

Chapter 22 Other Users

22.1 Introduction

1 This section of the Environmental Statement (ES) contains information related to other coastal and marine users, including recreational fishing and watersports, as identified in the Scoping Report and Scoping Opinion (refer to www.neartnagaoithe.com and Appendix 6.1: Scoping Opinion, respectively). The likely significant impacts of the proposed Neart na Gaoithe offshore wind farm development on these receptors are assessed.

22.2 Guidance and Legislation

2 There is no specific legislation relating to the other users described in this chapter. There are, however, a number of guidance publications that have been produced by international and recreational bodies and renewable industry representative bodies. These include:

- Surfers Against Sewage (SAS) (SAS, 2009);
- Royal Yachting Association (RYA) publications (e.g., RYA, 2011; 2009a; 2009b); and
- OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR, 2003).

22.3 Data Sources

3 Information on the distribution and nature of the other coastal and marine users in the area surrounding the proposed Neart na Gaoithe offshore wind farm and associated cable route has been obtained from a variety of sources, including websites and through consultation. A full overview is provided below.

4 No surveys specific to other coastal and marine users have been undertaken as part of this Environmental Impact Assessment (EIA). However, the outputs from related and complimentary surveys such as the metocean survey and associated model, the navigational AIS survey and risk model and ecology surveys have been considered in the impact assessment. These models predict the effects of the offshore wind farm on the resources other marine users require to undertake their activities, such as waves for surfing and fish stocks for fishing.

22.4 Engagement and Commitments

22.4.1 Strategic and Site Level Requirements

5 There are a number of commitments made on behalf of developers in the Sectoral Marine Plan for Offshore Wind (Refer to Chapter 7: Engagement and Commitments for further information), and comments and recommendations made on the approach to EIA through the Scoping Opinion (Appendix 6.1: Scoping Opinion). Relevant commitments and requirements are listed in Table 22.1, along with information on how they have been addressed in this chapter.

22.4.2 Consultation

6 Much of the information for this chapter has been obtained through consultation with recreational clubs and associations that represent the recreational activities that take place in the area surrounding the Neart na Gaoithe offshore site and offshore cable route.

- 7 Approximately 80 clubs and associations were informed of the publication of the offshore EIA Scoping Report via letter in November 2009. The associated Scoping Opinion, issued by Marine Scotland in response to the Scoping Report, included comments from the Maritime and Coastguard Agency (MCA) concerning recreational safety and also contained advice from the Scottish Canoe Association (SCA), the Royal Yachting Association (RYA) and East Lothian Council (refer to table 22.1) on recreational issues.
- 8 In June 2011, further clubs and associations were contacted by letter and email, to confirm the extent of their activities in the vicinity of Neart na Gaoithe offshore site and cable route and to provide the opportunity to meet with the project team and discuss the project. A summary of the consultation effort is presented in Appendix 22.1: Other Users Consultation Log. The information provided in this chapter has been developed through web-based searches and consultation with local clubs, as indicated.

Source	Comment	Relevance/reference
Blue Seas Green Energy - Strategic Environmental Assessment (SEA) Part B: Post Adoption Statement (Marine Scotland).	Developments should avoid RYA cruising routes and areas of known high recreational activity and importance through appropriate positioning within the option boundary.	Refer to Chapter 7: Shipping and Navigation and Section 22.6.3.1: Sailing.
Scoping Opinion (RYA advice).	Information on the layout, spacing and direction of the set of turbines are required (crucial to avoid impeding navigation, particularly under sail).	Refer to Chapter 5: Project Description.
	Significant numbers of cruising vessels come to the East coast of Scotland both from England and from Continental Europe.	This has been noted and is referred to in Section 22.6.3.1: Sailing.
	The RYA Coastal Atlas referred to in the text is kept under continual revision. Routes may change with the installation of wind farms for both negative (impediment to navigation, perception of risk) and positive (navigational aids) reasons.	The project team is aware that these routes may change and welcome continued consultation with the RYA regarding any updates.
	RYA can arrange consultation with many yacht clubs but note many are staffed by volunteers - limited capacity.	The project team has consulted with many clubs and associations, many of which are RYA members.
Scoping Opinion (SCA advice).	Coastal developments that introduce new artificial headlands (e.g., relating to cable routes onshore) create a danger to the passage of small craft (e.g., canoes).	No artificial headlands are planned as part of the project (Refer to Chapter 5: Project Description for further information).
	Groups of sea kayakers occasionally make the open crossing to the Bell Rock from Fife Ness, Arbroath or Broughty Ferry. Any impact should be assessed/consulted (e.g., in construction stages).	Noted and referred to in Section 22.6.3: Study Area Activities and Use.
Scoping Opinion (East Lothian Council advice).	Designated EC Bathing waters (Thorntonloch and Seton Sands (near Cockenzie)) and their amenity value need consideration given the cable route.	Chapter 8: Geology and Water Quality provides an overview of designated Shellfish and Bathing Waters, and Section 22.6.3: Study Area Activities and Use discusses Thorntonloch's amenity use.
Advice to the Forth and Tay Offshore Wind Developer Group (FTOWDG) (MCA advice)	Tourism and Recreational activities should be included as a cumulative impact to ensure requirements of MGN 371 are met.	Noted. Refer to Chapter 17: Shipping and Navigation.

Table 22.1: Strategic and site level commitments and requirements

22.5 Impact Assessment Methodology

9 The overall methodology for EIA is outlined in Chapter 6: The Approach to Environmental Impact Assessment. In support of this the following is a summary of the specific approach to assess impacts on other coastal and marine users including the criteria used.

22.5.1 The Rochdale Envelope

10 The potential impacts on other coastal and marine users can be summarised as the following:

- Navigational impacts on marine activities, including risk of collision, alteration of routes, and restriction of access;
- Access and amenity impacts on coastal and marine users and activities located in areas surrounding the export cable route including potential impacts to neighbours from export cable onshore works; and
- Indirect impacts on resources used by other coastal and marine users, such as dive sites, the wave climate, or fish populations targeted by recreational anglers.

11 Due to the diversity of the potential impacts, the worst case parameter for each effect and receptor is highly variable. For many of the predicted impacts, the impacts are assessed in other chapters in this ES and as such the appropriate Rochdale Envelope options are described in the following chapters:

- Navigational impacts are assessed in Chapter 17: Shipping and Navigation. As most of the impacts in terms of navigation are due to the restriction of access during construction, the worst case scenario would be a higher number of turbines, closely spaced to create overlapping safety zones (Refer to Chapter 17: Shipping and Navigation for more information on safety zones);
- Impacts on receptors that may indirectly affect other marine users are addressed in Chapter 15: Fish and Shellfish Ecology, Chapter 16: Commercial Fisheries and Chapter 9: Physical Processes; and
- For impacts associated with the installation of the cable in the intertidal area at the export cable landfall point, the worst (realistic) case for cable installation is assessed as open cut trenching.

22.5.1.1 Magnitude of effect

12 The magnitude of each effect is considered for each receptor using the methodology described in Chapter 6: The Approach to Environmental Impact Assessment. Due to the variety of effects and their differing characteristics, there is no definitive methodology for assessing the magnitude of each one. However, general definitions for qualifying the magnitude of effects are given in Table 22.2 below. This table divides the extent, duration, frequency and severity into four categories rating from negligible to high. Professional judgement is used to decide how the effect rates in each of these characteristics (based on the context on the baseline conditions) and definitions of magnitude of effect relating to the effects described in other chapters are also taken into account.

13 The four ratings are then considered to give a single rating of magnitude. Professional judgement is used to give a representation of all the subcategories, generally low ratings will yield a low magnitude and high ratings will yield high magnitudes. If a mix of high and low ratings exist, discretion is used to decide if the magnitude will be an average of these values or if a subcategory should be weighted to highlight its importance.

Characteristic	Categories	Definition / description
Spatial extent (S)	Negligible	Does not cover areas covered by other marine users.
	Low	Extent partly covers areas covered by other marine users.
	Medium	Extent wholly covers areas covered by other marine users.
	High	Extent wholly covers areas of unique value to other marine users.
Duration (D)	Negligible	Very short term, effect will stop as soon as the event ceases.
	Low	Short term, will stop within days of the event ceasing.
	Medium	Temporary, effect will last more than days.
	High	Permanent, effect lasts beyond the operational and decommissioning phases.
Frequency (f)	Negligible	Intermittent through construction or operation phase.
	Low	Occurring regularly throughout the construction phase.
	Medium	Occurring regularly throughout operational phase.
	High	Continues to occur beyond the operational and decommissioning phases.
Severity (v)	Negligible	The effect will cause no discernible, or a very low degree of change.
	Low	The effect will cause some amendments but no major change.
	Medium	The effect will cause a discernible degree of change.
	High	Activities cannot resume.

Table 22.2: Magnitude of effect category definitions for other users

22.5.1.2 Vulnerability of receptor

14 The vulnerability of each type of other coastal or marine user is also quantified using the methods described in Chapter 6: The Approach to Environmental Impact Assessment. Again, due to the variety of other marine users, no definitive methodology exists so assessments have been made on a case-by-case basis. Table 22.3 details the broad definitions used for quantifying the vulnerability of each effect. Vulnerability is divided into adaptability, tolerance, recoverability and value. These qualities are rated using four categories ranging from negligible (or none) to high.

15 As with the defining of the magnitude, the four subcategories are combined to produce one value, ranging from negligible to high, which then represents all aspects of vulnerability.

Characteristic	Categories	Definition / description
Adaptability (A)	Negligible	Activity/other user cannot adapt, or the resource they wish to use is unique.
	Low	Activity/other user is limited in their ability to adapt.
	Medium	Activity/other user can easily adapt to use alternative marine areas.
	High	Activity/other user can adapt fully, or is not required to avoid or adapt to an effect.
Tolerance (T)	Negligible	Activity/other user cannot tolerate change.
	Low	Activity/other user can tolerate small change.
	Medium	Activity/other user can tolerate medium change.
	High	Activity/other user can tolerate large change.
Recoverability (R)	Negligible	Activity/other user cannot recover.
	Low	Temporary, recovery will take more than days.
	Medium	Short term, will recover within days of the effect ceasing.
	High	Very short term, will recover as soon as the effect ceases.
Value (V)	Negligible	Activity/other user is of little or no importance to the wider community.
	Low	Activity/other user is locally important.
	Medium	Activity/other user is regionally important.
	High	Activity/other user is internationally important.

Table 22.3: Vulnerability of receptor category definitions for other users

22.5.1.3 Overall Significance of Impact

- 16 The values derived for the magnitude of the effect and vulnerability of the receptor are combined to determine the significance of the impact as described in Chapter 5: The Approach to Environmental Impact Assessment. The approach to determining overall significance of impacts relating to navigational safety is provided in Chapter 17: Shipping and Navigation. Determination of significance of direct impacts on resources that will indirectly affect other users is provided in Chapter 9: Physical Processes and Chapter 15: Fish and Shellfish Ecology.
- 17 The probability and uncertainty surrounding an impact also contribute to the designation of significance. Professional judgement is used when concluding the overall significance; for instance, high magnitudes and vulnerabilities result in high significances but if the probability indicates that the impact is not likely to occur, professional judgement is used to determine whether the significance should be reduced. Any uncertainty regarding the assigned magnitudes and vulnerabilities must also be considered to give an indication of any inherent variances within the assessment. As there is a large range of other coastal and marine users addressed within this chapter the results of consultation with stakeholders are also considered to ensure accuracy and inclusion when drawing the final rating of significance.
- 18 Given the processes associated with decommissioning of the project, impacts from decommissioning are considered analogous to those arising from construction of the project and therefore are not directly discussed.

22.5.2 Study Area

- 19 The study area has been determined by considering the other marine and coastal users and the range of their activities that may be affected by the development of the Neart na Gaoithe offshore wind farm. This is described in Section 22.6: Baseline Description.

22.5.3 Cumulative and In-Combination Impact Assessment Approach

- 20 Other activities and developments may potentially affect the identified other user receptors. The impacts arising from these include cumulative impacts from other wind farm developments and in-combination impacts from other plans and projects.
- 21 The potential for cumulative impacts affecting other marine and coastal users was scoped out at a regional level (see Appendix 6.2: Scottish Offshore Wind Farms – East Coast – Discussion Document – Approach to Cumulative Effects Assessment). It was considered that the distances between the offshore wind farms was such that cumulative effects were unlikely to be an issue requiring any collaborative work and could be addressed at project level.
- 22 Possible cumulative impacts are limited to those arising as a result of effects of the offshore sites of Inch Cape and the Firth of Forth Round 3 Zone 2 Phase 1 (refer to Chapter 5: Project Description for further information on the developments). The export cable for the Inch Cape wind farm is expected to come ashore at Cockenzie and the export cable for the Round 3 Zone Phase 1 between Arbroath and Carnoustie and as such impacts from the export cables are unlikely to be subject to cumulative impact assessment under current known plans and projects.
- 23 For in-combination impacts the scope of these is considered to be low enough to scope out of this impact assessment. However any relevant information on navigational or other impacts that may have a secondary impact on other marine users at a cumulative or in-combination level are addressed in other chapters in this ES:
- Navigational impacts are assessed in Chapter 17: Shipping and Navigation; and
 - Impacts on receptors that may indirectly affect other marine users are addressed in Chapter 15: Fish and Shellfish Ecology, Chapter 16: Commercial Fisheries and Chapter 9: Physical Processes.
- 24 Other cumulative impacts may arise for coastal users at Thorntonloch beach and nearby through installation of the onshore aspects of the export cable works. These are impacts related to amenity, such as noise, dust, traffic and visual impacts. These impacts will be assessed in the onshore ES, and are taken into account in assessment of the project level impacts in this assessment, specifically in Section 22.7.2.2: Export Cable Route.

22.6 Baseline Description

22.6.1 Introduction

25 The existing baseline environment has been established by a desk based literature review supported by feedback from targeted consultation. A description of the type and level of activity in the outer Firth of Forth, the offshore site and export cable corridor is provided. The following activities and users were identified as having no interaction with the development or export cable route and were scoped out during the Scoping Phase of the EIA, and therefore are not included in this chapter:

- Pipelines;
- Cables;
- Airborne activities;
- Marine aggregate extraction;
- Disposal sites;
- Dumping grounds;
- Oil and gas; and
- Helicopter operators.

26 The most popular specialist¹ activities in the Scottish marine and coastal environment include: golf, coastal rambling (long distance), sea fishing, shoreline fishing, sailing, kayaking and canoeing, and wildlife and bird watching (LUC, 2007). The Land Use Consultants (LUC) report (2007) was undertaken to identify areas of coastal recreational activity in Scotland and considered responses from over 1,500 participants in determining the specialist activities around the Scottish coast. Analysis of the number of trips made by visitors identified the Firths of Forth and Tay as particularly important for recreation. For example, the Firth of Forth receives 9.9% of the total number of informal² recreational trips in Scotland per annum (LUC, 2007).

27 The Firth of Forth is popular for bird and wildlife watchers, who take boat trips to the Isle of May, Inchcolm Island and The Bass Rock. Further offshore, within the boundaries of the Neart na Gaoithe offshore site, recreational activity is minimal.

28 This section describes those other coastal and marine users (and uses) with the potential to be affected by the offshore works of the project not covered in other chapters in this ES including:

- Sailing (dinghies, yachts and powerboats);
- Other recreational watersports taking place from the coast, including:
 - Surfing;
 - Kitesurfing;
 - Windsurfing; and
 - Sea/surf kayaking and canoeing.
- Scuba diving;
- Recreational fishing;
- Recreational airborne activities (e.g., microlighting);

- Mariculture; and
- Other wind farms.

29 Wider activities associated with coastal tourism, such as walking (and associated activities such as dog walking and rock-pooling) and wildlife and bird watching around the export cable landing point and terrestrial cable will be covered in the onshore ES.

22.6.2 Study Area

30 The study area, shown in Figure 22.1, has been determined by considering the other coastal and marine users and the range of their activities that may be impacted by the development of the project:

- Sailing activities take place within the Firth of Forth and Outer Forth and up to 30 km offshore (as part of sailing routes to harbour destinations);
- Recreational watersports take place in coastal locations such as Berwick, Fife, Dunbar, Thorntonloch, Pease Bay, St Abbs, and Arbroath and out to offshore locations such as Bell Rock;
- Scuba diving activities occur mainly on wreck sites within the Firth of Forth and potentially in the offshore site and export cable route;
- Mariculture, which may occur at shellfish water growing areas in the region;
- Other recreational marine users including; sight-seeing cruises and jet skiing activities, which may occur in the intertidal and export cable route area; and
- Recreational fishing activities take place along the coastline and around navigational features such as Bell Rock.

22.6.3 Study Area Activities and Use

22.6.3.1 Sailing

31 The Firth of Forth caters for all types of sailing, from small dinghies to large yachts, from cruising to club and national racing championships (East Lothian Council, 2010). Additional information on sailing routes and levels in the area is described in Chapter 17: Shipping and Navigation.

32 A variety of sailors are attracted to the outer Firth of Forth area as it has a mix of open water and sheltered sailing. Significant numbers of cruising vessels come to the east coast of Scotland both from England and from continental Europe (refer to Table 22.1). There is an active leisure sailing fleet (including dinghies) using the mouths of the Forth and the Tay estuaries.

33 On the Scottish east coast Anstruther, Tayport and Arbroath have in recent years developed as leisure sailing ports with pontoons and other onshore facilities geared to sailing activities. Other East Neuk ports, such as Elie, are also popular sailing bases.

¹ Specialist activities are considered to be those requiring purpose-made equipment (such as kayaks or sub-aqua apparatus).

² Informal activities are non-specialist and include rock-pooling, dog-walking, picnicking and walking short distances

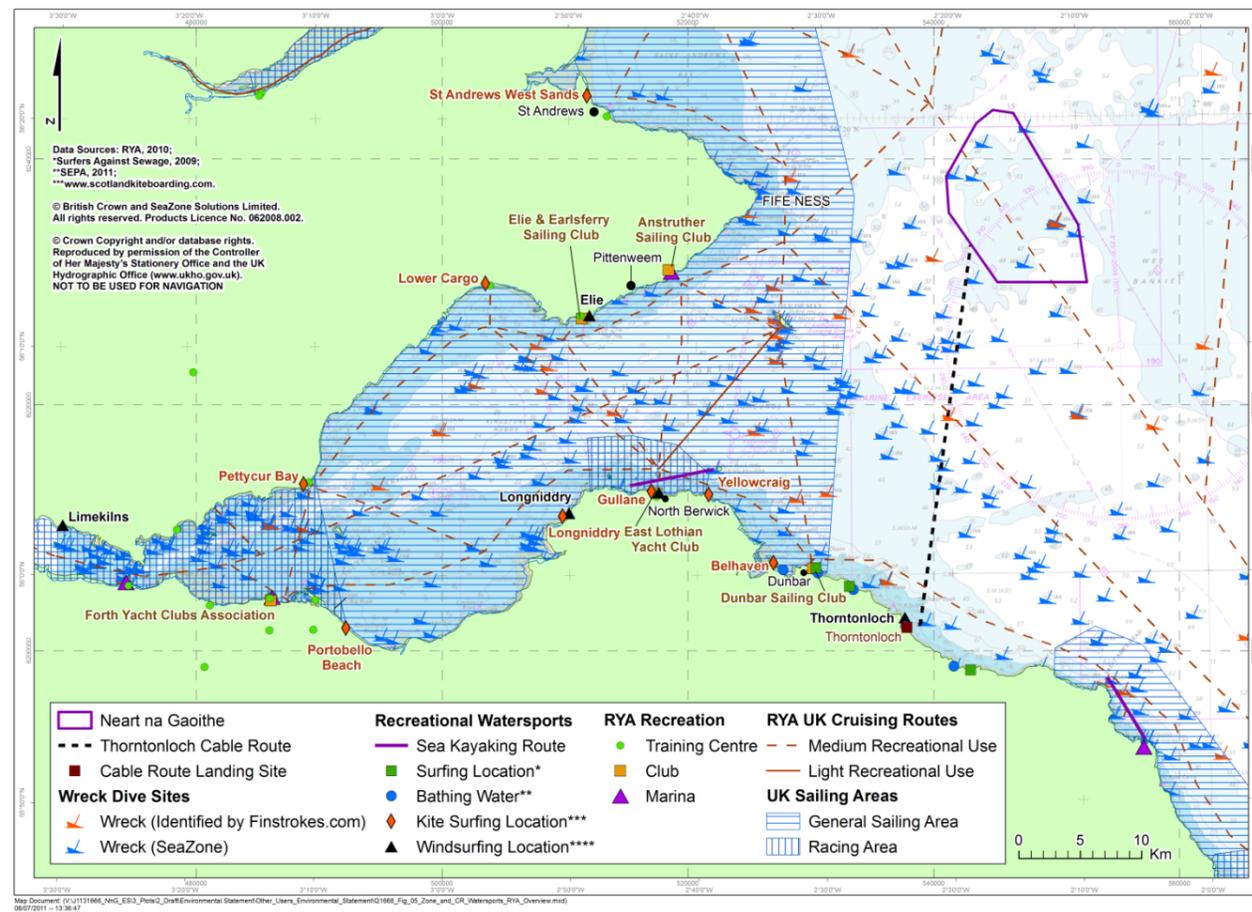


Figure 22.1: Study area for other marine users with summary of activity

- 34 The Bass Rock, with deep surrounding waters, located to the north of the export cable route, is a popular destination for experienced sailors. Anstruther, Dunbar, North Berwick, The Bass Rock and Bell Rock are frequent locations used during racing events. The sailing routes used for these events could intersect with the export cable route. The Forth Offshore Group Series is the name of three races that take place during the sailing calendar year around the Outer Forth area (Anon, 2011a, *pers. comm.*).
- 35 In order to interpret where this sailing activity is taking place in relation to the offshore site and export cable route, data from the RYA have been plotted. These data include Automatic Identification System data (AIS, a system that collects information from certain vessels at sea, Refer to Chapter 17: Shipping and Navigation for more information) and consultation results to show the cruising routes used by recreational craft around the UK coast. This indicates the intensity at which each route is used from local clubs, marinas and training centres, plus the general sailing and racing areas used around the UK coast.
- 36 In order to determine that these routes are accurate, the RYA (in collaboration with the Cruising Association (CA)), undertook consultation with clubs, regional committees and local experts on the marked routes. Independently, the Forth Yacht Club Association has confirmed that the routes shown in the RYA Coastal Atlas are typical of sailing activities in the outer Firth of Forth area (Anon, 2011a, *pers. comm.*).
- 37 The chapter describing shipping and navigation (Chapter 17: Shipping and Navigation) presents further baseline information on recreational vessels and sailing activity. Analysis of the collected AIS data shows that recreational craft are present within and surrounding the offshore works area, at an average of approximately one track every two days (refer to Chapter 17: Shipping and Navigation).

- 38 The landing point for the export cables is outside of an area that is classed as a general sailing area³. The cruising routes crossing the export cable route area are of medium-recreation use, as shown in Figure 22.2. This means that it is a popular route on which some recreational craft will be seen at most times during summer daylight hours.
- 39 There are a number of RYA associated sailing (including dinghy) clubs located in the vicinity of the proposed Neart na Gaoithe export cable route. These include the following clubs and organisations that may undertake their activities in the offshore works area, based on the RYA Coastal Atlas:
- Elie and Earlsferry Sailing Club;
 - East Lothian Yacht Club;
 - Forth Yacht Clubs Association;
 - Anstruther Sailing Club; and
 - Dunbar Sailing Club.
- 40 During the consultation process, the Royal Forth Yacht Club (part of the Forth Yacht Clubs Association) was the only sailing club to respond, and confirmed that it does not use the proposed offshore wind farm site or export cable route for club events. However, a possible exception would be its bi-annual race from Granton (Edinburgh) to Orkney, although the majority of yachts pass close to Fife Ness, inshore of the proposed wind farm (Anon, 2011a, *pers. comm.*). Individual club members may also exit and enter the Forth on their own voyages.
- 41 There are a number of coastal areas of importance, particularly harbours and anchorages, to recreational sailors in the vicinity of Neart na Gaoithe (refer to Figure 22.2). The Dunbar lifeboat is moored at Skateraw. Skateraw Harbour can provide a safe anchorage for sailors (East Lothian Council, 2010). The bay at Thorntonloch is open to the sea but is an occasional anchorage for fishermen, cruisers, picnickers and those that follow the coast in shallow-draft small craft (Anon, 2011b, *pers. comm.*). Dunbar Harbour is popular with visiting yachts and local users. St Abb's Harbour dries out on a low tide. Eyemouth is a busy fishing port and is popular with visiting yachts from the continent. Berwick is the next major harbour to the south. Thorntonloch Bay, the export cable route landing point, is not commonly used by yachts (Anon, 2011a, *pers. comm.*).

³ General sailing areas are defined by RYA (2005) as “areas in extensive use for day sailing by all types of recreational craft but particularly smaller craft such as small cruisers, day-boats, dinghies, sailboards and personal watercraft. Particularly smaller craft such as small cruisers, day-boats, dinghies, sailboards and personal watercraft”.

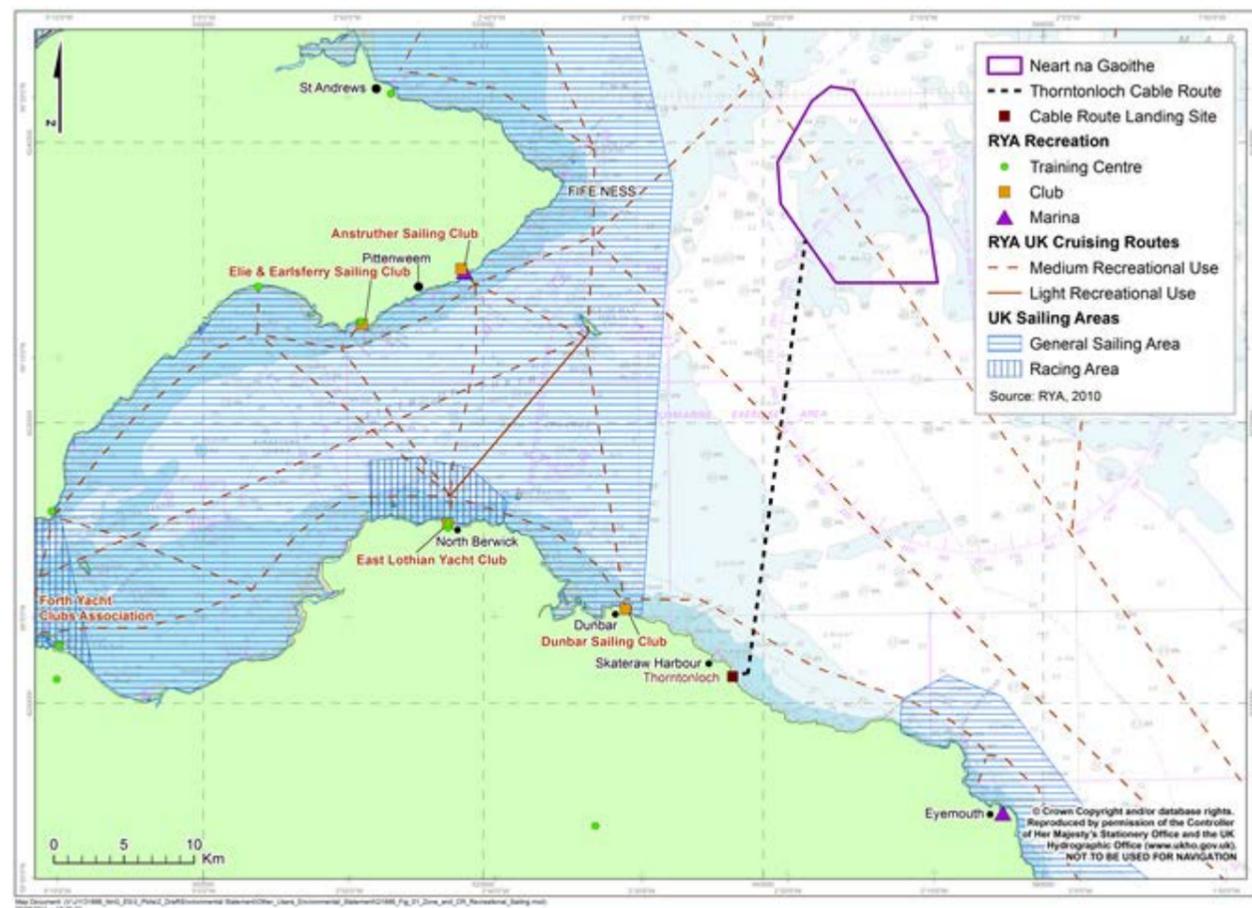


Figure 22.2: Sailing activity in relation to the offshore site and export cable route

22.6.3.2 Other Recreational Watersports

42 This section considers the following watersports activities:

- Surfing;
- Kitesurfing;
- Windsurfing; and
- Sea/surf kayaking and canoeing.

43 Scotland’s east coast receives swells from the north and northeast and consistent offshore winds, but can also receive swells from the east and southeast (SAS, 2009). Along the east Scottish coast, the population increases towards the south. In the southeast coastal region of Scotland there are more accessible watersports areas and surf breaks, such as Pease Bay.

44 Thorntonloch, Dunbar (Belhaven), Dunbar East, Whitesands and Pease Bay beaches located from 5 to 13 km to the landfall point are designated as EC Bathing Waters under the EC Bathing Water Directive (SEPA, 2011) (Figure 22.3), further indicating that these coastal areas may be used for recreational watersports.

22.6.3.3 Coastal Based Watersports

22.6.3.3.1 Surfing

45 Surfing involves a wide range of wave-riding activities using various equipment including: surf boards - short boards, long boards (also known as Malibu boards or mals) and intermediate length boards (also known as mini-mals), body boards (also known as boogie boards), paddle boards, surf skis, and surf kayaks and canoes (discussed separately), while some surfers simply body surf (SAS, 2009).

46 Popular locations for surfing near the export cable route landfall include Dunbar, Belhaven, White Sands and Pease Bay, (refer to Figure 22.3) and there are surf clubs associated with these locations. Thorntonloch beach is also used by surfers who surf at mid to high tide near the small burn, and occasionally at low tide near a rocky reef to the northern end of the beach (Anon, 2012, *pers. comm.*; Cox, 2011). Belhaven beach is used by a surfing school: ‘Coast to Coast’. Pease Bay is the most popular of southeast Scotland’s beaches for surfing, as it works on all north and east swells. The middle of the beach is considered good for beginners at all tides, although when the waves reach a size above head high, rips (currents) and large dumpy waves (large, heavy waves which are difficult for surfers to use) become a problem (East Lothian Council, 2010).

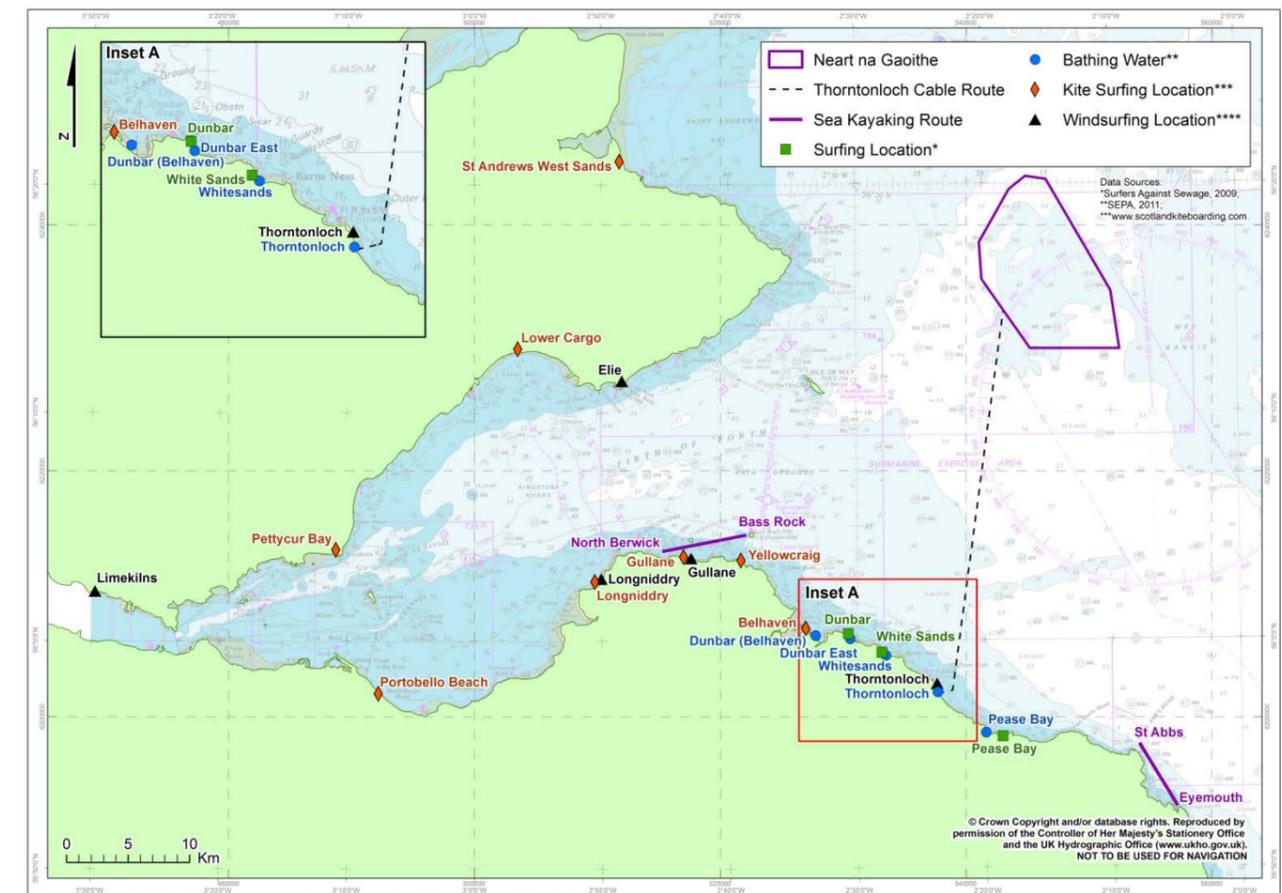


Figure 22.3: Recreational watersports and designated bathing waters in the study area

22.6.3.3.2 Kitesurfing

- 47 Kitesurfing (or kiteboarding) is an extreme surface watersport that combines wakeboarding, windsurfing, surfing, and paragliding techniques. A rider is propelled across the water aided by a power kite and kiteboard.
- 48 Locations on the east coast of Scotland where kitesurfing activities take place include Yellowcraig and Belhaven, which are shown in Figure 22.3. These are 19 km and 12 km, respectively, from the landfall location. However, Thorntonloch itself is also known to be used by kitesurfers who favour flat beaches and consistent winds and waves (Scotland Kiteboarding, 2011).
- 49 There are two kitesurfing clubs in the study area: East Lothian Wind Chasers (ELWC), based in Dunbar, and Edinburgh and Lothian Kitesurfing Club (ELKSC). Kite buggying occurs occasionally on Belhaven Sands (Visit Scotland, 2011). Scotland Kiteboarding offers kitesurfing lessons near Edinburgh.

22.6.3.3.3 Windsurfing

- 50 Windsurfing is a surface watersport that combines elements of surfing and sailing. A rider stands on a board holding a sail, and is powered along the sea surface by the driving effect of the wind.
- 51 The most common areas for windsurfing on the east coast of Scotland are similar to those used for kitesurfing and surfing, and include Carnoustie, St Andrews (West Sands), Elie, Longniddry, Gullane and Limekilns. Thorntonloch is also used by windsurfers.

22.6.3.3.4 Sea/Surf Kayaking and Canoeing

- 52 Consultation with the Scottish Canoe Association (SCA) during the scoping stage highlighted that sea kayakers usually follow the coastline when on the water for their activities and use beaches around the Fife coast for launching, landing and as get-outs for safety reasons.
- 53 Groups of sea kayakers occasionally make the open crossing to Bell Rock. The usual starting point for such a trip is Fife Ness, although it is possible to set off from other points such as Arbroath or Broughty Ferry. Any development in the sea area in the Outer Firth of Tay, especially during the construction phase, could impact on groups of kayakers making this journey.
- 54 Edinburgh Kayak Club responded to the consultation in July 2011, confirming that it is a river based club and only a few members are sea kayakers (Anon, 2011b, pers. Comm. And see Appendix 22.1: Other Users Consultation Log).
- 55 Kayaking is also undertaken at some of the surf beaches, using specialised surf kayaks. This usually takes place at Pease Bay (East Lothian Council and Visit Scotland, 2010). Pease Bay offers kayakers the most consistent waves throughout the tides. For beginners and intermediate kayakers it is best to surf Pease Bay at mid to low tide to avoid the large numbers of surfers. Local kayak clubs include Forth Canoe Club, Lothian Sea Kayak Club, Edinburgh Kayak Club, North Berwick Kayak Club and Berwickshire Kayak Club. The sea kayaking routes used along the coastline (see Figure 22.3) that are relevant to the export cable route include:
- North Berwick to The Bass Rock; and
 - St Abbs to Eyemouth.

22.6.3.4 Scuba Diving

- 56 Scuba⁴ diving is a form of underwater diving in which a diver uses a scuba set to breathe underwater. The Firth of Forth is considered one of the UK's best dive areas (WWF, 2006). With a wide variety of shipwrecks and other underwater features teeming with marine wildlife and marine mammals, the East Lothian coastline can provide excellent diving experiences (East Lothian Council, 2010).
- 57 The wreck positions (refer to Figure 22.4) taken from Finstrokes (2011) are only approximate locations used for recreation and are not comparable in accuracy to the wreck data positions provided by SeaZone Solutions, due to

positional inaccuracies. The SeaZone Solutions data are included in this figure to show the discrepancies. Chapter 19: Maritime Archaeology and Cultural Heritage provides more information on wrecks in the offshore works area.

- 58 The waters surrounding The Bass Rock (which drop off to 46 m), the Isle of May and a pinnacle off Dunbar attract scuba divers, as octopus, wolf fish, angler fish, seals and diving gannets are often sighted (Divernet, 2011).
- 59 The Firth of Forth is the site of the first and last enemy attacks on the British mainland in World War Two (East Lothian Council, 2010). As a result of this bombardment, wreck dives include a number of war wrecks (ships and planes) and some historic wrecks (WWF, 2006) (see Figures 22.1 and 22.4). The Forth contains the last British ship to be sunk during WW2; the Avondale Park, which lies in 55 m of water off the Isle of May, and HMS Pathfinder; the first warship to be sunk by a torpedo from a submarine. Additionally, a 'treasure' ship was found in the Forth several years ago (East Lothian Council, 2010). Additional information on maritime archaeology in the area can be found in Chapter 19: Maritime Archaeology and Cultural Heritage.
- 60 Shore dives are also popular in the outer Firth, including at Dunbar and Seacliff Harbour with some magnificent underwater scenery and wildlife (WWF, 2006) (see Figure 22.1 and 22.4). Dunbar is popular with trainee divers due to the shallow shore. Additionally, the slip and harbour facilities allow rigid inflatable boats (RIBs) to be launched to venture to some of the local wrecks, The Bass Rock and the Isle of May. St Abbs is the most popular dive location in the area due to the voluntary marine reserve and the accessible shore/boat diving (East Lothian Council, 2010).
- 61 Dive clubs in the Firth of Forth region include:
- Scottish Sub Aqua Club;
 - Kirkcaldy Sub-Aqua Club;
 - Dunfermline Sub-Aqua Club;
 - Eyemouth & District Sub Aqua Club;
 - Border Sub-Aqua Club;
 - Aquastars Dive Centre;
 - East Lothian Divers;
 - Edinburgh University Sub Aqua Club;
 - Dive Safari Scotland;
 - Deep Blue Scuba;
 - Dive Bunker;
 - Pegasus Diving;
 - University of St Andrews Sub Aqua Club;
 - Dundee Sub Aqua Club;
 - British Sub-Aqua Club;
 - Coast to Coast Adventure Sports;
 - Wind things;
 - Tayjet Personal Watercraft Club; and
 - Surf and Watersports Club Scotland.
- 62 Diving activities can potentially occur within the offshore wind farm site, associated with the K4 and K17 HM submarine wrecks located within the offshore site (these wrecks are protected under the Protection of Military

⁴ SCUBA was originally an acronym for self contained underwater breathing apparatus.

Remains Act 1986, refer to Chapter 19: Archaeology and Cultural Heritage). There is video evidence from dives which took place in 2005 on the K4 submarine and in 2007 (Subsea TV, 2007; The Battle of May Isle, 2008). In addition to this, possible human remains were recorded⁵ in the severed end of the wreck K4 in 2007 by Scarborough Sub Aqua club. For further archaeological information related to these wrecks, Refer to Chapter 19: Maritime Archaeology and Cultural Heritage.

63 For divers to access these wrecks, dedicated trips would have to be made to the area. It is unlikely that this happens on a regular basis given the distance offshore and the challenging underwater environment.

64 According to the UK Diving (2011) and Finstrokes (2011) websites there are a number of dive sites in the Outer Forth, made up by wrecks, interesting underwater features and submarines. Figure 22.4 shows the locations of these sites.

66 There are four shellfish production areas in the Firth of Forth (DTI, 2004b; Food Standards Agency, 2011), as shown in Table 22.4 below, with a variety of classification levels (classification levels are based on water quality levels determined in the EC Shellfish Waters Directive and EC Shellfish Hygiene Directive, 91/492/EEC). More information on water quality levels in the study area are found in Chapter 8: Geology and Water Quality. None of these locations coincides with the Neart na Gaoithe offshore site, as shown in Figure 22.5.

Area	Species grown/harvested	Classification (Class A or B, Food Standards Agency, 2011)
Forth Estuary, Anstruther	Surf clam <i>Spisula solida</i>	<ul style="list-style-type: none"> ● 2011 = B - April to December; and ● 2012 = B - January to March.
Forth Estuary, Largo Bay	Razor clam <i>Ensis arcuatus</i>	<ul style="list-style-type: none"> ● 2011 = A - April to October; ● B - November & December; and ● 2012 = B - January & February.
Forth Estuary, Pittenweem	Surf clam <i>Spisula solida</i>	<ul style="list-style-type: none"> ● 2011 - B = April to September; ● A = October to December; and ● 2012 - A = January & February.

Table 22.4: Shellfish production areas and classifications in the study area

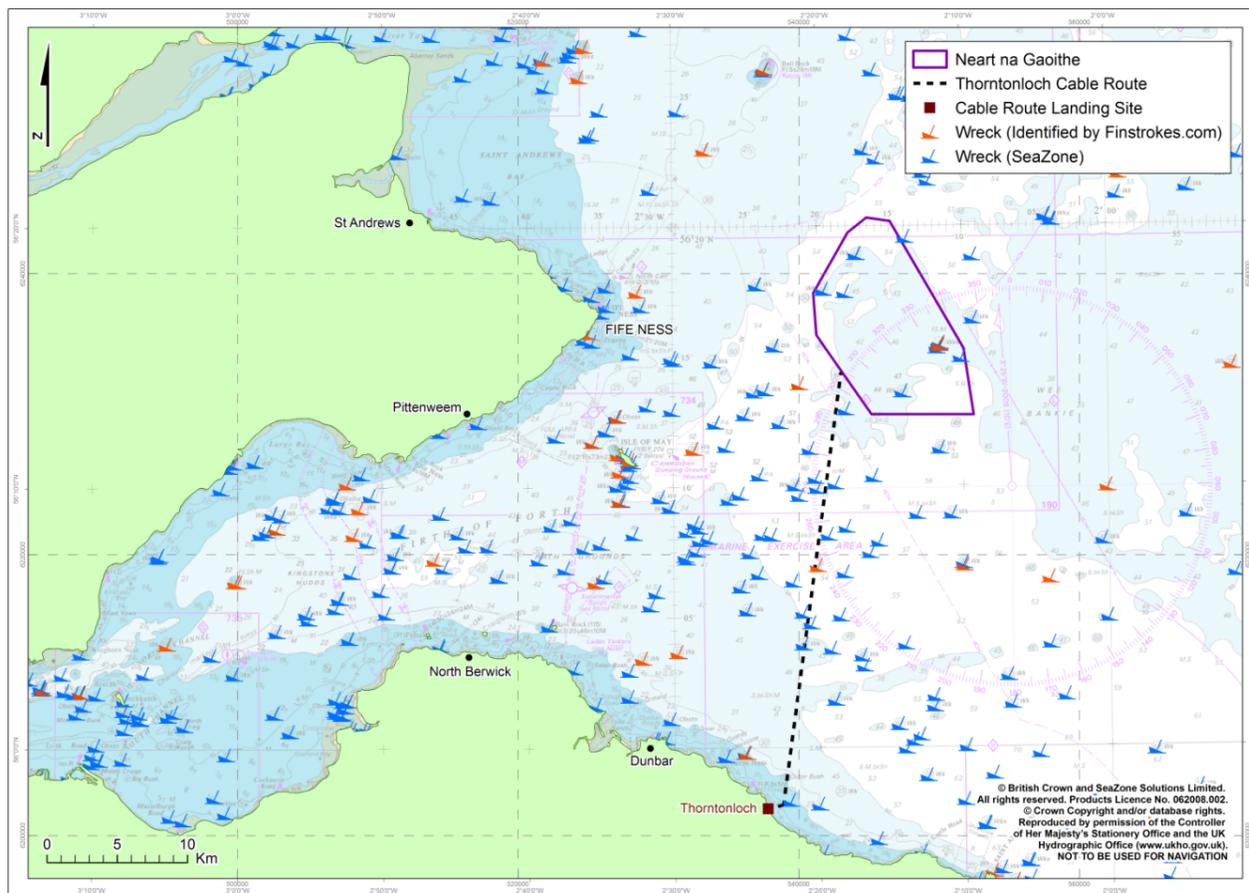


Figure 22.4: Dive sites and wrecks (Source: SeaZone Solutions and Finstrokes.com)

22.6.3.5 Mariculture

65 Mariculture is the cultivation of marine species such as shellfish, finfish and seaweed within coastal waters. Mariculture principally takes place along the west coast of Scotland, the Inner and Outer Hebrides and the Northern Isles (DTI, 2004a). However, Marine Scotland (2011) has postulated potential adverse impacts on Shellfish Growing Waters through changes in sediment dispersion and deposition during construction and decommissioning of offshore wind farms.

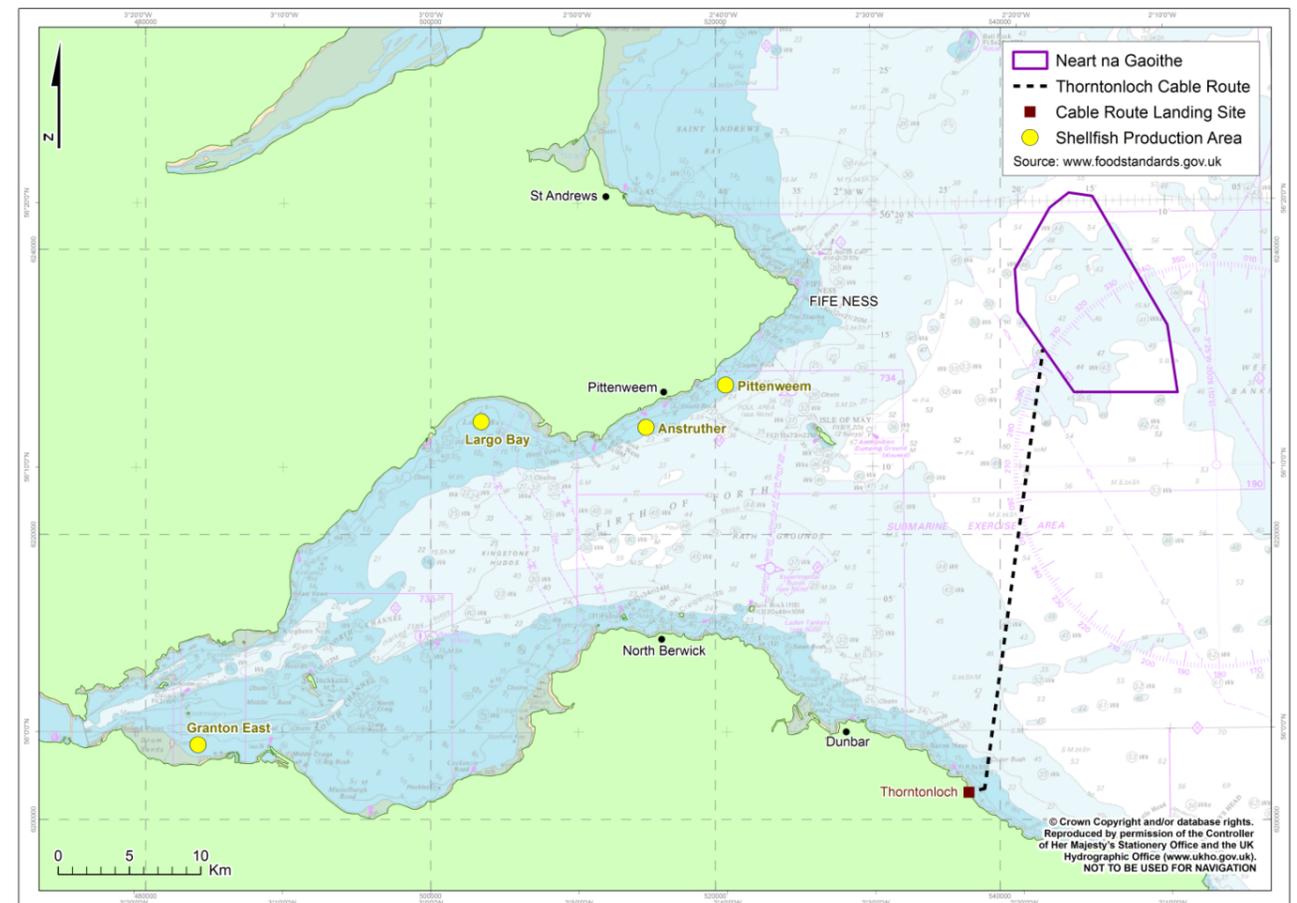


Figure 22.5: Mariculture sites in the study area

⁵ The record was made as a Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) entry

22.6.3.6 Other Coastal Users

- 67 Walking, tourism and wildlife related activities (such as bird watching) onshore will be discussed further in the onshore ES. Bait digging is known to take place in the intertidal area (SNH 2011). Most informal recreation on the mudflats is fairly minimal since the substrates are unsuitable, but recreational pressure is higher on the rocky and sandy areas (SNH, 2011).
- 68 The beach at Thorntonloch is accessible (via a car park behind Thorntonloch caravan park) for walking and a range of other activities including watersports, surfing and bathing.
- 69 The John Muir Way, a Core Path, runs north to south, parallel to the beach at Thorntonloch for a distance of 47km. It starts at Musselburgh in the North and travels South to the East Lothian border near Cocksburnpath. This is the closest public right of way to the inter-tidal works. Consultation undertaken for the onshore ES with the John Muir Trust has indicated no major concerns with either the offshore or onshore works.
- 70 Thorntonloch Caravan Park, fronts on to Thorntonloch beach. The caravan park has around 70 pitches for static caravans used year round with a peak at Easter and the summer months. The park is closed between September and March (Thorntonloch Caravan Park, 2012). Further information on coastal recreation and tourism will be presented in the onshore ES.
- 71 Recreational use of the Firth itself also takes place, for example sightseeing cruises and jet skiing (Golf East Lothian, 2011; SNH, 2011).

22.6.3.7 Recreational Fishing

- 72 In addition to the commercial fishing activities discussed in Chapter 16: Commercial Fisheries Scottish waters also provide varied sea angling opportunities, from offshore and inshore boat fishing, to rocks, beach, estuary and pier angling (WWF, 2006). Thorntonloch is a recreational fishing location with anglers fishing directly in front of the caravan park and along the expanse of the beach (World Sea Fishing Forums, 2011a). The anglers mainly target bass, mullet and cod. There is also some kayak fishing around Thorntonloch (World Sea Fishing Forums, 2011b).
- 73 Boats in the Outer Forth are able to catch cod, ling, pollack and coalfish from rough grounds (WWF, 2006). From Dunbar, boats catch octopus, cod, flounder, mackerel and coalfish (WWF, 2006). Dunbar and North Berwick harbours offer sea fishing trips for the recreational fishermen from spring to late autumn. It is likely that recreational fishing activities occur in a wider area in the inshore waters of the Firth of Forth and could also take place in the offshore site. There are a number of recreational fishing clubs and boat charters in the region, including:

- | | |
|--|--|
| ● Army Angling Federation (Sea); | ● Bell Rock Sea Angling Club; |
| ● Civil Service Sports Association - Sea Angling Club; | ● Broughty Ferry Ex-service Club Sea Angling Club; |
| ● Buccaneer Sea Angling Club; | ● Buckhaven & District Sea Angling Club; |
| ● Carnoustie & District Sea Angling Club; | ● Braveheart Boat Charter; |
| ● Commercial Inn Sea Angling Club; | ● East Fife Shore Angling Club; |
| ● East Fife Shore Angling Club; | ● East Lothian Angling Association; |
| ● European Federation of Sea Anglers; | ● Forth Charters; |
| ● Forth Logistics and Marine Services; | ● Forth Sea Angling Club; |
| ● Lothian & Borders Police Sea Angling Section; | ● Nairn Thistle Sea Angling Club; |
| ● North Berwick Sea Angling Club; | ● Port O' Leith Sea Angling Club; |
| ● Rosyth Civil Service Sea Angling Club; | ● Scottish Anglers National Association; and |
| ● Seahunter Marine; | ● St Serf's Sea Angling Club. |

- 74 The coast from Berwick to St Abb's Head is a renowned angling area for codling. Large numbers of cod and pollack arrive over the rocky inshore ledges in May and throughout the summer months, allowing shore anglers to catch fish from deep gullies in the rocks (Electric Scotland, 2011). Anglers from Eyemouth and Burnmouth Harbours catch cod, pollack, ling, wrasse and catfish using traditional baits of peeler crab, mussel, lugworm and ragworm (Electric Scotland, 2011).
- 75 The rock and kelp reefs around Dunbar provide habitat for summer codling. The rock marks⁶ around the North Berwick coast can provide anglers with 10 lb cod catches during a winter night. Between Dunbar and North Berwick, the warm water outfall from the Torness power station has a growing reputation for catches of mullet and bass (Electric Scotland, 2011).
- 76 The traditional angling fishing towns between Anstruther and St Andrews are busiest during the summer months, particularly in June when Scotland's largest boat angling festival takes place targeting codling from the shore and the piers of Dysart, Anstruther and Crail, which also have a great reputation for large winter cod (Electric Scotland, 2011).

22.6.3.8 Airborne Activities

- 77 There are two flying clubs, Edinburgh and Fife, whose recreational flying activities (hang gliders and microlights) could overlap with the development area of Neart na Gaoithe. These types of aircraft generally take day-trips to popular destinations up to four hours away but are unlikely to fly over the Neart na Gaoithe site as they do not tend to fly to locations on the European coast. However, the presence of the wind farm may cause aviators to arrange dedicated flights to view the turbines. Other airborne activities and impacts on commercial and military aviation are discussed in Chapter 18: Military and Aviation (including Radar and Communications).

22.6.3.9 Other Wind Farms

- 78 There are two proposed offshore wind farms in the outer Firth of Forth within Scottish Territorial Waters (STW): Neart na Gaoithe (this development) and Inch Cape Offshore wind farm. Beyond the 12 NM STW limit, is the Firth of Forth Round 3 Zone 2, proposed to be developed in three phases; Phase 1 in the northern area of Zone 2 being developed first and Phases 2 and 3 following. Information on these projects is provided in Chapter 5: Project Description.
- 79 In addition to the offshore wind farms in Scottish Territorial Waters, there are a number of onshore wind farms along the eastern coast of Scotland. As detailed in Chapter 21: Seascape, Landscape and Visual Impact Assessment, a total of 56 wind farms were identified within the 65 km radius study area, including operational and consented wind farms, and proposals at application and scoping stage. These are illustrated in Appendix 21.2: Seascape and Visual Assessment Figures. The Neart na Gaoithe grid connection is at the substation serving the onshore Crystal Rigg II wind farm. Chapter 21: Seascape, Landscape and Visual Impacts provides an overview of other wind farms surrounding the proposed offshore works area.

⁶ Rock mark is a general term given to a positional feature or landmark.

22.7 Impact Assessment

- 80 The potential impacts from construction and operation of the project on other marine users can be summarised as the following:
- Navigational impacts on marine activities, including risk of collision and/or alteration of routes due to restriction of access;
 - Coastal access impacts on marine activities located in areas surrounding the export cable route; and
 - Indirect impacts on resources used by other marine users, such as dive sites, the wave climate, or fish populations targeted by recreational anglers through changes to the sediment or hydrodynamic regime, alteration to habitat and changes to water quality
- 81 Based on the source-pathway-receptor model the effects which have been screened-in for this range of potential impacts are described in Table 22.6. This summarises the recreational activities which could be affected by the development of the Neart na Gaoithe offshore wind farm and associated export cable route.
- 82 Based on these potential effects the following receptors are taken forward to the assessment phase:
- Scuba diving;
 - Sailing;
 - Coastal based watersports (surfing, kitesurfing, and windsurfing);
 - Canoeing/kayaking;
 - Recreational fishing; and
 - Other coastal users.
- 83 The following receptors are screened out of the impact assessment due to the absence of a pathway between the effects caused by the project and the receptor:
- Recreational airborne activities (hang gliding, paragliding), due to the unlikelihood of such activities occurring in an area overlapping the offshore site;
 - Mariculture, due to the lack of a pathway between the effects of the proposed developments (such as increased suspended sediment that could affect fish farming or similar) and mariculture sites (Refer to Chapter 9: Physical Processes for modelling of sediment plumes and other physical processes);
 - Other wind farms, due to the unlikelihood of any interaction between the different projects and the strategic planning process that has identified such sites simultaneously (such as the Blue Seas Green Energy Plan and accompanying SEA (Refer to Chapter 2: Regulatory and Policy Context), which is considered to scope out any impacts between sites.
- 84 For the expected impacts listed in Table 22.6, information on the project parameters and Rochdale Envelope as well as determination of magnitude of effect is provided in Chapter 6: Approach to EIA and Section 22.5.

Development phase	Activity	Effects and receptor relevant to offshore site	Effects and receptor relevant to the export cable route
Construction (and decommissioning)	Installation of foundations and substructures and inter-array and export cable trenching/burial.	<p>Effects Change of seabed/habitat; and Suspended sediment/turbidity/dispersal.</p> <p>Receptors Scuba diving - wrecks visited by divers; and Recreational fishing – boat charters.</p>	<p>Effects Suspended sediment/turbidity/dispersal; Changes to wave climate; Change in tidal flows; Bathymetric changes; and Release of sediment-bound contaminants.</p> <p>Receptors Scuba diving – this takes place in the offshore site (occasionally); Surfing/windsurfing/kitesurfing – these activities take place on the export cable route and landfall; Recreational fishing – sea anglers (though impacts on fish species);</p>
	Construction safety zone.	<p>Effects Displacement of activities; and Restriction of access to area.</p> <p>Receptors Scuba diving - wrecks visited by divers; Recreational fishing – boat charters; and Sailing – cruising activity within the site and visitors from the continent.</p>	<p>Effects Displacement of activities; and Restriction of access to area.</p> <p>Receptors Surfing/windsurfing/kitesurfing and other coastal recreational activities– these take place on the export cable route and landfall; Scuba diving; Recreational fishing; Canoeing/kayaking – these activities take place on the cable route and landfall; and Sailing – day sailing trips, cruising activity within the site and visitors from the continent.</p>
Operation	Turbine/cable presence.	<p>Effects Wake-loss / recovery gap; Presence of turbines; and Collision risk.</p> <p>Receptors Sightseeing cruises – boat trips may be made to visit the wind farm; and Sailing – cruising activity within the site and visitors from the continent.</p>	<p>Effects Presence of export cables.</p> <p>Receptors Surfing/windsurfing/kitesurfing – these activities take place on the export cable route and landfall; Sightseeing cruises – day trips may pass over the export cable route; and Sailing – day sailing trips, cruising activity within the site and visitors from the continent.</p>

Table 22.6: Effects screened in for the impact assessment and related receptors

22.7.1 Impact Assessment – Construction

85 The potential impacts associated with construction (and decommissioning) are related to physical changes or navigational changes, with secondary impacts on other marine users.

22.7.1.1 Offshore Site

86 The effects associated with the installation of the project that relate to changes in physical processes and the benthic environment are discussed in full in Chapter 9: Physical Processes, Chapter 14: Benthic Ecology and Chapter 15: Fish and Shellfish Ecology. These chapters give detail on the impacts to resources utilised or required by other marine users to undertake their activities.

Changes to Hydrodynamic Regime

87 The installation of turbines has the potential to alter the wave climate within and near the offshore site. However, changes in wave height will not extend as far as the inshore and coastal region, meaning there is no pathway to users that depend on wave climate, i.e., surfing/watersports. Chapter 9: Physical Processes describes the potential changes in more detail.

Increased Suspended Sediment

88 The installation associated with construction of the offshore substructures and inter-array cables has the potential to result in increases in suspended sediments. The magnitude of the effect of changes to suspended sediment concentrations (SSC) are assessed based on models described in Chapter 9: Physical Processes. The magnitude is assessed to be negligible based on the results of the modelling study. The study indicates very small and localised increased SSC, dispersion and sedimentation, which are considered to be insignificant against natural background conditions. Although the model is based on dredging for jacket foundation bases, cable trenching is considered to be a less intrusive procedure and will cause smaller increases in SSC and so the effect is also considered to be negligible.

89 Dive sites in the Firth of Forth are usually focused on wrecks. Attractive dive sites are considered to be in high visibility areas where the wreck is of archaeological significance or supports interesting marine life. The waters in the Firth of Forth present good visibility due to low turbidity and low SSC at 10 mg/l. Sediment plumes resulting from the deposition of sediment during construction are expected to be of a low level and not to extend beyond the offshore site. Given this and the presence of safety zones applied during construction, there is little potential for a pathway to exist to divers. If there is any interaction, sediment plumes are not anticipated to present significant overlap with the majority of potential divers.

90 The archaeological significance of the wrecks in the region, and the impacts affecting their integrity, are assessed in Chapter 19: Maritime Archaeology and Cultural Heritage. There are eight recorded wrecks within the offshore wind farm site and one within a 1 km buffer area around the project site. Of these, six are 'Live' (i.e., they have been accurately located by survey) and three are considered 'Dead' (repeat surveys have failed to locate the wreck and its co-ordinates are considered to be unreliable). Two of these sites are designated as Protected Places under the Protection of Military Remains Act 1986 (refer to Chapter 19: Maritime Archaeology and Cultural Heritage). As it is unclear which wreck sites are used by divers, a precautionary approach will be taken. This will assume that dive sites are in the area of increased SSC.

91 To achieve the same quality of scuba diving as pre-development levels, divers will have to adapt their plans to dive at sites where sediment plumes will not decrease visibility. Since dedicated trips would have to be arranged to visit wrecks near Neart na Gaoithe, diversions to other wrecks of high archaeological importance will be easily undertaken and would require similar or less effort, therefore adaptability is rated as high (i.e., can easily adapt). It is assumed that divers will only be able to access areas up to the site boundary during construction. The predicted change in suspended sediment in these areas is anticipated to be tolerable for divers if interaction occurs, and will cause minor change in normal activity. Recreational diving is expected to recover from the effect as soon as it ceases, so recoverability will be high. Since there are no club-based activities focused on the affected wrecks, the value of the receptor is considered to be negligible. Therefore, the overall vulnerability of

the receptors is considered negligible. Since there is a low probability of divers visiting the wrecks in the challenging offshore waters (only two visits are recorded), the impact has been assessed to be **not significant**

Source	Pathway	Receptor	Magnitude of effect	Vulnerability of receptor	Significance of impact	Qualification of significance
Installation of foundations and substructures and inter-array cables	Suspended sediment/turbidity/dispersal	Scuba diving	Negligible	Negligible	Not significant	The increase in suspended sediment (as presented in Chapter 9: Physical Processes) is considered to be at a low level. There are only two occurrences noted of diving in the offshore works area. Probability of pathway and resultant impact is extremely low.

Table 22.7: Impact assessment conclusions for construction phase of offshore site for installation of offshore structures

Changes to Benthic Habitats

92 The magnitude of the effect of seabed habitat disturbance relevant to fish and shellfish species during offshore site installation is assessed in Chapter 15: Fish and Shellfish Ecology. The disturbance (including the gravity base foundation and inter-array cables) is calculated to cover 2.11km² of the offshore site area. It is concluded that the magnitude of the effect is **low** (Refer to Chapter 14: Benthic Ecology and 15: Fish and Shellfish Ecology for further information).

93 The installation associated with the offshore site is expected to introduce new structures to the sea floor. This has the potential to affect recreational anglers by causing changes to the fish populations through artificial reef effects. The new structures, such as scour protection and foundations, have the potential to attract different species including those that could be targeted by recreational anglers. The impacts of the changes to the seabed habitat for ecological receptors are assessed in Chapter 14: Benthic Ecology Chapter 15: Fish and Shellfish Ecology. The impact of potential indirect impacts of new substrate on recreational angling is considered to be **not significant** given the low probability of a pathway between new substrate introducing new species and recreational anglers targeting species.

Source	Pathway	Receptor	Magnitude of effect	Vulnerability of receptor	Significance of impact	Qualification of significance
Installation of foundations and substructures and inter-array cables	Presence of offshore structure foundations and inter-array cables. Disturbing or causing loss in habitat for recreationally targeted species.	Fish species and therefore recreational fisheries.	Low	Negligible	Not significant	Probability is medium, uncertainty is low. New structures have the potential to attract a range of species that could be targeted by recreational fisheries outside the offshore works area however this is not considered to be a significant impact.

Table 22.8: Impact assessment conclusions for construction phase of offshore site for installation of new structures

Construction Safety Zones

- 94 A full overview of the impacts associated with navigational safety and collision risk are described in Chapter 17: Shipping and Navigation, which describes how the navigational safety of other marine users will be ensured, including the implementation of safety zones and the production of a Notice to Mariners (NtM) where appropriate. Therefore only impacts on the quality of the activities, rather than on navigation and risk, are considered in this assessment.
- 95 Safety zones would prevent access to the site during construction; a maximum 500 m safety zone is planned around any structures under construction or partially completed infrastructure. This could cause the displacement of other marine users from the construction areas.
- 96 The extent of the effect would be moderate, encompassing some areas of interest such as potential dive sites and sailing routes. The construction period is anticipated to be two years but the effect of displacement will cease as soon as the safety zones (which are anticipated to be per turbine and not for the whole offshore site at any single point in time) are lifted, giving the effect a negligible duration. The frequency of the effect is assessed as low as it would only occur throughout the construction period. The severity is also assessed as low, as required NtM notifications would ensure that normal activity could adapt and would be expected to continue with little change. The overall magnitude of the effect is assessed as **low**.
- 97 Safety zones may also affect scuba divers wishing to access wrecks. Although there are a number of wreck sites in the region, scuba divers are infrequent in the offshore site. Therefore, temporary restriction of access is not anticipated to cause a discernible change in diver activity. The effects on scuba divers are considered reversible since the 500 m safety zones will be lifted once construction is complete. Provided the NtM is issued efficiently, recreational divers are considered to be able to adapt their plans and visit alternative dive sites. The vulnerability of recreational scuba divers is therefore considered negligible. Overall, the impact on divers is considered to be **not significant**.
- 98 Due to their limited range and the conditions at sea, dinghies and smaller vessels do not occur in the offshore site. However, the cruising routes of larger vessels (e.g., yachts) intersect the site and one non-commercial vessel was detected in the offshore site as part of the survey undertaken for Chapter 17: Shipping and Navigation. Vessels in the offshore site are expected to be mostly motor or sailing yachts, able to easily adapt their route to avoid the safety zones, and so are considered to have high adaptability. Given the long distance journeys taken by such vessels, any detour around safety zones is considered to be a very low change in normal activity. The ability to accept small changes in routes means tolerance is rated as high. The effect on sailing will also be completely reversible and recoverability is also rated as high. The Royal Forth Yacht Club holds a bi-annual race from Granton to Orkney, the route of which passes close to the offshore wind farm site. Due to the flexibility of recreational vessels overall, the overall significance of the impact is considered to be of **minor significance**.
- 99 Recreational fisheries (boat charters) are known to take place in the Forth region and throughout the study area, however the offshore site is not known to be targeted in particular, and so the value is considered low. As fishing charter boats target fairly large areas, the adaptability is considered high. Due to their ability to re-route around any cable installation vessels, the tolerance and adaptability are also considered high. Overall the recreational fisheries are considered to have negligible vulnerability. With a low magnitude of effect the impact of construction safety zones on recreational fishing is considered **not significant**.

Source	Pathway	Receptor	Magnitude of effect	Vulnerability of receptor	Significance of impact	Qualification of significance
Installation of foundations and substructures and inter-array cables	Presence of construction safety zone leading to displacement of activities, restriction of access to area.	Scuba diving	Low	Negligible	Not significant	Probability is low, uncertainty is moderate. Although there is potential for scuba dives to take place, the probability is low due to challenging waters.
		Sailing	Low	Negligible	Minor significance	Probability is low/certain. Uncertainty is moderate. The adaptability of the type of vessels found at the offshore site means that sailing activities are unlikely to be impacted by may have to re-route.
		Recreational fishing	Low	Negligible	Not significant	Probability is low, uncertainty is medium. Receptor considered flexible and area not known as high value for recreational fisheries.

Table 22.9: Impact assessment conclusions for construction phase of offshore site for construction safety zones

22.7.1.2 Export Cable Route (Offshore Environment)

Changes to Sediment, Habitats and Hydrodynamic Regime

- 100 In the offshore environment the export cables will be buried to a depth of up to 3 m by trenching (refer to Chapter 5: Project Description). The consequent changes to the sediment regime are discussed in Chapter 9: Physical Processes.
- 101 For other users, the impact of installation of the export cables in the offshore environment is therefore considered analogous to, or lesser than, the impact of the installation of the inter-array cables and structures in the offshore site. Where possible, trenching and backfilling will be used, causing minimal disturbance to the seabed.
- 102 The impact of effects in the offshore export cable route, such as increased suspended sediments, changes in benthic habitat and changes to the hydrodynamic regime on other marine users including recreational fisheries and scuba divers is therefore assessed as **not significant**.

Construction Safety Zones

- 103 To protect other marine users, a rolling safety zone is likely to surround the area of construction where the export cables are being installed. The safety zone will move across the export cable route with the cable laying vessel, including the landfall area, and may displace other marine users from their usual practices (Refer to Chapter 17: Shipping and Navigation for further detail).
- 104 The extent of the effect of displacement is low as it will partly cover areas of value to other marine users at certain points during installation. Since displacement will not continue after the event has ceased (when safety zones are lifted), the duration of the effect is negligible. The installation of the cables is expected to take several months throughout the construction period only, therefore the frequency is considered low. Given that an NtM will be advertised to prompt other marine users to occupy alternative marine areas, the change in activity is expected to be low. Therefore, the magnitude of the effect is deemed to be low.
- 105 Recreational fisheries (boat charters) are known to take place in the Forth region and throughout the study area, however the export cable route is not known to be targeted in particular, and so the value is considered low. As

fishing charter boats target fairly large areas, the adaptability is considered high. Due to their ability to re-route around any cable installation vessels, the tolerance and adaptability are also considered high. Overall the recreational fisheries are considered to have negligible vulnerability. With a low magnitude of effect, given the low probability of an impact occurring, the impact of construction safety zones on recreational fishing is considered **not significant**.

106 The rolling safety zone along the export cable route may impact sailing activity of vessels of all sizes. The cruising routes of larger vessels intersect the export cable route further offshore and four recreational vessels were recorded on the survey carried out for Chapter 17: Shipping and Navigation.

107 Recreational vessels in this area will mostly be motor or sailing yachts, able to easily adapt their route to avoid the safety zones. Vessels will be required to detour 500 m to the side of construction. Given the overall journeys taken by vessels, the detour is considered to be a very low change in normal activity. This means tolerance is rated high. The effect on sailing will also be completely reversible so recoverability is rated as high. Some racing routes intersect the export cable route; these are referred to as the Forth Offshore Group and involve local sailing clubs. Since the races involve only local sailors and are not of importance in the wider region, value is rated as low. Due to the flexibility of recreational vessels, and the temporary nature of a rolling safety zone, the overall significance of the impact is considered to be **not significant**.

Source	Pathway	Receptor	Magnitude of effect	Vulnerability of receptor	Significance of impact	Qualification of significance
Export cable installation (offshore)	Jack up barge, cable plough causing changes to, hydrodynamic regime, sediments and habitats	Scuba diving, recreational fisheries	As for offshore site – overall negligible	As for offshore site – overall negligible	Not significant	Pathways to receptors in the offshore environment are unlikely and the probability of an impact is low. Predicted changes to habitats, hydrodynamics and sediments are very low marine users do not frequently use the offshore export cable route.
	Presence of safety zones leading to displacement of activities, restriction of access to area.	Sailing, recreational fishing	Overall negligible – less than for offshore site	Overall negligible (see offshore site)	Not significant	The probability is low given that the cable route is not frequently used by other marine users and the possibility of a pathway or interaction between rolling safety zones and other users is extremely low.

Table 22.10: Impact assessment for construction phase for export cable route (offshore environment) for other users

22.7.1.3 Export Cable Route (Coastal Environment)

108 The majority of receptors that could be affected by the construction of the export cables are based in shallow waters, such as those undertaking coastal based watersports or based on Thorntonloch beach. Other related receptors that are based onshore (e.g. Recreational coastal users such as walkers and sightseers) will be considered further in the onshore ES.

Changes to Hydrodynamic Regime

109 The presence of construction equipment offshore, such as jack-up rigs and cable laying barges, and the possible trenching and/or rock dumping involved in installing the cable in the intertidal environment could cause small changes to the wave regime in the nearshore environment but these are not considered to be discernible from natural variation given the varied seabed in the intertidal and subtidal zone at Thorntonloch (Refer to Chapter 8: Geology and Water Quality). This effect is discussed in Chapter 9: Physical Processes. The wave climate is also inherently variable and dependent on a number of factors including wind and tide. Given this variability and the temporary nature of disturbance the effect is therefore considered to be of negligible magnitude.

110 Surfers (and windsurfers and kitesurfers) depend on the wave climate for the quality of their sport. Due to the variable character of the resource, their (the surfers’) adaptability is rated as high. The wave climate depends on many factors and is inherently variable. This generally makes surfers fundamentally tolerant to reductions or increases in wave heights. Due to this adaptability, it is anticipated that the small changes caused by the presence of construction equipment will not cause any change in normal activity. Since the effect during construction will not cause any persistent changes to the receptor recoverability is rated as high. Although the local coastal area is used by surfers, windsurfers and kite surfers and there is a local surf school, those undertaking these activities are known to use a range of beaches locally. Additionally the surf school itself, which may be affected by small changes in wave height, will be unaffected as it is at a different beach location (Dunbar). Due to this local use, the value is considered to be of regional importance and so medium overall. The vulnerability of the surfers is rated as low overall due to the presence of alternative beaches and sites. There is an extremely low probability of changes in the hydrodynamic regime affecting the coast, and a medium probability of temporary localised changes at Thorntonloch beach in particular. Therefore due to negligible magnitude of the effect the overall impact on surfers is of **minor significance**.

Changes to Sediments and Habitats

111 Open cut trenching or rock dumping may be required to install the export cables in in areas close to the coast. The habitat and sediment disturbance related to this is likely to be limited to the 2 m to 3 m either side of the cable. Due to the temporal and spatial restrictions of this effect, the magnitude is considered to be negligible.

112 Recreational fishing occurs in the nearshore export cable route area. There is potential for an impact on the quality of recreational fishing in the area through impacts on fish species. Despite any impact, it is anticipated that recreational anglers can easily adapt or recover and fish in alternate areas during the construction phase. The value of recreational fisheries is therefore considered negligible. The impact is therefore considered to be **not significant**.

Source	Pathway	Receptor	Magnitude of effect	Vulnerability of receptor	Significance of impact	Qualification of significance
Export cable installation (coastal)	Jack up barge, cable plough causing changes to, hydrodynamic regime	Surfers and other recreational users	Negligible	Low (also Refer to Chapter 15 for vulnerability of species)	Minor significance	Probability is medium. Uncertainty is low. Adaptability and flexibility of other marine users is assessed as high and any disruption minimal.
	Jack up barge, cable plough causing changes to sediments and benthic environment.	Fish and shellfish species and therefore recreational fisheries.	Negligible	Negligible (also Refer to Chapter 15 for vulnerability of species)	Not significant	Cable installation activities could impact fish and shellfish species which could then impact recreational anglers. However this impact is of low probability given the wide range of recreational angling and of medium uncertainty.

Table 22.11: Impact assessment conclusions for construction phase of export cable route for cable installation

Construction Safety Zones

- 113 A similar approach to safety zones is expected to be taken in the intertidal/coastal environment for installation of the export cables to further offshore. Cable laying vessels, barges or jack-ups, or machinery in the intertidal environment, are likely to be surrounded by a safety zone which installing the cables (by trenching or drilling). This is likely to be approximately 50 m radius around any intertidal/coastal installation works and therefore access to certain areas of the beach and inshore environment may be limited for coastal users. As with further offshore, the spatial extent of the effect of displacement is low as it will partly cover areas of value to other marine users. The duration of the effect is negligible as they will only be in place for the construction period. The installation of the cables in the inshore environment is expected to take up to two months, therefore the frequency is once again considered low. The magnitude of the effect is therefore assessed as low overall.
- 114 There are no recognised sea kayaking or canoe routes within approximately 15 km of the export cable route. However, those undertaking coastal routes may cross the cable route at Thorntonloch. Paddlers need access to beaches to launch and land their boats, this is especially important in times of emergency. Attempts will be made to ensure all marine users are aware of any potential displacement; including the issue of an NtM, which will be circulated and posted in the relevant areas. It is thought that paddlers can easily adapt to displacement as the sports are ultimately based on travelling. The safety zone will not completely restrict access to important features (beaches) and the deviations required present no, or very little, hazard to kayaks and canoes, therefore tolerance has been rated as high. Again, recoverability is high as the effect is completely reversible. The value of the activity is rated as negligible as there are no club based activities or recognised routes through the export cable route. Taking these factors into account, the vulnerability of the receptor is rated as negligible. Although there is uncertainty over the how prevalent the impact will be, it is considered to be of **minor significance**. Thorntonloch beach is not commonly used for sailing activities or anchoring.
- 115 The vulnerability of recreational sailing vessels is therefore considered to be consistent with the offshore cable route environment, as negligible, due to their flexibility. Given the very low probability of such an impact the impact is assessed as being not significant.
- 116 Small disturbances to surfing, windsurfing and kitesurfing may occur as the installation of the export cables and associated safety zone reaches the shore. The landfall point has been reported to support surfing, windsurfing and kitesurfing activity. It is anticipated that surfers can easily adapt to use alternative beaches or avoid the 500 m radius safety zone for the period that the cables are being installed near the shore and so adaptability and tolerance are rated as high. It is likely that there will be a reduction in normal activity levels during this time as a large part of the bay will be closed off. As with other receptors, surfers will recover from displacement immediately. Value is considered to be medium as above. The vulnerability of the receptor is considered to be low overall, meaning the impact is of **minor significance**.

Source	Pathway	Receptor	Magnitude of effect	Vulnerability of receptor	Significance of impact	Qualification of significance
Export cable installation (coastal)	Presence of safety zones leading to displacement of activities, restriction of access to area.	Canoeing/kayaking	Low	Negligible	Minor significance	Probability is low, uncertainty low. Receptor considered flexible enough and effect of low magnitude for impact to be minor.
		Sailing	Low	Low	Not significant	Probability is low, uncertainty low. Sailing considered flexible enough and probability low enough for impact to be not significant.
		Surfing (and kitesurfing and windsurfing)	Low	Low	Minor significance	Probability is medium, uncertainty medium. Watersports considered flexible enough and effect of low magnitude for impact to be minor.

Table 22.12: Impact assessment conclusions for construction phase of export cables (coastal) for other users

Other Impacts from Export Cable Installation

- 117 The export cable installation also generates a range of effects on land, such as:
- Changes to visual amenity, which is assessed in Chapter 21: Seascape, Landscape and Visual Impacts;
 - Changes to recreational amenity, which comprises a number of different elements including noise and vibration, dust, and traffic movement; and
 - Loss of access to coastal users.
- 118 A full assessment of these impacts will be provided in the onshore ES, which will include consideration of the impacts of the terrestrial aspects of the export cable. Table 22.13 below provides a summary of these potential impacts.

Source	Pathway	Receptor	Significance of impact	Qualification of significance
Export cable installation (coastal)	Recreational amenity (noise, dust, traffic)	Beach users, walkers and Thorntonloch caravan park	Minor significance	This impact will be assessed in more detail in the onshore ES. There may be some changes in airbourne noise and traffic associated with installation of the coastal and terrestrial sections of the export cables. This is expected to be temporary and of low severity. Due to the presence of a caravan park and use of the beach for recreation this impact is assessed as of minor significance.
	Restricted access	Coastal users such as walkers, beach visitors and similar	Minor significance	This impact will be assessed in more detail in the onshore ES. Access to the caravan park would not be restricted under for construction using open trenching or drilling. Walkers on the footpaths behind the beach are unlikely to be affected but those on the beach could be impacted by the temporary access restrictions associated with the installation of the cable (for trenching or drilling) in a similar way to coastal watersports may be affected. Such users are however considered very flexible and the overall impact considered of minor significance.

Table 22.13: Impact assessment conclusions for other impacts associated with export cable installation (coastal)

22.7.2 Impact Assessment – Operation and Maintenance

22.7.2.1 Offshore Site

Changes to Hydrodynamic Regime

119 As with the construction stage, the presence of turbines has the potential to alter the wave climate at the site. However, changes in wave height at the operational stage (as with the construction stages) will not extend as far as the inshore and coastal region, meaning that there is no pathway to coastal users. Chapter 9: Physical Processes describes the potential changes in more detail.

Presence of Turbines

120 The navigational risk for recreational vessels due to turbine presence is discussed in Chapter 17: Shipping and Navigation. Taking into account the air gap spacing and recreational routeing in the vicinity of the offshore site, the impact on recreational vessels is assessed as being of **minor significance**.

121 There is a possibility that sightseeing tours will be made to visit the turbines. The magnitude of this effect is thought to be moderate due to the small spatial extent but potential high value and duration. The receptor is thought to be of negligible vulnerability since they would choose to undertake the change and would therefore have a high tolerance and adaptability. However, there is a high uncertainty over the potential for this market. Overall the impact of the turbine presence on sightseeing activity is thought to be of **minor significance**.

Source	Pathway	Receptor	Magnitude of effect	Vulnerability of receptor	Significance of impact	Qualification of significance
Presence of offshore structures	Navigation hazard	Sailing vessels	Refer to Chapter 17	Refer to Chapter 17	Minor significance (Chapter 17)	Assessed in Chapter 17: Shipping and Navigation. Takes into account air gap to turbine blades and routeing issues.
	Increased sightseeing activity	Tour operators	Low	Negligible	Minor Significance	Probability is extremely low, uncertainty is high. Adaptability and flexibility of sightseers is assessed as high and any disruption minimal.

Table 22.14: Impact assessment conclusions for operation and maintenance phase for offshore site

22.7.2.2 Export Cable Route

122 Where possible, the export cables will be buried. Where full burial is achieved, export cables are not anticipated to cause any changes that will affect other marine users during the operational period. Where buried, it would be expected to have no effect on wave climate, seabed habitat, suspended sediment or access. Since there is no direct pathway to other marine users, the operational impacts of the cables are not assessed in this chapter. For the indirect impacts of the cables, i.e., electromagnetic fields on recreationally targeted species please refer to Chapter 15: Fish and Shellfish Ecology.

123 If the cable is protected with scour protection in places where burial is not possible, there may be possible changes to recreational hydrodynamics and coastal access. However, these are expected to be of similar or less significance than those during construction.

22.8 Mitigation and Residual Impacts

124 Since the significances of the impacts on other marine users are either not significant or of minor significance, it is anticipated that mitigation methods are not needed. Nevertheless there are a number of industry standard mitigating measures that will be undertaken to mitigate wider impacts on shipping and navigation which will affect other marine users. Full details of these are presented in Chapter 17 Shipping and Navigation. Typical measures include:

- Marking of the proposed project on Admiralty charts to aid navigation;
- Appropriate information circulation such as use of NtMs, Navigation Broadcasts and other appropriate media;
- Appropriate marking and lighting of structures associated with the wind farm in accordance with international guidance;
- Adequate turbine air draught: the lowest point of the rotor sweep will be at 22 above MHWS as recommended by the MCA;
- Cables to be appropriately protected and post installation surveys may be undertaken to indicate status of cable burial to allow fishing practices and anchoring to recommence (Refer to Chapter 16: Commercial Fisheries for details);
- The project will be compliant with the MCA's Marine Guidance Note 71;
- Emergency Response and Cooperation Plans will be developed as per MCA recommendations; and
- Best practice measures may be implemented, which include development of a Marine Control Centre, routine subsea surveys to monitor cable burial status, and use of construction safety zones (as outlined above).

22.9 Cumulative and In-Combination Impacts

125 Cumulative and in-combination impacts are assessed as being principally related to navigational impacts on marine activities, including risk of collision and alteration of routes due to restriction of access. Cumulative impacts for other coastal and marine users arising from the development of the onshore works associated with the installation of the export cable have been taken into account in the project level impact assessment.

126 There are no anticipated further activities that would affect other marine users in areas surrounding the export cable route other than activities that already occur in the area. Therefore there are no predicted in-combination impacts.

127 In terms of indirect impacts on resources used by other marine users, the majority of impacts have been scoped out. Changes to the wave climate from the development of several other wind farms in the area is, as with the site assessment, not predicted to have an effect on the wave climate at the shore (Refer to Chapter 9: Physical Processes). Cumulative and in-combination impacts on species targeted by recreational anglers are assessed in Chapter 15: Fish and Shellfish Ecology.

22.10 Summary and Conclusions

128 Several activities occur in the region surrounding the offshore works for Neart na Gaoithe and have the potential to be affected by the development. In summary, these are:

- Sailing activities, which take place within the Firth of Forth and Outer Forth and up to 30 km offshore;
- Recreational watersports, including surfing, kitesurfing, windsurfing and kayaking or canoeing, which take place at the export cable landing point at Thorntonloch and other coastal locations such as Berwick, Fife, Dunbar, Pease Bay, St Abbs, and Arbroath and occasionally out to offshore locations such as Bell Rock (kayakers only);
- Scuba diving activities, which occur mainly on wreck sites within the Firth of Forth and have been occasionally recorded at a wreck site in the offshore site; and
- Recreational fishing activities, which take place along the coastline and around navigational features such as Bell Rock.

129 Several other activities, including mariculture and some airborne activities, also occur in the region, however these are considered not to be affected by the development and so have been scoped out of the impact assessment.

130 A summary of impacts is given in Table 22.10. This indicates that impacts to all other users are rated as of minor significance or not significant. Most other users, such as sailors, surfers, windsurfers and kayakers, are considered to be flexible in their activity and hence have low or medium vulnerabilities. The effects that may impact these activities are generally considered to have low or negligible magnitude and hence no impacts are assessed to be of a moderate or major significance.

131 The consultation and engagement that was carried out to inform this chapter will continue throughout the development of the project. This is to ensure the concerns of other marine users are understood and taken into account, in, for example, the development of the construction, environmental management, and decommissioning plans and to ensure other marine users remain involved throughout. For example, other marine users will be involved in the development of the fisheries working group which plans to engagement with the commercial fishing industry and local communities as the proposed offshore wind farm projects in the Forth and Tay region progress. (refer to Chapter 16: Commercial Fisheries for more information) Further details on the approach to continued engagement with topic specific and wider stakeholders is provided in Chapter 7: Engagement and Commitments.

Source	Pathway	Receptor	Significance pre-mitigation	Mitigation	Significance post-mitigation	Cumulative/ in-combination Impact significance	Qualification of significance
Installation of foundations and substructures and inter-array cables	Suspended sediment/ turbidity/ dispersal.	Scuba diving	Not significant	None identified	Not significant	Cumulative and in-combination impacts scoped out	The increase in suspended sediment (as presented in Chapter 9: Physical Processes) is considered to be at a low level. There are only two occurrences noted of diving in the offshore works area. Probability of impact is low.
	Installation of foundations and substructures and inter-array cables	Presence of offshore structure foundations and inter-array cables. Disturbing or causing loss in habitat for recreationally targeted species.	Fish species and therefore recreational fisheries.		Not significant	Not significant	Cumulative and in-combination impacts scoped out
Scuba diving			Not significant		Not significant	Cumulative and in-combination impacts scoped out	Probability is low. Uncertainty is moderate. Although there is potential for scuba dives to take place, the probability is low due to challenging waters.
Presence of construction safety zone leading to displacement of activities, restriction of access to area.		Sailing	Minor significance		Minor significance	Minor significance (as assessed in Chapter 17: Shipping and Navigation)	Probability is low/certain. Uncertainty is moderate. The adaptability of the type of vessels found at the offshore site means that sailing activities are unlikely to be impacted but may have to re-route.
		Recreational Fishing	Not significant		Not significant	Cumulative and in-combination impacts scoped out	Probability is low, uncertainty is medium. Receptor considered flexible and area not known as of high value for recreational fisheries.
Export cable installation (offshore)	Jack-up barge, cable plough causing changes to sediments, hydrodynamics and benthic environment.	Jack up barge, cable plough causing changes to, hydrodynamic regime, sediments and habitats	Not significant		Not significant	Cumulative and in-combination impacts scoped out	Pathways to receptors in the offshore environment are unlikely and the probability of an impact is low. Predicted changes to habitats, hydrodynamics and sediments are very low marine users do not frequently use the offshore export cable route.
		Presence of safety zones leading to displacement of activities, restriction of access to area.	Not significant		Not significant	Not significant (as assessed in Chapter 17: Shipping and Navigation)	The probability is low given that the cable route is not frequently used by other marine users and the possibility of a pathway or interaction between rolling safety zones and other users is extremely low.
Export cable installation (coastal)	Jack up barge, cable plough causing changes to, hydrodynamic regime.	Surfers and other recreational users	Minor significance		Minor significance	Cumulative and in-combination impacts scoped out	Probability is medium, uncertainty is low. Adaptability and flexibility of other marine users is assessed as high and any disruption minimal.
	Jack up barge, cable plough causing changes to sediments and benthic environment.	Fish and shellfish species and therefore recreational fisheries.	Not significant		Not significant	Cumulative and in-combination impacts scoped out	Cable installation activities could impact fish and shellfish species which could then impact recreational anglers. However this impact is of low probability given the wide range of recreational angling and of medium uncertainty.
	Presence of safety zones leading to displacement of activities, restriction of access to area.	Canoeing/kayaking	Minor significance		Minor significance	Cumulative and in-combination impacts scoped out	Probability is low, uncertainty low. Receptor considered flexible enough and effect of low magnitude for impact to be minor.
		Sailing	Not significant	Not significant	Cumulative and in-combination impacts scoped out	Probability is low, uncertainty low. Sailing considered flexible enough and probability low enough for impact to be not significant.	
		Surfing (and kitesurfing and windsurfing)	Minor significance	Minor significance	Cumulative and in-combination impacts scoped out	Probability is medium, uncertainty medium. Watersports considered flexible enough and effect of low magnitude for impact to be minor.	

Source	Pathway	Receptor	Significance pre-mitigation	Mitigation	Significance post-mitigation	Cumulative/ in-combination Impact significance	Qualification of significance
	Recreational amenity (noise, dust, traffic).	Beach users, walkers and Thorntonloch caravan park	Minor significance		Minor significance	Accounted for in project level impacts	This impact will be assessed in more detail in the onshore ES. There may be some changes in airbourne noise and traffic associated with installation of the coastal and terrestrial sections of the export cables. This is expected to be temporary and of low severity. Due to the presence of a caravan park and use of the beach for recreation this impact is assessed as of minor significance.
	Restricted access	Coastal users such as walkers, beach visitors and similar	Minor significance		Minor significance	Accounted for in project level impacts	This impact will be assessed in more detail in the onshore ES. Access to the caravan park would not be restricted under for construction using open trenching or drilling. Walkers on the footpaths behind the beach are unlikely to be affected but those on the beach could be impacted by the temporary access restrictions associated with the installation of the cable (for trenching or drilling) in a similar way to coastal watersports may be affected. Such users are however considered very flexible and the overall impact considered of minor significance.
Operation and Maintenance							
Presence of offshore structures including wind turbines and substations	Navigation hazard	Sailing vessels	Minor significance	None identified	Minor significance	Minor significance (as assessed in Chapter 17: Shipping and Navigation)	Assessed in Chapter 17: Shipping and Navigation. Takes into account air gap to turbine blades and routeing issues.
	Increased sightseeing activity	Tour operators	Minor significance		Minor significance	Cumulative and in-combination impacts scoped out	Probability is extremely low, uncertainty is high. Adaptability and flexibility of sightseers is assessed as high and any disruption minimal.

Table 22.15: Impact assessment summary for other marine and coastal users

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Appendices

Appendix 22.1: Other Users Consultation Log