

CHAPTER 23: OTHER USERS

23. OTHER USERS

23.1 Introduction

This chapter assesses the potential effects on other users of the sea from construction and operation activities of the proposed Aberdeen Harbour Expansion Project (AHEP) at Nigg Bay (hereafter referred to as “the development”). It also, where applicable, proposes mitigation measures that can be applied to further reduce the significance of any effects identified as significant.

For the purposes of assessment, the following elements of the development have been considered in this chapter as having the potential for causing an effect on other users of the sea:

- Construction of the north and south breakwaters;
- Dredging works in the harbour basin and access channel; and
- Operation of the harbour once built.

Chapter 3: Description of the Development provides a detailed description of these elements.

The other users of the sea considered in this chapter include other marine industries (oil and gas, renewable energy, aggregate dredging), disposal sites, military uses, and cables and pipelines.

A number of activities have been assessed separately in other chapters of the ES: Chapter 16: Socio-economics (covering tourism and recreation, which includes marine recreational users), Chapter 21: Shipping and Navigation, and Chapter 22: Commercial Fisheries.

23.2 Policy, Legislation and Guidance

There is no specific legislation regarding the environmental assessment of projects on other users of the sea. However, the following policy, legislation and guidance documents contain elements related to this topic and have been used in the preparation of this chapter. Policy, legislation and guidance applicable to the wider project can be found in Chapter 4: Planning and Legislation.

- OSPAR Convention for the Protection of the Marine Environment of the north-east Atlantic;
- The Marine (Scotland) Act 2010, which contains dispositions on the licensing regime for certain activities in Scottish territorial waters; and
- Scotland’s National Marine Plan and supporting documents and tools: the Scotland’s Marine Atlas and the National Marine Plan Interactive tool (NMPI). These provide an assessment of the condition of the Scottish seas, including information on other users of the seas.

23.3 Consultation

As part of the EIA process, Aberdeen Harbour Board (AHB) has undertaken extensive consultation. No specific responses related to other users of the sea were received.

23.4 Methodology

23.4.1 Study Area

The study area comprises the footprint of the development as shown in Chapter 3: Description of the Development and the wider area as determined by the geographical range of the activities assessed.

There are military areas as well as aggregate and disposal sites in the vicinity of Nigg Bay (within 10 km) and Aberdeen. As such, the geographical scope of the assessment of effects on these activities comprises this area.

For the assessment of effects on cables and pipelines and offshore renewables, the study area has been further extended to cover the closest infrastructures to the project area, located in Cruden Bay (cables and pipelines) and in Buchan Deep and the offshore Firth of Forth (marine renewables).

23.4.2 Data Sources

A desk-based study reviewing the existing literature and data sources has been undertaken to inform this chapter. The data sources consulted are listed below:

- Scotland's National Marine Plan and supporting documents and tools: Scotland's Marine Atlas and the National Marine Plan Interactive tool (NMPi). These provide an assessment of the Scottish seas and activities occurring on it, including marine renewable energy developments, telecommunication cables, oil and gas infrastructure, waste disposal and military activities;
- UK Oil and Gas Data web portal, an online resource of metadata on the UK Continental Shelf (UKCS) offshore oil and gas infrastructure, licences and fields;
- Department for Trade and Industry (DTI) Strategic Environmental Assessment 5 (SEA 5) reports, which provide an overview of marine activities taking place in the SEA 5 area (which covers the Aberdeen and surrounding area);
- Kingfisher Information Service Offshore Renewables and Cable Awareness (KIS-ORCA) web Portal. This portal, a joint initiative between Subsea Cables UK and Renewable UK, provides information on subsea cables on the UKCS; and
- Department for Communities and Local Government Mineral Surveys reports. These annual reports provide data on mineral extraction in Great Britain, including marine aggregate extraction.

23.5 Baseline Description

23.5.1 Introduction

This section presents a description of the baseline environmental conditions in the study area with regards to other users and uses of the sea. The following users and uses have been considered and are described in the following sections:

- Oil and gas;
- Carbon, capture and storage;
- Marine renewables;

- Marine aggregates;
- Disposal sites;
- Military activities; and
- Cables and pipelines.

23.5.2 Oil and Gas Infrastructure

The North Sea is an important centre of oil and gas activity, and Aberdeen Harbour is the main hub for oil and gas vessel traffic in the UK Continental Shelf (UKCS). Potential effects on vessel activity and navigation within Aberdeen Harbour are discussed in Chapter 21: Shipping and Navigation.

The vast majority of oil and gas fields are located in offshore waters of the North Sea, meaning there is no fixed oil and gas infrastructure in the vicinity of the development. The closest offshore infrastructures are five exploration wells, drilled between 1985 and 2001, located in Block 26/04, over 45 km to the south-west of Nigg Bay. The closest onshore oil and gas infrastructure, the Cruden Bay terminal, is located approximately 30 km to the north of Aberdeen (UK Oil and Gas Data, 2015).

23.5.3 Carbon Capture and Storage (CCS)

The proposed Shell Peterhead CCS Project aims to capture around one million tonnes of CO₂ per annum for up to 20 years from the existing SSE gas turbine located at Peterhead Power Station. The captured CO₂ will be compressed and transported approximately 100 km offshore via a combination of new and existing pipelines to the Shell operated Goldeneye platform in the central North Sea. Once at the platform the CO₂ will be injected into the Goldeneye CO₂ store (a depleted hydrocarbon gas reservoir), more than 2 km under the seabed of the North Sea. The closest infrastructure associated with the proposed CCS scheme would be approximately 40 km north-east from the project as shown in Figure 23.1, (NMPi, 2015).

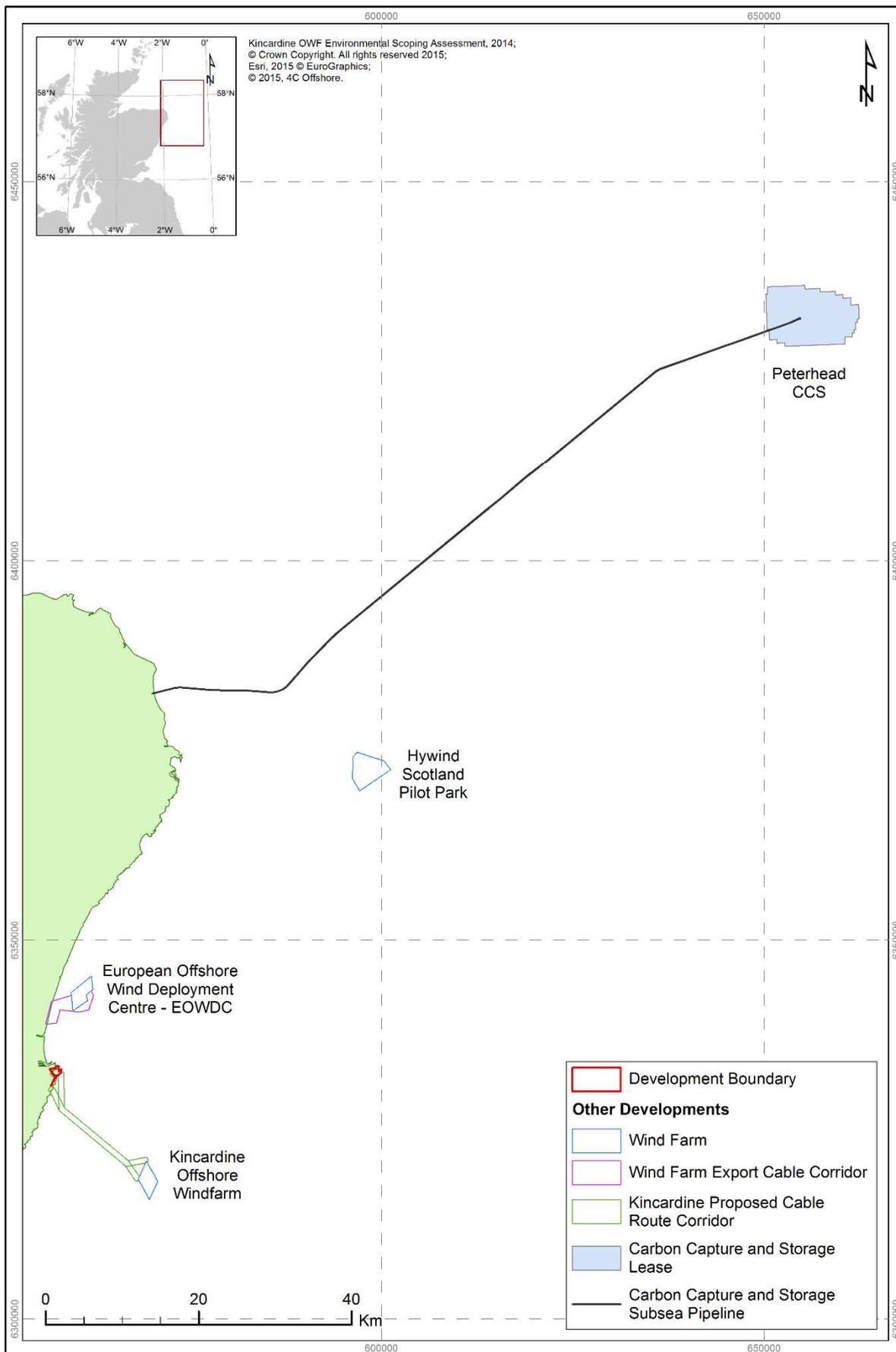
23.5.4 Marine Renewables

There are a number of offshore wind developments located on the east coast of Scotland in different planning stages. Those within the wider vicinity of the project are discussed below and shown in Figure 23.1, (NMPi, 2015):

- European Offshore Wind Deployment Centre (EOWDC) (consented): The EOWDC is located 10 km north of Aberdeen Harbour and developed by Aberdeen Offshore Wind Farm Limited. This is a demonstration site comprising 11 turbines with an installed capacity of 100 MW. The offshore consent was granted in 2013 (Vattenfall, 2015) with construction activities originally due to commence in 2013. In June 2015 the start date of construction activities were given as 2017/18 (Press and Journal, 2015);
- Hywind Scotland Pilot Project (the application has been submitted and is yet to be determined): the Hywind Scotland Pilot Park is located 54 km to the north-east of Aberdeen. The lease agreement was given in 2013 and the site is to be developed by Statoil. This pilot project comprises five floating turbines, at an approximate depth of 100 m, with a total capacity of 30 MW. Construction of the Hywind Scotland Pilot Park is scheduled to commence in Q1 2016 (Statoil, 2015);

- Kincardine Offshore Wind Farm (pre-application): the proposed wind farm, located approximately 17 km south-east of Aberdeen Harbour, being developed by Kincardine Offshore Wind Farm Limited (KOWL), would comprise up to eight floating offshore wind turbines situated in approximately 60 m to 80 m of water. The total generating capacity of the proposal would be 50 MW. A lease with the Crown Estate is yet to be agreed. Construction of the Kincardine Offshore Wind Farm is scheduled to commence in Q1 2016 (Atkins, 2014).

There are no wave or tidal energy infrastructure or planned developments on the east coast of Scotland (NMPi, 2015).



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Figure 23.1: Major infrastructure proposals for the east coast of Scotland

23.5.5 Marine Aggregates

The marine aggregate industry is a key supplier of sand and gravel for construction purposes. There is one aggregate extraction site located 8 km offshore the coast of Stonehaven (NMPi, 2015). However, there has been no marine aggregate extraction in Scotland since 2009, as shown by the Minerals Surveys reports by the Department for Communities and Local Government (DCLG, 2015).

23.5.6 Disposal Sites

The east coast of Scotland is an area of significant port activity, and maintenance operations generate a large volume of dredged material, which is then disposed of at sea. The volumes of dredged material licensed and disposed of in the area between Fraserburgh and Eyemouth, excluding the Forth, were the largest in Scotland between 2005 and 2009 (Baxter et al., 2011).

There are twelve active marine sites in the east coast sea area routinely used for disposal of dredged material; plus an additional number of sites now disused or closed (Baxter et al., 2011). The closest ones to the project area are a closed site 4 km offshore the coast of Stonehaven; and two active sites located 3.5 km offshore Nigg Bay (CR110) and 1.5 km offshore Stonehaven (FO007) (NMPi, 2015). Site CR110 is currently used by AHB for the disposal of dredged material from their maintenance dredging operations within the existing harbour. The location of these sites is shown Figure 23.2.

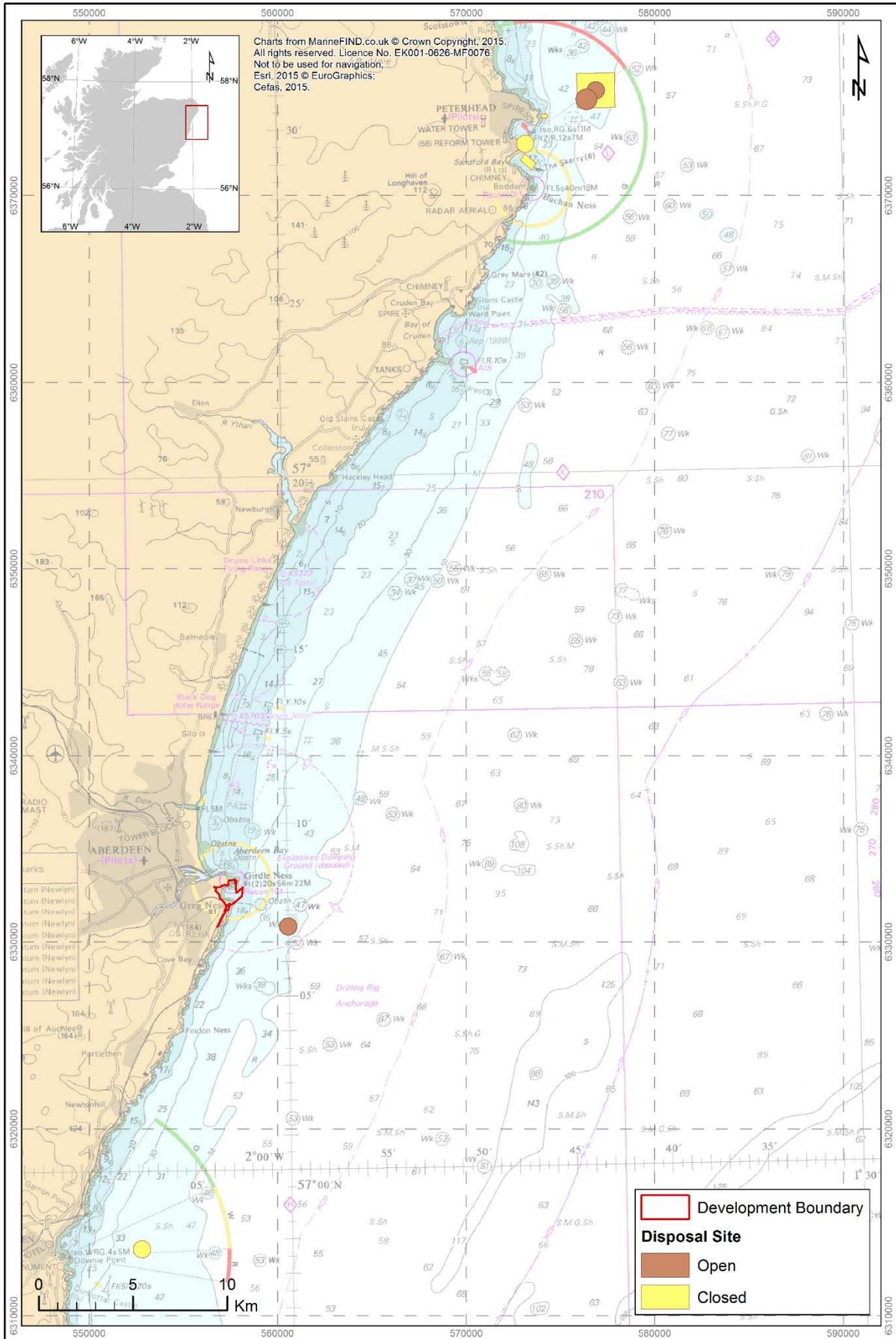


Figure 23.2: Disposal sites on the east coast of Scotland between Peterhead and Stonehaven

23.5.7 Military Activities

The Scottish coasts and seas are used for a range of military activities by the Ministry of Defence (MoD). These include Royal Navy and Royal Air Force bases, training and/or firing ranges among others uses (Baxter et al., 2011).

The closest zone of military activity to the development is the Black Dog X5703 Offshore Danger Area, a small-arms firing range on the coast with an associated exclusion zone at sea during firing, located approximately 9 km north of Aberdeen (NMPi, 2015; DTI, 2004). Detailed information on the intensity of use of this area is not available due to national security reasons. The Drums Links Firing Range Danger Area (X5722) is a private range owned by the Aberdeen Full Bore Gun Club and is located to the north of the aforementioned Black Dog site. The location of these sites is shown in Figure 23.3. In addition, 5 km offshore the coast of Aberdeen there is a disused explosives disposal site (National Archives, 2015; NMPi, 2015).

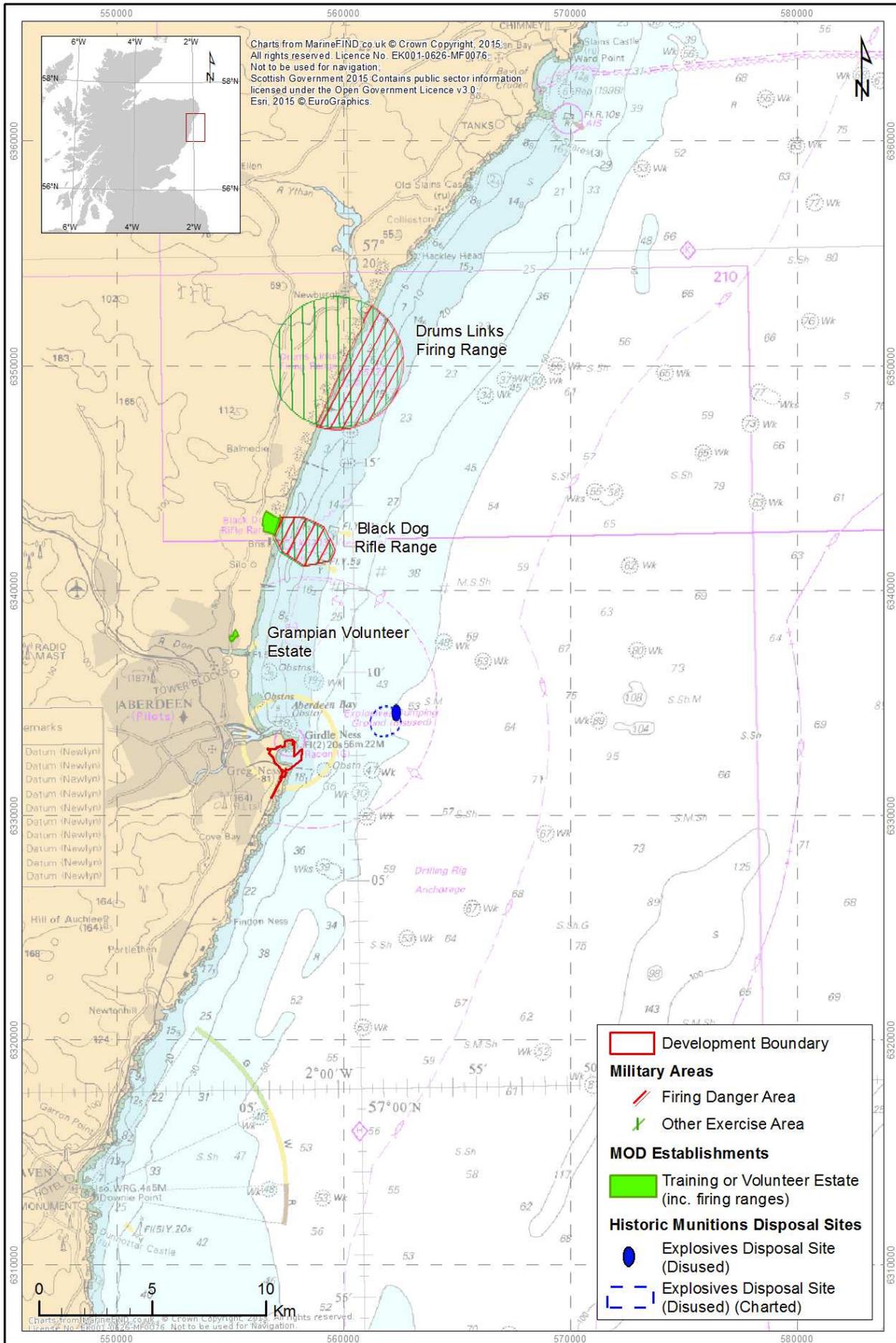


Figure 23.3: Location of active MoD sites

23.5.8 Cables and Pipelines

There are over 4,800 km of cables in the Scottish seas, used for communication purposes (telephone, internet connection and data transmission), the majority of them in the north coast and the Faroe-Shetland channel. Only 1.2% of the total length of cable in Scottish seas passes through the east coast sea area (Baxter et al., 2011). In addition to communication cables, a dense network of pipelines services the oil and gas infrastructure in the North Sea, connecting the offshore fields with onshore reception facilities in Shetland, Orkney and the east coast of Scotland (Baxter et al., 2011).

The closest cables and pipelines to the project area are located in Cruden Bay, approximately 30 km to the north of Aberdeen. Cruden Bay is the landfall location for the two Forties C to Cruden Bay oil pipelines (PL8 and PL271), as well as for the BP CNS Fibre Optic telecommunications cable (KIS-ORCA, 2015; NMPi, 2015; UK Oil and Gas Data, 2015). The location of these cables and pipelines is shown in Figure 23.4.

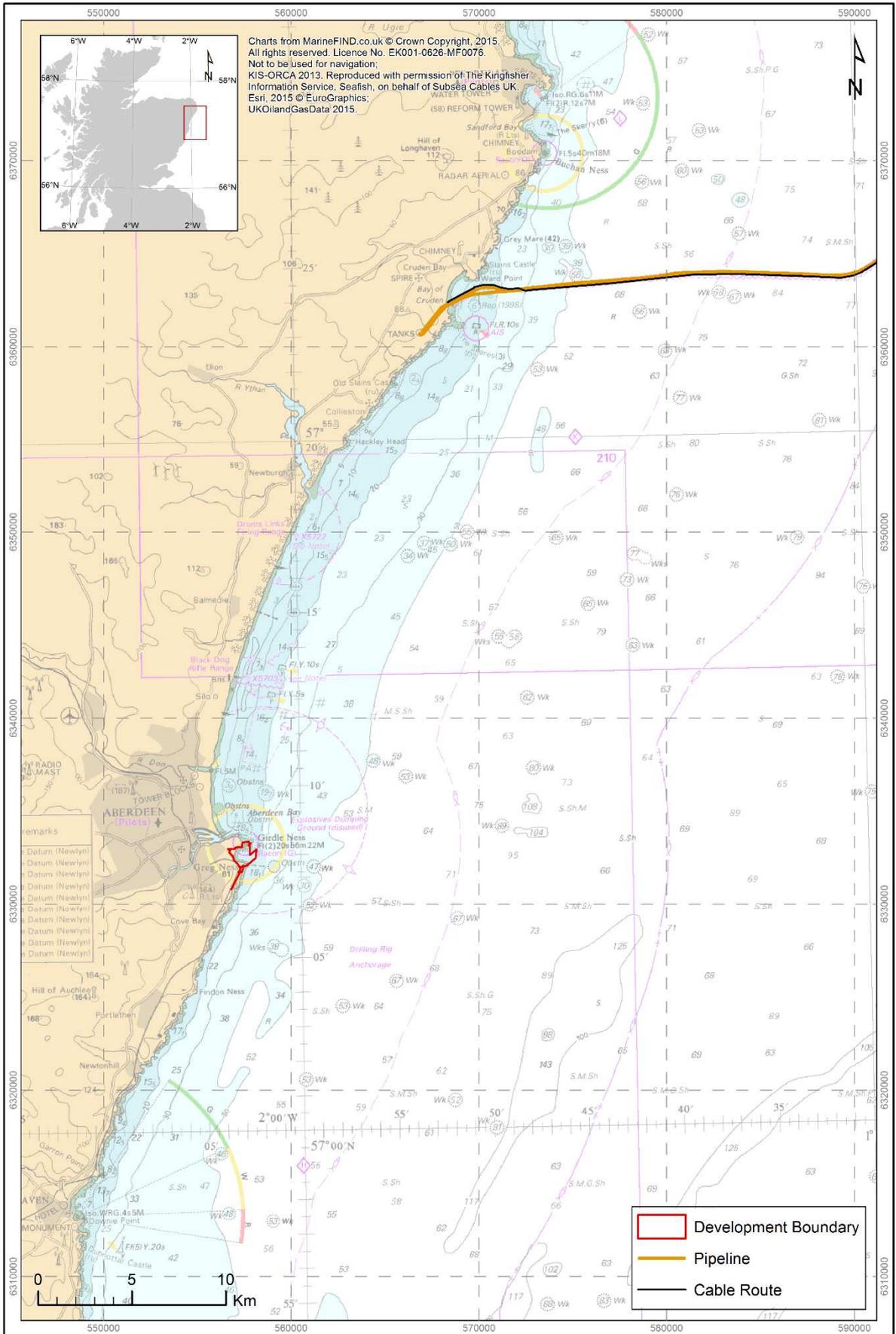


Figure 23.4: Location of cables and pipelines

23.6 General Impact Assessment Methodology

This section explains the approach to identifying other users of the sea which could be affected by the development, identifying impacts and impact pathways, defining effect magnitude and receptor value, and evaluating the significance of effects. The approach follows the general impact assessment methodology presented in Chapter 5: Environmental Impact Assessment Process.

Table 23.1: Predicted impacts and effects on other users of the sea presents the potential construction and operational impacts of the development, together with the pathways through which effects on other users of the sea may occur. One impact was identified relating to the potential for a cable route from the proposed Kincardine Offshore Windfarm (KOWF) transiting through the development.

Table 23.1: Predicted impacts and effects on other users of the sea

Activity	Impact Transmission Pathway	Receptor	Description of Effect
Construction			
Construction of quays, breakwaters and other infrastructure	Construction activities could damage the export cable or prohibit the successful installation of it	KOWF export cable	Disturbance, damage and / or burial of export cable
Capital dredging	Capital dredge activities could expose the KOWF export cable or prevent the successful installation of it	KOWF export cable	Disturbance, damage and / or burial of export cable
Operation			
Maintenance dredging	Maintenance dredge activities could expose the export the KOWF export cable	KOWF export cable	Disturbance, damage and / or burial of export cable

23.6.1 Assessment Criteria Magnitude

Within this ES chapter, the magnitude of impacts has been defined by the criteria detailed in Table 23.2. The magnitude of impact is ranked without regard to the value of the asset. The total destruction of a low value asset will have the same magnitude of impact as the total destruction of a High Value asset.

The significance of potential effects has been assessed through correlation of magnitude of the effect arising from the proposals with the value of the asset in question.

Table 23.2: Magnitude of impact

Impact Category	Definition
Severe	Permanent or long lasting disruption that threatens the future viability of an approved or licenced activity or service.
Major	Temporary disruption that affects an approved or licenced activity or service, but does not threaten future viability.
Moderate	Temporary and low level disruption of approved or licenced activity or service.
Minor	Little disruption to other sea users.
Negligible	No detectable disruption.

23.6.2 Assessment criteria – Receptor Value

In this chapter, receptor value has considered the level of local, national or international importance for other users of the sea such as licensed sites for development, defence or existing infrastructure in the area such as cables. Table 23.3 presents the different value categories and associated definitions used in this chapter.

Table 23.3: Value of the receptor

Category	Definition
Very high	Activities of international importance or recovery only possible over long time period e.g. damage to pipeline or subsea cable.
High	Activities of national importance that may be able to tolerate some disruption, or would be expected to recover without long term effects.
Medium	Activities of regional importance that may be able to tolerate some disruption, or would be expected to recover without long term effects.
Low	Activities of local importance to one or more other marine users, adaptable to and tolerant of change, or can recover over a short period of time.
Negligible	Activities not likely to be affected by the Project.

23.6.3 Assessment Criteria – Significance of Effects

The significance of an effect on a receptor is assessed by combining the magnitude of the impact (Table 23.2) with the value of the value of the receptor (Table 23.3). The resultant matrix in Table 23.4 provides a guide to the assessment. However, this is not a substitute for professional judgement and interpretation, particularly where the value or magnitude levels are not clear or are borderline between categories.

Effects that are considered to be of moderate or major significance in Table 23.4 indicate potentially significant effects in EIA terms.

Table 23.4: Determining significance of effect

Magnitude of Impact	Value				
	Negligible	Low	Medium	High	Very High
Negligible	Negligible	Negligible	Negligible	Negligible	Minor
Minor	Negligible	Minor	Minor	Minor	Moderate
Moderate	Minor	Minor	Moderate	Moderate	Major
Major	Minor	Moderate	Moderate	Major	Major
Severe	Moderate	Major	Major	Major	Major

23.7 Assessment of Effects

23.7.1 Scoped Out Effects

The majority of other users of the seas listed in Section 23.5 (Baseline Description) have been scoped out of requiring further assessment, for the reasons described below:

- **Oil and Gas:** there is no oil and gas infrastructure within the development area, with the closest located 30 km to the north (i.e. the pipelines feeding into the Cruden Bay terminal). As such, no

effects on oil and gas infrastructure are anticipated as a result of the development. Aberdeen Harbour is an important communications node for the oil and gas industry, and potential effects on navigation are assessed in Chapter 21: Shipping and Navigation, where mitigation measures are proposed to safeguard navigational safety. With these mitigation measures in place, any potential effects on navigation that could affect the oil and gas industry are deemed to be negligible;

- **Carbon Capture and Storage (CCS):** the nearest infrastructure associated with the Shell Peterhead CCS scheme is situated approximately 40 km north-west of the development. As such, there are not anticipated to be any effects on this infrastructure resulting from the proposed development;
- **Marine Renewables:** the closest offshore wind farm to the development is the European Offshore Wind Deployment Centre, located 10 km to the north of Aberdeen. During construction and operation of the EOWDC exclusion zones will be enforced around vessels and windfarm infrastructure. The largest of these exclusion zones will be 500 m to keep construction and non-construction vessels separate with smaller exclusion zones in place during operation of the wind farm (Vattenfall, 2011). There will be no spatial overlapping between these exclusion zones and activities and the proposed development activities, hence no effects are anticipated to occur. The remainder of the offshore wind developments in the wider area are located at much greater distances, as described in Section 23.5.4.
- **Aggregates Extraction:** no aggregate extraction has taken place in Scotland over the last 6 years, as detailed in Section 23.5.5. Therefore, no effects on this use of the sea are anticipated to occur. Should this activity be resumed the closest licensed extraction site is located 8 km offshore from Stonehaven and over 20 km from Nigg Bay, hence the construction or operation of the development is not anticipated to have an effect on it;
- **Disposal Sites:** the closest disposal site is site CR110, used by AHB for disposal of maintenance dredged material from the existing harbour. As this site is licensed for use by AHB, it is not anticipated that any dredging activities will affect users of this disposal site;
- **Military:** no activities associated with the development are anticipated to take place in the vicinity of either the Black Dog Danger Area or the Drum Links Firing Range Danger Area. As such, no effects on these areas are predicted to occur from the proposed development. A disused military (explosives) dumping ground is located approximately 3.5 km from Nigg Bay. Vessels routinely transit over the dumping ground from the current harbour location and it is not anticipated that any vessels utilising Nigg Bay, either during construction or operation, will differ to such an extent that transiting over the dumping ground will result in any effect arising from doing so; and
- **Cables and Pipelines:** the nearest cables and pipelines are located 30 km to the north of the project. Therefore, no effects on this infrastructure are anticipated to occur as a result of the proposed works.

23.7.2 Likely Significant Effects

Effects on all other users and uses of the sea have been scoped out, with the exception of the Kincardine Offshore Windfarm (KOWF).

The export cable from the wind farm could make landfall at the south side of Nigg Bay in an area that will not be developed as part of the Aberdeen Harbour Expansion Project (AHEP), but which would still necessitate the cable passing through the area of the development. A comparison of the indicative construction programmes for both proposals indicate that there would be an overlap between in the construction and installation work being undertaken for the respective projects. The construction activities associated with the KOWF which may overlap with those connected with the harbour development are the installation of the export cables from the wind farm site to shore as well as any ongoing maintenance and repair of those cables.

The preferred installation method of the export cables would involve the simultaneous lay and burial of the cable from a dedicated vessel as it moves along the approved cable route corridor towards the windfarm site. The construction activities associated with the harbour development, such as blasting, dredging and breakwater construction, are likely to impact upon the ability to install and maintain the export cable for the KOWF.

Whilst it is not envisaged that the construction of the Aberdeen Harbour Expansion Project would prevent the progression of this export cable option, it would potentially disrupt construction and installation schedules and would require close collaboration between KOWL and AHB to ensure that both developments could, so far as possible, undertake the necessary construction activities simultaneously.

In the KOWF Environmental Scoping Assessment KOWL, mindful of the proposed Aberdeen Harbour Expansion Project, have identified an alternative export cable route approximately 2.5 km to the south of Nigg Bay. This alternative landfall site would not require cables to be laid within the boundary of the harbour development thus alleviating any potential conflict.

It is considered that as the harbour development is being advanced KOWL would progress with their alternative landfall site to the south of Nigg Bay. The magnitude of impact on the KOWF from the development is therefore judged to be **negligible**. The KOWF proposal is considered to be an activity of regional importance and therefore is judged to be of **medium** value. Therefore, the resultant effects are judged to be of **negligible significance**.

23.8 Summary and Conclusions

The assessment has not identified any likely significant effects on other users. KOWL propose to construct the KOWF, a floating offshore windfarm, situated south east of Aberdeen approximately 15 km from the coast at its nearest point. The export cable from the KOWF is proposed to transit through the area of the harbour development making landfall in the south-west corner of Nigg Bay.

KOWL, mindful of the harbour proposal, have identified an alternative landfall location approximately 2.5 km south of Nigg Bay. As the harbour development is being progressed it is considered that this alternative landfall will be used for the KOWF. Any effects from the development on the KOWF are considered to be of **negligible significance**.

Due to the scoping out of all other potential effects on 'other users' of the sea there are no other impacts or effects to assess. Effects arising from the development on receptors such as socio-

economics (including recreation), commercial fishing, terrestrial ecology and shipping and navigation are assessed within their individual chapters.

23.9 References

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