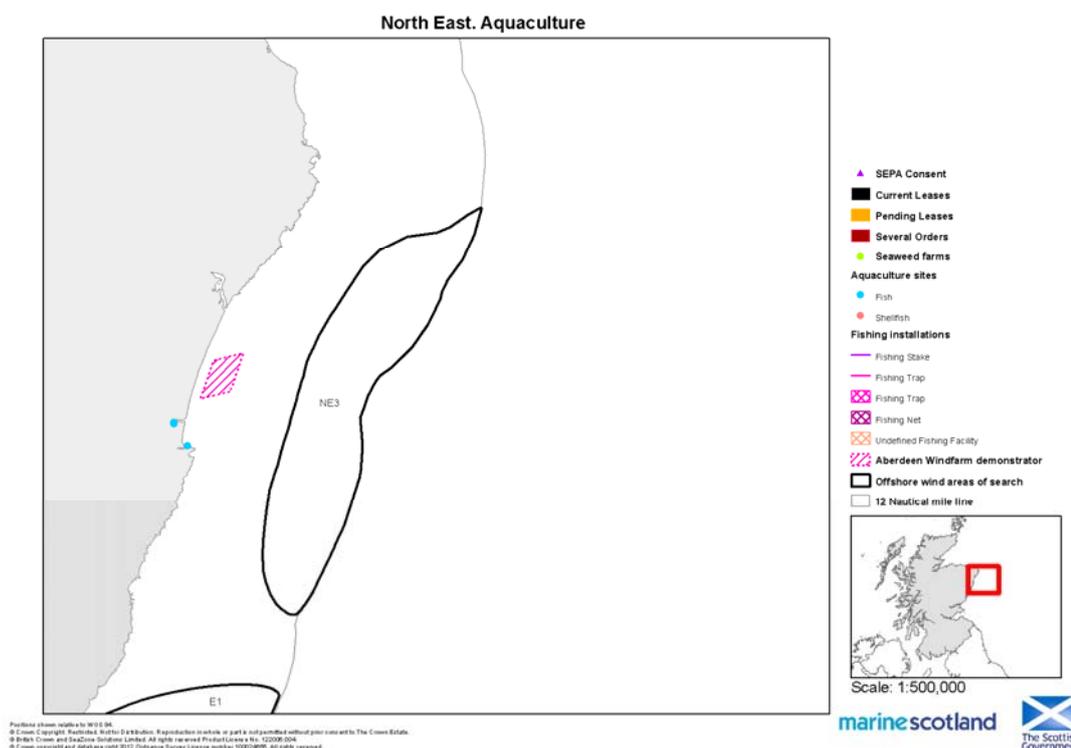


## 4.2 Aquaculture

### East Coast

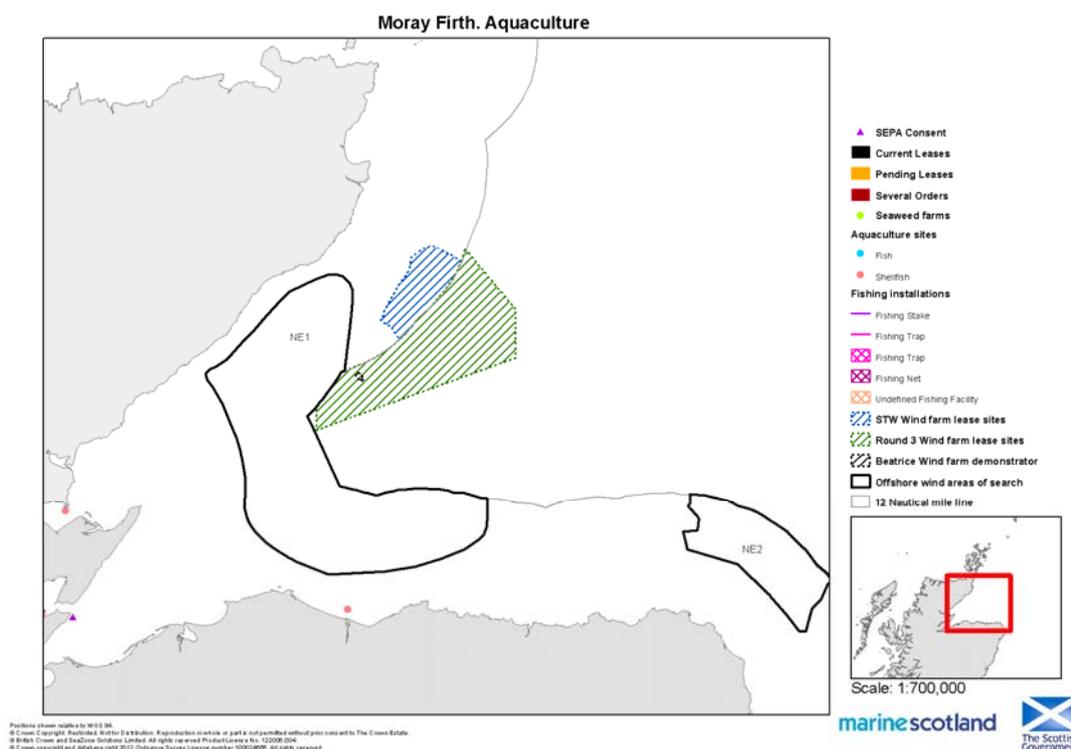
- 4.2.1 There are no aquaculture facilities within the area of potential development or the wider surrounding area. There is a presumption against marine finfish aquaculture development on Scotland’s north and east coasts.

**Figure 4.5** Aquaculture activities in the North East Region



### Moray Firth

- 4.2.2 While there are no finfish or shellfish aquaculture facilities within the area of potential development, however there are five active shellfish sites in the surrounding area. The area forms part of the North West and Highland regions responsible for the production of Atlantic salmon (31%), mussels for the table (10%), mussels for on-growing (27%), Pacific oysters for the table (15%), Pacific oysters for on-growing (97%), queen scallops for the table (7%) and all of the region’s scallops for table and on-growing (100%).

**Figure 4.6** Aquaculture activities in the Moray Firth Region

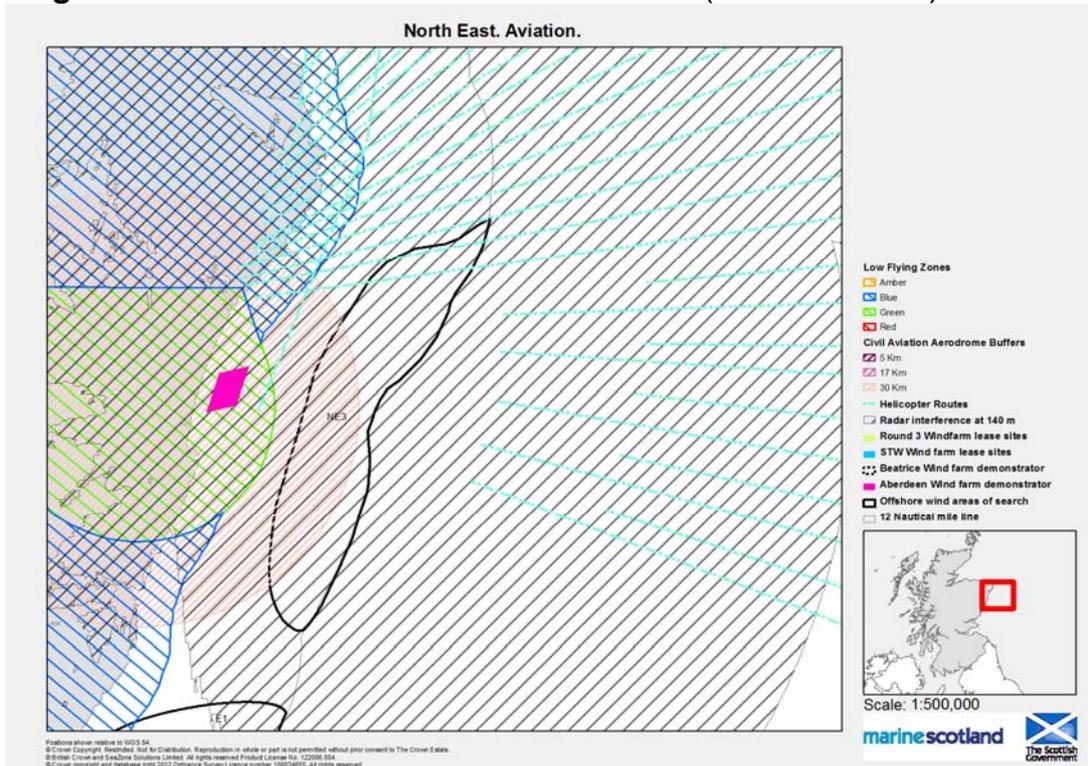
### 4.3 Aviation

- 4.3.1 Airports in this region include the two ‘major’ airports Inverness and Aberdeen and the ‘minor’ airport Wick. Inverness and Aberdeen offer a range of domestic services and international flights to a limited range of European destinations. In terms of passenger throughput, Aberdeen is Scotland’s third largest airport, handling just under three million passengers in 2009 (York Aviation, 2010). Aberdeen Airport also provides links to a range of destinations (e.g. Bergen and Stavanger) owing to the City’s position as a centre for the Oil and Gas industry. The airport is also the world’s busiest commercial heliport, with around 16% of passengers through the airport in 2009 carried on helicopter flights, making up around 37% of air transport movements at the airport (York Aviation, 2010).
- 4.3.2 Wick airport operates scheduled air services three times a day to Aberdeen, and daily to Edinburgh. In addition, the North Sea Helicopter Advisory Route W4D between Aberdeen and Wick, runs directly over the Moray Firth (ERM, 2010).
- 4.3.3 Information on NATS infrastructure (radar) in this region is provided by ERM (2010) and includes Allanshill Primary Radar located near Fraserburgh.
- 4.3.4 Aberdeen airport is a major generator of GVA and supports a significant number of jobs both in Aberdeen City and Shire and across Scotland. In 2009, the airport was estimated to support 2,050 FTE directly on-site, a further 320 FTE through direct off-site effects and a further 1,020 FTE in the City and Shire and 1,500 FTE across Scotland through indirect and induced

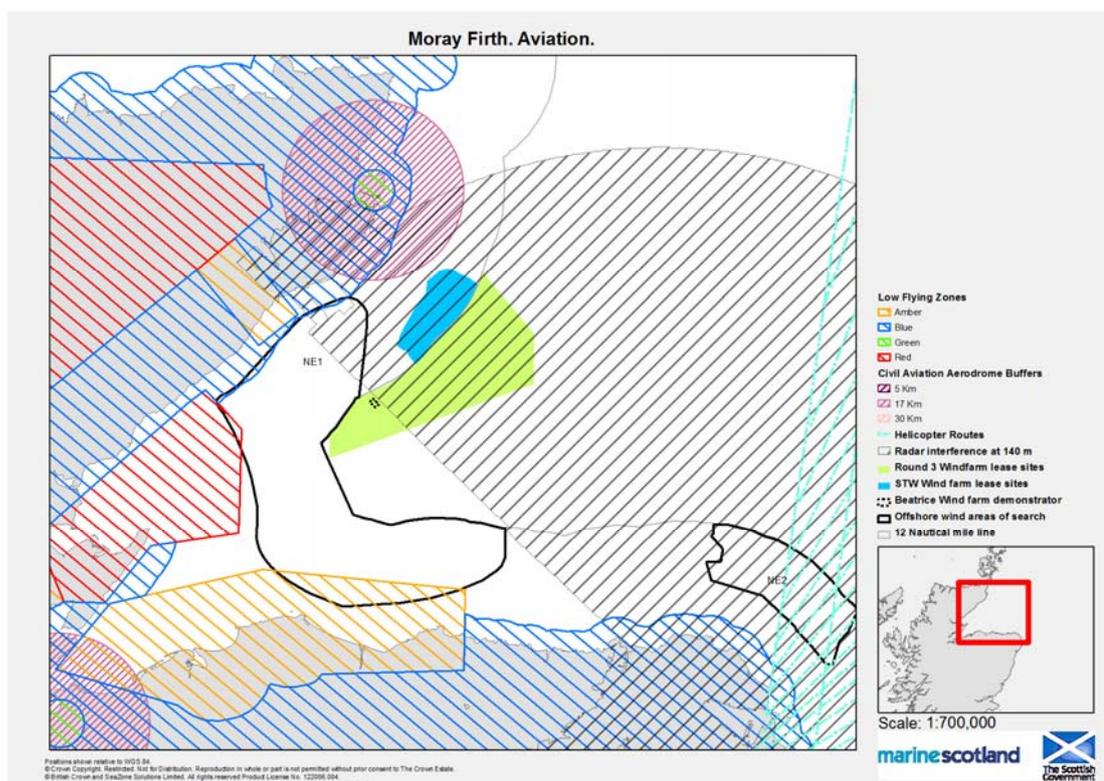
impacts. In total, the airport contributes around £114 million of GVA in Aberdeen City and Shire and £126 million across Scotland (York Aviation, 2010).

4.3.5 Figures 4.7 and 4.8 show the known aviation activities in relation to the North East and Moray Firth Areas of Search.

**Figure 4.7** Aviation activities in the North East (Area of Search)



**Figure 4.8** Aviation activities in the Moray Firth (Area of Search)



#### 4.4 Bathymetry and Seabed

- 4.4.1 The seabed in area of search NE3 is covered by sand, sandy gravel or slightly gravelly sand according to BGS data. This classification is echoed in the European University Information Systems (EUNIS) protected habitats dataset which classifies the site as deep circalittoral sand and coarse sediment. Depths range from 60 to 110 m within this area.
- 4.4.2 Further north at NE2, the sediments are similar to NE3 with varying proportions of gravelly sand predominating on the seabed. The EUNIS dataset classifies the area within NE2 as circalittoral sand and coarse sediment. There is a sharp increase in depth towards the northwest corner of NE2 as it incorporates the Moray Firth trench which runs in a northeasterly direction. Depth in this area of search hence run from 60 m to 200 m at the deepest. It is expected the deeper regions will become potentially available for exploitation once the technology allows it, but current interest is likely to be in the less deep parts of the area.
- 4.4.3 The Moray Firth area of search (NE1) is shallower with a mean depth of 50 m and a range of 30 to 70 m. The sediment encountered at the southern part of the NE1 is muddy sand and consequently the Moray firth hosts a productive nephrops fishery. The rest of NE1 shows mostly sand to gravelly sand. Habitats predicted from the EUNIS database in this area of search are mostly sand with muddy zones in the southern extent.

Figure 4.9 North East Seabed Sediments

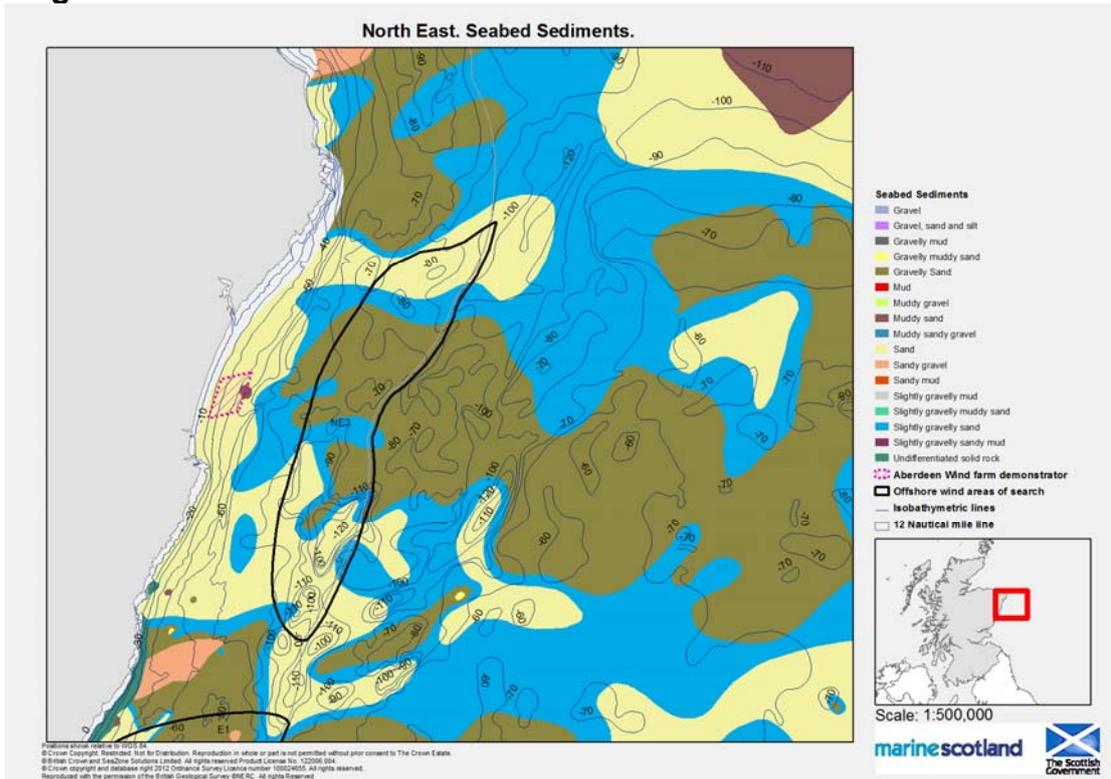


Figure 4.10 North East Seabed Predicted EUNIS Habitats

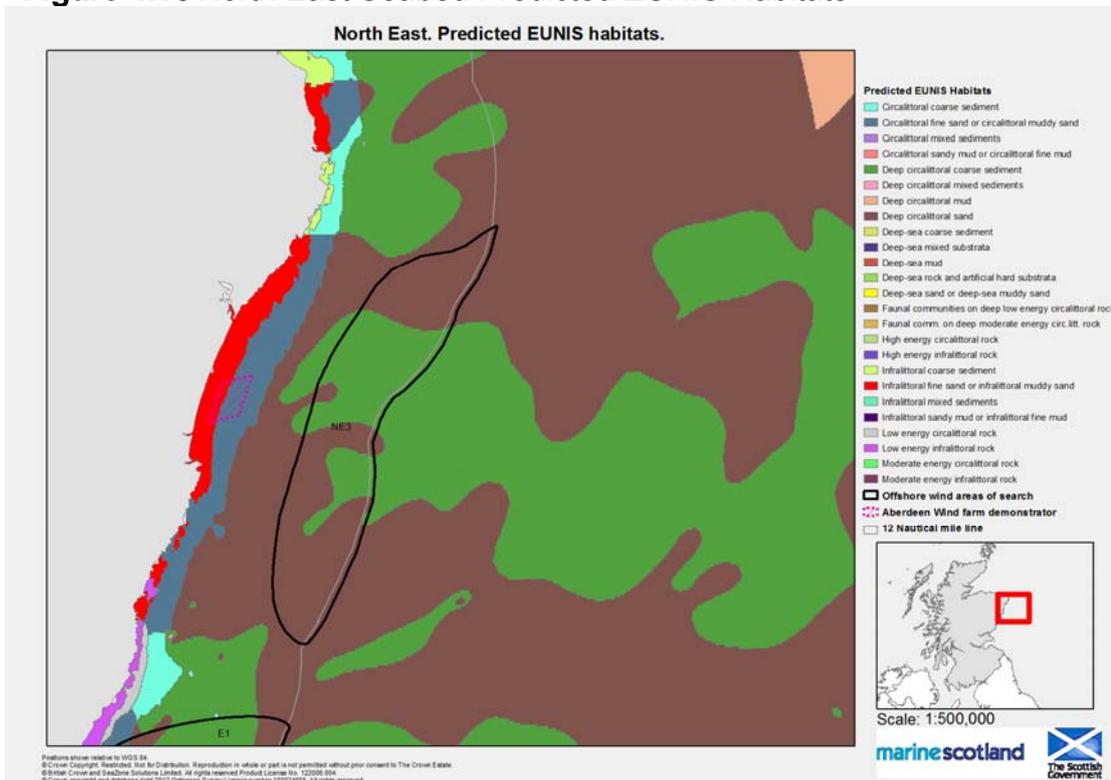


Figure 4.11 Moray Firth Seabed Sediments

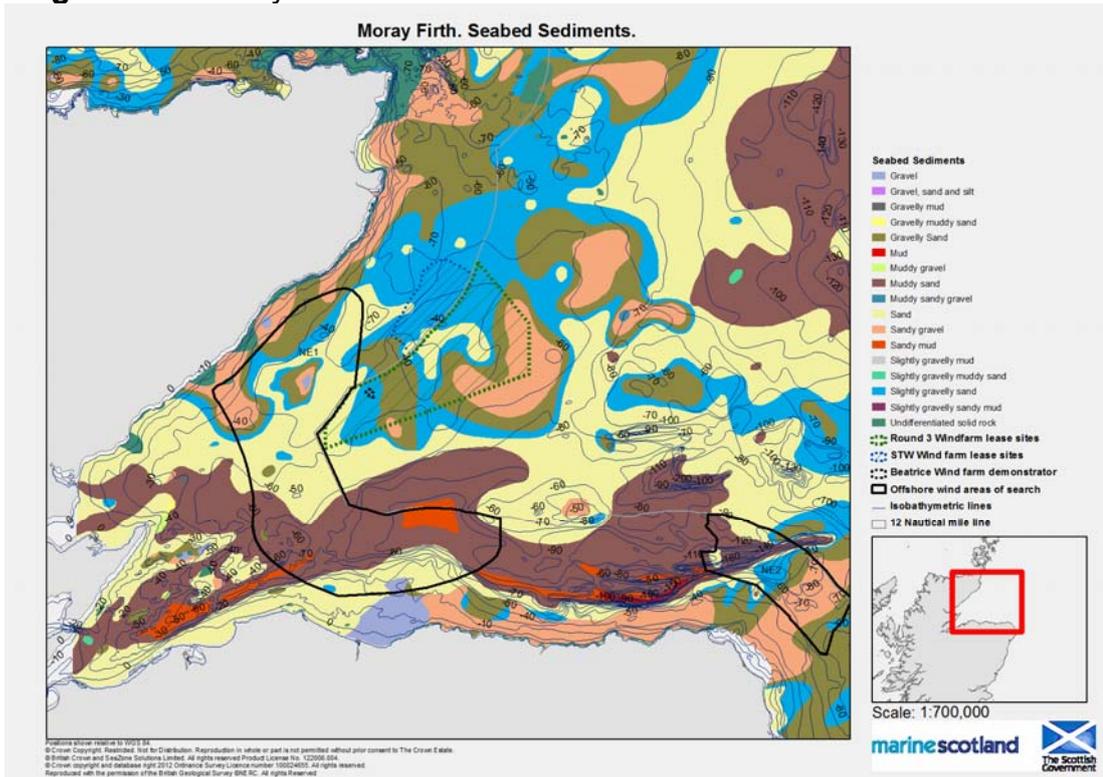
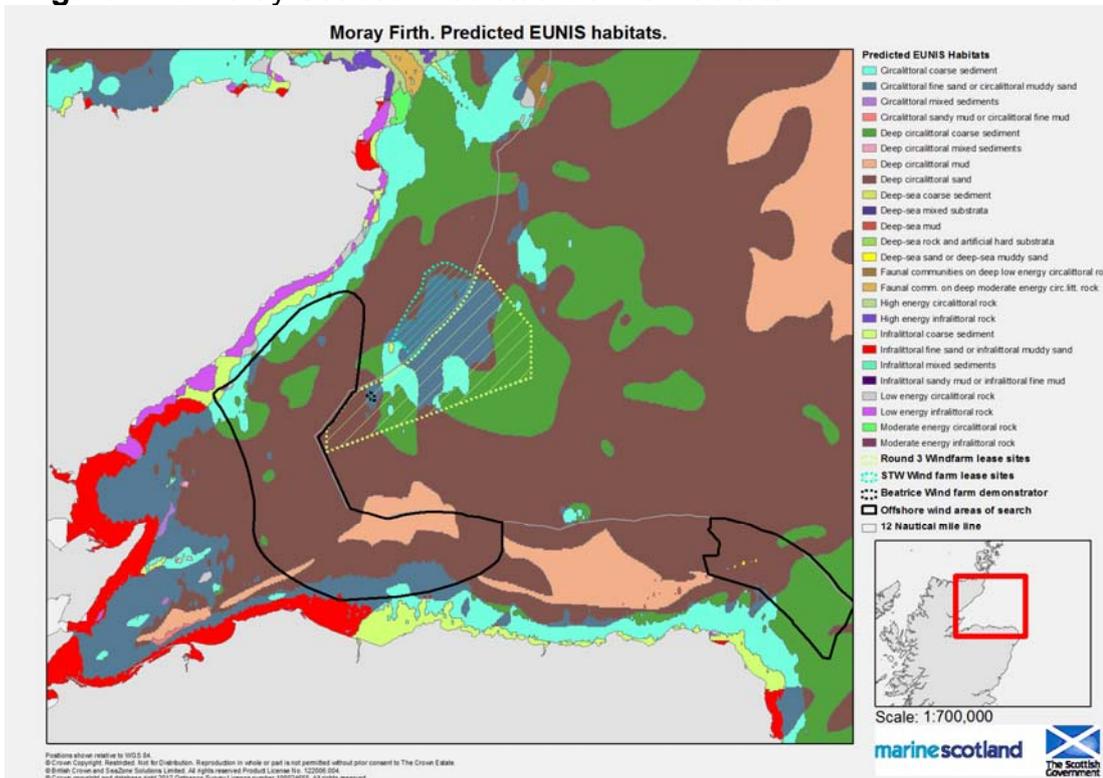


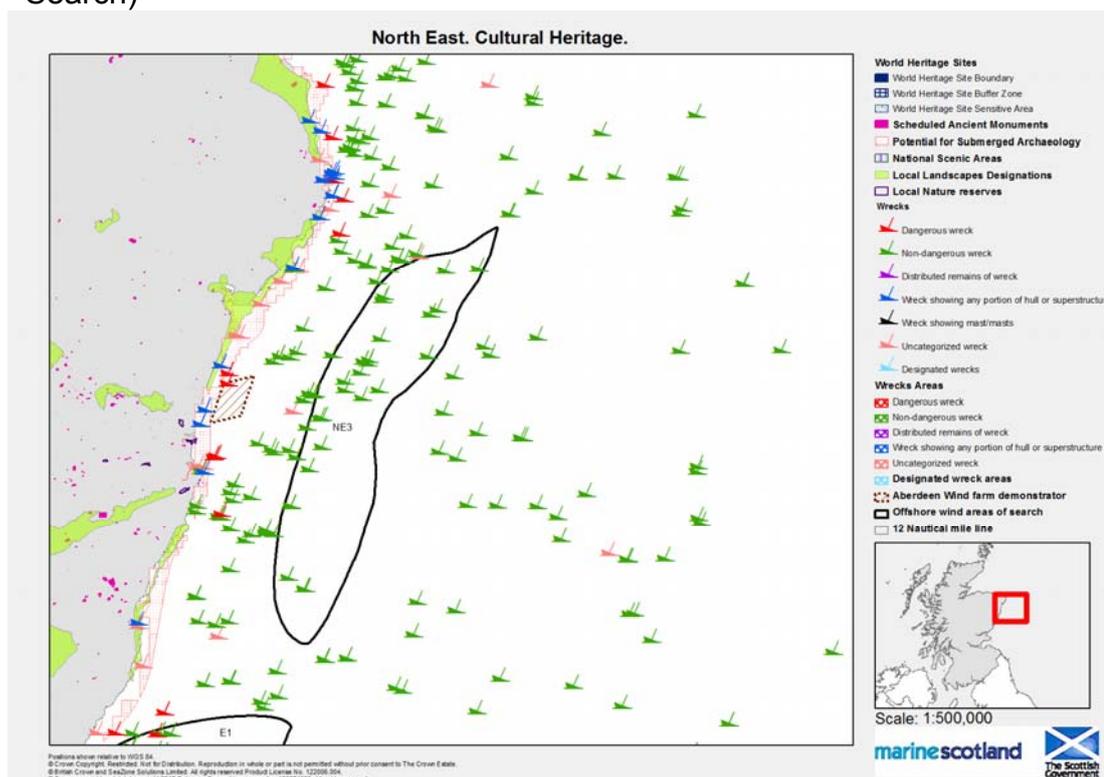
Figure 4.12 Moray Seabed Predicted EUNIS Habitats



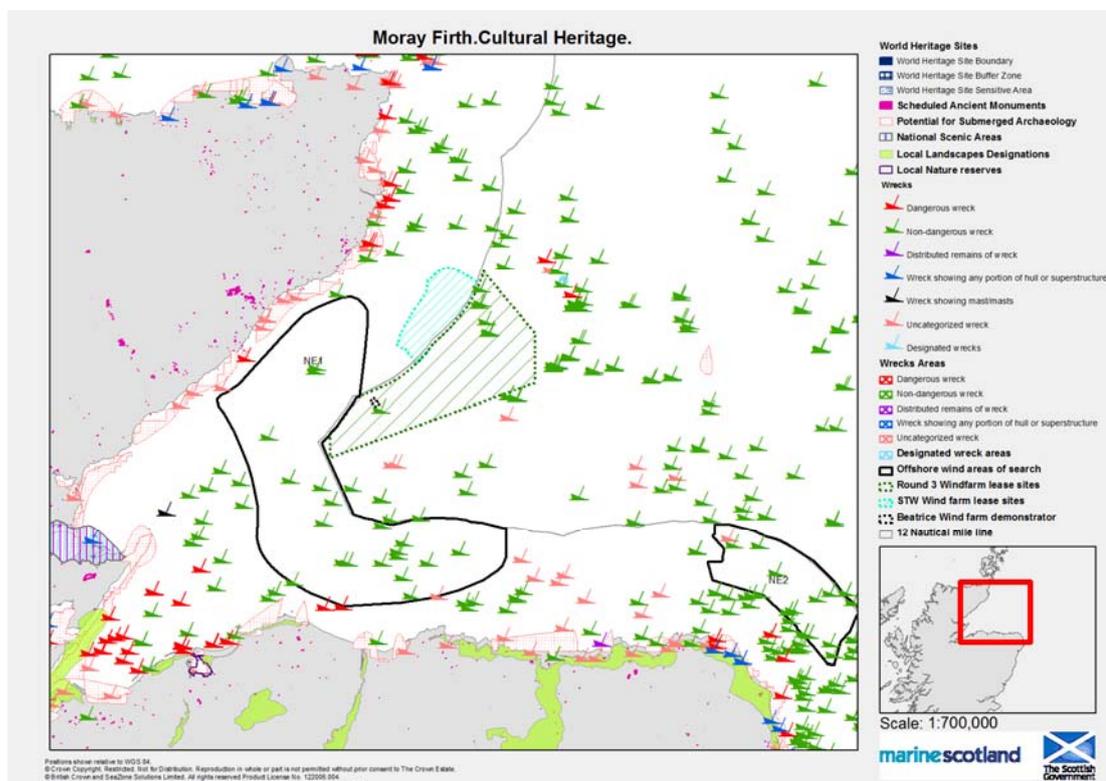
## 4.5 Cultural Heritage

- 4.5.1 The area has a high concentration of wreck sites, the majority of which are classed as non-dangerous. However, there are also a number of dangerous sites close to the coast and a few uncategorised sites. Areas close to much of the coast within the region are identified as being likely to have submerged archaeology, and some overlap with small parts of the area of search
- 4.5.2 As with other areas, there are numerous sites and buildings in coastal settlements and along the coast which have historic interest. These include lighthouses such as Rattray Head in the north of the area and Todhead which are Category B listed buildings, clustered buildings and sites that together comprise the historic townscapes of Aberdeen and towns such as Stonehaven, and individual castles and chapels.
- 4.5.3 Figures 4.13 and 4.14 shows the location of key cultural heritage assets in the North East and Moray Firth (Areas of Search).

**Figure 4.13** Key Cultural Heritage Assets in the North East (Areas of Search)



**Figure 4.14** Key Cultural Heritage Assets in the Moray Firth (Areas of Search)

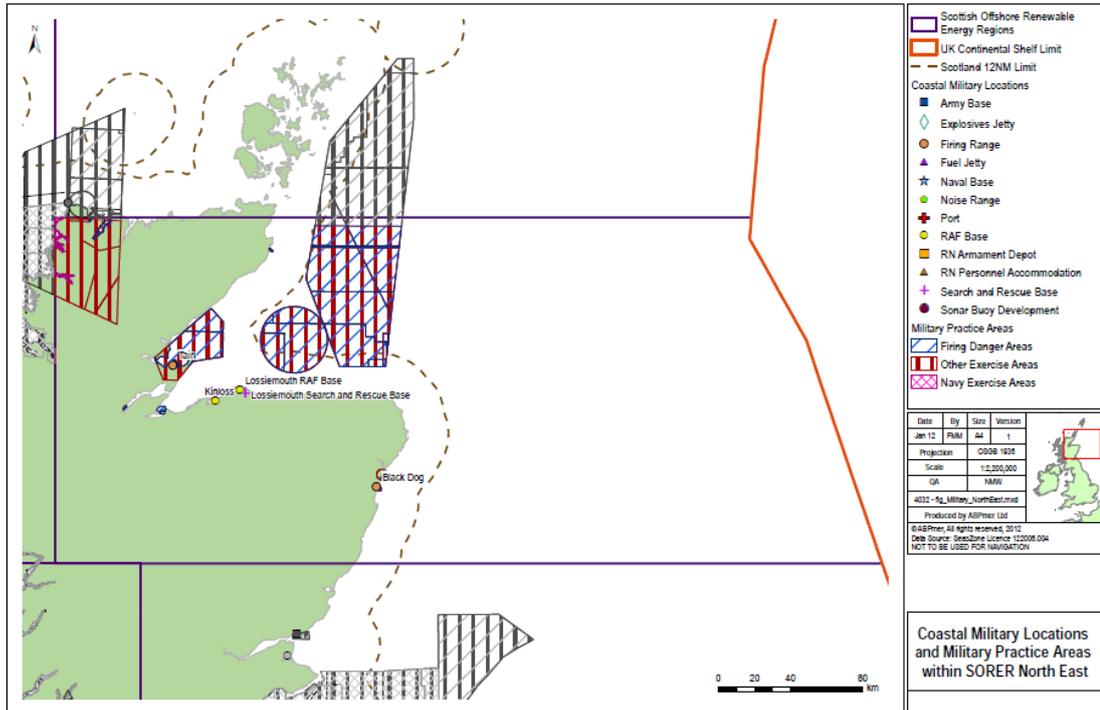


## 4.6 Defence

4.6.1 The coastal military locations which occur within this region are shown in Figure 4.15. Military interests in this region include:

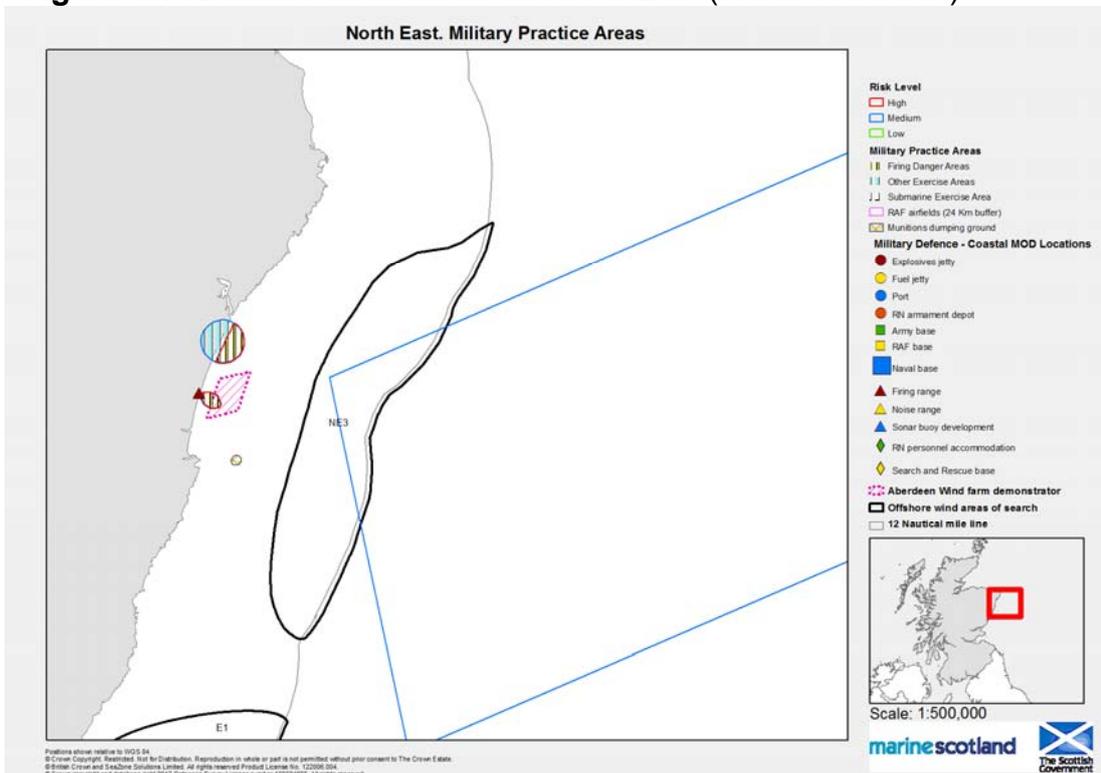
- Tain RAF bombing range on the Dornoch Firth;
- Kinloss and Lossiemouth RAF Bases;
- Black Dog Firing Range;
- Air Defence Radar at RAF Buchan;
- Hill of Dudwick Meteorological Weather Radar (DE Safeguarding, 2010); and
- Two predominantly offshore sea areas classified as both ‘firing danger’ and ‘other’ exercise areas adjacent to the Moray Firth.

**Figure 4.15** Defence activities in the North East Region

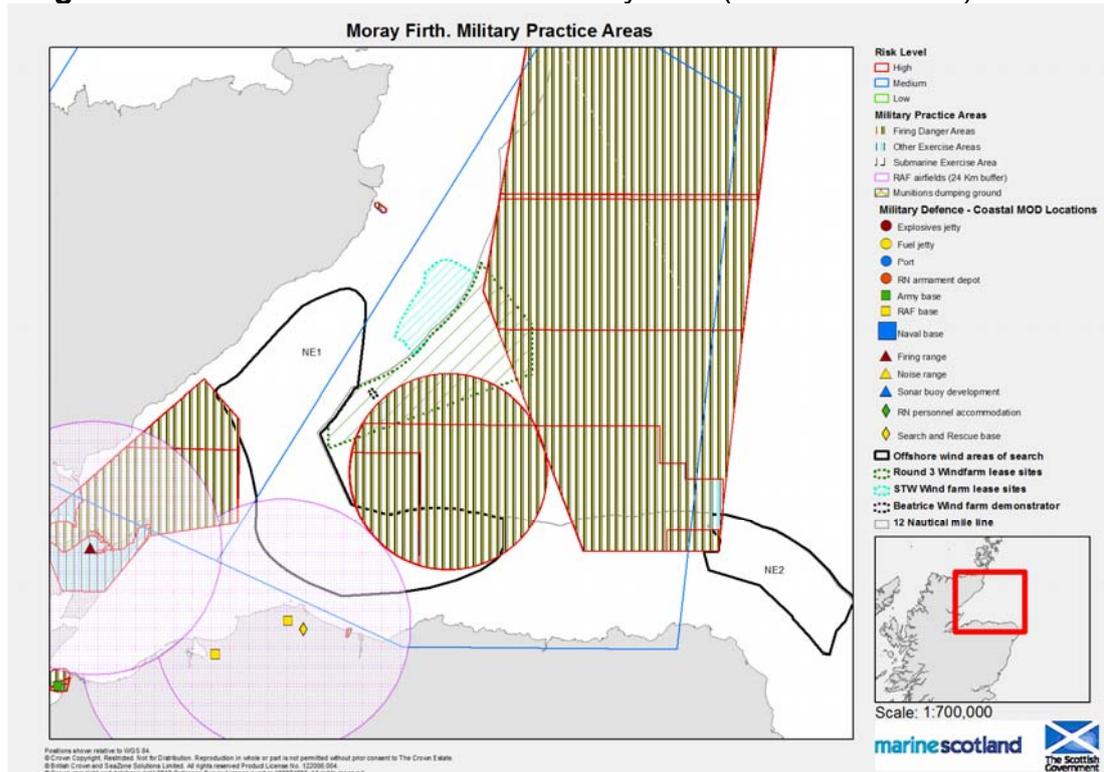


4.6.2 Figures 4.16 and 4.17 Shows the location and provides an indication of the defence activities taking place in relation to the North East and Moray Areas of Search.

**Figure 4.16** Defence activities in the North East (Areas of Search)



**Figure 4.17** Defence activities in the Moray Firth (Areas of Search)

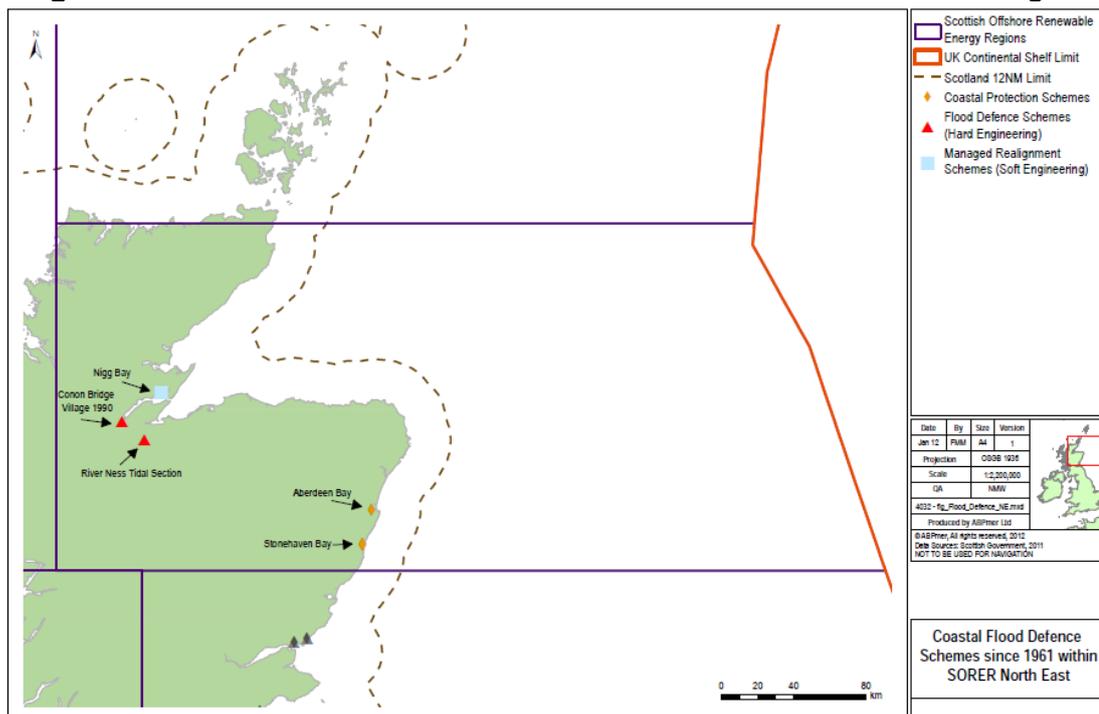


## 4.7 Environment

### *Coastal and Flood Defence*

4.7.1 There are two flood defence schemes, two coastal defence schemes and a managed realignment scheme in this region:

- Conon Bridge Village;
- River Ness Tidal Section;
- Aberdeen Bay;
- Stonehaven Bay; and
- Nigg Bay.

**Figure 4.18** Coastal and Flood Defence Schemes in the North East Region

### Designated areas

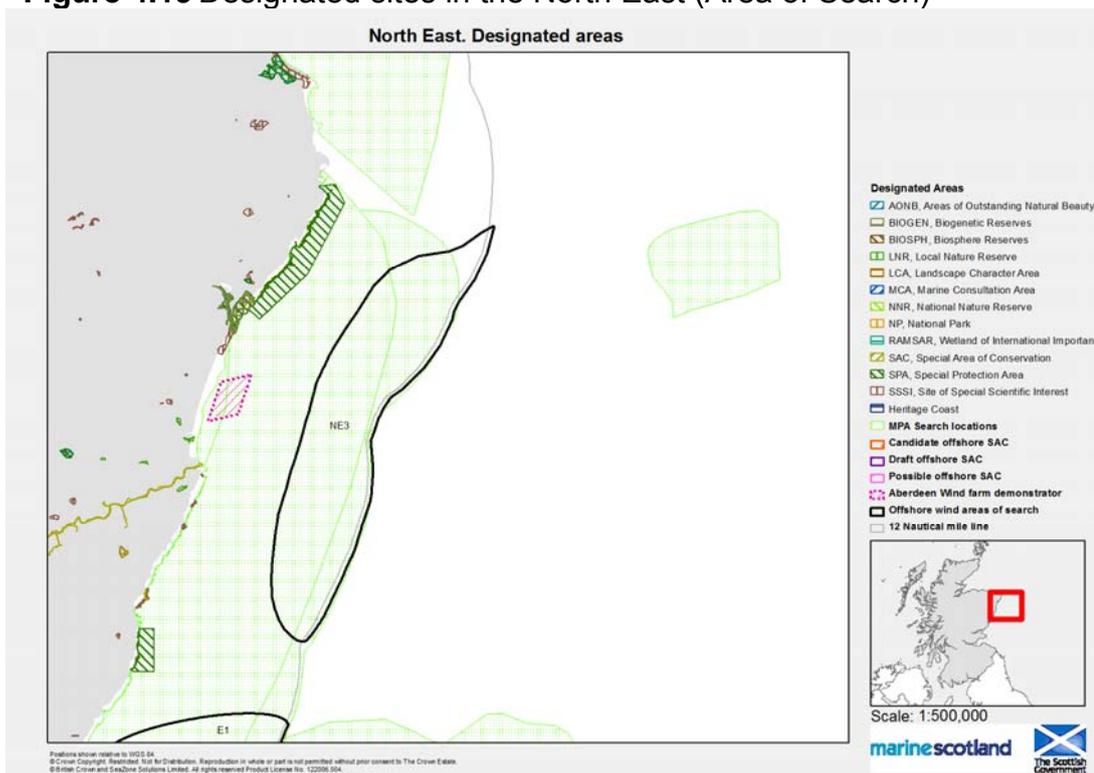
4.7.2 Within this region, the key areas of relevance to the potential area of search include:

- The Moray Firth SAC, an extensive area which is designated for Bottlenose dolphin and its subtidal sandbanks;
- There are several coastal SPAs, including the East Caithness Cliffs to the north west of the western area of search which is protected for a number of seabird species, and further west, Dornoch Firth and Loch Fleet, Cromarty Firth, Moray and Nairn Coast, and Inner Moray Firth SPAs. Further east along the Moray coast, Troup Pennan and Lion's Heads SPA is also protected for its aggregation of breeding seabirds;
- Further SACs of potential relevance due to their coastal relationships include Culbin Bar (protected for its Atlantic salt meadows, shifting dunes, and coastal shingle), Dornoch Firth and Morrich More SPA (also protected for its estuarial / coastal habitats and interest to species including common seals and otters) and the Lower River Spey, which is protected for its coastal vegetation;
- There are numerous SSSIs within the region, including a significant length of the Moray Coast which is recognised for its coastal vegetation, habitats and its geology;
- In terms of the easternmost site within the region, key sites include the Buchan Ness to Collieston Coast SPA which is protected for its seabird species and is located to the west of the site, and Fowlsheugh SPA, which is also protected for seabirds. The Ythan Estuary and Sands of Forvie area is also designated as an SPA, SAC and SSSI as a result of its value for birds; and

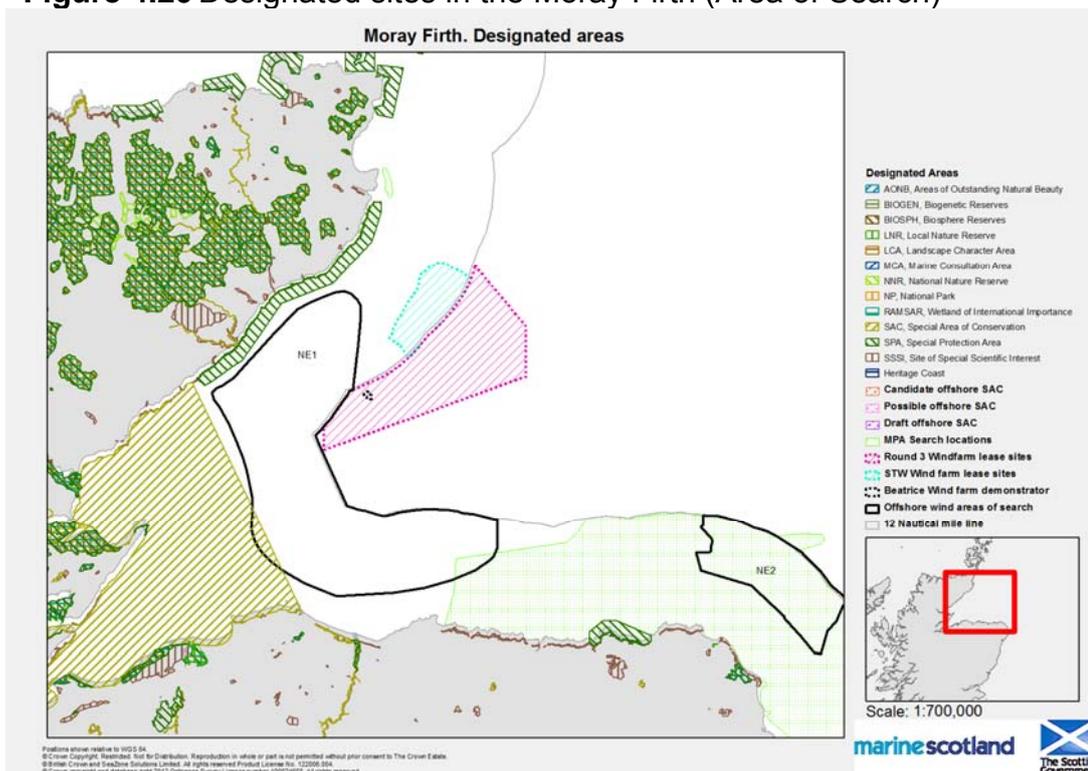
- Inland, there are further sites of interest as SPAs, SACs and SSSIs, which support a range of species which may or may not have relationships with the coastal and marine environment. These include the Caithness and Sutherland Peatlands which is protected for its bird species, as well as its habitats and includes a network of sites covering an extensive area of land.

4.7.3 Figures.4.19 and 4.20 contain the known designated sites in relation to the North East and Moray Firth Areas of Search.

**Figure 4.19** Designated sites in the North East (Area of Search)



**Figure 4.20** Designated sites in the Moray Firth (Area of Search)



4.7.4 In addition to the mapped information, to the north of the Moray Firth, Area of Search, a MPA search area has been identified in what would effectively be an overlap and small northern extension of the East Caithness Cliffs as a potential MPA due to its interest for black guillemot (see Figure 4.20 above). The second area of search to the north east of the Moray Coast overlaps with the Southern Trench and Smiler’s Holes MPA search area, which is being assessed as a result of its features including seabed habitats, white-beaked dolphin, and minke whale. The East Caithness Cliffs is also being assessed in relation to possible MPA status (again, due to its interest for black guillemot) and an area known as Turbot bank to the east, further offshore from the identified area of search, is being assessed due to its habitats.

*Landscape Designations within Region*

4.7.5 While there is only one NSA within the North East which relates to the coast, local landscape designations are found around the north eastern tip of the mainland, north of the Dornoch Firth and along the north coast of Moray. The areas of search identified at scoping lie to the east of the Dornoch Firth and development proposals within the offshore areas of search identified at scoping, would need to take into account potential impacts on the special qualities of these areas.

*- Aberdeenshire*

4.7.6 The adopted Aberdeenshire LDP 2012 does not identify local landscape designations, as it intends to produce further planning advice on landscape

character areas which will highlight areas of increased landscape sensitivity which will reflect the areas formerly designated as Areas of Landscape Significance (ALS) in the Aberdeenshire Local Plan. As such, there is currently no detailed information on the landscape qualities of the landscape character areas with increased landscape sensitivity. However, based on the extent of the previous ALS, this is likely to include large areas of coastal landscape.

- Highland

- 4.7.7 The **Dornoch Firth** NSA extends from the river estuary at Ardgay to the mouth of the Firth. The special qualities<sup>1</sup> of the NSA include *the contrast between the enclosed west and the expansive east*, which is noted in terms of the offshore views out to sea with a limitless horizon, the *inhabited land surrounding the forth contrasting with the wilder backdrop of hills and moors*, *the diversity of woodland cover*, *the rich variety of alluvial lands, dunes and links*, *the ever-changing firth*, and *the tranquillity of the undeveloped coastline*.
- 4.7.8 There are five special landscape areas within Highland Council<sup>2</sup> in the North East Region which have been described. These are **Dunnet Head**, which includes the peninsula with its prominent headland which offers extensive seaward views and is an important landmark at the northernmost point of the British mainland. **Duncansby Head** is the most north-easterly point on mainland Britain and is noted for its commanding views, and complex landscape of cliffs, stacks, geos, arches caves and wave cut platforms. Both Dunnet Head and Duncansby Head are sensitive to development which would impinge on the views from the headland, or affect the perception of scale of the cliff landscape. The **Flow Country and Berriedale Coast** includes both the coastal shelf and cliffs, and the interior peatland of the Flow Country. The hills within the landscape offer extensive panoramic views over the Flow Country and out to the North Sea. **Loch Fleet, Loch Brora and Glen Loth** includes the coastal edge between Brora and Helmsdale. The Mound at the mouth of Loch Fleet offers spectacular coastal views. The special qualities of the landscape are noted as the juxtaposition of moorland hills, linear glens, coastal shelf and tidal basin.
- 4.7.9 **Sutors of Cromarty, Rosemarkie and Fort George** is the area of intersecting firth and headlands including the Cromarty and Inverness Firths. The characteristics of the coastal landscape is highlighted by the dramatic contrasts between steep cliffs, and low sand and shingle bars. The Sutors which stand either side at the mouth of the Cromarty Firth are distinctive landscape features. The coastline offers contrasts of expanse and containment, and has strong cultural and military landscape links.

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<sup>1</sup> Scottish Natural Heritage (2010). The special qualities of the National Scenic Areas. SNH Commissioned Report No.374,. <http://www.snh.gov.uk/docs/B699728.pdf>

<sup>2</sup>Assessment of Highland Special Landscape Areas (2011)  
<http://www.highland.gov.uk/NR/rdonlyres/75BE9453-1C1D-4076-BCFE-D7A3BEADCB9E/0/AHSLA.pdf>

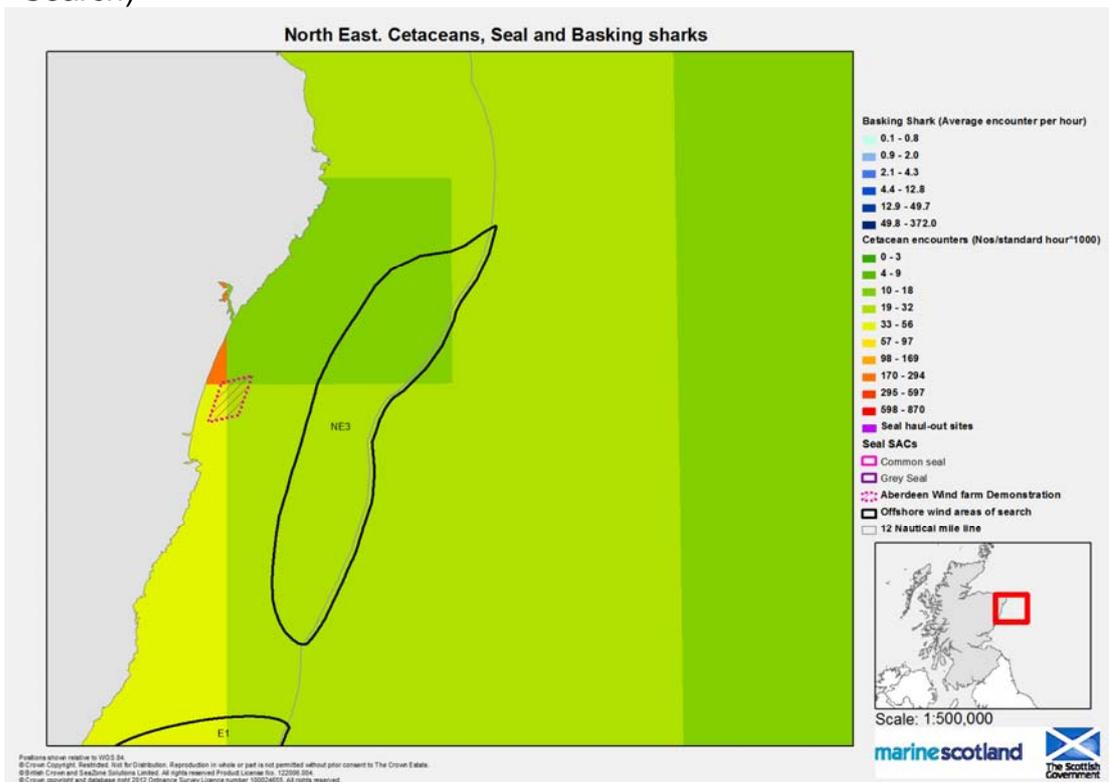
- *Moray*

- 4.7.10 The location and extent of the existing AGLVs include three coastal areas from Culdin Forest to Lossiemouth. The currently include the coastal edge and shore, of which sea views will be an important element of their landscape value. While there is a lack of information on the qualities of the AGLV, however this will emerge when the planned review of local landscape designations takes place.

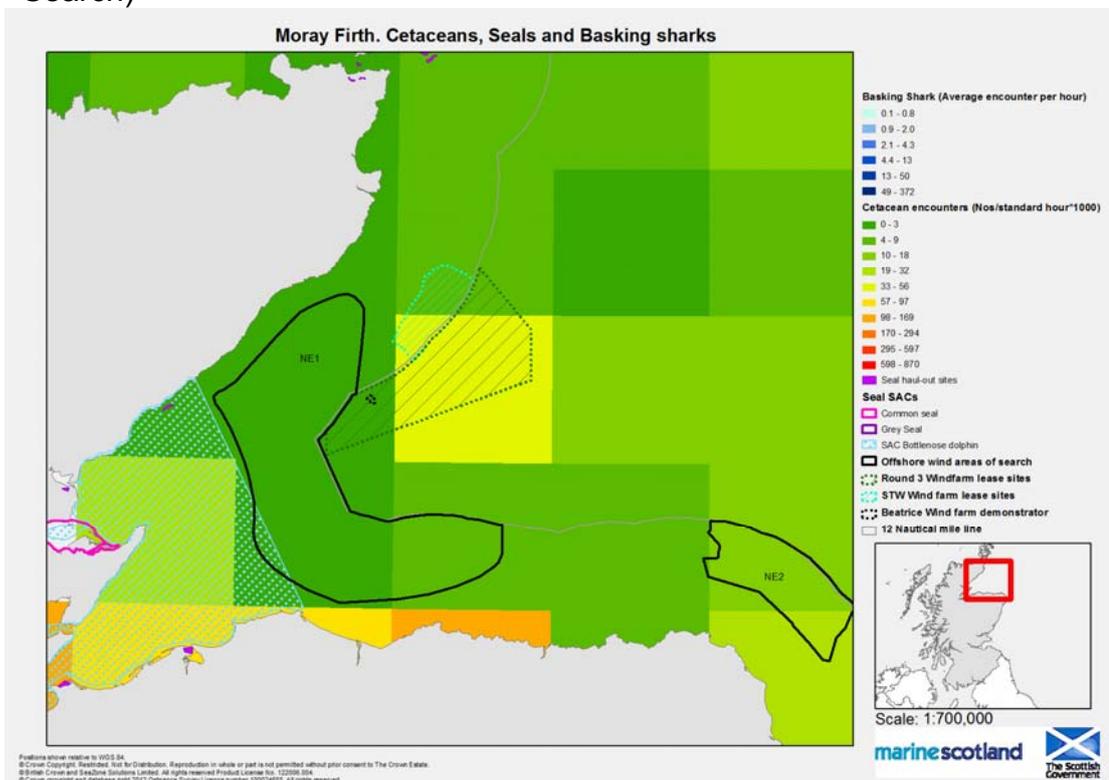
*Marine mammals, Basking Sharks and Seals*

- 4.7.11 The Moray Firth in particular is renowned for its bottlenose dolphin population, and is the primary feature to designate the inner Moray Firth as an SAC to protect this species. The easternmost extent of this SAC reaches directly west of search area NE1. Other species like harbour porpoises or white beaked dolphins also occur, as well as the occasional minke whale and rarer sightings of orca and humpback whales have also been recorded. The high probability of cetacean sightings both from the shore or at sea in day trip boats has generated a consistent tourist attraction all year round. Interactions with cetaceans (and seals) will therefore be an important element of Environmental Impact Assessment (EIA) for projects in the North East and Moray Firth area.
- 4.7.12 No high concentration basking shark areas exist within NE1, NE2, or NE3.
- 4.7.13 Directly west of area of search NE1 there is an SAC at the Dornoch Firth and Morrich More designated to protect common seals.
- 4.7.14 No seal haul-out sites have been declared within any of the three areas of search. However, along the Moray Coast to the east and southeast of NE1 there are four seal haul out sites at Findhorn, Ardersier, Loch Fleet and Lothmore between Helmsdale and Brora. The first three are haul out sites for common seal the fourth for grey seal. The common seal haul-out sites serve a well studied population in the inner Moray Firth which are known to range widely in the more open parts of this environment.

**Figure 4.21** Cetaceans, Seals and Basking Sharks in North East (Areas of Search)



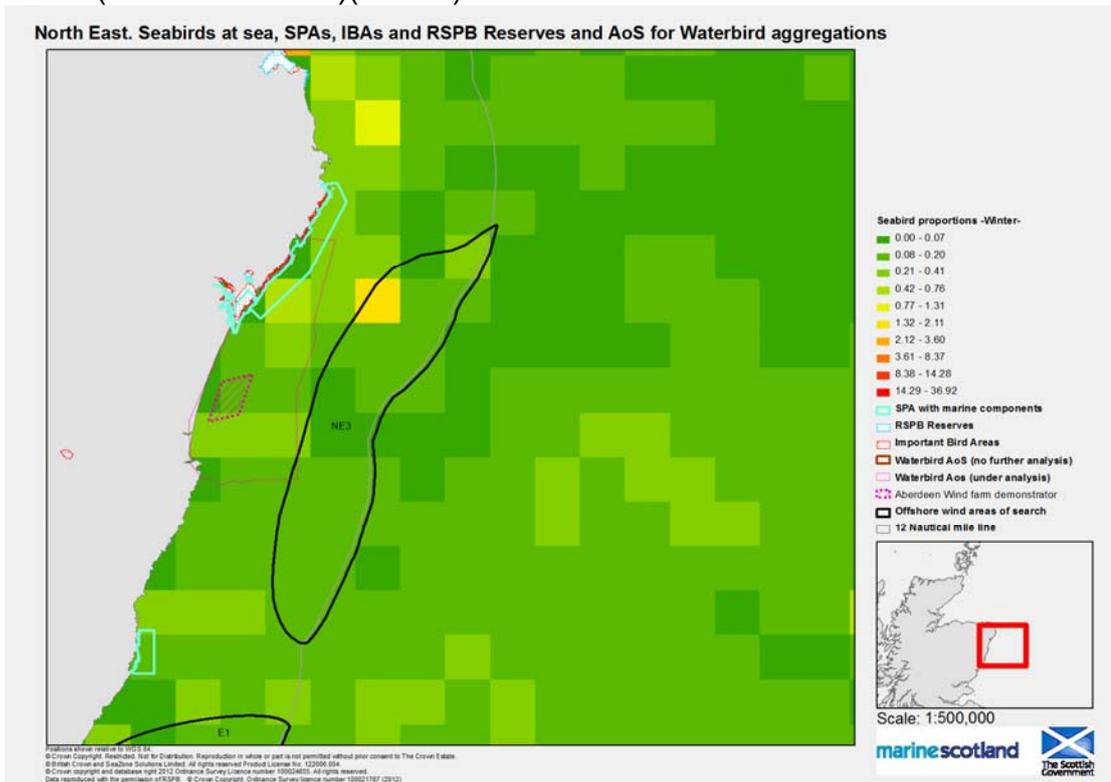
**Figure 4.22** Cetaceans, Seals and Basking Sharks in Moray Firth (Areas of Search)



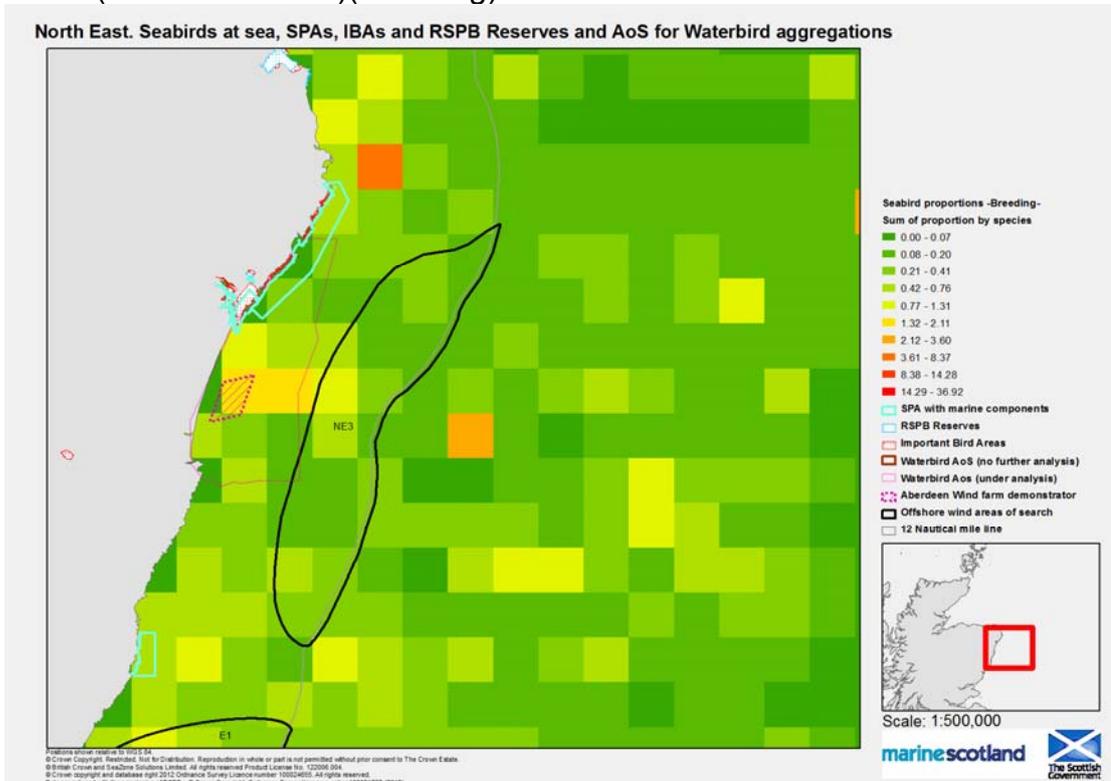
### *Seabirds*

- 4.7.15 Seabirds are moderately abundant within area of search NE3 with slightly higher concentrations in the central part of this area.
- 4.7.16 Due west of the northmost part of NE3 there are two SPAs in close proximity. One is at Ythan Estuary, Sands of Forvie and Meikle Loch and is identified to protect breeding and overwintering birds and regularly holds up to 26,700 waterbirds. The other is at Buchan Ness to Collieston, this second site holds 23,800 pairs of breeding seabirds and 28,100 pairs of breeding waterbirds. The most common amongst these are kittiwakes, common guillemots and herring gulls (RSPB)
- 4.7.17 IBAs are situated also at the banks of the Ythan and at Buchan Ness to Collieston which runs up the same line of coast as the SPA identified there.
- 4.7.18 Further north at the centre of area of search NE2 there is a pocket of higher bird concentration that reflects the high numbers of wintering waterbirds that are protected by the IBA at Loch of Strathbeg (up to 42,800 pairs). At the same point and covering the same area roughly there exists an RSPB Reserve.
- 4.7.19 The Troup Head SPA on the coast to the west of NE2 holds 38,400 pairs of breeding seabirds and 36,100 pairs of breeding waterbirds on a regular basis. This site nationally important for breeding herring gull (4,200 pairs) and for one of only two northern gannet breeding colonies on the UK mainland (RSPB).
- 4.7.20 There are higher relative concentrations of seabirds in the Moray Firth in the vicinity of area NE1. The most abundant species are black-legged Kittiwake, common guillemot, atlantic puffin and european shag. Towards the north end of NE1, the concentrations of seabirds are higher than in the central and southern parts of this area of search. The sum of seabird proportions are higher in breeding season than in winter.
- 4.7.21 Five SPAs exist along the Moray Firth coast between Nairn and the East Caithness cliffs. The coastal areas around the Moray Firth basin form an integral unit that is internationally important for populations of wintering and passage wildfowl. Combined, these SPAs protect some 130,000 wintering and 31,000 passage waterbirds on a regular basis, and is also nationally important for many breeding species of ducks (RSPB).
- 4.7.22 The largest offshore IBA has been implemented within the Moray Firth inshore from area of search NE1.
- 4.7.23 Figures 4.23 – 4.26 shows the known seabird (winter and breeding season) intensities in relation to the North East and Moray Firth Areas of Search.

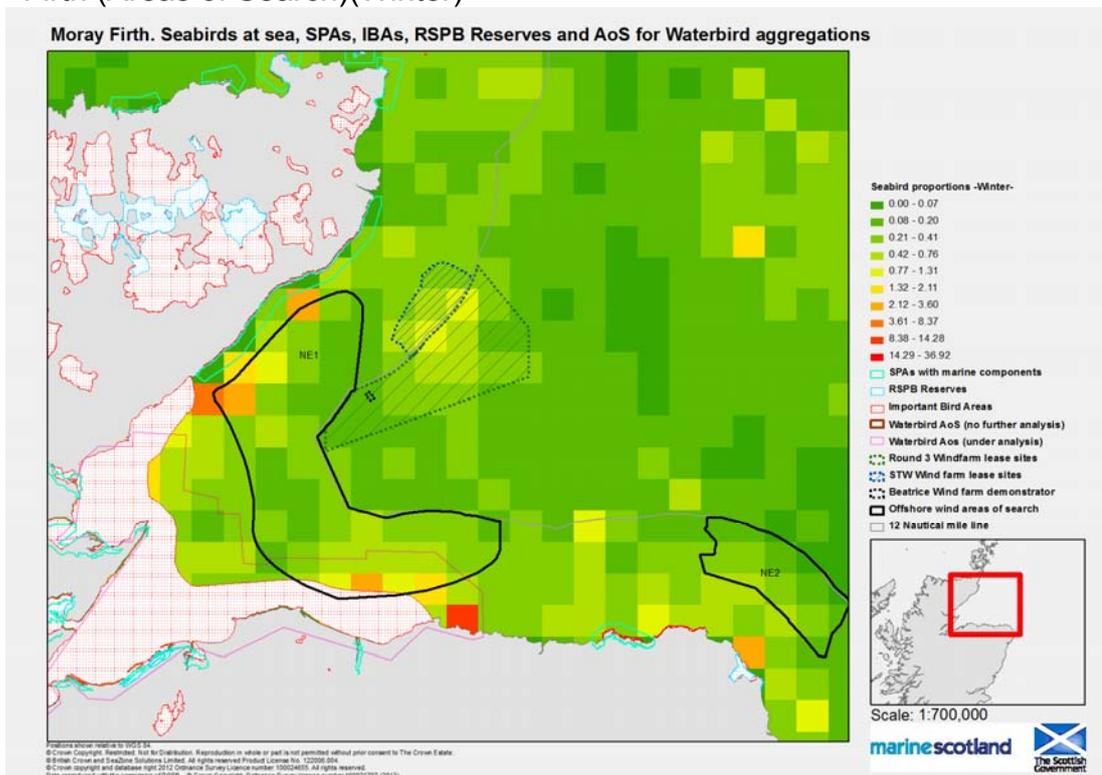
**Figure 4.23** Seabirds, Important Bird Areas and RSPB Reserves in North East (Areas of Search)(Winter)



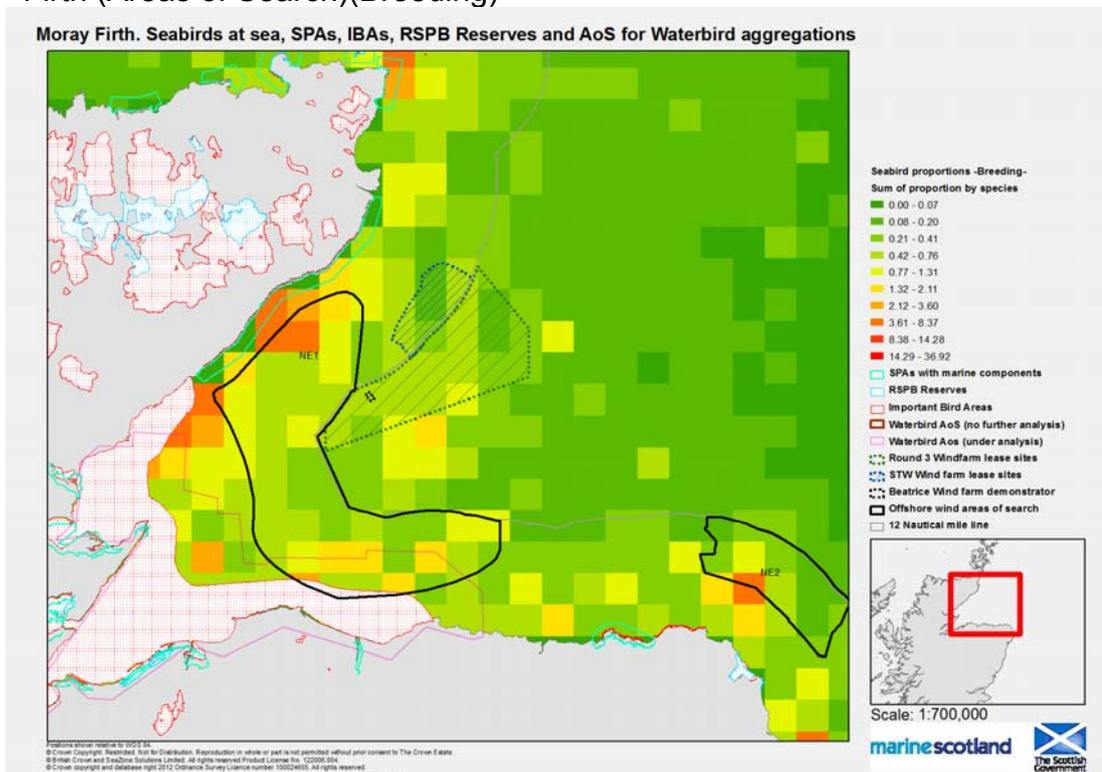
**Figure 4.24** Seabirds, Important Bird Areas and RSPB Reserves in North East (Areas of Search)(Breeding)



**Figure 4.25** Seabirds, Important Bird Areas and RSPB Reserves in Moray Firth (Areas of Search)(Winter)



**Figure 4.26** Seabirds, Important Bird Areas and RSPB Reserves in Moray Firth (Areas of Search)(Breeding)



## 4.8 Fishing

### *Commercial Fisheries Regional Overview*

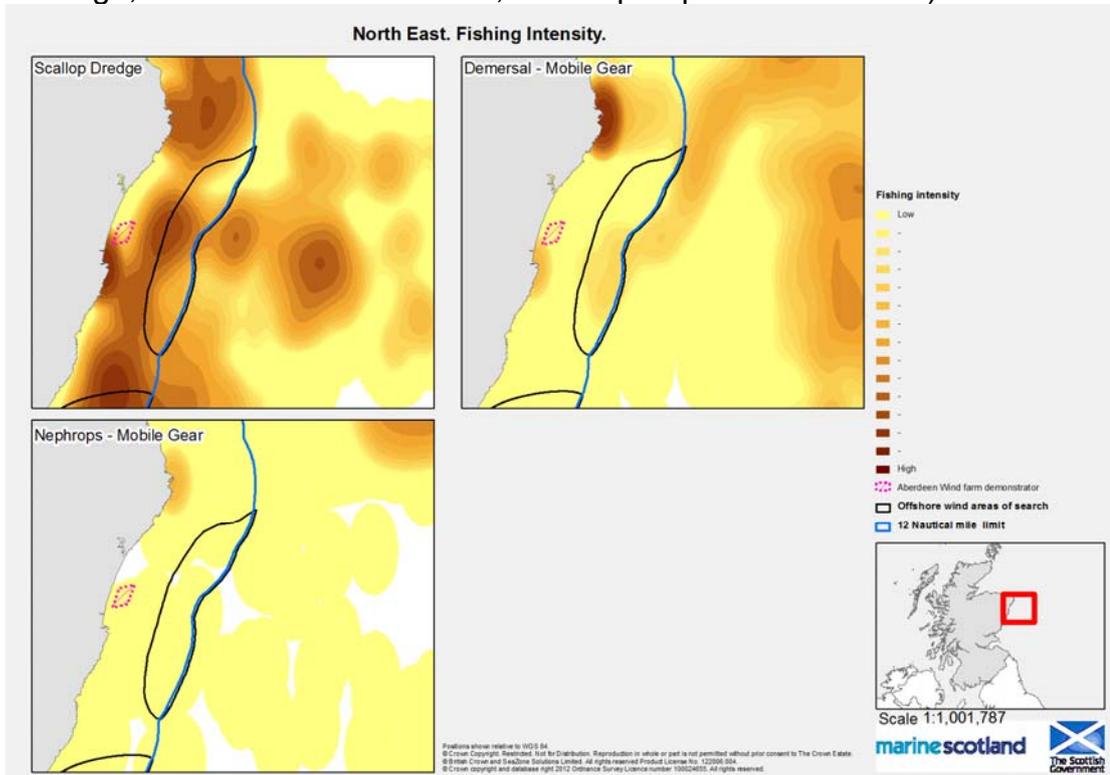
- 4.8.1 Landings caught by UK vessels within the North East Region had an average annual value of £36.3 million (9.5% of the Scottish total) and an average annual live weight of 29,300 tonnes (6.8% of the Scottish total) for the ten year period from 2001 to 2010.
- 4.8.2 The majority of the value of landings from within the North East SORER is shellfish, however, the majority of the volume is pelagic species. There is a difference between the main species caught in inshore waters (within 12 nm from the coast) and offshore waters (greater than 12 nm from the coast). Inshore, landings of Nephrops accounted for 25% of the total catch value in 2010 whilst scallops made up 14% and other shellfish made up 55% of the total catch value. Offshore, landings of Nephrops accounted for 49% of the total catch value in 2010 while 15% were haddock, 8% scallops, 7% monkfish and 6% herring.
- 4.8.3 In 2010, 48% of the value of landings from inshore waters were taken by vessels 10m and under in length, compared with 18% landed by vessels over 10m and under 15m in length, and 34% landed by vessels 15m and over. Offshore, 94% of the value of landings was taken by vessels 15m and over in length.
- 4.8.4 For inshore waters, 31% of the total catch value was taken by pots, 26% by Nephrops trawls, 19% by dredges and 18% by 'other trawls'; whereas for offshore waters, 62% was taken by Nephrops trawls and 22% by demersal trawls.
- 4.8.5 Fishing is concentrated in the north of the Region and accounts for 13% of the national effort. The majority (84%) are demersal trawlers, especially offshore, while pelagic trawlers and other gear types are seen closer to the coast.
- 4.8.6 The North East SORER is covered by the administrative ports of Buckie, Fraserburgh, Peterhead and Aberdeen. There are 1,608 fishermen employed on Scottish based vessels in these districts; the largest numbers being located in Fraserburgh (789) and Peterhead (424). There are 1,357 full-time fishermen and 251 part-time. There are 487 active vessels registered in these districts, 277 are 10m in length.

### *Areas of Search Interaction*

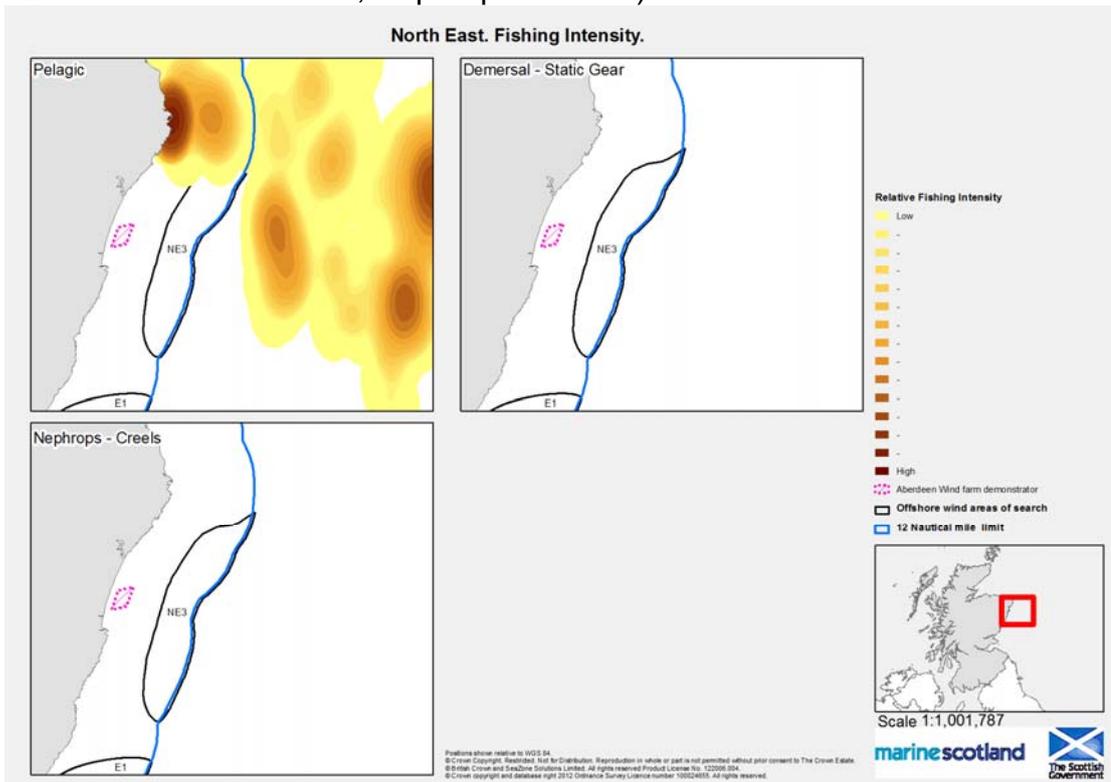
- 4.8.7 Area of search NE1 to NE3 cover similar spawning sites as area E1. Sandeel, plaice, lemon sole whiting, herring and nephrops all spawn in these areas through the year. The collected spawning times for these species range from January to December, to various degrees of intensity, and any interactions should be investigated on a species and time specific basis.

- 4.8.8 Nursery sites overlap in these North East areas of search include many fish: haddock, lemon sole, herring, nephrops, norway pout, saithe, sandeel, whiting.

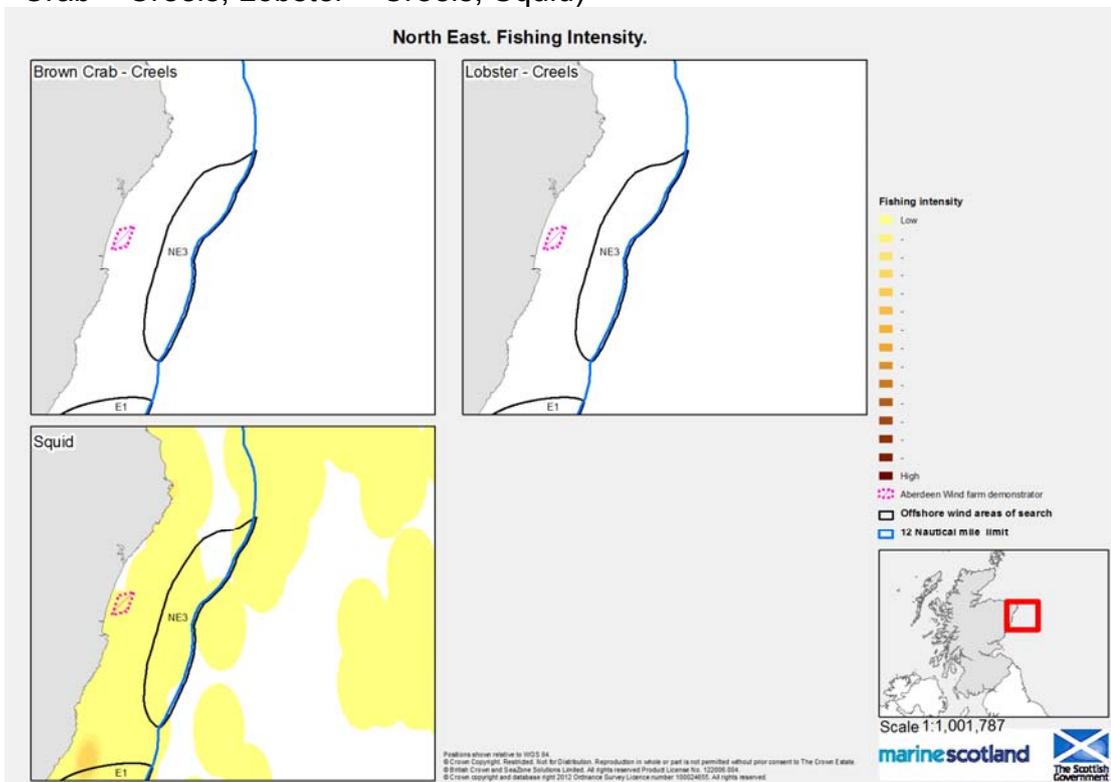
**Figure 4.27** Fishing Intensity in the North East (Area of Search) (Scallop Dredge, Demersal – Mobile Gear, and Nephrops – Mobile Gear)



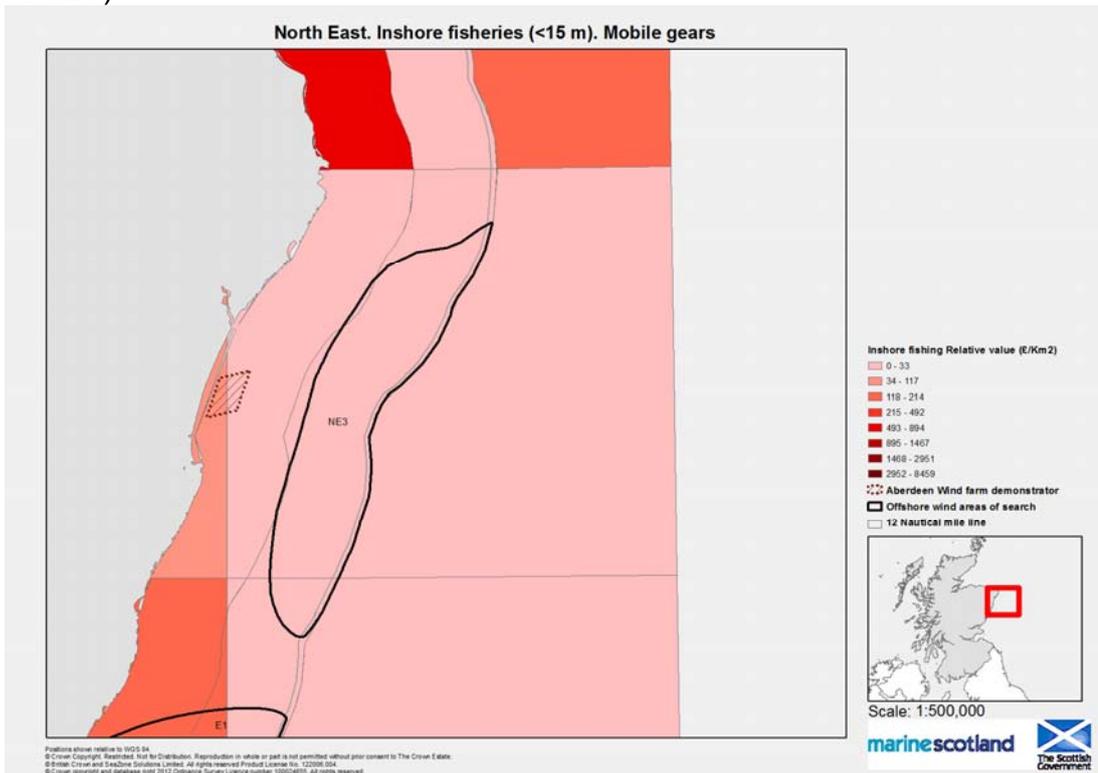
**Figure 4.28** Fishing Intensity in the North East (Areas of Search) (Pelagic, Demersal – Static Gear, Nephrops - Creels)



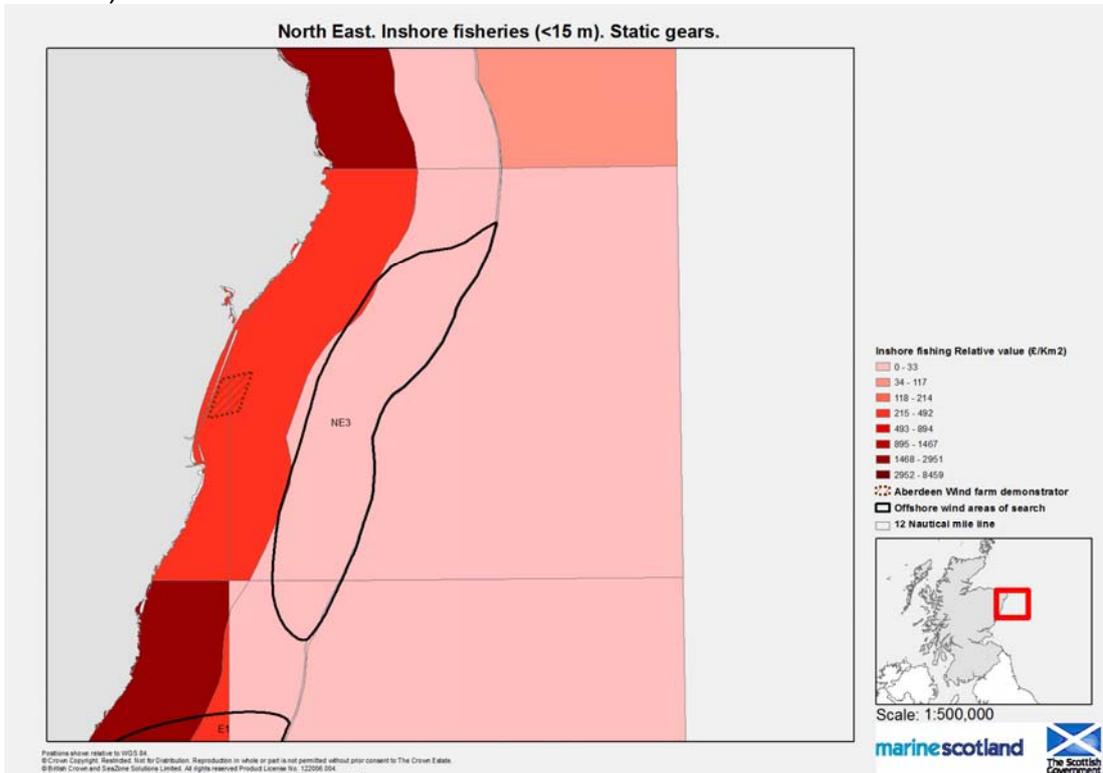
**Figure 4.29** Fishing Intensity in the North East (Areas of Search) (Brown Crab – Creels, Lobster – Creels, Squid)



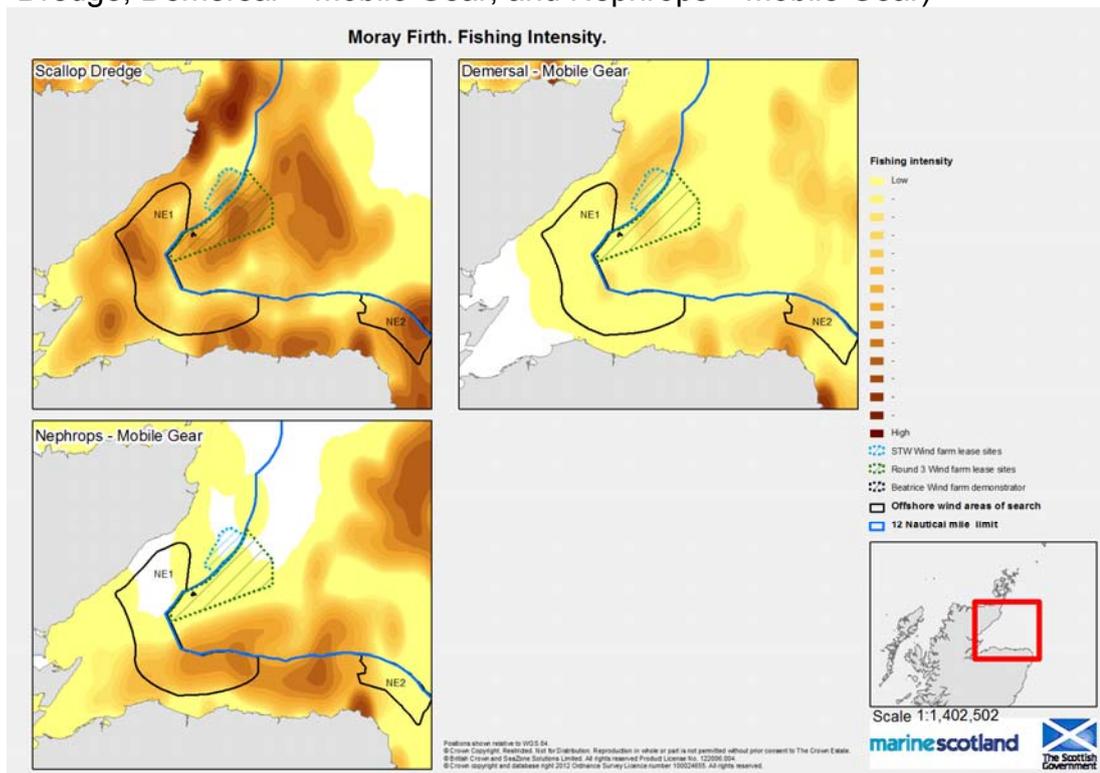
**Figure 4.30** Inshore Fisheries in the North East (Areas of Search) (Mobile Gears)



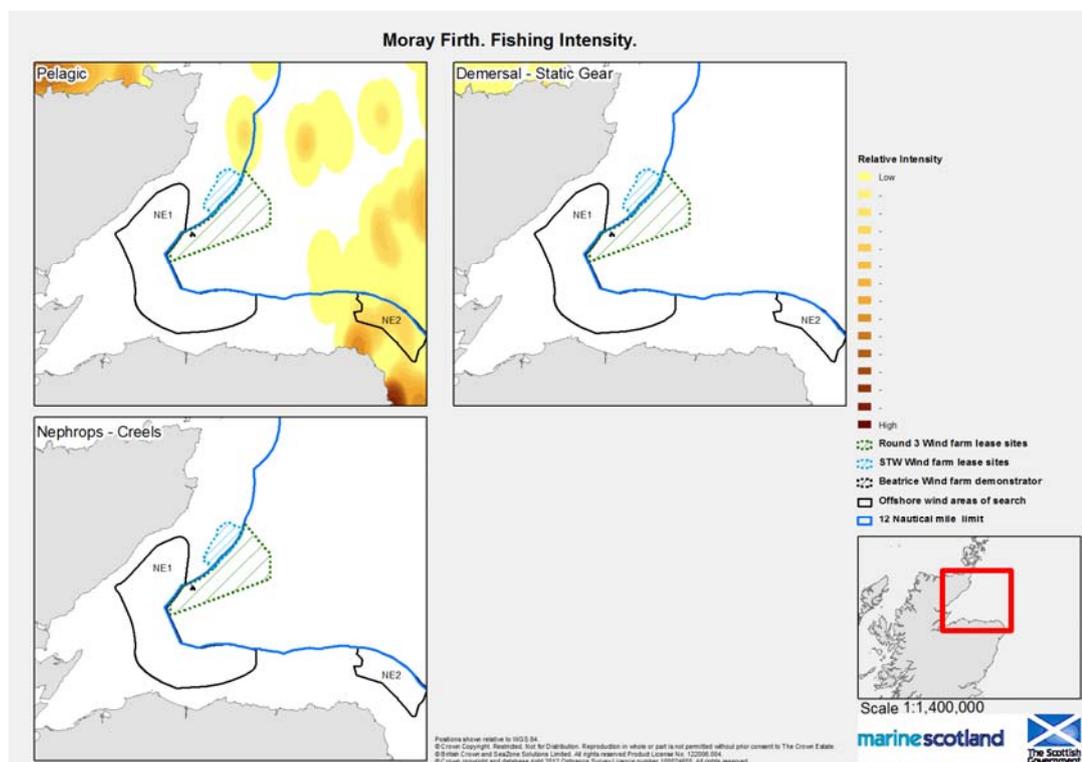
**Figure 4.31** Inshore Fisheries in the North East (Areas of Search) (Static Gears)



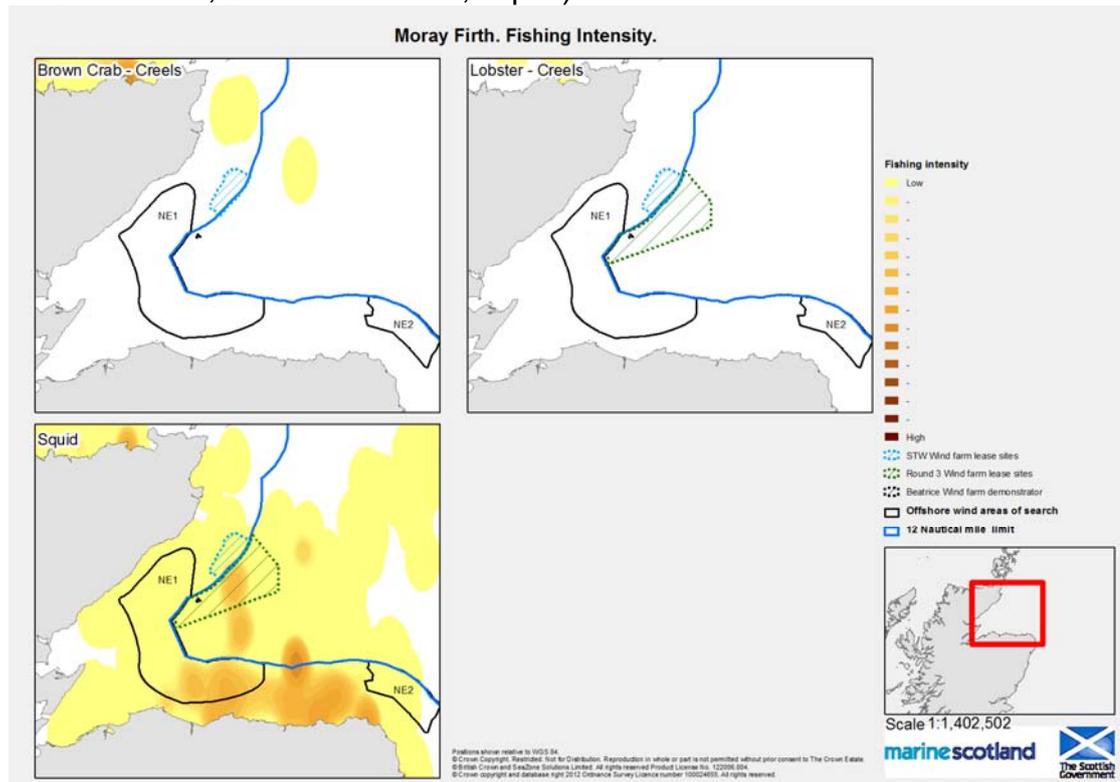
**Figure 4.32** Fishing Intensity in the Moray Firth (Area of Search) (Scallop Dredge, Demersal – Mobile Gear, and Nephrops – Mobile Gear)



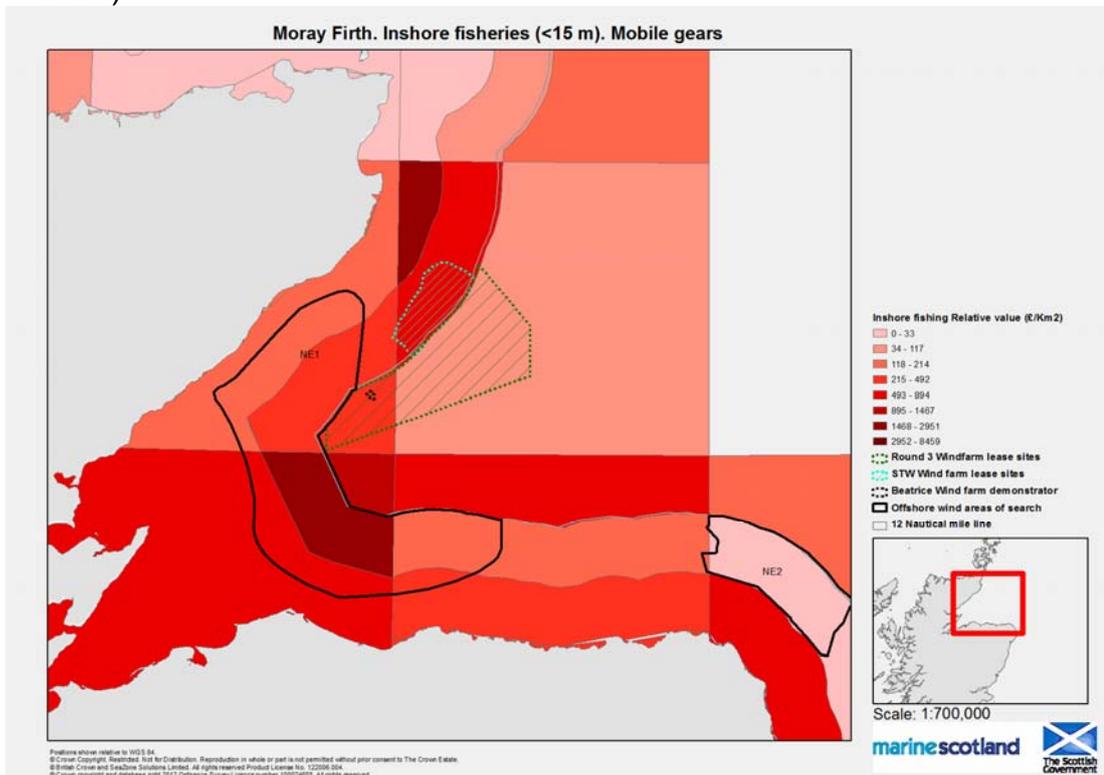
**Figure 4.33** Fishing Intensity in the North East (Areas of Search) (Pelagic, Demersal – Static Gear, Nephrops - Creels)

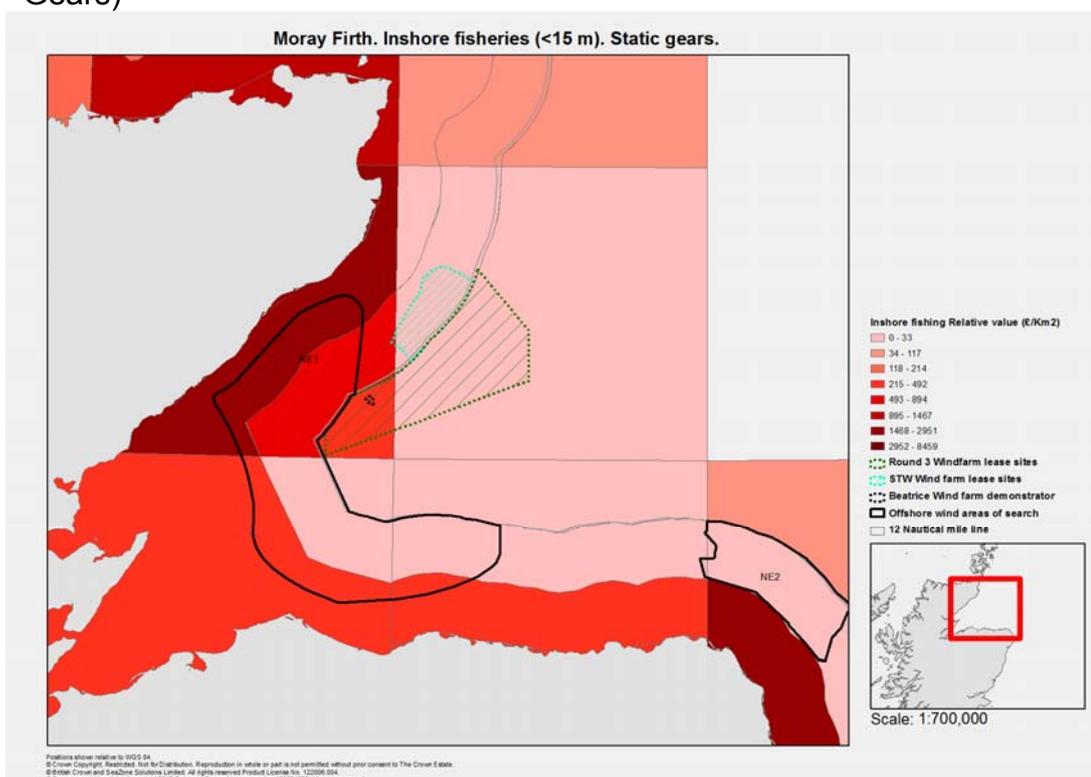


**Figure 4.34** Fishing Intensity in the Moray Firth (Areas of Search) (Brown Crab – Creels, Lobster – Creels, Squid)



**Figure 4.35** Inshore Fisheries in the Moray Firth (Areas of Search) (Mobile Gears)



**Figure 4.36** Inshore Fisheries in the Moray Firth (Areas of Search) (Static Gears)

### *Fish Processing Activities*

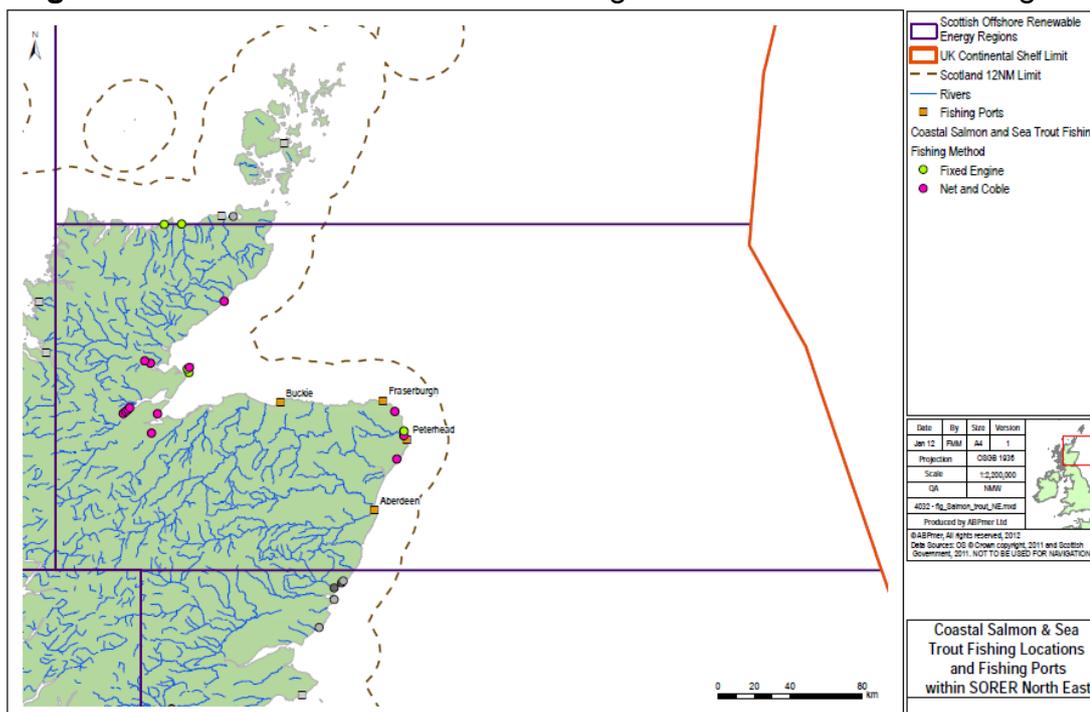
- 4.8.9 The North East Region is one of the most important regions in the UK for the primary and mixed processing industry. There are several small to medium sized processing sites, for example carrying out filleting, freezing and smoking, concentrated around Fraserburgh and Peterhead. Whitefish and pelagic processing mainly takes place in this region. The Peterhead and Fraserburgh Fish Processors Association (PFFPA) currently has 40 members, the majority being small processors employing between 5 and 20 staff. Collectively, the members employ around 3,000 people. There is now only one manufacturer of canned fish left in the UK, which is based in Fraserburgh. It focuses on the production of North Atlantic mackerel fillets and brisling sardines caught in the North Atlantic during the winter.
- 4.8.10 The largest concentration of employment in this sector in Scotland is located between Aberdeen and Fraserburgh. The ONS (2011) and Employment Survey statistics for processing activities in the North East Region indicate that there are 3,220 full-time and 350 part-time employees working in the processing and preserving of fish, crustaceans and molluscs

### *Wild Salmon and Sea Trout*

- 4.8.11 There are five fixed engine (two on the North coast and three in the Moray Firth) and 13 net and cable netting sites (10 in the Moray Firth and three along the East coast) in the North East SORER.

- 4.8.12 The main rod and line fishing rivers in this region are the Wick (salmon), Helmsdale (salmon and some sea trout fishing in summer months), Shin (salmon), Oykel (salmon), Carron (salmon), Alness (salmon and some sea trout), Conon (salmon and some sea trout), Beaully (salmon and some sea trout), Ness (salmon), Nairn (salmon and some sea trout), Findhorn (salmon and some sea trout), Lossie (salmon and sea trout), Spey (salmon and sea trout), Deveron (salmon and sea trout), Don (salmon and sea trout), Dee (salmon and sea trout) (Gray J., 2009).

**Figure 4.37** Salmon and Sea Trout Fishing Locations in North East Region

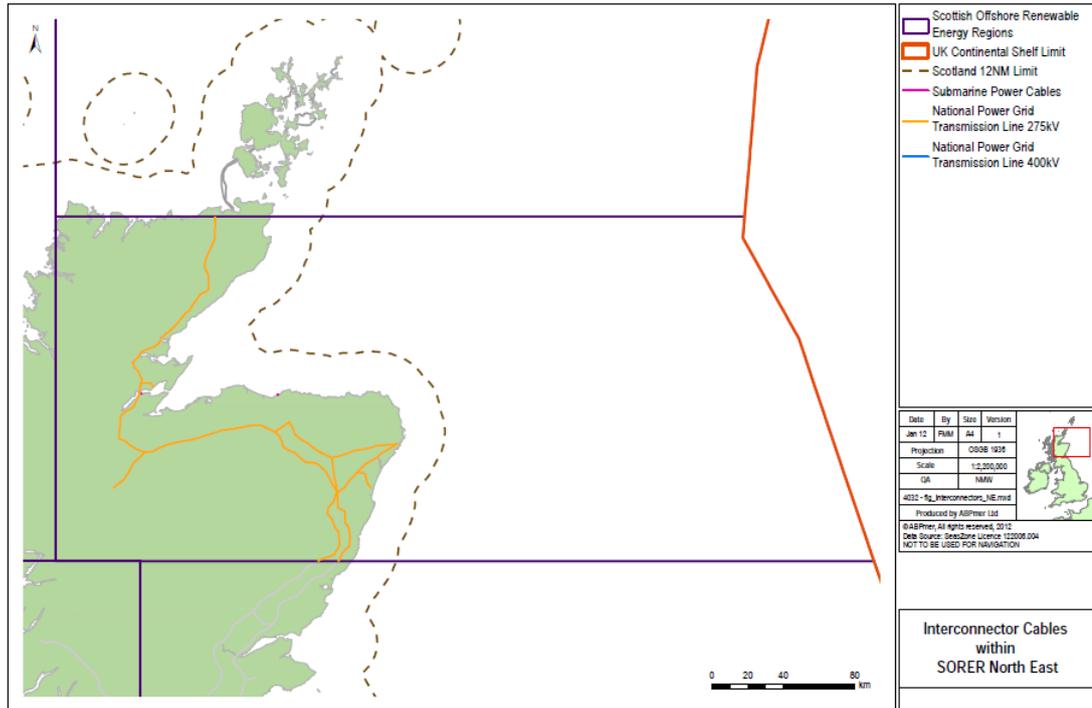


## 4.9 Infrastructure and Grid Provision

### *Existing*

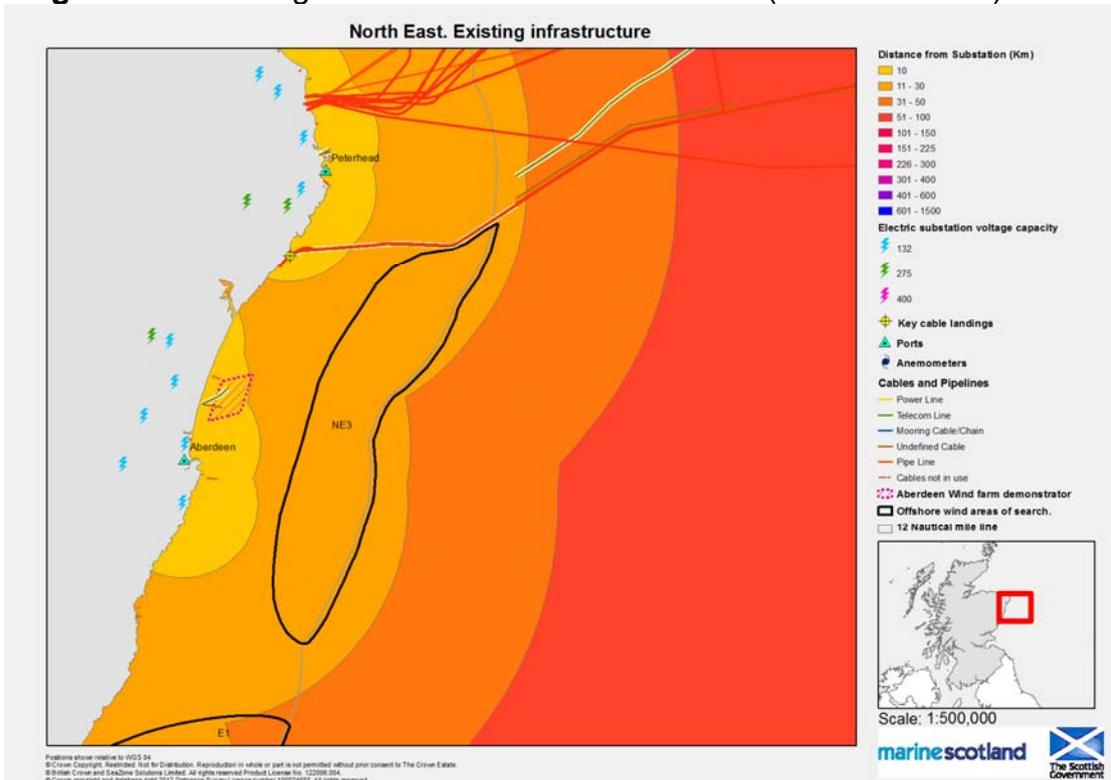
- 4.9.1 Peterhead Gas and Oil Power Station is the major power station located within this region. It has an installed capacity of 1,500MW.
- 4.9.2 There are no subsea domestic or international power interconnectors within this region.

**Figure 4.38** Interconnector cables in the North East Region

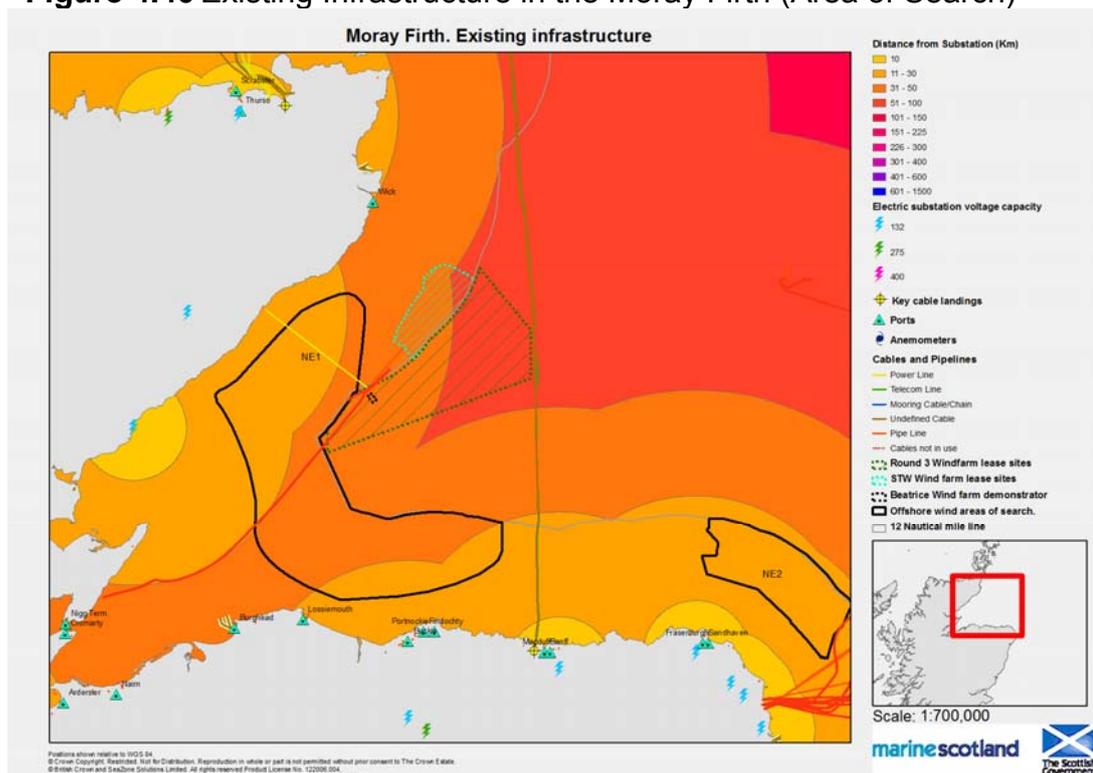


4.9.3 The existing infrastructure for electricity grid substations along with an indication of sub-station voltage capacity in relation to the North East and Moray Firth Areas of Search is outlined in Figures 4.39 and 4.40 (below):

**Figure 4.39** Existing Infrastructure in the North East (Area of Search)



**Figure 4.40** Existing Infrastructure in the Moray Firth (Area of Search)



*Future*

4.9.4 The potential infrastructure and grid provision within the North East Region is:

- Developments in the Moray Firth will connect via the Moray / Caithness / Shetland link;
- Developments on the Aberdeenshire coast will connect via the Peterhead to Hawthorn Pit HVDC link; or
- Alternatively, they may connect into the grid via a substation onshore adjacent to proposed developments.

4.9.5 Table 4.1 (below) provides an indication of the current stage of the planning for the potential infrastructure projects:

**Table 4.1** Current stage of planning for potential infrastructure projects (East region)

Potential Projects	Current Stage of Planning
New Caithness / Moray / Shetland Link	See previous (under North)
Peterhead to Hawthorn Pit (East Bootstrap)	Reinforcement were not included within NPF2 and its SEA Included in ENSG but not subjected to SEA EGPS refers to inclusion in ENSG, but not specifically assessed in SEA.

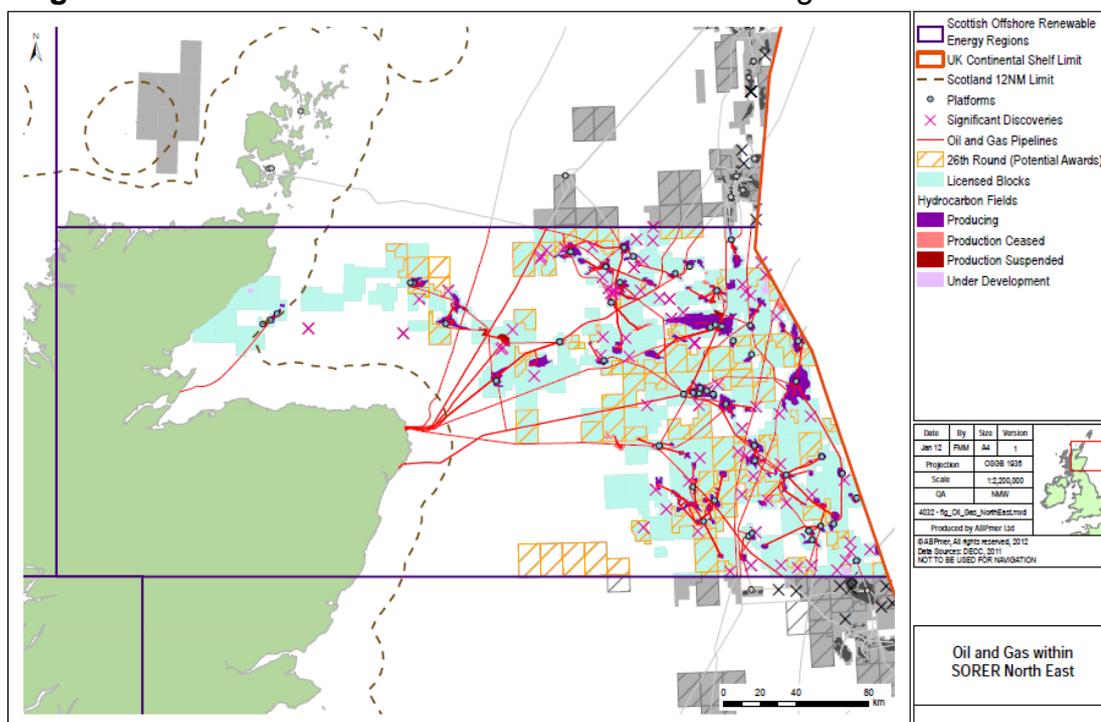
	No known environmental assessment of this link at present
Connection to Lintmill	Covered in DECC SEA (National Grid Study)
Connection to Blackhillock	Covered in DECC SEA (National Grid Study)
Connection to Peterhead	Covered in DECC SEA (National Grid Study)

#### 4.10 Oil and Gas

4.10.1 In this region, Oil and Gas activity occurs throughout much of the offshore waters, concentrated particularly along the Eastern edge of the SORER (Figure 4.41). Oil and Gas pipelines connect the hydrocarbon fields with three terminals within this region. There are 111 producing hydrocarbon fields in this region (93 producing oil; 4 gas and 14 condensate) (DECC website).

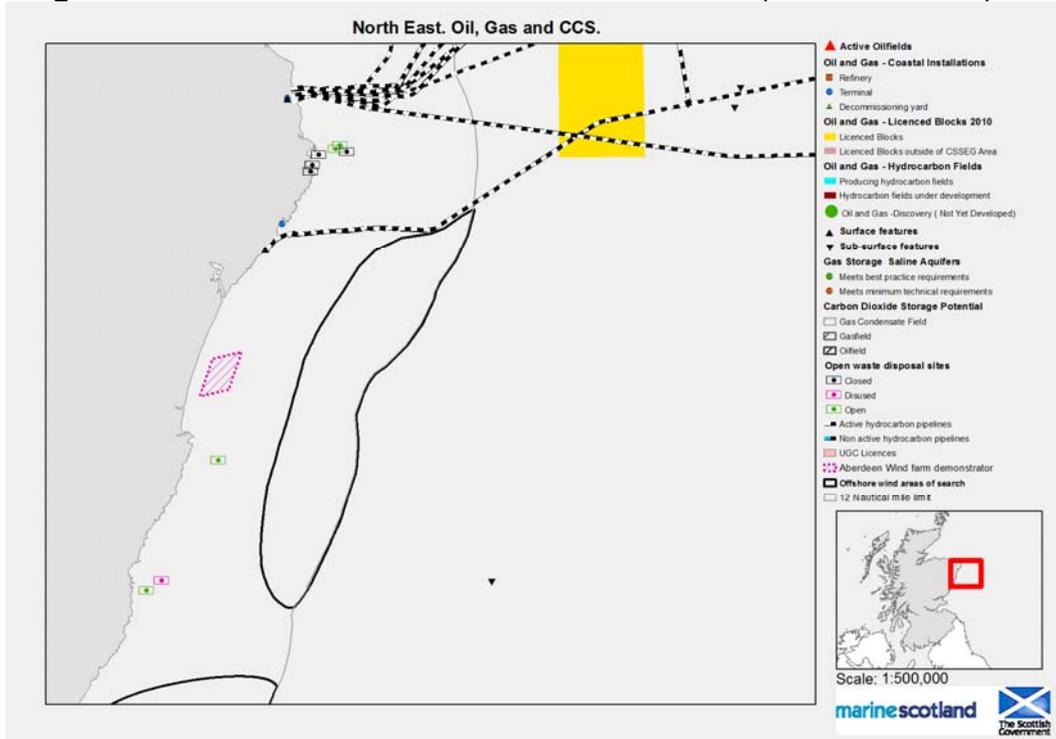
4.10.2 Information on the annual production of crude oil from individual hydrocarbon fields in the UKCS are provided by DECC. Indicative estimates of the total production of crude oil from hydrocarbon fields within this region was about 42 million tonnes in 2008 and 2009 and about 40 million tonnes in 2010. Gas production statistics are not allocated to hydrocarbon fields and hence it was not possible to estimate gas production from fields within this region.

**Figure 4.41** Oil and Gas activities in the North East Region

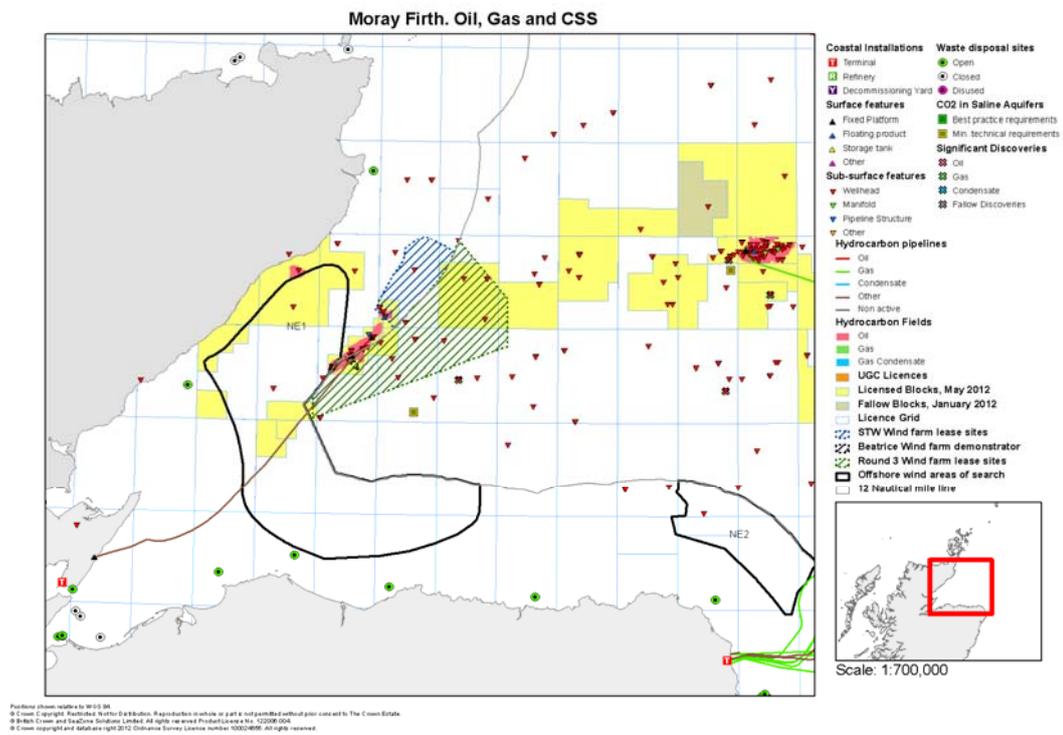


4.10.3 The known oil and gas activities taking place in relation to the North East and Moray Firth Areas of Search are outline in Figures.4.42 and 4.43 (below)

**Figure 4.42 Oil and Gas activities in the North East (Area of Search)**



**Figure 4.43 Oil and Gas activities in the Moray Firth (Areas of Search)**



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#### 4.11 Planning Issues

##### *Highland*

- 4.11.1 The Highland Wide LDP provides the overarching framework for terrestrial planning in the area. The Proposed Plan identifies the need to balance environmental protection with aspirations for renewable energy development across the plan area. It also includes an aspiration to become an internationally renowned centre of excellence for marine renewables, through its spatial strategy, and support for other activities. Opportunities for economic diversification centre on the renewable sector, noting the importance of Kishorn in Wester Ross, Nigg, Ardersier and other ports and harbours for investment and providing policies to support their redevelopment. Policy 68 of the Plan sets out the criteria against which renewable energy developments will be assessed, whilst Policy 69 covers Community Proposals, and Policy 70 focuses on the Electricity Transmission Infrastructure.
- 4.11.2 The Highland Council produced its Draft Supplementary Guidance for onshore wind energy development in 2011. This notes that there is the potential for cumulative impacts arising from on and offshore wind energy developments, maps existing onshore activity and takes forward targets for further development. The map shows significant concentrations of activity in North Caithness and Sutherland, including several projects close to the coast. The guidance highlights areas where constraint is required, largely on the basis of their designated status. This includes sites on the Moray Firth coast and areas identified as sensitive landscapes. In general, broad areas of search, deemed suitable for onshore wind, appear to be largely inland.

##### *Moray*

- 4.11.3 The Moray LDP MIR is expected to be published in Summer/Autumn 2012.

##### *Aberdeenshire*

- 4.11.4 Aberdeenshire Council noted in its response to the consultation on the RLG scoping that there are no references to the coast in the SDP and LDP relating to their part of this region. However, supplementary guidance has been produced which includes policy relating to the coastal zone. This sets out criteria against which proposals for development on the coast will be assessed. The supplementary guidance also includes policies relating to onshore wind development, but does not identify a spatial strategy for windfarms over 20 MW as this will be produced in the revised guidance, to be published in March 2013.

#### 4.12 Ports and Harbours

- 4.12.1 Within this region, Aberdeen, Peterhead, Nigg and Ardersier were identified as Phase 1 sites in the N-RIP. These sites were also assessed with regard

to Enterprise Area status and Nigg was included in the finalised group of sites which together make up the Low Carbon / Renewable Energy Enterprise Area (North).

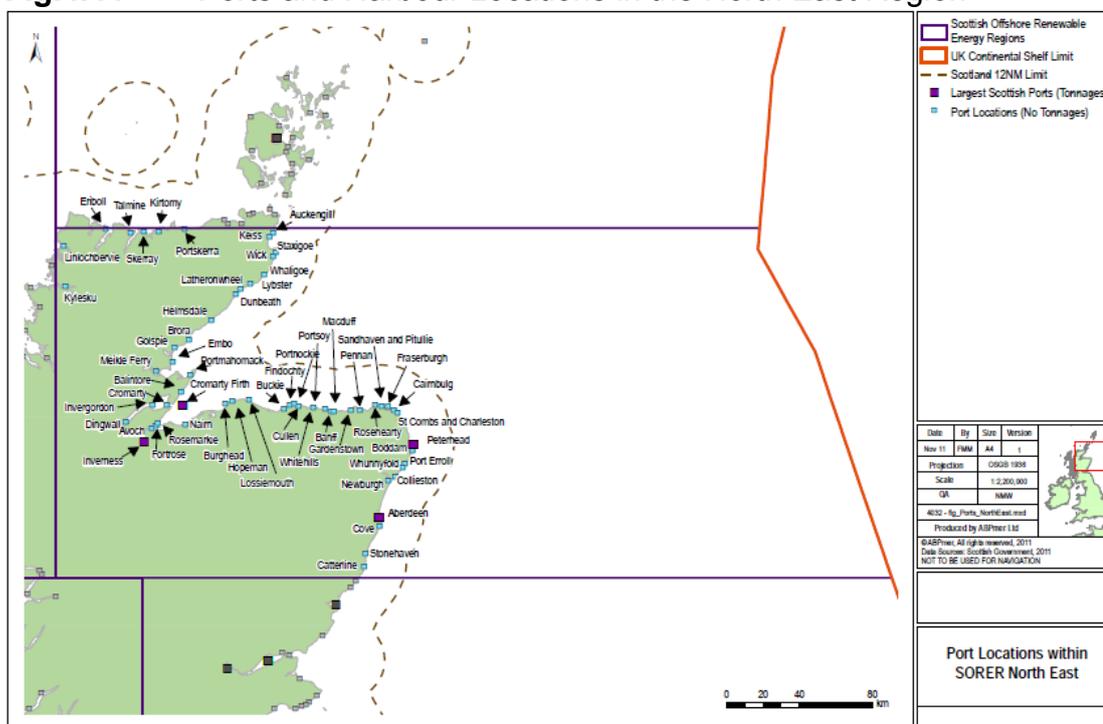
- 4.12.2 **Aberdeen** is the principal commercial port for north-east Scotland, and 50% of tonnage is oil-related cargo. The N-RIP explored scope for using existing sites at the port, with some works to allow for wider vessels and construction of ancillary buildings and facilities onshore. It included the port in the list of Phase 1 sites, reflecting its scope for distributed manufacturing and operation / maintenance activities at Aberdeen.
- 4.12.3 **Peterhead** is the largest port for white and pelagic fish landings, and a key base for the oil and gas sector. Extensive improvements to the port facilities are already being taken forward. The N-RIP identifies Peterhead as a Phase 1 site with existing and future to support oil and gas activities and renewables manufacturing and operations and maintenance. There is opportunity for the port to work with the wider Energetica Project, which aims to attract business investment within a corridor.
- 4.12.4 **Ardersier** is located on the Moray Firth coast (approximately 15 miles east of Inverness). The port covers an extensive area which formerly played a key role in supporting the oil and gas sector. The N-RIP Phase 1 status relates to its role in developing integrated manufacturing to support offshore wind. The plans for development use the existing site.
- 4.12.5 Located on the Cromarty Firth, **Nigg** has Enterprise Area Status and is identified as an N-RIP Phase 1 site. It was identified as having potential for integrated manufacturing to support offshore wind. Nigg has already played a key role in supporting the development of the Beatrice offshore wind demonstrator project.
- 4.12.6 **Invergordon** (also on the Cromarty Firth) is a key site for economic development within the Highland area, having played an important role in servicing the oil and gas sector. It has deep water access, and is already established as a key facility supporting offshore energy development in the Moray Firth, supporting up to 1,000 full time jobs. As set out in its 20 year masterplan, upgrading of facilities is being taken forward in phases. Future plans include reuse of reclaimed land, and further reclamation, and construction of a new quay.
- 4.12.7 **Inverness** port is a sheltered deepwater port, handling a range of freight including oil, timber, and other goods. It has a marina and further mixed use development is envisaged, to maximise its economic benefit. Access to the port has been significantly improved in recent years, to facilitate the transportation of large scale freight, as well as the handling of sizable wind turbine components.
- 4.12.8 The **Fraserburgh Harbour** Commissioners responded to the RLG scoping consultation. They emphasised their intention to diversify facilities and infrastructure, to optimise the role of the harbour in supporting offshore

renewables. Assistance is being sought to providing deepwater access and an onshore development area. The Commissioners were therefore supportive of offshore renewables developments close to the harbour. Fishing remains a key activity at this port.

4.12.9 **Highland Deephaven** is also located within this North East Region. This Port is identified as a medium term option N-RIP Phase 2.

4.12.10 This region has many other harbours of varying sizes, used for recreation and fishing. This includes Banff, Buckie, Burghead, Cullen, Findochty, Gourdon, Helmsdale, Hopeman, Johnshaven, Lossiemouth, Macduff, Portnockie, Portsoy, Rosehearty, Stonehaven and Whitehills.

**Fig.4.44** Ports and Harbour Locations in the North East Region



**Table.4.2** Ports and Harbour Locations in the North East Region

Port	Operator	Type
Aberdeen	Aberdeen Harbour Board	Trust
Auckengill		Local Authority
Avoch	Avoch Harbour Trust	Trust
Balintore		Local Authority
Banff	Aberdeenshire Harbours	Local Authority
Boddam		Private
Brora		Local Authority
Buckie	Moray Harbours	Local Authority
Burghead	Moray Harbours	Local Authority
Cairnbulg		Private
Catterline		Private
Collieston		Trust
Cove		Private
Cromarty	Cromarty Harbour Trust	Trust
Cullen	Moray Harbours	Local Authority
Dingwall		Disused
Dunbeath		Local Authority
Embo		Disused
Eriboll		unknown
Findochty	Moray Harbours	Local Authority
Fortrose		Local Authority
Fraserburgh	Fraserburgh Harbour Commission	Trust
Gardenstown		Trust
Golspie		Local Authority
Helmsdale	Highland Harbours	Local Authority
Hopeman	Moray Harbours	Local Authority
Invergordon	Cromarty Firth Port Authority	Trust
Inverness	Inverness Harbour Trust	Trust
Keiss		Local Authority
Kinlochbervie	Highland Harbours	Local Authority
Kirtomy		Private
Kylesku		Local Authority
Latheronwheel		Local Authority
Lossiemouth	Aberdeenshire Harbours	Local Authority
Lybster		Private
Macduff	Aberdeenshire Harbours	Local Authority
Meikle Ferry	Site nearly deserted	Closed
Nairn		Local Authority
Newburgh		unknown
Pennan	Pennan Harbour Trust	Trust
Peterhead	Peterhead Port Authority	Trust
Port Erroll	Cruden Bay Harbour Commissioners	Trust
Portmahomack	Highland Harbours	Local Authority
Portnockie	Moray Harbours	Local Authority
Portskerra	Highland Harbours	Local Authority
Portsoy	Aberdeenshire Harbours	Local Authority

Rosehearty	Aberdeenshire Harbours	Local Authority
Rosemarkie		
Sandhaven and Pitullie	Sandhaven and Pitullie Harbour Trust Ltd	Private
Skerry		Trust
St Combs and Charleston		unknown
Staxigoe		Local Authority
Stonehaven	Aberdeenshire Harbours	Local Authority
Talmine		Trust
Whaligoe	Closed	Closed?
Whinnyfold		unknown
Whitehills	Whitehills Marina	Private
Wick	Wick Harbour Authority	Trust

(Source: Marine Scotland, 2011a)

#### 4.13 Recreation

##### *Recreational Angling*

4.13.1 The area is particularly noted for cod, but in general offers reasonable mixed fishing, with flatfish and mackerel in summer and reasonable prospects of coleys, wrasse and ling (Radford et al. 2009). Aberdeen is a popular shore and charter boat angling location (Land Use Consultants, 2007).

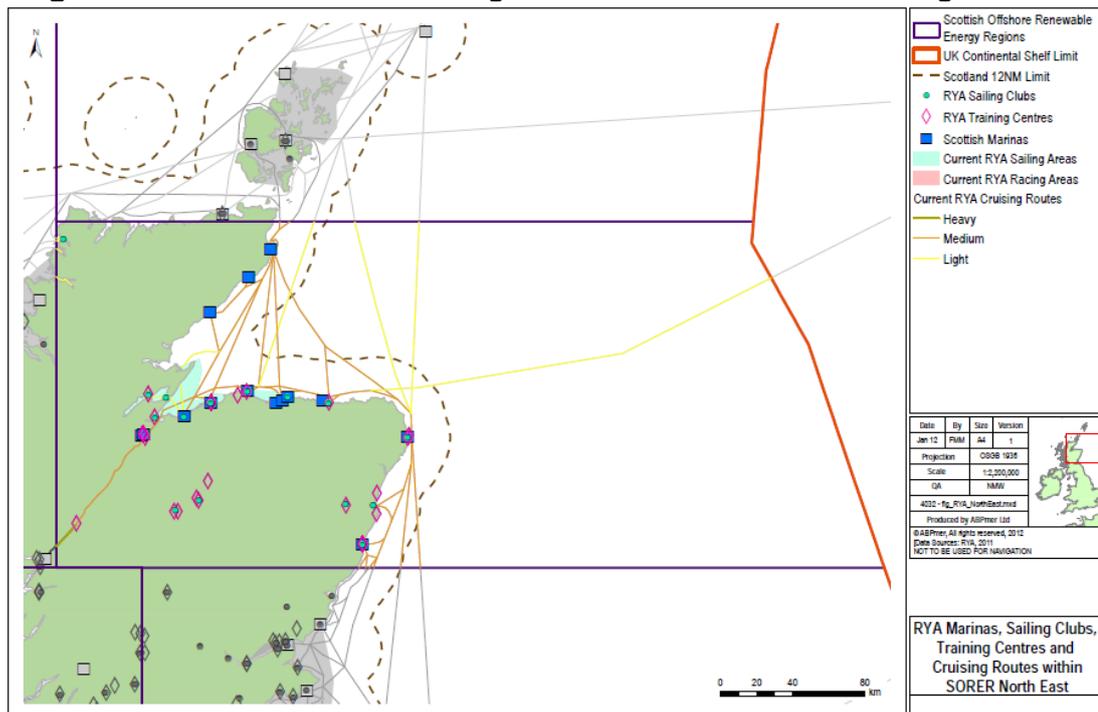
4.13.2 Radford et al (2009) estimated the sea angling activity and economic value in eight regions of Scotland. Two of these regions, North and North East Scotland fall within the North East SORER. As the areas in Radford et al (2009) do not align with the SORERs the values should only be taken as indicative values for comparison between areas.

4.13.3 The total estimated regional sea angling activity and expenditure within these two regions is £11.2 million in the North and £15.5 million in the North East. Employment associated with the sea angling in these regions is estimated at 299 in the North and 343 in the North East.

##### *Recreational Boating*

4.13.4 Sailing activity in the North East Region is shown in Figure 4.45. Recreational use here is centred on the inner Moray Firth which is an important area for sailing. Figure 4.45 shows that moderate use cruising routes connect the sailing areas in the Moray Firth with marinas in the Northern part of this region such as Wick and Helmsdale (Baxter et al. 2011).

**Figure 4.45** Recreational Boating activities in the North East Region

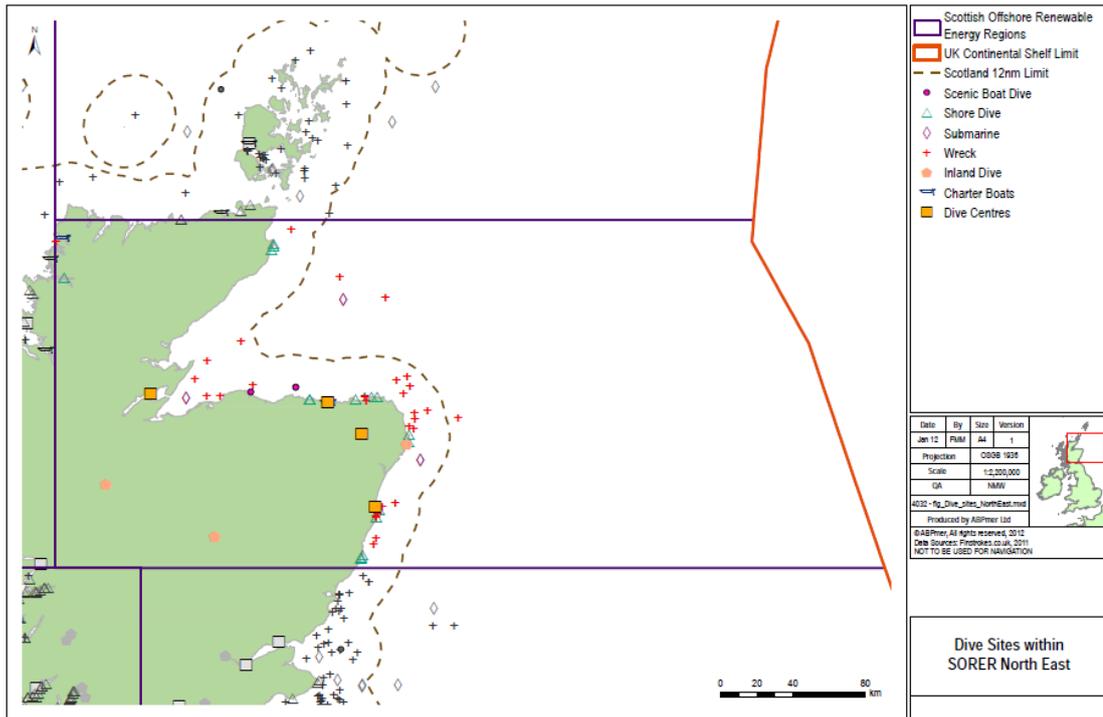


4.13.5 A report on the economic impact of sailing specifically for the North (Gairloch-Helmsdale-Peterhead, Orkney and Shetland) and East (Peterhead-Fife Ness-Berwick) found that expenditure associated with sailing was estimated at £18 million annually.

### *Scuba Diving*

4.13.6 Most scuba diving sites are located in the inner Moray Firth and around the populated areas of Fraserburgh, Peterhead and Aberdeen (Figure 4.46). Several dive centres and charter boats and nine dive clubs operate in the area.

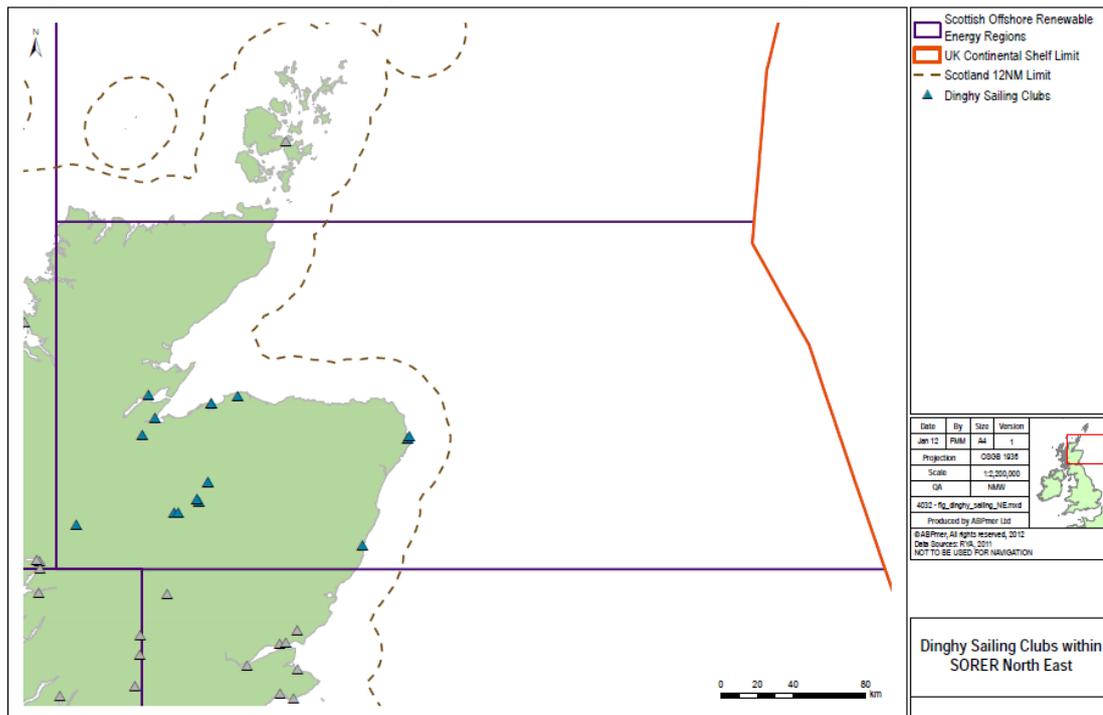
**Figure 4.46** Recreational diving activities in the North East Region



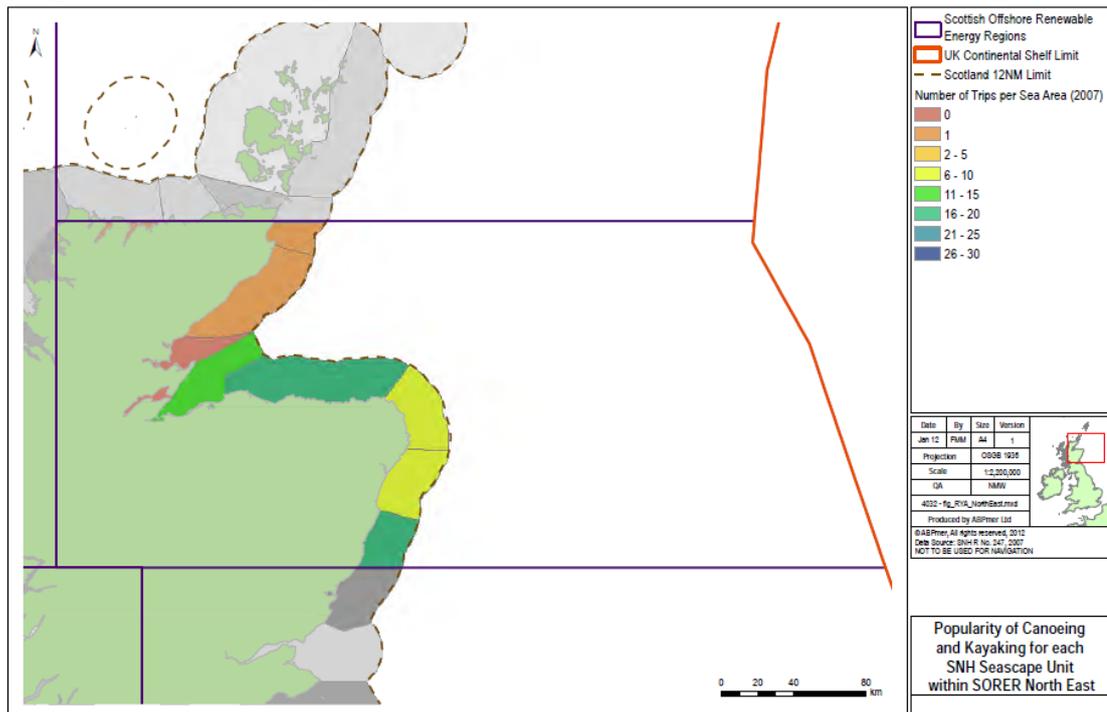
*Sea Kayaking and Small Sail Boat Activity*

4.13.7 Dinghy sailing clubs in the North East Region are located in the inner Moray Firth, Peterhead and at Aberdeen (Figure 4.47). Sea kayaking is a popular activity along the Grampian coast (Land Use Consultants, 2007) (Figure 4.48).

**Figure 4.47** Dinghy Sailing Clubs in the North East Region



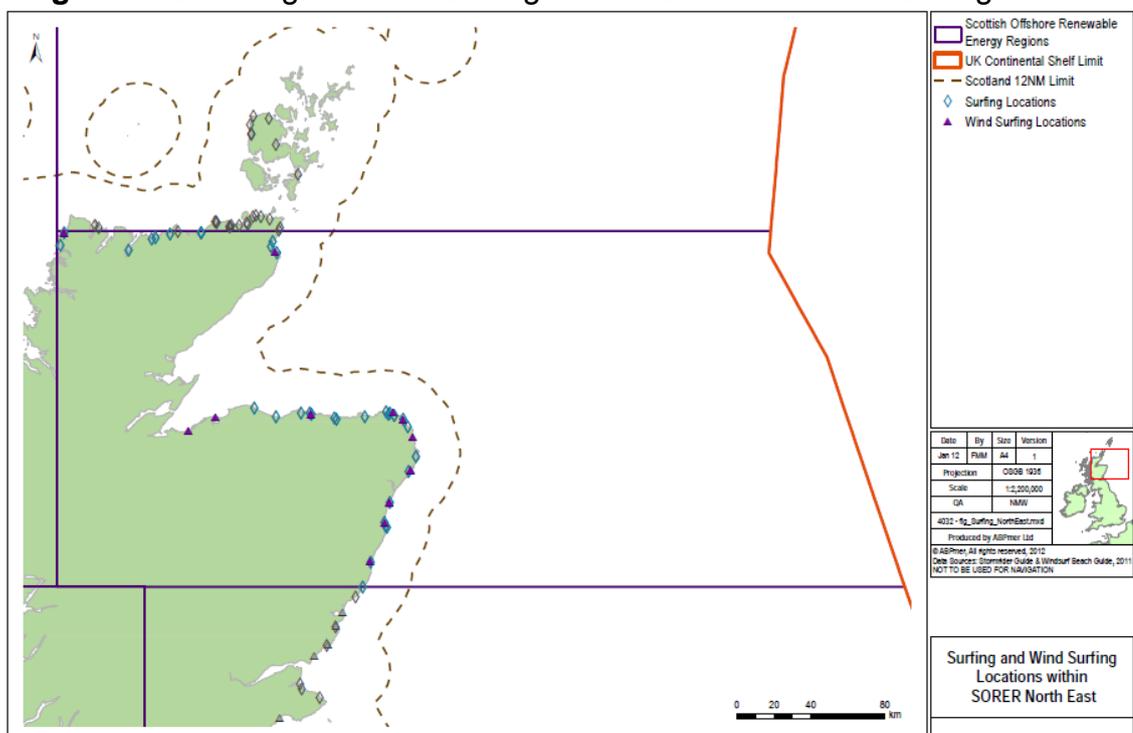
**Figure 4.48** Kayaking and Small Boat Activities in the North East Region



*Surfing and Windsurfing*

4.13.8 Surfing is popular on the South side of the Moray Firth (SAS, 2010). Figure 4.49 shows the surf locations in this region.

**Figure 4.49** Surfing and Windsurfing locations in the North East Region



4.13.9 The SAS (2009) report shows about 25 surfing locations occur within the North East Regions.

**Table.4.3** Key Surfing and Windsurfing Locations in the East Region

General Location	Surf Location	Windsurf Locations
Moray Firth - North	Sinclair's Bay	Sinclair's Bay
	Keiss	
	Ackergill	
Moray Firth - South	Lossiemouth	Nairn
	Spey Bay	Findhorn Bay
	Sandend Bay	Sandend Bay
	Fraserburgh	Fraserburgh
	Cullen	
	Boyndie Bay	
	Banff	
	Pennan	
	Wisemans	
	Phingask	
	West point	
Eastern coast (South of Fraserburgh)	Sunnyside Bay	
	St Combs to Inverallochy	St Combs
	Peterhead to St Combs	Scotstown
	Cruden Bay	Cruden Bay
	Stonehaven	Stonehaven
	Balmedie to Newburgh	Balmedie
	Aberdeen Beach	Aberdeen Beach
	Aberdeen Harbour	
	Nigg Bay	
Sandford Bay		
Inverbervie		

(Source: Based on SAS, 2009 and the Windsurf Magazine 'beach guide' 2011)

4.13.10 Fraserburgh, one of the most popular surfing locations in this area and regularly holds surf competitions and events such as the UK Surf Tour and Fraserburgh Surf Festival. A survey conducted by Event Scotland predicted the Fraserburgh Surf Festival competition would generate a £100,000 windfall for the town, with surfers and visitors making use of local hotels and restaurants.

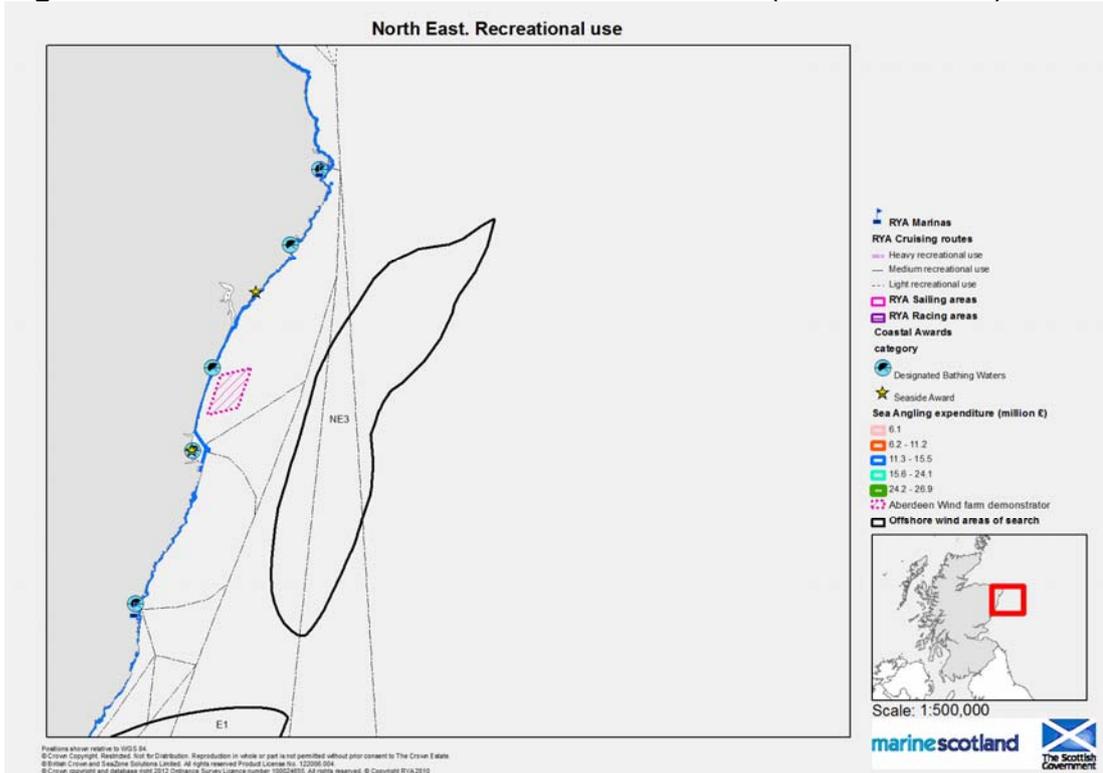
#### *Areas of Search*

4.13.11 Recreational activity in relation to the North East Area of Search E3 includes two RYA cruising routes with a moderate level of sea angling taking place along the Aberdeenshire Coastline.

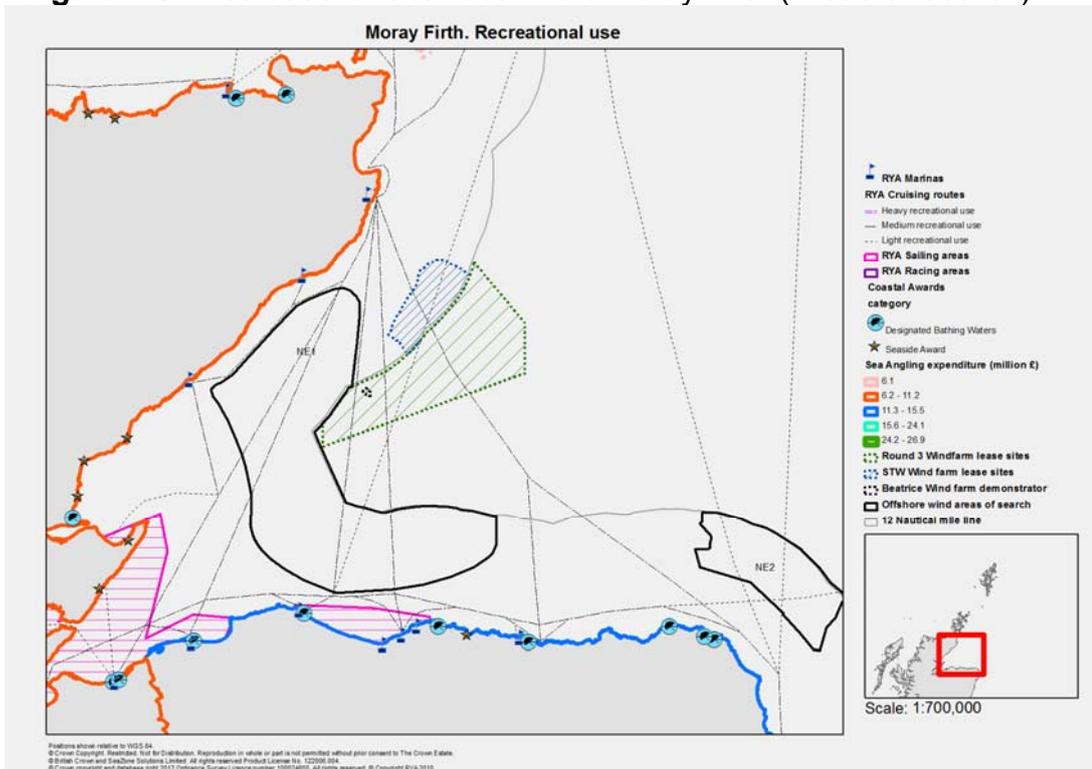
4.13.12 In relation to the Areas of Search in the the Moray Firth, there are also RYA cruise routes present, with RYA Boating Areas to the South and South West of the E1. Moderate levels of sea angling take place along the Moray coastline with lower levels in the Northern parts of this region.

4.13.13 Figures 4.50 & .51 below identifies the recreational activities taking place in the North East and Moray Firth Areas of Search.

**Figure 4.50** Recreational activities in the North East (Area of Search)



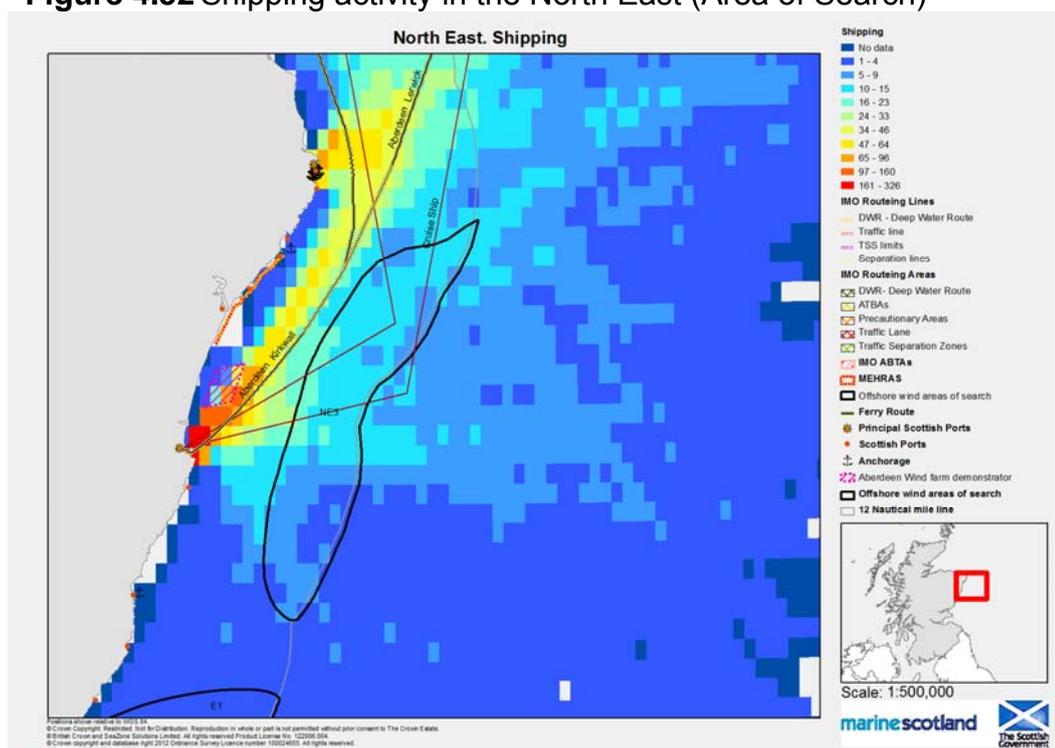
**Figure 4.51** Recreational activities in the Moray Firth (Areas of Search)

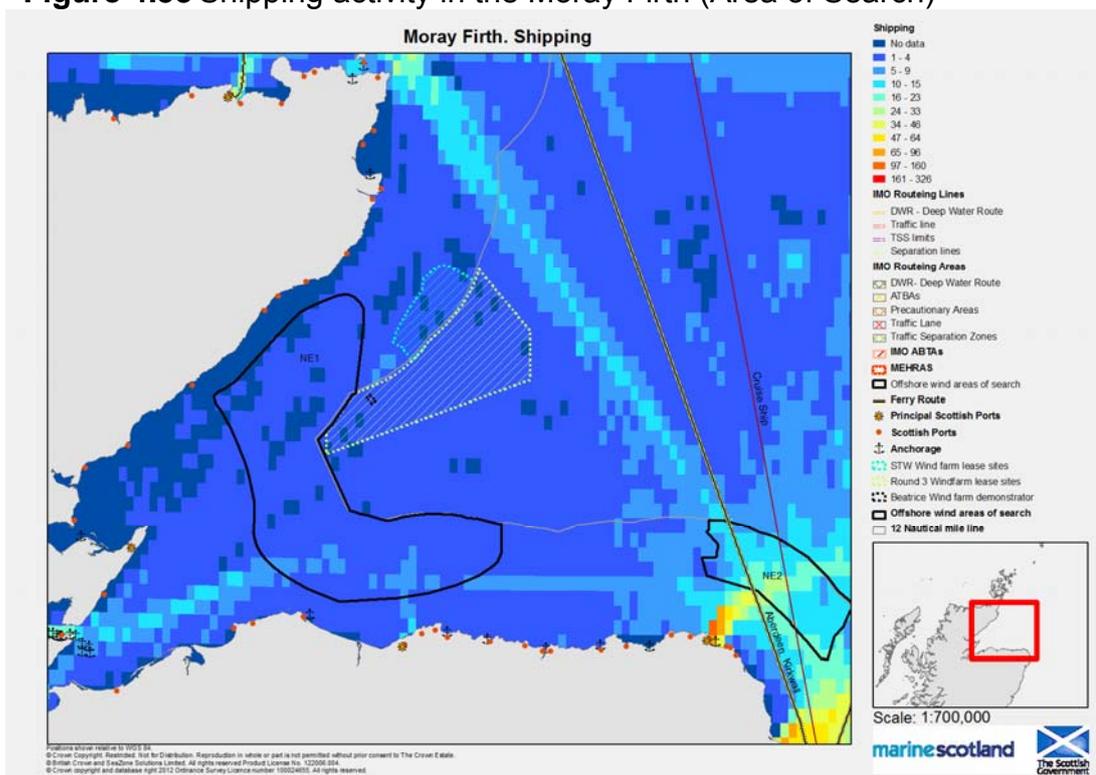


#### 4.14 Shipping

- 4.14.1 The Aberdeen-Kirkwall-Lerwick ferry routes are directly east of area of search NE3 and are within 1.5 nm at the closest point.
- 4.14.2 Directly east of NE3 there is a zone of high shipping activity. This is due to the ports of Aberdeen and Peterhead and their important role in the operation and maintenance of offshore oil and gas enterprises. Fishing vessels add to the traffic as Peterhead is the largest fresh whitefish market in Europe and also one of the largest pelagic fish (herring, mackerel, horse mackerel) processing ports.
- 4.14.3 Site NE2 is transected in its north-west section by the Aberdeen to Kirkwall ferry route. This site also sits directly in the route of oil and gas vessels heading east-north east towards offshore oilfields. This area of search could therefore interact with shipping and fishing traffic routes to and from Fraserburgh and Peterhead harbours.
- 4.14.4 MEHRAS exist at Newburgh and Kinnaird head due to vulnerable seabird populations and fishing and amenity/economic activity, as well as a variety of coastal features of touristic interest.
- 4.14.5 No ferry links intersect with area of search NE1. This area is located in the Moray Firth and is in the path of small inshore fishing vessels working out of Moray coast harbours.
- 4.14.6 Figures 4.52 and 4.53 indicate current known shipping activity in relation to the North East and Moray Firth Areas of Search.

**Figure 4.52** Shipping activity in the North East (Area of Search)



**Figure 4.53** Shipping activity in the Moray Firth (Area of Search)

#### 4.15 Social Considerations

4.15.1 The total population in North East Region is 630,000. The populations of working age people and people of pensionable age increased, while the number of children decreased. The largest change was in the number of people of pensionable age, which increased by 22.4% (from 114,000 in 1996 to 139,000 in 2010). The working age population increased by 3.9% from 423,000 in 1996 to 439,000 in 2010, although most of this increase has been seen since 2005. Before then, the working age population decreased slightly. The population of children has decreased by 8.9% (from 135,000 in 1996 to 123,000 in 2010).

4.15.2 Median weekly earnings for full-time employees varied from £280.40 per week (Moray) to £399.50 per week (Aberdeen City) in 2001, a difference of £119.10 per week. By 2010, the difference between the lowest median weekly income was £156.20 (£420.70 in Moray and £576.90 in Aberdeen City). This is equivalent to an increase of £140.30 (50%) in Moray and £177.40 (44%) in Aberdeen City. The largest change was seen in Aberdeenshire, with an increase of £192.50 (58.4%) in Aberdeenshire and the lowest increase was in the Highlands (£133.60 or 41.3%). When inflation is taken into account, the increase in Moray is 16% and for Aberdeen City is 12%. For Aberdeenshire, the increase in real terms is 22% and in the Highlands it is 9.5%.

- 4.15.3 The greatest number of jobs are associated with human health and social work activities, accounting for 15%, and wholesale and retail, at 14% of the total for 2010. Other industry sectors accounting for around 10% of jobs are professional, scientific and technical activities at 9.6%. Of particular significance in the North East is mining and quarrying at 7.3% (reflecting the importance of the Oil and Gas industry). Agriculture, forestry and fishing makes up just 0.9%. Accommodation and food services activities make up 7.2% while arts, entertainment and recreation account for around 2% of all jobs in the North East.
- 4.15.4 The crofting counties in this region include Inverness, Badenoch and Strathspey and the North East Highland counties of Caithness, Ross-Shire and Sutherland. There are 435 crofts with 32,470 households in parishes containing crofts in Inverness, Badenoch and Strathspey. The NE Highland area contains a much greater number of crofts with 2757. The average income from crofting activities is higher in the Inverness, Badenoch and Strathspey crofting counties (£11,240 accounting for 47.27% of overall household income) compared to the NE Highlands (£9,800 accounting for 36.45% of household income).
- 4.15.5 The local authority area with the highest proportion of the population that considered their health to be good or very good was Aberdeenshire (88.7%) in 2001/2002 and Moray (92%) in 2007/2008. The lowest proportions were in Moray (87.2%) in 2001/2002 and Aberdeen City (88.7%) in 2007/2008. The change in Aberdeenshire in 2007/2008 was 90.2%, an increase since 2001/2002.
- 4.15.6 There are 193 SIMD coastal datazones in the North East Region, accounting for 22% of all datazones. Coastal datazones in the North East are much less likely to be in the 10% most affluent areas across all five indicators (education, skills and training; employment; income; housing; and health). This is reflected in the average ranking, which is consistently lower for the coastal datazones. However, the number of coastal zones that are within the most deprived decile is only slightly increased for employment (from 2% to 4%) and for housing (from 2% to 3%). This suggests that coastal datazones are more deprived than inland datazones, but most datazones still fall in the 80% that are neither deprived nor affluent.
- 4.15.7 In terms of the population with no qualifications, the range is between 11% and 18% in 2004, and between 6.6% and 9.6% in 2010. The area with the highest proportion of the population with no qualifications is Moray in both 2004 and 2010. The minimum values are for Aberdeenshire in 2004 and Highland in 2010 (Aberdeenshire has 8.2% with no qualifications in 2010). The area offering the lowest proportion of job-related training in 2004 was Aberdeenshire, very closely followed by Highland (29%). The areas with the highest rates of job-related training were Moray followed by Aberdeen City (32%) in 2004 and Aberdeen City, closely followed by Moray (30%) in 2010. The minimum drive time to a college of Further or Higher Education in the North East Region is an average of 53 minutes (Highland and Aberdeenshire) to a maximum of 100 minutes (Aberdeen City). Taken

altogether, the statistics suggest that the workforce has higher qualifications, but work-based skills obtained through job-related training may be reducing.

- 4.15.8 House prices in the North East Region are generally higher than the national average, with the exception of Moray. Even in Moray, mean house sale prices (£148,549) were only 4% below the national average in 2010. The highest house sale prices are in Aberdeenshire, with a mean value of £206,173, or 34% higher than the national average. Highland is the second least affordable area in Scotland, with 27.6% of disposable earning being spent on mortgage payments. Aberdeenshire is third at 26.9%, Moray is fourth highest at 26.2%, and Aberdeen City is tenth highest at 24.1% (these compare with an average for Scotland of 22.4%). Highland has the one of the highest house price to earnings ratios for first-time buyers in Scotland (4.2), with Moray close behind at 4.0.
- 4.15.9 The highest perceived quality of life in the North East Region in 2007/2008 was in Aberdeenshire, where 69.8% rated their neighbourhood as good or very good. The lowest was in Aberdeen City at 54%. There has been an increase in the percentage of adults rating their neighbourhood positively since 1999/2000 in three of the four local authorities: the percentage in Aberdeen City has increased by 8.9%, in Aberdeenshire the increase was 8.8% and in Moray the increase was 5.2%. In Highland, though, the percentage has decreased from 62.9% in 1999/2000 to 62.3% in 2007/2008. Although this is only a 0.6% decrease, the change since 2005/2006 is much larger, decreasing by 5.2% (from 67.5%).
- 4.15.10 Average electricity consumption (per household) in the North East Region was 10.4 MWh in 2009 (compared with an overall estimated average per household for Scotland of 5.7 MWh). Those households where the highest income earner (HIH) is 60+ are more likely to be in fuel poverty than the whole population in 2007/2009. At 52.0%, this is higher than the national average of 45.9% for this group. The percentage of HIH 60+ in fuel poverty has also increased over time. There is variation across the region, with the highest percentage of HIH 60+ being in fuel poverty at 58.2% (Moray) and the lowest being 42.7% (Aberdeen City). Across the whole population, the highest percentage is in Highland (36.2%) and the lowest in Aberdeen City (21.8%). The change in percentage of the whole population in fuel poverty is an increase, ranging from just +1.9% in Aberdeenshire (from 29.7% to 31.6%) to +4.7% in Highland (from 31.5% to 36.2%).

#### 4.15 Future Trends

- 4.15.1 Table 4.4 summarises the statistics and trends discussed above to give an indication of the likely future changes by indicator, comparing national with local trends (where data are available). There is much greater uncertainty over trends for the time period of 30 to 50 years and, in both cases, it is assumed that future trends follow recent and historic trends.

**Table 4.4** Summary of future trends in North East Region

Indicator	National		Regional		Evidence for Trend
	10-20 yrs	30-50 yrs	10-20 yrs	30-50 yrs	
Average age	↑	↑	↑	↑	Estimate of proportion of the population that is of pensionable age between 2001 and 2010
Working age population	↑	→	↑	→	Recent trends suggest an increase in the number of people of working age, following a decline to 2004
Income	↑	↑	↑	↑	Recent trends suggest increase in median weekly income over time
Health	↑	→	↑	↑	Recent trends suggest slight increase in perception of health
Perception that neighbourhood is a very good place to live	↕	↕	↑	↑	Regional trends suggest small increases (in 3 of 4 local authorities)
Affordability of housing	↑	→	↑	→	Suggestion that affordability has increased recently, but this may not be sustained. This region is one where it is less affordable to buy property, while council house debt is around or slightly above the national average
Housing quality	↑	↑	↑	↑	Housing quality, as measured by percentage of housing failing the SHQS, is improving, although the definition used in the standard has changed over time, making this difficult to confirm
Energy consumption	↓	↕	↓	→	Recent trends suggest potential for continued slight decline, in longer term is more uncertain
Fuel poverty	↑	→	↑	→	Recent trends show an overall increase even though the Scottish Government policy is that there should be no fuel poverty in the medium to long-term. Disability and long-term sick has shown small decrease
Key: ↑: indication of upward trend ↓: indication of downward trend ↕: uncertain trend could be up or down →: no significant change up or down					

#### 4.16 Supply Chain

4.16.1 Within the N-RIP Stage 2, two priority sites in this Region were identified as suitable for integrated manufacturing:

- Nigg Yard, Cromarty Firth;
- Ardersier, Moray Firth;
- Aberdeen, North Sea; and
- Peterhead, North Sea.

4.16.2 The Nigg Yard is suitable for integrated manufacturing on a large scale. It has extensive deep water, sheltered anchorage, extensive dry dock and diverse local support facilities. It is placed at the northern entrance to the Cromarty Firth in Ross-shire, about 56km (35 miles) from the city of Inverness.

4.16.3 The Ardersier site has direct access to the Moray Firth and North Sea and lends itself to large scale integrated renewables manufacturing, fabrication and construction, with assembly lay down and floatation facilities for ocean-going facilities.

4.16.4 Aberdeen Harbour has existing infrastructure which is currently used to service the considerable fishing and oil and gas operations taking place within the North East region. Areas within the dock have been identified for the development of offshore wind energy as part of the N-RIP process, and in the Aberdeen Harbour Development Framework developed by the Aberdeen City Council.

4.16.5 Peterhead Port has recently opened a all-weather deepwater quay and ancillary facilities which will support offshore oil and gas and renewable operations. Smith Embankment, involving a new 200 metre berth and 16,000 m<sup>2</sup> work area, augments the extensive existing facilities which make Peterhead the premier deepwater port in the UK. The new embankment's 10 metre depth and heavy-lift capabilities are also expected to attract business from the offshore decommissioning sector.

4.16.6 Supporting sites in the Moray Firth Cluster also offer potential for Operations and Maintenance, logistical support services and supply chain manufacturing:

- Buckie;
- Highland Deephaven;
- Invergordon;
- Inverness; and
- Wick.

4.16.7 Further detailed information in relation to these site is available within *Scottish Offshore Renewables Development Sites: Moray Firth Cluster* ([www.sdi.co.uk](http://www.sdi.co.uk)).

- 4.16.8 The Moray Firth area is home to a range of skilled local companies who are experienced in the offshore industries due to the history of oil and gas engineering in the North Sea. Many large subsea contractors currently use the Moray Firth regularly for fabrication, servicing and maintenance and there is a local diving industry associated with subsea fabrication.
- 4.16.9 Due to the presence of the Royal Air Force bases at Kinloss and Lossiemouth a sizable engineering supply chain has developed in the Moray area over the years, and the current downsizing of those bases now means that there is a substantial highly skilled engineering workforce available.
- 4.16.10 Energy North is a trade organisation that focuses on the Energy sector and covers the North East Region. It covers the North of Scotland and Argyll areas currently has 150 members from the oil and gas, renewables, engineering, fabrication and nuclear decommissioning sectors.
- 4.16.11 In terms of educational facilities, The University of the Highlands and Islands is one of the main higher education institutions based in the region. The other main education institute covering renewables is The International Centre for Island Technology (ICIT) - Heriot Watt in Orkney, which provides MSc courses in renewable energy.
- 4.16.12 Inverness College UHI is one of the largest colleges in the Highlands and Islands. The college works closely with local employers to ensure relevant course content. Courses include NC in Mechanical Engineering, HNC in Fabrication, Welding and Inspection, NC in Electrical Engineering, HNC/D in Engineering Systems, SVQ 3 in Electrical Installation, and HNC in Construction Management.
- 4.16.13 Moray College also offers vocational, technical and academic qualifications including NC in Mechanical Engineering, NC Electrical Engineering, and HNC/D in Engineering Systems.

*Aberdeen City Council and Aberdeenshire Council*

- 4.16.14 The Aberdeen City and Shire Region has been the centre of Europe's oil and gas industry for the past 40 years. It has built up an experienced and vast supply chain and labour force capable of delivering offshore renewable projects in the North Sea.
- 4.16.15 Part of the East Coast Renewables Group (See 3.16) Aberdeen City and Aberdeenshire have an extensive supply chain and labour market currently involved in the development of offshore energy. More than 900 companies in Aberdeen City and Aberdeenshire are already key players in areas of the oil and gas supply chain, and are likely to be able to transfer their unique skills and capabilities into developing renewable energy projects in the marine environment.
- 4.16.16 As outlined in the Ports and Harbours Section, this area contains a number of ports and harbours suitable for the development of offshore renewable

energy, including Aberdeen Harbour, Peterhead, Fraserborough and Macduff. Further information on these sites is provided in *Scottish Offshore Renewables Development Sites – Aberdeen City and Shire Cluster* ([www.sdi.co.uk](http://www.sdi.co.uk)).

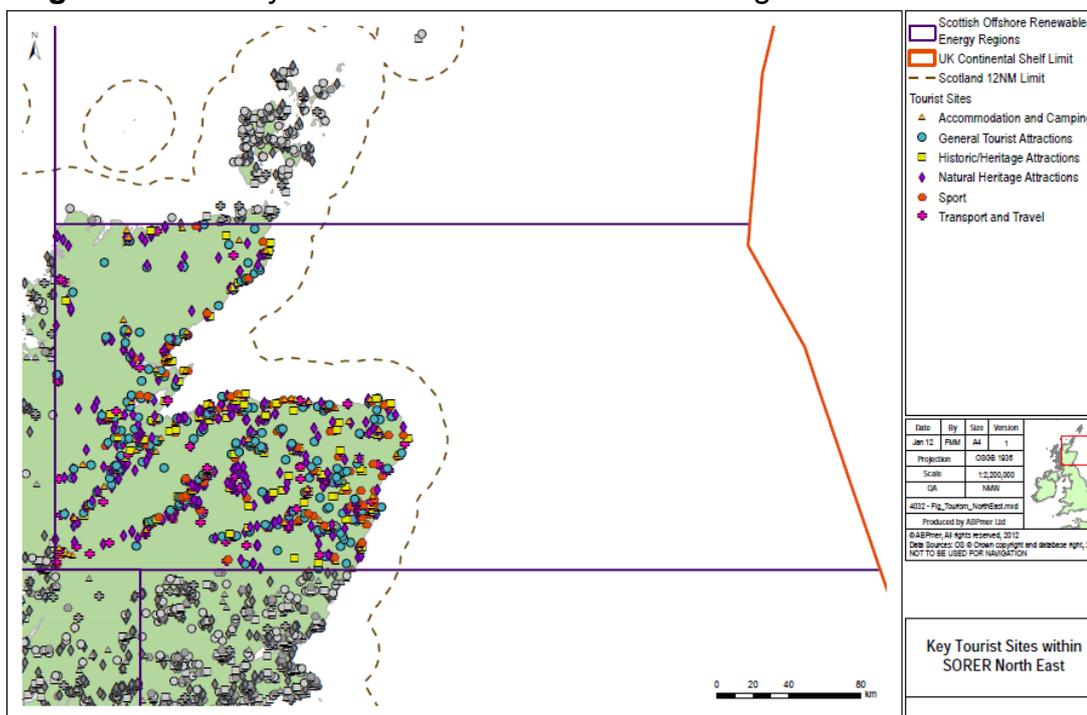
4.16.17 The Aberdeen City and Shire Regions also host a number of educational facilities which specialise and provide courses relating to the development of offshore renewable energy. These include the University of Aberdeen, Robert-Gordon University, Aberdeen College and Banff and Buchan College.

4.16.18 Based in Aberdeen, the Scottish European Green Energy Centre (SEGEC) provides a focal point for organisations in Europe developing low-carbon energy projects and activities. SEGEC engages with institutions, networks and technology platforms, influencing the future policy agenda and identifying niche opportunities for collaboration across different industry sectors. More information is provided at: [www.segrec.org.uk](http://www.segrec.org.uk)

### Tourism

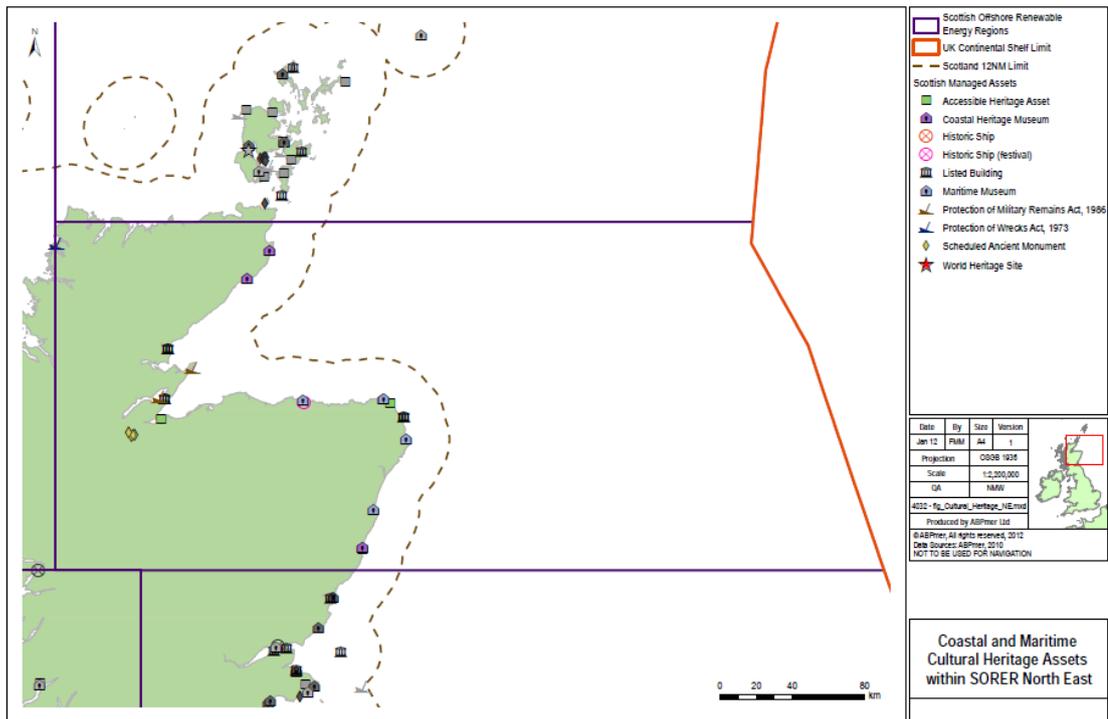
4.17.1 Tourist sites in North East Scotland are concentrated along main routes (e.g. A9, A95, etc.), geographic features (e.g. Loch Ness) and the coast, as shown by Figure 4.54.

**Figure 4.54** Key tourist sites in the North East Region



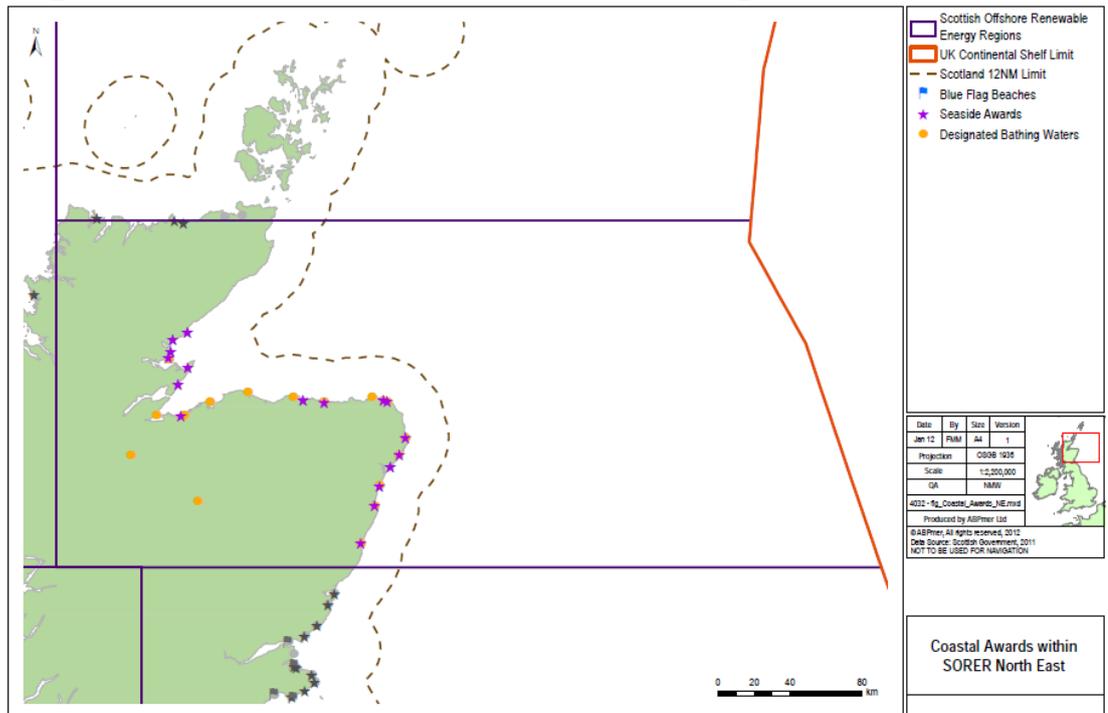
4.17.2 There are a considerable number of natural heritage attractions, as well as historic/heritage attractions. Coastal and maritime cultural heritage assets can be seen in Figure 4.55.

**Figure 4.55** Cultural and Maritime Heritage Assets in North East Region



4.17.3 They are reasonably evenly spread along the coast and include several coastal heritage museums, a historic ship and a couple of accessible heritage assets. North East Scotland additionally has a significant number of designated bathing waters and seaside awards, as indicated by Figure 4.55.

**Figure 4.56** Coastal awards in the North East Region



- 4.17.4 Although there are a couple of inland designated bathing waters, the majority are found on the coast and thus are likely to be relevant when considering offshore renewables. There are also two designated Marine SACs: the Moray Firth and an offshore area at Scanner Pockmark. Both of these will need to be taken into account by the offshore renewables industry.