BERWICK BANK WIND FARM

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Volume 2, Chapter 17: Infrastructure and Other Users

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Prepared by:	**RPS**
Prepared for:	**SSE Renewables**
Checked by:	**Kerr MacKinnon (SSER)**
Accepted by:	**Ross Hodson (SSER)**
Approved by:	**Sarah Edwards (SSER)**

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17. INFRASTRUCTURE AND OTHER USERS

17.1. INTRODUCTION

1. This chapter of the Environmental Impact Assessment (EIA) Report presents the assessment of the likely significant effects (as per the "EIA Regulations") of the Berwick Bank Wind Farm offshore infrastructure which is the subject of this application (hereafter referred to as "the Proposed Development") on infrastructure and other users receptors. Specifically, this chapter considers the potential impacts of the Proposed Development seaward of Mean High Water Springs (MHWS) during the construction, operation and maintenance, and decommissioning phases.

2. Likely significant effect is a term used in both the "EIA Regulations" and the Habitat Regulations. Reference to likely significant effect in this Offshore EIA Report refers to "likely significant effect" as used by the "EIA Regulations". This Offshore EIA Report is accompanied by a Report to Inform Appropriate Assessment (RIAA) which uses the term as defined by the Habitats Regulations Appraisal (HRA) Regulations.

3. This chapter also assesses the likely significant effects of the Proposed Development on offshore infrastructure and receptors (seaward of Mean Low Water Springs (MLWS)) during the construction, operation and maintenance, and decommissioning phases.

4. The assessment presented is informed by the following technical chapters:

   - volume 2, chapter 7: Physical Processes;
   - volume 2, chapter 12: Commercial Fisheries; and
   - volume 2, chapter 13: Shipping and Navigation.

5. To avoid duplication, navigational safety, and risk to all vessel types (including recreational vessels) is considered in volume 2, chapter 13. The following assessment only considers impacts that will potentially affect the undertaking of a marine activity or the operational effectiveness of marine infrastructure in the relevant infrastructure and other users study area. Restrictions to port activities and users are also assessed in volume 2, chapter 13. Indirect effects on nearshore recreational receptors through visual amenity are considered in volume 2, chapter 15. The potential effects of airborne noise on noise sensitive receptors at the shoreline are scoped out of the Offshore EIA Report, as per agreement from the Offshore EIA Scoping Opinion (MS-LOT, 2022).

17.2. PURPOSE OF THIS CHAPTER

6. The primary purpose of the Offshore EIA Report is outlined in volume 1, chapter 1. It is intended that the Offshore EIA Report will provide the Scottish Ministers, statutory and non-statutory stakeholders with sufficient information to determine the likely significant effects of the Proposed Development on the receiving environment.

7. In particular, this Infrastructure and Other Users Offshore EIA Report chapter:

   - presents the existing environmental baseline established from desk studies, site-specific surveys and consultation with stakeholders;
   - identifies any assumptions and limitations encountered in compiling the environmental information.;
   - presents the likely significant environmental impacts on infrastructure and other users arising from the Proposed Development and reaches a conclusion on the likely significant effects on infrastructure and other users, based on the information gathered and the analysis and assessments undertaken; and
   - highlights any necessary monitoring and/or mitigation measures which are recommended to prevent, minimise, reduce or offset the likely significant adverse environmental of the Proposed Development on infrastructure and other users.

17.3. STUDY AREA

8. The infrastructure and other users study area is shown in Figure 17.1. This includes the Proposed Development array area, Proposed Development export cable corridor, and broad infrastructure and other users study area (turbidity area).

9. The infrastructure and other users study area varies in scale depending on the receptors and has been divided into different areas according to each receptor, as listed below:

   - infrastructure and other users study area: inner area (purple) (within 1 km of the Proposed Development array area and Proposed Development export cable corridor). This area includes the extent of potential direct physical overlap between the Proposed Development activities and the following receptors (if identified):
     - recreational receptors (including receptors carrying out fishing, sailing and motor cruising, kite surfing, surfing, windsurfing, sea/surf kayaking, canoeing and beach users);
     - offshore energy projects (e.g. offshore wind farms, wave and tidal projects, oil and gas projects);
     - cable and pipeline operators;
     - carbon capture and storage, natural gas storage and underground coal gasification;
     - coal deposits; and
     - microwave, Very High Frequency (VHF) and Ultra High Frequency (UHF) links (within 1 km of the Proposed Development array area).
   - broad infrastructure and other users study area: potential increased turbidity area (yellow). This area is based on one tidal ellipse (12 km from the Proposed Development array area) of the Proposed Development (see volume 2, chapter 7) and relates to the potential for increases in suspended sediments to occur relating to the Proposed Development. This study area is related to only those receptors which are susceptible to increases in Suspended Sediment Concentrations (SSCs), specifically:
     - marine aggregate extraction and disposal sites; and
     - recreational receptors (e.g. diving sites).

10. The Proposed Development infrastructure and other users study area and the broad infrastructure and other users study area has been defined with reference to the Proposed Development boundary that existed prior to the boundary refinement in June 2022. As the refinements resulted in a reduction of the Proposed Development array area, the infrastructure and other users study area and the broad infrastructure and other users study area is considered to remain representative and present a conservative baseline against which the infrastructure and other users assessment is undertaken. The Proposed Development infrastructure and other users study area and the broad infrastructure and other users study area have not therefore been realigned to the current Proposed Development boundary.

11. The cumulative effects assessment (CEA) will consider all other projects and plans within the broad infrastructure and other users study area (potential increased turbidity area (yellow)).

17.3.2. INTERTIDAL AREA

12. The offshore topic of infrastructure and other users study area includes the intertidal area. This intertidal area overlaps with the onshore assessment of land use, tourism and recreation (landward of MLWS) (Onshore EIA Report (SSER, 2022a)). The offshore socio-economics and tourism (seaward of MHWS) national study area

also includes the intertidal area within the infrastructure and other users study area (volume 2, chapter 18). The findings reported in the Socio-Economics and Tourism Offshore EIA Report chapter (as these findings pertain to the intertidal area within infrastructure and other users study area) will be applied as a proxy to describe the potential for likely significant effects for infrastructure and other users receptors. Summary findings are reported here, with the full assessments presented in volume 2, chapter 18.

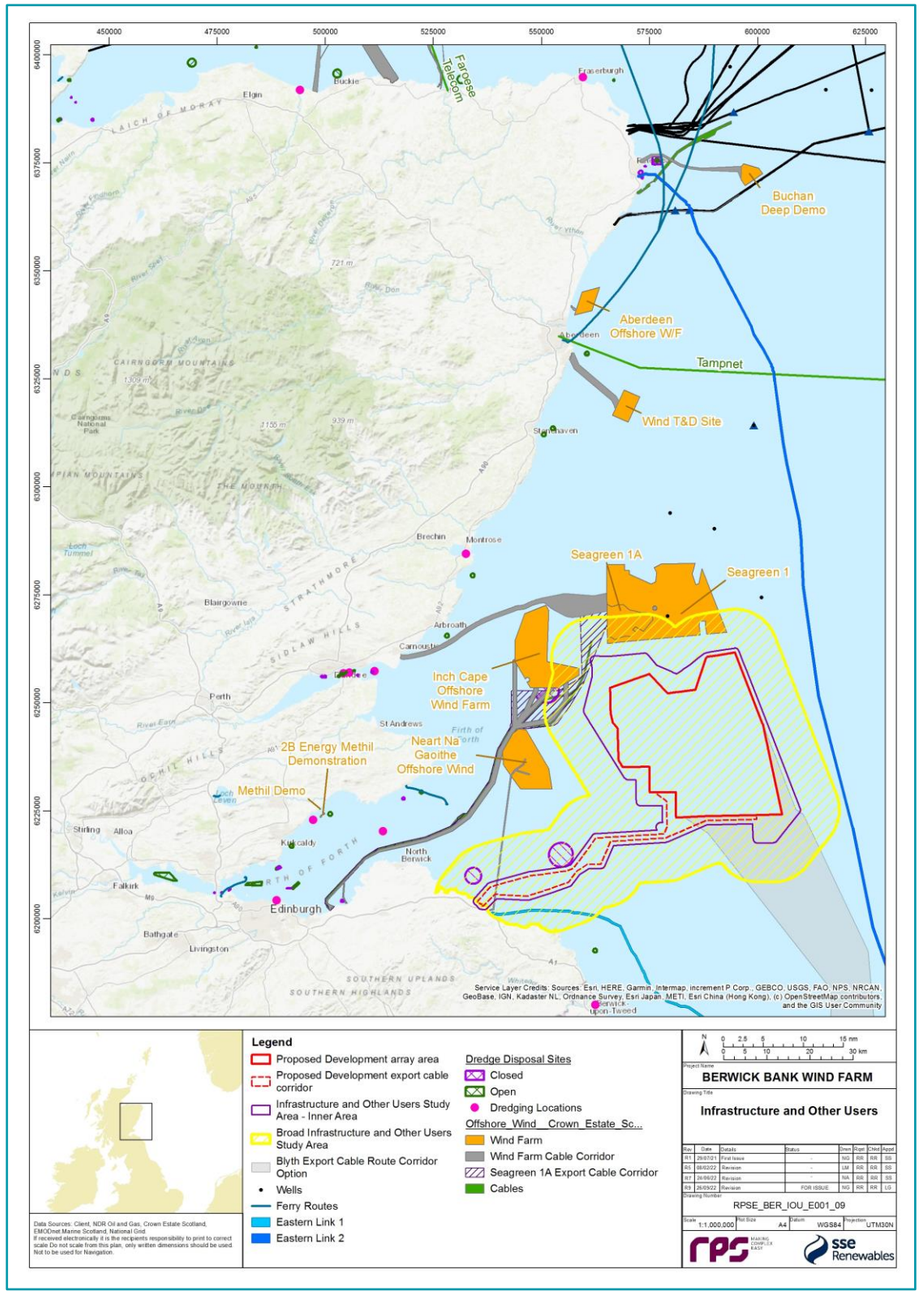

Figure 17.1: Infrastructure and Other Users Study Area

17.4. POLICY AND LEGISLATIVE CONTEXT

13. Planning policy and legislation on renewable energy infrastructure is presented in volume 1, chapter 2 of the Offshore EIA Report. Planning policy, specifically in relation to infrastructure and other users in Scotland, is contained in the Scottish National Marine Plan (NMP) (Marine Scotland, 2015). The Scottish NMP covers both inshore waters (out to 12 nm) and offshore waters (12 nm to 200 nm), where Scottish Parliament can legislate in relation to activities affecting the marine environment. Key provisions of the Scottish NMP are set out in Table 17.1 along with details as to how these have been addressed within the assessment. These are summarised here with further detail presented in volume 1, chapter 2.

Table 17.1: Scottish National Marine Plan Policies of Relevance to this Chapter (SMP, 2020)

Summary of Policy Framework	How and Where Considered in the Offshore EIA Report
Oil and Gas	
Oil and Gas Policy - A) Maximise the recovery of reserves through a focus on industry-led innovation, enhancing the skills base and supply chain growth. B) An industry which delivers high-level risk management across all its operations and that it is especially vigilant in more testing current and future environments. C) Continued technical development of enhanced oil recovery and exploration, and the associated seismic activity carried out according to the principles of the Best Available Technique (BAT) and Best Environmental Practice approach. D) Where possible, to work with emerging sectors to transfer the experience, skills and knowledge built up in the oil and gas industry to allow other sectors to benefit and reduce their environmental impact.	Oil and gas interests have been identified through a desktop study and are discussed in this chapter, (paragraph 65 to paragraph 68).
Carbon Capture and Storage	
Carbon Capture and Storage Policy - A) Safe, cost-effective, and timely deployment of Carbon Capture and Storage (CCS), assisting the delivery of Scotland's climate change objectives and positioning the North Sea as Europe's principal hub for surplus CO2 storage, servicing electricity generators and heavy industry from sources throughout Europe. B) CCS available as a realistic low carbon deployment option for electricity generation in advance of 2020, and support the decarbonisation of electricity generation by 2030, without affecting the security of supply. C) Scotland at the forefront of the development and deployment of CCS technology, putting in place successful commercialisation projects, which promote the utilisation of existing infrastructure. D) To further develop CCS technology as a potential source of large-scale CO2 supply for use in Enhanced Oil Recovery processes in the North Sea. E) Initiate an Environmental Assessment, with relevant agencies, to allow early consideration of the environmental issues with deployment of CCS.	CCS is discussed in this chapter, paragraph 71.
Dredging and Disposal	
Dredging and Disposal Policy – A) Dredging is an essential activity to maintain existing shipping channels, establish safe approaches to new ports or open up routes to old ports. Dredged material may be disposed of at licensed marine disposal sites or used for alternative purposes such as land reclamation or coastal nourishment, if suitable, to minimise seabed disposal. Licensed areas may change – normally as a result of disuse, monitoring information or the need for sites in additional locations. The consideration of both dredged navigation channels and disposal sites in marine planning and decision making is important to support safe access to ports and the disposal of dredged material in appropriate locations.adverse impacts.	Dredging and disposal sites have been identified through a desktop study and are discussed in this chapter, paragraph 52 to paragraph 56.
Marine Aggregates	
Aggregate Policy – A) Growth of the marine aggregates industry in Scotland, ensuring supply is available to meet demand should it arise while taking account of environmental impacts.	Marine aggregates and mining have been identified through a desktop study and are discussed in this chapter, paragraph 58 to paragraph 59. The potential effects of the Proposed Development are discussed in this chapter.
Subsea Cables	
Submarine Cable Policy - A) Protect submarine cables whilst achieving successful seabed user co-existence. B) Achieve the highest possible quality and safety standards and reduce risks to all seabed users and the marine environment. C) Support the development of a Digital Fibre Network, connecting Scotland's rural and island communities and contributing to world-class connectivity across Scotland. D) Safeguard and promote the global communications network. E) Support the generation, distribution and optimisation of electricity from traditional and renewable sources to Scotland, UK and beyond.	Subsea cables have been identified through a desktop study and are discussed in paragraph 72 to paragraph 80 in this chapter.

17.5. CONSULTATION

14. A summary of the key issues raised during consultation activities undertaken to date, specific to infrastructure and other users is presented in Table 17.2, together with how these issues have been considered in the production of this Offshore EIA Report chapter. Further detail is presented within volume 1, chapter 5.

Table 17.2: Summary of Key Consultation of Relevance to Infrastructure and Other Users

Date	Consultee and Type of Consultation	Issue(s) Raised	Response to Issue Raised and/or Where Considered in this Chapter
November 2021	Neart na Gaoithe Offshore Wind Limited (NnGOWL) Response to Berwick Bank Wind Farm Offshore Scoping Report (Marine Scotland, 2021).	NnGOWL stated that due to the close proximity, and overlap in some cases, of the Berwick Bank Wind Farm to Neart na Gaoithe (NnG) assets, NnGOWL would encourage SSE Renewables to engage with them as early as possible, particularly where crossing and proximity agreements may be required.	The designed in measures adopted as part of the Proposed Development are presented in section 17.10.
November 2021	Royal Yachting Association (RYA) Scotland Response to Berwick Bank Wind Farm Offshore Scoping Report (Marine Scotland, 2021).	RYA noted that the infrastructure and other users chapter should refer to RYA Scotland as opposed to RYA.	Appropriate text has been amended to refer to RYA as RYA Scotland where applicable and is presented in section 17.9.1.

Date	Consultee and Type of Consultation	Issue(s) Raised	Response to Issue Raised and/or Where Considered in this Chapter
November 2021	Scottish Environmental Protection Agency (SEPA) Response to Berwick Bank Wind Farm Offshore Scoping Report (SSER, 2021a).	SEPA highlights that any operation should be cross checked to see if the proposed site is in or adjacent to a designated bathing water (within 2 km). If so, ideally all physical operations should be done outside the Bathing Water Season (1 June to 15 September) unless a strong case can be made as to why a particular operation would not present a risk to Bathing Waters.	Bathing Waters are further discussed in section 17.7,volume 2, chapter 19 and volume 3, appendix 19.1
February 2022	Marine Scotland – Licensing Operations Team (MS-LOT) – Berwick Bank Scoping Opinion (Marine Scotland, 2022).	MS-LOT agree and are content with potential impacts to infrastructure and other users from activities during the phases of the Proposed Development to be scoped out for further assessment.	The potential impacts to be scoped out of the assessment are presented in section 17.8.2.
February 2022	Berwick Bank Scoping Opinion (Marine Scotland, 2022).	MS-LOT agree and are content with the designed in measures of the Scoping Report and highlight the representation from NnG recommending early engagement prior to submission.	The designed in measures adopted as part of the Proposed Development are presented in section 17.10.

17.6. METHODOLOGY TO INFORM BASELINE

17.6.1. DESKTOP STUDY

15. Information on infrastructure and other users within the infrastructure and other users study area was collected through a detailed desktop review of existing studies and datasets. These are summarised in Table 17.3. The desktop study was supplemented with information provided during stakeholder consultation, as detailed in volume 1, chapter 5.

Table 17.3: Summary of Key Desktop Reports

Title	Source	Year	Author
Scotland National Marine Plan Interactive (NMPi)	Marine Scotland	2021	Marine Scotland
NnG Offshore Wind Farm EIA Report	Marine Scotland Information	2019	Mainstream Renewable Power Ltd
UK Coastal Atlas of Recreational Boating	RYA	2019	RYA
Scottish Marine Recreation and Tourism Survey	Marine Scotland	2015	Marine Scotland
Scotland's National Marine Plan	Marine Scotland and Scottish Government	2011	Marine Scotland
Identifying Recreational Cruising Routes, Sailing and Racing Areas	RYA	2005	RYA
Webmap service – Offshore Wind Farms	C4Offshore	Compiles a series of data	N/A
Scotland Tourism Board	VisitScotland	N/A	N/A
Webmapping Service – Infrastructure	Oil and Gas	N/A	N/A
Webmap Service – Various layers including offshore cables and disposal sites	NMPi	N/A	N/A

17.6.2. SITE-SPECIFIC SURVEYS

16. No site-specific surveys have been undertaken to inform the EIA for infrastructure and other users. This is because receptor information and data related to this topic can be readily collected through desktop study, consultation with relevant stakeholders, and is currently available due to suitable data throughout the Forth and Tay Region. Additional data and modelling studies will not be required to characterise the infrastructure and other users baseline.

17.7. BASELINE ENVIRONMENT

17.7.1. OVERVIEW OF BASELINE ENVIRONMENT

17. This section provides an overview of the baseline recreational boating (including sailing and motor cruising), recreational fishing, other recreational activities, offshore energy projects, offshore cables and pipelines, carbon capture, natural gas storage and underground gasification, oil and gas, coal deposits, and marine aggregate extraction and disposal sites, within the broad infrastructure and other users study area (Figure 17.1).

Recreational sailing, boating and motor cruising

18. This section provides an overview of recreational sailing, boating and motor cruising within the vicinity of the Proposed Development (Figure 17.2).

19. Scottish residents have a high level of engagement with the marine environment. A significant majority (89%) of residents that took part in public surveys, visited the Scottish sea and/or coast within the last year (Marine Scotland Directorate, 2020). Activities are wide ranging and highly variable across population demographics, but it was illustrated that water-based activities are likely to be undertaken by younger respondents while beachcombing and wildlife watching are more likely to be undertaken by older respondents from survey results (Marine Scotland Directorate, 2020).

20. In general, recreational boating is highly seasonal, with a greater density of vessels found throughout summer, as well as highly diurnal, with boating occurring usually during the daytime (RYA, 2005). Boating areas include general sailing areas, racing areas, sailing schools, and sailing clubs. Sailing is predominantly concentrated along the west coast of Scotland and in the Clyde (NMPi, 2021). Sailing area profits along the east coast of Scotland are responsible for 10% of overall revenue while the west coast and Clyde are responsible for 39% and 44% respectively (Scottish Government, 2015).

21. General boating areas are used for general day to day use by all recreational boating users, including dinghies, sailboards, watercraft and small cruisers. Often recreational activity is random, subject to the weather and generally does not involve point to point passage as seen with larger more commercial vessels (RYA, 2005). The infrastructure and other users study area - inner area is in proximity to general boating areas associated with Dunbar Sailing Club and East Lothian Yacht Club. Dunbar Sailing Club is located approximately 47.92 km from the Proposed Development array area and 5.71 km from the Proposed Development export cable corridor. East Lothian Yacht Club is approximately 55.69 km from the Proposed Development array area and 19.77 km from the Proposed Development export cable corridor. Both sailing clubs are adjacent to the offshore Proposed Development export cable corridor, situated north-west of the infrastructure and other users study area - inner area. General boating areas are located to the south of Elie, covering an area of approximately 23.3 km^2, north of North Berwick, covering an area of approximately 38.4 km^2, and east of Berwick-upon-Tweed, covering approximately 32.2 km^2 (NMPi, 2021).

22. According to the NMPi, extensive recreational boating occurs in the area of sea between North Berwick, and Elie and Earlsferry, with motor cruising areas extending to the east towards the Proposed Development array area (Figure 17.2 and Figure 17.3) (NMPi, 2021).

23. Activity is lower along the Proposed Development export cable corridor, with recreational boating expected to be more transitory in nature (NMPi, 2021).

24. Racing areas are generally used at weekends and during holiday periods by sailing, boating and motor users. These areas are under the control of nearby sailing clubs and often contain temporary or permanent marker buoys. Racing routes are often determined on the day of the race and are subject to bespoke racing rules while following conventional Collision Regulations when additional vessels are in conflict (RYA, 2005). There are no known racing areas in the infrastructure and other users study area - inner area based on the NMPi. However, racing areas are subject to change and the coastal areas around the Proposed Development are utilised by several recreational sailing, boating and motor cruising activities (Figure 17.2). The closest general racing areas located in proximity to the infrastructure and other users study area – inner area, are located at Berwick-upon-Tweed, located 24.9 km to the south of the Proposed Development and North Berwick, located 15.39 km to the north of the Proposed Development (Figure 17.2).

25. Sailing seasons typically run from May to August, with a peak of activity in July. There are a number of race marks to the north-west of the Proposed Development, as advised by East Lothian Yacht Club. The East Lothian Yacht Club and Dunbar Sailing Club holds races on a regular basis from May to August, and racing activity takes place around North Berwick. The majority of activity associated with the East Lothian Yacht Club and Dunbar Sailing Club is held to the north-west of the Proposed Development (ELYC, 2021).

26. Sailing schools act as teaching institutions, with marina boat berths attached and are in constant use throughout the year. Sailing clubs are membership organisations with affiliation to Scottish sailing. They provide certain types of activities, ranging from racing and sail cruising to powerboating, all of which are open to members of the public (RYA, 2005). Largo Bay Sailing Club, Port Edgar Sailing School, Fisherrow Yacht Club, East Lothian Yacht Club, and Dunbar Sailing Club are located to the northwest of the Proposed Development, beyond the infrastructure and other users study area - inner area.

27. Automatic Identification System (AIS) data for recreational craft identifies vessels transiting predominantly in a parallel direction to the Scottish coastline (Figure 17.3). The majority of vessel traffic in the Firth of Forth and therefore offshore of North Berwick originates from South Queensferry, Newhaven, Burntisland, Anstruther and Eyemouth. Vessels are most commonly found ranging between 3 nm and 9 nm offshore North Berwick (AIS Marine Traffic, 2021).

28. Additional information related to recreational sailing, boating and motor cruising is presented in volume 2, chapter 18.

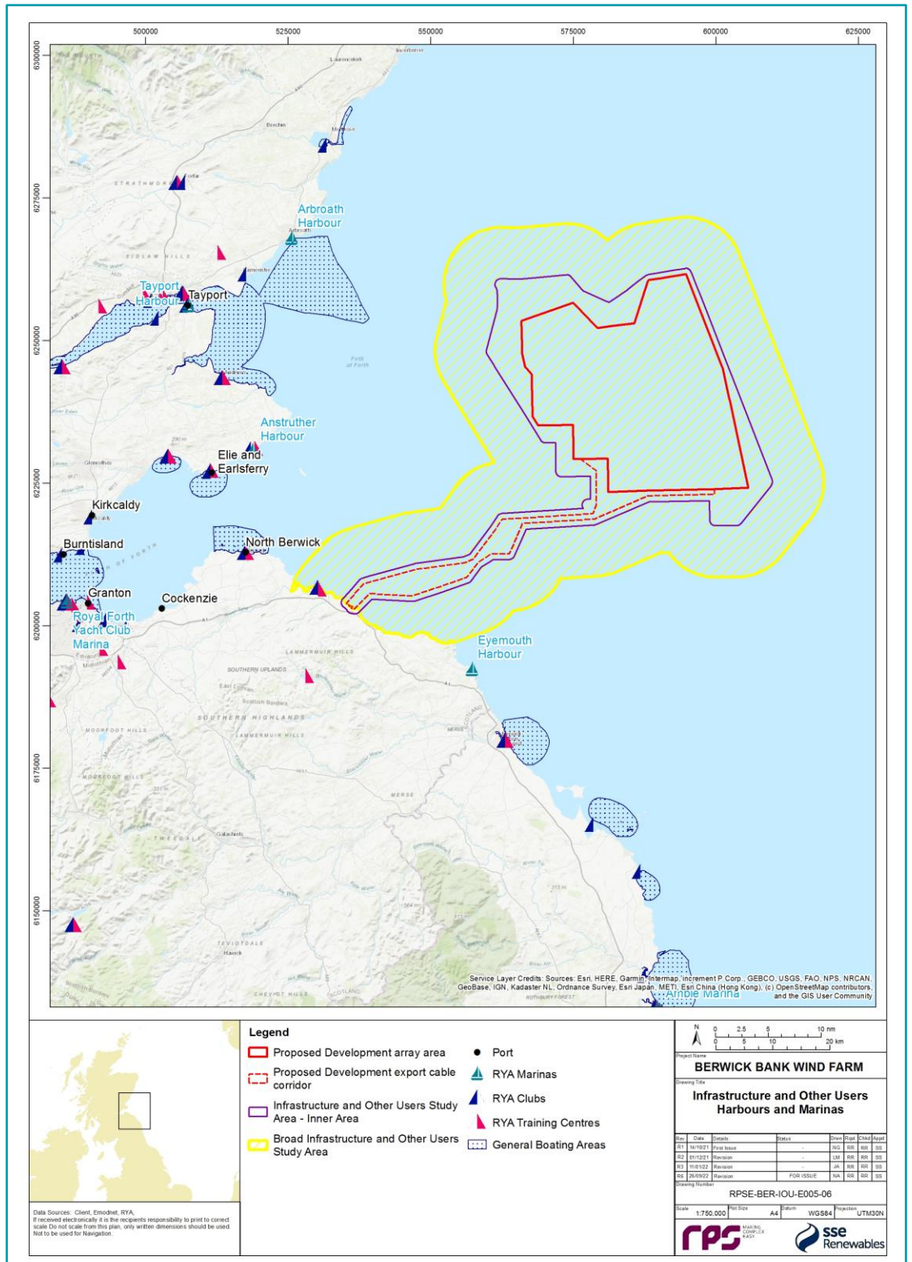

Figure 17.2: Harbours and Marinas in the Infrastructure and Other Users Study Area

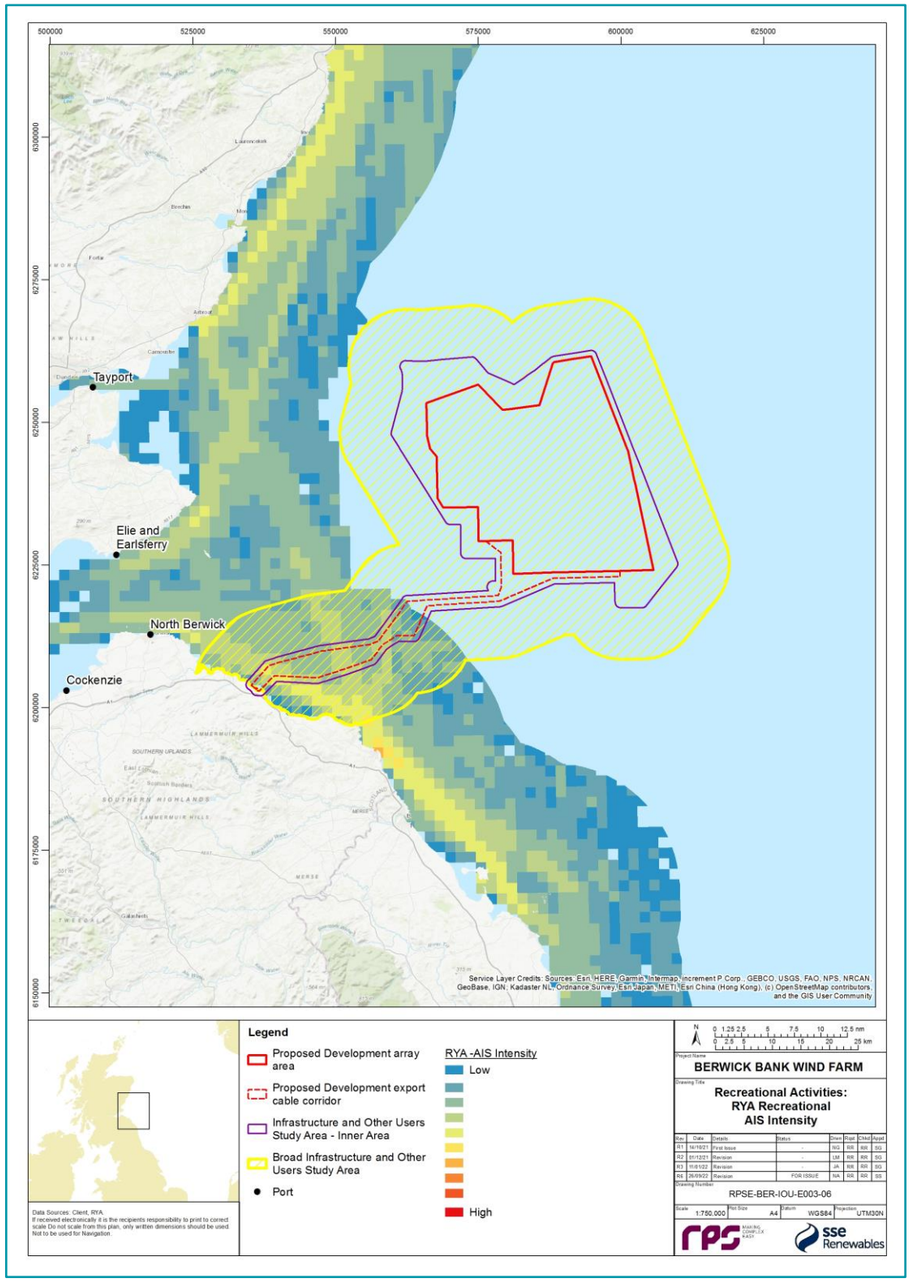

Figure 17.3: Vessel Intensity in the Infrastructure and Other Users Study Area

Recreational fishing

29. This section provides an overview of recreational fishing activity within the vicinity of the Proposed Development (i.e. fishing for pleasure rather than for commercial reasons).

30. Recreational sea angling occurs along most regions of the Scottish coastline and generates an estimated £140.9 million for the Scottish economy whilst supporting over 3,000 full time equivalent jobs (Scottish Government, 2015). A wide range of species are targeted during recreational sea angling and can include cod *Gadus morhua*, tope *Galeothinus galeus*, bass *Dicentrarchus labrax*, pollock *Pollachius pollachius*, rays *Raja sp*., mackerel *Scomber scombrus*, spurdog *Squalus acanthias*, salmon *Salmo salar* and sea trout *Salmo trutta* (NMPi, 2021).

31. Specific to the Proposed Development, recreational sea angling occurs to the north and to the south of the of the Proposed Development, with an increase in fishing effort towards the coast and near to the landfall area (Figure 17.4). Increased levels on shore angling can be found along the coastal beaches where the offshore export cables are expected to make landfall (NMPi, 2021).

32. Estimated regional sea angling within Edinburgh, Fife and the south-east of Scotland calculated the number of resident sea anglers to be 20,455 with over 250,000 annual sea angler days spent in the region, accounting for an annual expenditure surpassing £26 million (Scottish Government, 2015).

33. Rod and line fishing accounts for the majority of salmon and sea trout catches. In the most recent survey year, the number of salmon caught and retained using rod and line fishing methods was 23,690 during 2009. Those caught and released using the same method in 2009 numbered 48,136 (Scottish Government, 2011). The number of sea trout caught and retained using rod and line during 2009 was 8,167, while 15,508 sea trout were caught and released (Scottish Government, 2015).

34. There are multiple opportunities for offshore recreational charter fishing in and around North Berwick. From the harbour, chartered boats are available for day trips targeting pollock, cod and mackerel. Fishing trips also leave from Eyemouth, located to the south of the Proposed Development (Alba Game Fishing, 2021).

35. Spittal and Goswick Beaches, approximately 28.3 km and 36.7 km from the infrastructure and other users inner area, are known to be frequented by recreational anglers looking to catch flatfish *Pleuronectiformes sp*., bass, cod, whiting *Merlangius merlangus* and pollock (British Sea Fishing, 2021).

36. Recreational fishing effort is highly seasonal and dependent on specific weather conditions. Additional information pertaining to recreational fishing is presented in volume 2, chapter 18.

Other recreational activities

37. According to the British Marine Federation, the marine leisure industry, including waterborne recreational pursuits, supports nearly 1,800 full time equivalent jobs in Scotland (Scottish Government, 2015). It is noted that the marine leisure industry is supported by a solid local market with particular contribution to the rural economy, specifically along the west coast of Scotland (Scottish Government, 2015).

Diving

38. Dive tourism is crucial to the local economies along the Berwickshire coastline due to the number of wrecks along the western coast of Scotland and the Voluntary Marine Reserve off St. Abb's Head and Eyemouth (Scottish Government, 2015). It is estimated that in 2015, more than 25,000 divers visited Berwickshire dive sites, contributing more than £3.7 million towards local economies (Scottish Government, 2015).

39. There are a number of diving club tour operators located to the north and south of the Proposed Development. To the north, Dive Safari Scotland, Dive St. Abbs, DiveStay, Marine Quest and St. Abbs Diving operate day trips predominantly to Bass Rock, the Isle of May and a few of the over 100 historic

wrecks located in up to 40 m of water found along the east coast of Scotland (DBS, 2021). Shore based diving takes place off of North Berwick in North Berwick Harbour along Galloway's Pier when weather, tide and vessel traffic allows (NBHTA, 2021). Farne Islands Diving and Sovereign Diving are located to the south of the Proposed Development and predominantly facilitate diving trips to the Farne Islands, located 63.2 km from the Proposed Development array area.

40. There were 11 dive sites identified from the desktop review that are located within the broad infrastructure and other users study area - potential increased turbidity area (NMPi, 2021). These diving sites, mentioned in order of distance from the shoreline, are referred to as River Garry, Boyne Castle, U12, Dunbar Harbour, Dove, Dunscore, Sabbia, HMS Pathfinder, SS Grenmar, St. Briac, and Burnstone (NMPi, 2021). Diving generally takes place between March through October (Figure 17.5).

Water sports

41. There are a number of tour operators that offer water sports such as canoeing, kayaking, surfing, windsurfing and kite surfing based in North Berwick, Dunbar and Eyemouth, located 19.77 km, 5.7 km and 15.3 km from the Proposed Development export cable corridor respectively.

42. No canoeing, kayaking, surfing, windsurfing or kite surfing locations were identified within the Proposed Development array area, however there are surfing, surf kayaking and paddleboarding locations in close proximity to and within the Proposed Development export cable corridor (Figure 17.5). Popular surfing areas are known to be located at Seacliff in North Berwick and Belhaven Bay in Dunbar, located north of the Proposed Development export cable corridor (NMPi, 2021). South of the Proposed Development, there are surfing locations in Pease Bay near Cove and Coldingham Bay near Eyemouth, located 5.07 km and 15.3 km from the Proposed Development export cable corridor respectively (NMPi, 2021).

43. The closest windsurfing location is known as North Berwick, located in North Berwick, approximately 19.77 km from the Proposed Development export cable corridor (NMPi, 2021).

Beach users and bathing waters

44. The Proposed Development export cable corridor is located within the Skateraw Beach area, and in the vicinity of Belhaven Bay, Dunbar East and Whitesands beaches to the north and Thorntonloch and Coldingham beaches to the south (NMPi, 2021). Skateraw beach is located within the infrastructure and other users study area - inner area.

45. Belhaven Bay beach is described as a sandy, dune backed beach that is part of the John Muir Country Park and utilised by members of the public and tourists for recreational activities such as walking and swimming (Walk Highlands, 2021). Dunbar East beach is a sandy and rocky beach actively managed by the East Lothian Council and popular with the local community (KSB, 2021). Whitesands beach is located two miles south-east along the coast from Dunbar and is a rural and secluded beach with fine, clean sands (Beach Guide, 2021). Whitesands beach has recently received a Keep Scotland Beautiful Beach Award (NMPi, 2021).

46. Thorntonloch beach is a sandy beach that is located approximately 51.49 km from Edinburgh, along the A1 and adjacent to the Torness nuclear power station (Beach Guide, 2021). Thorntonloch beach is backed by low, grassy sand dunes and is popular with local fisherman and is roughly 400 m in length (Beach Guide, 2021). Skateraw beach is a small, sandy beach that is located within the protection of Skateraw Harbour (Beach Guide, 2021).

47. Lastly, Coldingham Bay beach is a sheltered and sandy beach stretching over 1 km in length and situated within the St. Abbs and Eyemouth Voluntary Marine Reserve (Visit Scotland, 2021).

48. Other beaches further northwest of the Proposed Development near North Berwick include West beach and Milsey Bay beach. Each of the aforementioned beaches, except for Skateraw beach, where the Proposed Development export cable corridor will make landfall, are located outside of the infrastructure and other users study area – inner area.

49. There are 85 designated and former bathing waters located in waters surrounding Scotland according to 2021 Scottish Government findings (Scottish Government, 2021a). Scottish ministers determine the length of the bathing season and designate bathing waters where they expect large numbers of people to bathe. These areas are given special protection to ensure they are safe for people to swim in during the bathing season, which typically runs from 1 June to 15 September (Scottish Government, 2021a). Out of the 85 designated sites in 2021, approximately 12 are located in East Lothian, three of which are less than 10 km from the Proposed Development export cable corridor. In decreasing distances, Dunbar East bathing waters are approximately 5.4 km from the Proposed Development export cable corridor, while Whitesands bathing waters are 2.01 km away, and Thorntonloch bathing waters are located in closest proximity to the Proposed Development export cable corridor at Skateraw Landfall, less than 1.5 km to the south.

Harbours, marinas, dredging areas and disposal sites

50. The main ports in proximity to the Proposed Development are Cove Harbour in Cockburnspath and Victoria Harbour in Dunbar. Cove Harbour allows leisure fishing and is part of a SSSI based on its geology (Cove Harbour, 2021; NatureScot, 2021). Victoria Harbour is home to a small commercial fishing fleet and lifeboat station (Discover Dunbar, 2021).

51. Cove Harbour is located to the south of the Proposed Development and Victoria Harbour to the north (NMPi, 2021). There are no harbours or marinas located directly within the infrastructure and other users study area – inner area according to desktop reviews and data collected from Marine Scotland (NMPi, 2021).

52. A review of potential active and closed marine dredging areas and disposal sites identified no active or closed sites within the infrastructure and other users study area – inner area.

53. The closest open marine dredging area to the Proposed Development array area is located off the coast of Anstruther and is approximately 45.0 km north-east of the Proposed Development and more specifically, 16.8 km northeast of the broad infrastructure and other users study area: potential increased turbidity area (NMPi, 2021).

54. The closest disused marine disposal site to Proposed Development array area is located approximately 70 m from the infrastructure and other users study area - inner area. This closed disposal site is referred to as dredging disposal site 'F0050' according to Marine Scotland (NMPi, 2021). Closed marine disposal sites 'F0060' and F0030' are also located in proximity to the Proposed Development, but north-east of the infrastructure and other users study area - inner area, approximately 1.8 km and 4.7 km respectively (NMPi, 2021).

55. There is one open marine disposal site located approximately 27.4 km from the Skateraw Landfall area, directly south of both the Proposed Development array area and the Proposed Development export cable corridor. This open marine disposal site is referred to as 'F0080' by Marine Scotland and is located directly east of Eyemouth (NMPi, 2021).

56. Although there is a disposal site bordering the infrastructure and other users study area - inner area, this site is closed and therefore marine disposal sites have not been considered further within this chapter. Additionally, the only open disposal sites are located outside of the broad infrastructure and other users study area: potential increases turbidity area.

57. Additional information relating to harbours in the vicinity of the Proposed Development is presented in volume 2, chapter 18.

Marine aggregate resource areas and coal deposits

58. Although Scotland has a considerable marine sand and gravel resource, the marine aggregate industry has historically been very small due to more readily accessible land supplies. Marine aggregate licences have historically been issued to two sites in Scotland, one site in the Firth of Forth and the second site in the Firth of Tay (Scottish Government, 2015), which do not overlap the broad infrastructure and other users study area – potential increased turbidity area.

59. There is potential for increased aggregate extraction activity in Scotland to utilise in gravity bases for marine renewable energy infrastructure and in coastal defence (Scottish Government, 2015). However, there are currently no active licences for marine aggregate extraction in the Firth of Forth and Firth of Tay marine regions. Marine aggregate extraction sites have therefore not been considered further.

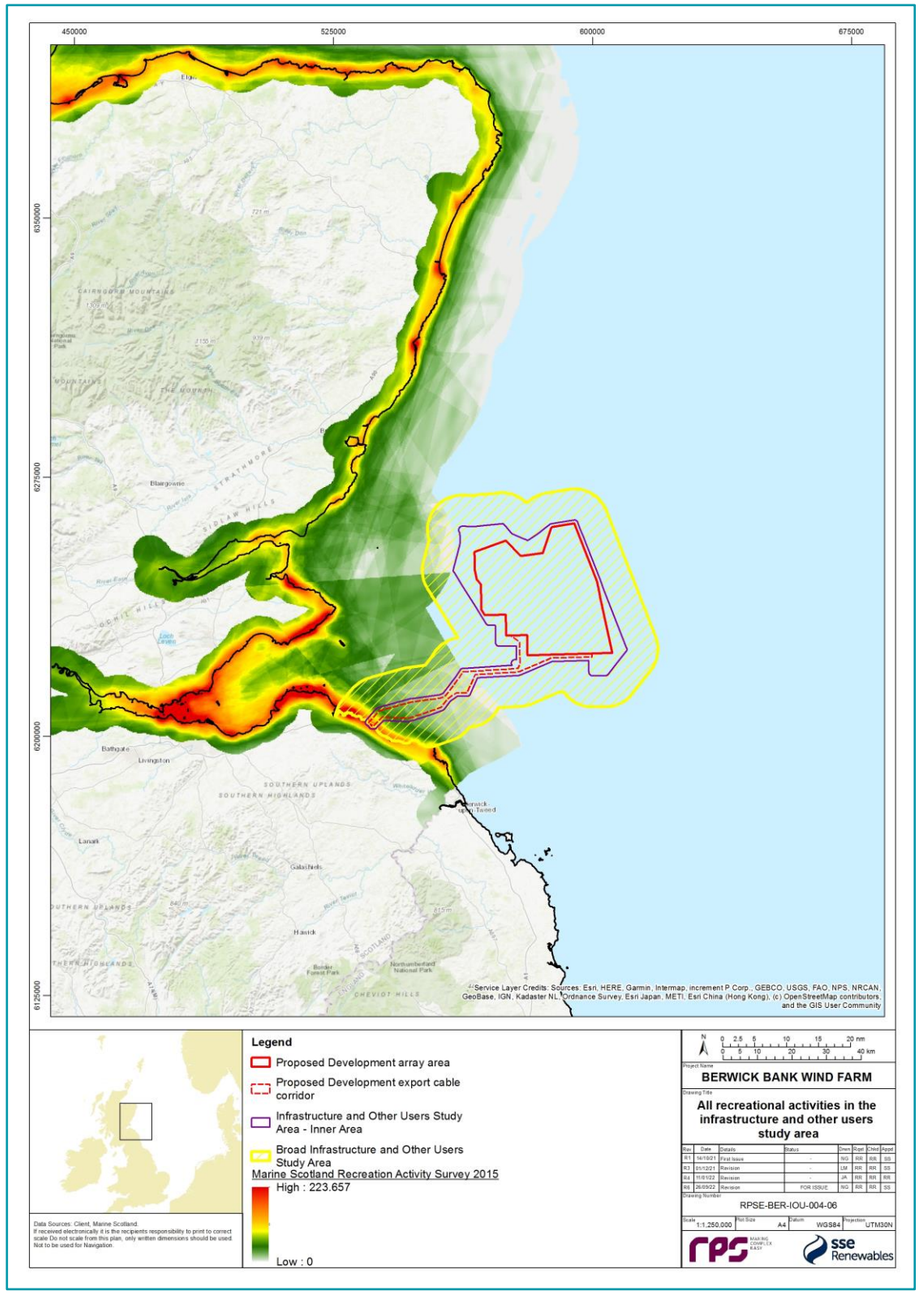

Figure 17.4: Recreational Density in the Infrastructure and Other Users Study Area

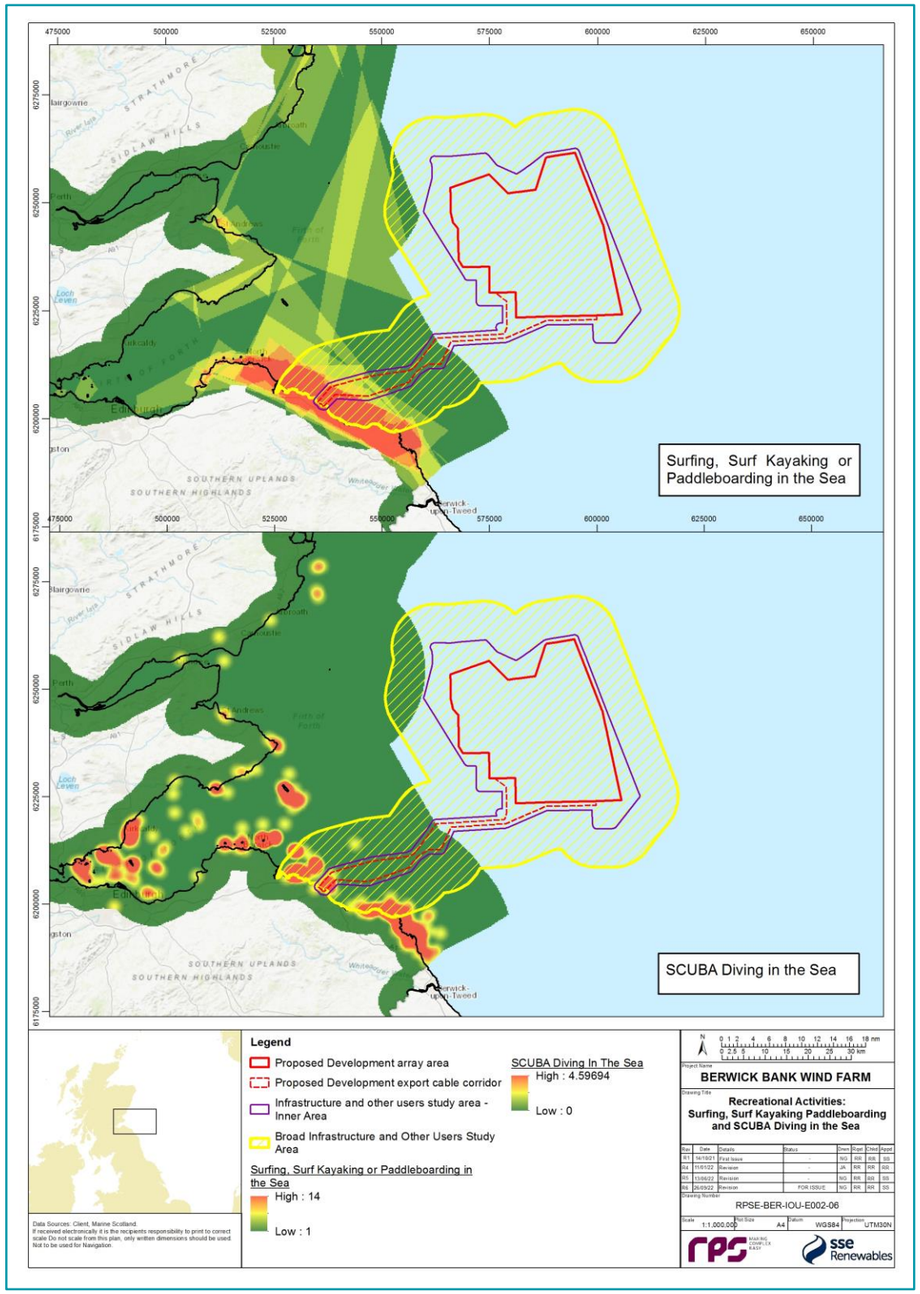

Figure 17.5: Recreational Activities in the Infrastructure and Other Users Study Area

Offshore energy projects

60. Offshore energy projects in proximity to the infrastructure and other users study area – inner area include NnG (under construction), Inch Cape (consent authorised) ,Seagreen 1 (under construction), Seagreen 1A Project and Seagreen 1A Export Cable Corridor illustrated in Figure 17.6. The export cable corridor for the NnG Offshore Wind Farm intersects the Proposed Development export cable corridor and overlaps the infrastructure and other users study area – inner area.

61. The NnG Offshore Wind Farm is located approximately 15 km off the Fife coast and approximately 28 km offshore Dunbar. The offshore wind farm will connect via offshore export cables to the mainland at Thorntonloch beach, East Lothian and will comprise up to 75 wind turbines with an installed capacity of 450 MW (Marine Scotland, 2018).

62. The Inch Cape Offshore Wind Farm is proposed to be located outside of the infrastructure and other users study area - inner area. This offshore wind farm is to be located approximately 15 km from the Angus Coast and approximately 49 km offshore Dunbar, connecting via offshore export cables to the National Grid at Cockenzie, East Lothian (ICOL, 2021). SeaEnergy Renewables Limited is anticipating the wind farm to consist of approximately 72 wind turbines with an installed capacity of 1,000 MW (Marine Scotland, 2019).

63. Seagreen is located approximately 27 km off the coast of Angus in the North Firth and approximately 10 km north of the infrastructure and other users study area - inner area. Seagreen Wind Energy Ltd. is planning on having 114 wind turbines capable of generating 1,075 MW installed capacity as part of the Seagreen 1 development (Seagreen Wind Energy, 2021).Additionally, the Seagreen 1A Project refers to the remaining 36 wind turbines (cumulative 150 wind turbines) which have been consented and are of larger size that those represented in Seagreen 1. In order to connect the Seagreen 1A Project to the grid, the Seagreen 1A Export Cable Corridor is required and will make landfall at Cockenzie or Seton Sands.

64. There are no wave and tidal energy projects within the infrastructure and other users study area - inner area). Wave and tidal projects have therefore not been considered further.

65. The Firth of Forth supports oil and gas activities such as those associated with the Grangemouth refinery, oil storage and tanker terminals. However, there are currently no active licence blocks located within or near the Proposed Development.

66. There are, however, several overlaps of non-active licence blocks with the Proposed Development array area, namely: 25/20, 26/16, 26/17, 26/18, 26/21, 26/22, 26/23, 26/24, 26/27, 26/28 and 26/29. The closest active licence block, Block 27/9 - North Sea Natural Resources Ltd, is located approximately 68 km from the Proposed Development array area and 84.6 km from the Proposed Development export cable corridor.

67. In July 2019, the Oil and Gas Authority (OGA) launched the 32nd Offshore Licensing Round with 768 blocks or part blocks on offer across the main producing areas of the UK Continental Shelf (UKCS). In March 2020, the OGA announced a 'temporary pause' on offshore licencing rounds, with no 33rd Offshore Licensing Round to be launched in 2020/2021. Given the lack of existing activity in the area, it is likely that there is limited potential for exploration in this area of the North Sea.

68. The 32nd Offshore Licensing Round further detailed 79 sites within the Central and Southern North Sea Blocks, areas in proximity to the Proposed Development. Five blocks are located within 200 km of the Proposed Development array area, namely: 27/9, 28/9, 29/9, 35/27, and 36/30. The closest of these blocks (27/9) is located 68 km from the Proposed Development array area and 84.6 km from the Proposed Development export cable corridor.

69. There are no oil and gas pipelines located within the infrastructure and other users study area - inner area. The closest pipeline (Everest to Teeside (Cats Trunkline) gas pipeline) is located approximately 102 km from the Proposed Development.

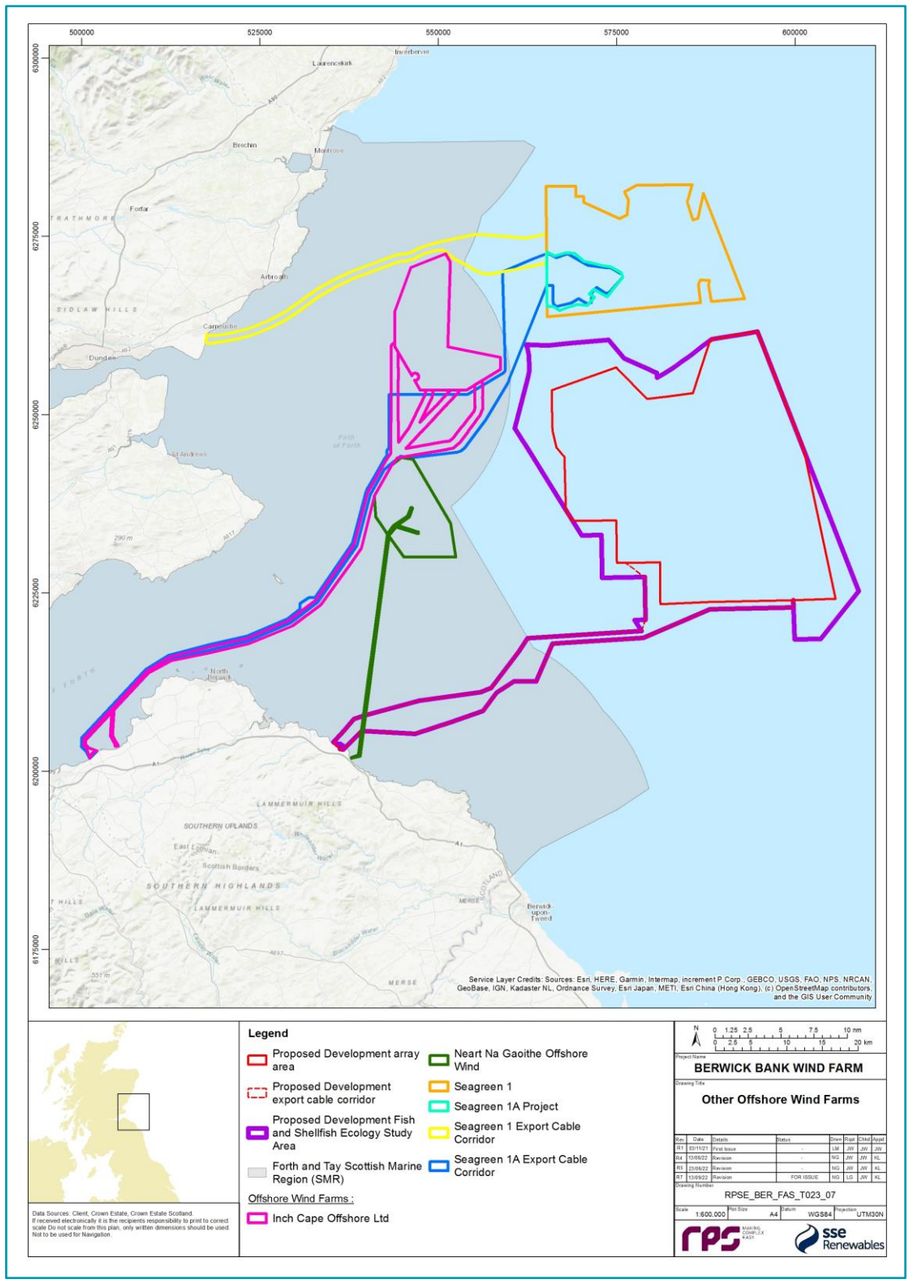

Figure 17.6: Offshore Energy Projects in the Vicinity of the Proposed Development

70. The following services are associated with the oil and gas industry:

- helicopters: the oil and gas industry rely on helicopters for personnel transfer and emergency evacuation. Helicopter and associated aviation considerations are addressed separately in volume 2, chapter 14; and
- vessels: the oil and gas industry require supply or support vessels for its operations. Vessels and associated navigational considerations are addressed separately in volume 2, chapter 13.

71. There is no carbon capture, natural gas storage, underground gasification or coal deposits located within the infrastructure and other users study area - inner area. Carbon capture, natural gas storage, underground gasification and coal deposits have therefore not been considered further.

Offshore cables, pipelines and subsea communications infrastructure

72. More than 95% of international telecommunications is through subsea cabling networks, of which approximately 40% of the UK's active international telecommunication cables are located along the Scottish seabed (Scottish Government, 2015).

73. The Eastern Link Project (Eastern Link 1) is a new energy link between Scotland and England, comprising a submarine cable route connecting Torness Power Station to Hawthorn Pit to further support the growth of renewable energy (Eastern Link Project, 2021). Additionally, the Scotland to England Green Link (Eastern Link 2) is a subsea High Voltage Direct Current (HVDC) link between Peterhead, Scotland and North Yorkshire, England (Marine Scotland, 2021). The Eastern Link 1 submarine cable is located within the infrastructure and other users study area - inner area, while the Eastern Link 2 cable is located immediately outside of the broad infrastructure and other users study area. Similarly, the NnG export cable corridor is located within the infrastructure and other users study area - inner area and the Seagreen 1A Export Cable Corridor is located just outside of the infrastructure and other users study area – inner area and within the broad infrastructure and other users study area: potential increased turbidity area.

74. A review of additional active and disused subsea cables and pipelines has identified no other active cables or pipelines in the infrastructure and other users study area - inner area. The Kincardine export cable corridor, which is a crucial component of the Kincardine Floating Offshore Wind Farm located off the coast of Aberdeen in Scotland, is located approximately 61.3 km to the north of the Proposed Development array area.

75. The Hywind export cable corridor is associated with Hywind Scotland Pilot Park, located off Peterhead, Scotland and located approximately 110 km north of the Proposed Development array area.

76. There are no active or disused subsea telecommunication cables present in the infrastructure and other users study area - inner area. The nearest active telecommunications cable is located approximately 41.7 km from Skateraw Landfall area, located between mainland and Holy Island to the south-east of the landfall area.

77. The Tampnet Central North Sea Fibre Telecommunications Company (CNSFTC) telecommunication network and the North Sea Interconnector are located to the north and south of the Proposed Development array area, outside of the infrastructure and other users study area – inner area (NMPi, 2021).

78. Tampnet is a Norwegian based high capacity, low latency communications provider to mobile rigs, offshore installations, and vessels (Reimer, 2018). Tampnet has 1,751 km of subsea cabling in the North Sea, linking Norway to the UK, specifically at a landfall location in Aberdeen, Scotland (Reimer, 2018).

79. The North Sea Interconnector acts as a subsea link between the electricity systems of the UK and Norway, enabling the wind power transmissions and facilitating links between global energy markets (van der Meijden, 2016).

80. Offshore wind farm export cables are further addressed under paragraph 60.

17.7.2. FUTURE BASELINE SCENARIO

81. The requirement to consider future baseline conditions is outlined in the volume 1, chapter 2.

82. In the event that the Proposed Development does not come forward, an assessment of the future baseline conditions has been carried out and is described within this section.

83. The future baseline scenario for recreational activities is considered unlikely to change substantially from that presented in section 17.7 above, in the absence of the Proposed Development. The future baseline scenario for recreational sailing and motor cruising, recreational fishing and other recreational activities is likely to gradually increase in line with population growth in Scotland, however this is unlikely to represent a substantial change in the short term.

84. There is potential for significant growth in offshore wind energy within Scotland, with the Scottish Government setting out plans to increase offshore wind capacity to 11 GW of energy installed by 2030. There are a number of sites along the coast of Scotland with operational offshore wind developments, another 4.9 GW of consented projects (Scottish Sectoral Marine Plan, 2020; Offshore Wind Scotland, 2021), and up to an additional 24.83 GW projects in the concept/early planning stage as part of the ScotWind leasing round (The Crown Estate, 2022). As shown in volume 3, appendix 6.4, all Scotwind projects have been screened out of the CEA on the basis of low data confidence. Other renewable energy sources, such as wave and tidal energy devices, are in their early research and development stage.

85. Oil and gas are vital to Scotland and were responsible for nearly 90% of the country's primary energy in 2015 (Scottish Government, 2021b). Although the sector is seen as a critical and integral component to the economy, support for oil and gas programs moving forward will be conditional on the sector's actions to facilitate sustainable energy transitions for the future (Scottish Government, 2021b). Therefore, the baseline environment for oil and gas activity in the vicinity of the Proposed Development is unlikely to change.

86. There is currently potential for marine aggregate extraction to increase in line with the increased demand for aggregate utilisation in gravity bases for marine renewable energy infrastructure and in coastal defence construction (Scottish Government, 2015). However, there are currently no active licences for marine aggregate extraction in the Firth of Forth and Firth of Tay marine region and therefore the baseline environment for marine aggregates mining activity in proximity to the Proposed Development is unlikely to change.

87. The future baseline scenario for offshore cables, carbon capture storage, natural gas storage and underground coal gasification is subject to gradual change as new projects and/or sites are further identified.

17.7.3. DATA LIMITATIONS

88. The data sources used in this chapter are detailed in Table 17.3. The data used are the most up to date publicly available information which can be obtained from the applicable data sources as cited. The data are therefore limited by what is available and by what has been made available, at the time of writing the Offshore EIA Report. It is considered that the data employed in the assessment are robust and sufficient for the purposes of the assessment of effects presented.

17.8. KEY PARAMETERS FOR ASSESSMENT

17.8.1. MAXIMUM DESIGN SCENARIO

89. The maximum design scenarios identified in Table 17.4 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. These scenarios have been selected from the details provided in volume 1, chapter 3 of the Offshore EIA Report. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g. different infrastructure layout), to that assessed here, be taken forward in the final design scheme.

Table 17.4: Maximum Design Scenario Considered for each Impact as part of the Assessment of Likely Significant Effects on Infrastructure and Other Users

Potential Impact	Phase[1]			Maximum Design Scenario	Justification
	C	O	D		
Displacement of recreational sailing and motor cruising, recreational fishing (boat angling) and other recreational activities (diving vessels) due to safety zones and advisory safety distances in the Proposed Development array area and Proposed Development export cable corridor may result in a loss of recreational resource.	✓	✓	✓	**Site Preparation Vessels** • up to 9 boulder clearance vessels (4 during site preparation and 5 for the inter-array and offshore export cables), with only 4 being present concurrently; • up to 3 geophysics/Geotech survey vessels; • up to 3 sandwave clearance vessels; and • up to 7 UXO clearance vessels. **Construction Phase** • installation of up to 307 wind turbines and up to 10 Offshore Substation Platforms(OSPs)/Offshore convertor station platforms within the Proposed Development array area; • installation of up to 1,225 km of inter-array cables; • installation of up to 94 km of interconnector cables; • installation of up to 872 km of offshore export cables; • presence of 500 m construction safety zones around structures undergoing installation and 50 m advisory safety zones around all structures until the point of commissioning. Advisory clearance distances of up to 500 m in radius around installation vessels; • advisory clearance distances along vulnerable sections of cables (i.e. cables waiting burial or protection); • up to 11,484 vessel round trips, this would comprise of jack-up barge/dynamic positioning (DP) vessels, cargo barges, support vessels, tug/anchor handlers, cable installation vessels, guard vessels, survey vessels, crew transfer vessels, scour/cable protection installation vessels, resupply vessels and site preparation vessels; • assumed up to 155 vessels on site at any one time; and • offshore construction is anticipated to take place over a period of up to 96 months. **Operation and Maintenance Phase** Presence of infrastructure: • up to 307 wind turbines and up to ten OSPs/Offshore convertor station platforms , with minimum spacing between wind turbines of 1,000 m; • up to 1,225 km of inter-array cables; • up to 94 km of interconnector cables; • up to 872 km of offshore export cables; • up to 15% of inter-array, OSPs/Offshore convertor station platforms interconnector and offshore export cables may require cable protection of up to 3 m in height; • cable protection at up to 16 cable crossings for the offshore export cables and 78 for the inter-array and interconnector cables; • cable repair/reburial activities; • inter-array cables: up to 30,000 m of cable for repair events and up to 10,000 m of cable for cable reburial events;	The greatest amount of the largest infrastructure and associated minimum spacing, the greatest number of vessels and the greatest extent of advisory safety zones and advisory clearance distances, over the longest construction, operation and decommissioning period.

[1] C = Construction, O = Operation and maintenance, D = Decommissioning

Potential Impact	Phase[1]			Maximum Design Scenario	Justification
	C	O	D		
				• up to 2,324 vessel round trips per year comprised of crew transfer vessels, jack-up vessels, cable repair vessels and other vessels, from local ports or transiting from a previously operational location; • offshore export cables and interconnector cables: Up to 4,000 m of cable for repair events and up to 4,000 m of cable for reburial events; • up to 2,324 vessel round trips comprised of crew transfer vessels, jack-up vessels, cable repair vessels and other vessels, from local ports or transiting from a previously operational location; • up to 12 vessels on site at any given time; • presence of 500 m operational safety zones for major maintenance activities; and • operation and maintenance phase of up to 35 years. **Decommissioning Phase** • At the end of the operational lifetime of the Proposed Development, it is anticipated that all structures above the seabed or ground level will be completely removed where this is feasible and practicable. This will be kept under review depending on current legislation and guidance requirements, best practice and other options may be required including cutting structures below the seabed. • An assessment has been undertaken on a maximum design scenario of removing all inter-array cables and offshore export cables The decommissioning sequence will generally be the reverse of the construction sequence and involve similar types and numbers of vessels and equipment.	
Displacement of recreational fishing (shore angling) and other recreational activities (kayaking, kite surfing, surfing and windsurfing, scuba diving and beach users) due to advisory safety distances in the nearshore and intertidal section of the Proposed Development export cable corridor resulting in a loss of recreational resource.	✓	✓	✓	**Construction Phase** • installation of up to 872 km of offshore export cables; • offshore export cable installation at the landfall via trenchless technique (e.g. Horizontal Directional Drilling [HDD]); • presence of 500 m construction safety zones around structures undergoing installation and 50 m advisory safety zones around all structures until the point of commissioning. Advisory clearance distances of up to 500 m in radius around installation vessels; • up to 11,484 vessels round trips, this would comprise of jack-up barge/DP vessels, cargo barges, support vessels, tug/anchor handlers, cable installation vessels, guard vessels, survey vessels, crew transfer vessels, resupply vessels and site preparation vessels; and • offshore export cable installation at the landfall may take place over a period of up to 24 months. Site preparation activities may happen at any point during the construction period. **Operation and Maintenance Phase** Cable repair/reburial activities: • inter-array cables: up to 30,000 m of cable for repair events and up to 10,000 m of cable for cable reburial events; and • offshore export cables and interconnector cables: Up to 4,000 m of cable for repair events and up to 4,000 m of cable for reburial events; • up to 2,324 vessel round trips comprised of crew transfer vessels, jack-up vessels, cable repair vessels and other vessels, from local ports or transiting from a previously operational location; • up to 12 vessels on site at any given time; • presence of 500 m operational safety zones for major maintenance activities; and • operation and maintenance phase of up to 35 years. **Decommissioning Phase** • At the end of the operational lifetime of the Proposed Development, it is anticipated that all structures above the seabed or ground level will be completely removed where this is feasible and practicable. Piled foundations are likely to be cut approximately at seabed using pile cutting devices,	The greatest amount of the largest infrastructure, the greatest number of vessels and the greatest extent of advisory safety zones and advisory clearance distances, over the longest construction, operation and decommissioning period.

Potential Impact	Phase[1]			Maximum Design Scenario	Justification
	C	O	D		
				depending on seabed mobility, and removed. This will be kept under review depending on current legislation and guidance requirements, best practice and other options may be required including cutting structures below the seabed. • An assessment has been undertaken on a maximum design scenario of removing all inter-array cables and offshore export cables. The decommissioning sequence will generally be the reverse of the construction sequence and involve similar types and numbers of vessels and equipment.	
Temporary restricted access to the NnG offshore export cable as a result of installation, maintenance and decommissioning activities for the Proposed Development export cable corridor, including safety distances.	✓	✓	✓	**Construction Phase** • installation of up to 872 km of offshore export cables; • presence of 500 m construction safety zones around structures undergoing installation and 50 m advisory safety zones around all structures until the point of commissioning. Advisory clearance distances of up to 500 m in radius around installation vessels; • advisory clearance distances along vulnerable sections of cables (i.e. cables waiting burial or protection); • up to 11,484 vessel round trips, this would comprise of jack-up barge/dynamic positioning (DP) vessels, cargo barges, support vessels, tug/anchor handlers, cable installation vessels, guard vessels, survey vessels, crew transfer vessels, scour/cable protection installation vessels, resupply vessels and site preparation vessels; • assumed up to 155 vessels on site at any one time; and • offshore construction may take place over a period of up to 96 months. **Operation and Maintenance Phase** Cable repair/reburial activities: • inter-array cables: up to 30,000 m of cable for repair events and up to 10,000 m of cable for cable reburial events; and • offshore export cables and interconnector cables: Up to 4,000 m of cable for repair events and up to 4,000 m of cable for reburial events. • up to 2,324 vessel round trips per year comprised of crew transfer vessels, jack-up vessels, cable repair vessels and other vessels, from local ports or transiting from a previously operational location; • up to 12 vessels on site at any given time; • presence of 500 m operational safety zones for major maintenance activities; and • operation and maintenance phase of up to 35 years. **Decommissioning Phase** • At the end of the operational lifetime of the Proposed Development, it is anticipated that all structures above the seabed or ground level will be completely removed where this is feasible and practicable. This will be kept under review depending on current legislation and guidance requirements, best practice and other options may be required including cutting structures below the seabed. • An assessment has been undertaken on a maximum design scenario of removing all inter-array cables and offshore export cables. The decommissioning sequence will generally be the reverse of the construction sequence and involve similar types and numbers of vessels and equipment.	The greatest amount of the largest infrastructure, the greatest number of vessels and the greatest extent of advisory safety zones and advisory clearance distances, over the longest construction, operation and decommissioning period.

Potential Impact	Phase[1]			Maximum Design Scenario	Justification
	C	O	D		
Temporary restricted access to the Eastern Link 1 offshore export cables as a result of installation, maintenance and decommissioning activities for the Proposed Development export cable corridor and Proposed Development array area, including safety distances.	✓	✓	✓	**Construction Phase** • installation of up to 872 km of offshore export cables; • presence of 500 m construction safety zones around structures undergoing installation and 50 m advisory safety zones around all structures until the point of commissioning. Advisory clearance distances of up to 500 m in radius around installation vessels; • advisory clearance distances along vulnerable sections of cables (i.e. cables waiting burial or protection); • up to 11,484 vessel round trips, this would comprise of jack-up barge/dynamic positioning (DP) vessels, cargo barges, support vessels, tug/anchor handlers, cable installation vessels, guard vessels, survey vessels, crew transfer vessels, scour/cable protection installation vessels and resupply vessels; • assumed up to 155 vessels on site at any one time; and • offshore construction may table place over a period of up to 96 months. **Operation and Maintenance Phase** Cable repair/reburial activities • inter-array cables: up to 30,000 m of cable for repair events and up to 10,000 m of cable for cable reburial events; • offshore export cables and interconnector cables: Up to 4,000 m of cable for repair events and up to 4,000 m of cable for reburial events; • up to 2,324 vessel round trips comprised of crew transfer vessels, jack-up vessels, cable repair vessels and other vessels, from local ports or transiting from a previously operational location; • up to 12 vessels on site at any given time; • presence of 500 m operational safety zones for major maintenance activities; and • operation and maintenance phase of up to 35 years. **Decommissioning Phase** • At the end of the operational lifetime of the Proposed Development, it is anticipated that all structures above the seabed or ground level will be completely removed where this is feasible and practicable. This will be kept under review depending on current legislation and guidance requirements, best practice and other options may be required including cutting structures below the seabed. • An assessment has been undertaken on a maximum design scenario of removing all inter-array cables and offshore export cables. The decommissioning sequence will generally be the reverse of the construction sequence and involve similar types and numbers of vessels and equipment.	The greatest amount of the largest infrastructure, the greatest number of vessels and the greatest extent of advisory safety zones and advisory clearance distances, over the longest construction, operation and decommissioning period.

17.8.2. IMPACTS SCOPED OUT OF THE ASSESSMENT

90. Pre-application consultation (Table 17.2) has been used to facilitate stakeholder engagement on potential impacts to be scoped out of the infrastructure and other users assessment.

91. On the basis of these discussions, baseline environment and the project description outlined in volume 1, chapter 3 of the Offshore EIA Report, a number of potential impacts are proposed to be scoped out of the assessment for infrastructure and other users. These have been agreed with key stakeholders through consultation as discussed in volume 1, chapter 5. Otherwise these impacts were proposed to be scoped-out in the Berwick Bank Wind Farm Offshore Scoping Report (SSER, 2021a) and no concerns were raised by key consultees. Where discussions with consultees took place after the publication of the Berwick Bank Wind Farm Scoping Opinion (MS-LOT, 2022) these have been discussed with key stakeholders through consultation. Any such 'post-Scoping' discussions are audited in the Audit Document for Post-Scoping Discussions (volume 3, appendix 5.1).

92. These impacts are outlined, together with a justification for scoping them out, in Table 17.5. An indication of a phase of the development during which those impacts have a potential to occur is given by ticks and crosses (i.e., during scoping accidental pollution has been considered as a potential impact during construction and decommissioning (tick), but not during the operation and maintenance phase (cross).

Table 17.5: Impacts Scoped Out of the Assessment for Infrastructure and Other Users (tick confirms the impact is scoped out)

Potential Impact	Phase[2]		Justification
	C	D	
Impact on wave and tidal projects.	✓	✓	There are no wave and tidal projects within the infrastructure and other users study area – inner area.
Impact on oil and gas activities within licenced blocks.	✓	✓	There are no licenced oil and gas licence blocks within the infrastructure and other users study area – inner area.
Impact on carbon capture, natural gas storage, underground gasification, and coal deposits.	✓	✓	There is no carbon capture, natural gas storage, underground gasification or coal deposit projects within the infrastructure and other users study area – inner area.
Impact on subsea telecommunications cables.	✓	✓	There are no subsea telecommunications cables within the infrastructure and other users study area – inner area.
Impact on marine disposal sites.	✓	✓	There are no marine disposal sites within the infrastructure and other users study area – inner area.
Impact on marine aggregate extraction sites.	✓	✓	There are no marine aggregate extraction sites within the infrastructure and other users study area – inner area.
Displacement of recreational fishing (shore angling) and other recreational activities (kayaking, kite surfing, surfing and windsurfing, beach users) along the nearshore and intertidal section of the Proposed Development export cable corridor resulting in a loss of recreational resource.	×	×	Operation and maintenance phase effects have been scoped out due to the expected low frequency of cable inspection and repair or reburial activities along the intertidal sections of the offshore export cable. For all other phases of the Proposed Development, such as construction and decommissioning, this impact has been scoped in. Any effects are likely to be limited to the presence of a temporary advisory clearance distance around the vessels carrying out maintenance activities. Notices to Mariners (NtMs) will be issued to advise other users of the nature, location and timing of any major maintenance activities.

[2] C = Construction, O = Operation and maintenance, D = Decommissioning

17.9. METHODOLOGY FOR ASSESSMENT OF EFFECTS

17.9.1. OVERVIEW

93. The infrastructure and other users assessment of effects has followed the methodology set out in volume 1, chapter 6 of the Offshore EIA Report. Specific to the infrastructure and other users EIA, the following guidance documents have also been considered:

- The RYA Scotland's Position on Offshore Renewable Energy Developments: Paper 1 (of 4) – Wind Energy, June 2015 (RYA, 2015);
- Assessment of Impact of Offshore Wind Energy Structures on the Marine Environment (Marine Institute, 2000);
- Guidance on Environmental Impact Assessment of Offshore Renewable Energy Development on Surfing Resources and Recreation (Surfers Against Sewage (SAS), 2009);
- European Subsea Cables Association (ESCA) Guideline No 6, The Proximity of Offshore Renewable Energy Installations and Submarine Cable Infrastructure in UK Waters (ESCA, 2016);
- International Cable Protection Committee (ICPC) recommendations:
- Recommendation No. 2. Cable Routing and Reporting Criteria (ICPC, 2015);
- Recommendation No.3. Telecommunications Cable and oil Pipeline/Power Cables Crossing Criteria (ICPC, 2014); and
- Recommendation No.13. The Proximity of Offshore Renewable Wind Energy Installations and Submarine Cable Infrastructure in National Waters (ICPC, 2013).
- The Crown Estate (TCE) and Crown Estate Scotland (CES) Agreements and Oil and Gas Licences (OGA, 2017);
- Oil and Gas UK, Pipeline Crossing Agreement and Proximity Agreement Pack (Oil and Gas UK, 2015);
- TCE Guidance: Export transmission cables for offshore renewable installations – Principles of cable routeing and spacing (TCE, 2012); and

- TCE Guidance: TCE Guidance: Submarine cables and offshore renewable energy installation – Proximity study (TCE, 2012).

17.9.2. CRITERIA FOR ASSESSMENT OF EFFECTS

94. The process for determining the significance of effects is a two stage process that involves defining the magnitude of the potential impacts and the sensitivity of the receptors. This section describes the criteria applied in this chapter to assign values to the magnitude of potential impacts and the sensitivity of the receptors. The terms used to define magnitude and sensitivity are based on those which are described in further detail in volume 1, chapter 6 of the Offshore EIA Report.

95. The criteria for defining magnitude in this chapter are outlined in Table 17.6. The criteria for defining sensitivity in this chapter are outlined in Table 17.7. In determining magnitude within this chapter, each assessment considered the spatial extent, duration, frequency and reversibility of impact and these are outlined within the magnitude section of each assessment of effects (e.g. a duration of hours or days would be considered for most receptors to be of short term duration, which is likely to result in a low magnitude of impact).

Table 17.6: Definition of Terms Relating to the Magnitude of an Impact

Magnitude of Impact	Definition
High	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse).
	Large scale or major improvement or resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Medium	Loss of resource, but not adversely affecting integrity of resource; partial loss of/damage to key characteristics, features or elements (Adverse).
	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).
Low	Some measurable change in attributes, quality or vulnerability, minor loss or, or alteration to, one (maybe more) key characteristics, features or elements (Adverse).
	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse).
	Very minor benefit to, or positive addition of one or more characteristics, features or elements (Beneficial).

Table 17.7: Definition of Terms Relating to the Sensitivity of the Receptor

Value (Sensitivity of the Receptor)	Description
Very High	Very high importance and rarity, international receptor with no potential or very limited potential for recovery.
High	High importance and rarity, international and/or national receptor and limited potential for recovery.
Medium	High or medium importance and rarity, regional receptor, and potential for recovery.
Low	Low or medium importance and rarity, local receptor and high potential for recovery.
Negligible	Very low importance and rarity, local receptor and very high potential for recovery.

96. The significance of the effect upon infrastructure and other users is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The particular method employed for this assessment is presented in Table 17.8.

97. In cases where a range is suggested for the significance of effect, there remains the possibility that this may span the significance threshold (i.e. the range is given as minor to moderate). In such cases the final significance conclusion is based upon the author's professional judgement as to which outcome delineates the most likely effect. Where professional judgement is applied to quantify final significance from a range, the assessment will set out the factors that results in the final assessment of significance. These factors may include the likelihood that an effect will occur, data certainty and relevant information about the wider environmental context

98. For the purposes of this assessment:

- a level of residual effect of moderate or more will be considered a 'significant' effect in terms of the EIA Regulations; and
- a level of residual effect of minor or less will be considered 'not significant' in terms of the EIA Regulations.

99. Effects of moderate significance or above are therefore considered important in the decision making process, whilst effects of minor significance or less warrant little, if any, weight in the decision making process.

Table 17.8: Matrix Used for the Assessment of the Significance of the Effect

Sensitivity of Receptor	Magnitude of Impact: Negligible	Low	Medium	High
Negligible	Negligible	Negligible to Minor	Negligible to Minor	Minor
Low	Negligible to Minor	Negligible to Minor	Minor	Minor to Moderate
Medium	Negligible to Minor	Minor	Moderate	Moderate to Major
High	Minor	Minor to Moderate	Moderate to Major	Major
Very High	Minor	Moderate to Major	Major	Major

17.10. MEASURES ADOPTED AS PART OF THE PROPOSED DEVELOPMENT

100. As part of the project design process, a number of measures have been proposed to reduce the potential for impacts on infrastructure and other users (see Table 17.9). As there is a commitment to implementing these measures, they are considered inherently part of the design of the Proposed Development and have therefore been considered in the assessment presented in section 17.11 (i.e. the determination of magnitude and therefore significance assumes implementation of these measures). These measures are considered standard industry practice for this type of development.

Table 17.9: Designed in Measures Adopted as Part of the Proposed Development

Designed in Measures Adopted as Part of the Proposed Development	Justification
Application and use of Safety Zones during construction, operation and maintenance, and decommissioning activities associated with wind turbines and offshore platforms.	In the interests of safety to infrastructure and other users receptors.
Timely and efficient distribution of NtM, Kingfisher notifications and other navigational warnings of the position and nature of works associated with the Proposed Development.	In the interests of safety to infrastructure and other users receptors.
Promulgation of information and implementation of Safety Zones and advisory safety distances regarding the displacement of recreational marine vessels.	The construction of infrastructure and implementation of safety distances around construction vessels may displace recreation vessels. Likewise, maintenance and decommissioning activities may also displace recreation vessels.
Crossing or laying of cables over or adjacent to known or future cables will be subject to crossing and/or proximity agreements.	In the interests of safety to infrastructure and other users receptors and to potential maintenance works being undertaken e.g. NnG cables.
Promulgation of information and implementation of Safety Zones and advisory safety distances regarding the displacement of recreational marine fishing and other marine activities not related to utilising watercraft.	The construction of infrastructure and implementation of safety distances around the landfall location may prevent access to the area for recreation users. Likewise, maintenance and decommissioning activities may also restrict access.
Promulgation of information and crossing and/or proximity agreements regarding restricted access to NnG infrastructure.	The construction of offshore export cables and implementation of safety distances around vessels may affect or restrict access to existing cables. Likewise, maintenance and decommissioning activities may also restrict access.
Presence of 500 m construction safety zones around structures undergoing installation, 500 m operational safety zones for major maintenance activities and 50 m advisory safety zones around all structures until the point of commissioning. Advisory clearance distances of up to 500 m in radius around installation vessels. Advisory clearance distances along vulnerable sections of cables (i.e. cables waiting burial or protection).	In the interests of safety to infrastructure and other users receptors.
Creation of a database of known users (including local yacht clubs, local dive clubs and local recreational activity centres) to act as a mailing list for direct issue of NtMs.	To ensure that as many interested parties as possible are aware of Proposed Development activities.

17.11. ASSESSMENT OF SIGNIFICANCE

101. The potential effects arising from the construction, operation and maintenance and decommissioning phases of the Proposed Development are listed in Table 17.4, along with the maximum design scenario against which each impact has been assessed.

102. An assessment of the likely significance of the effects of the Proposed Development on infrastructure and other users receptors caused by each identified impact is given below.

DISPLACEMENT OF RECREATIONAL SAILING AND MOTOR CRUISING, RECREATIONAL FISHING (BOAT ANGLING) AND OTHER RECREATIONAL ACTIVITIES (DIVING VESSELS)

103. Installation, construction and maintenance, and decommissioning activities may lead to displacement of recreational sailing and motor cruising, recreational fishing (boat angling) and other recreational activities (diving vessels) due to the presence of the infrastructure safety zones and advisory safety distances in the Proposed Development array area and export cable corridor may result in a loss of recreational resource.

Construction Phase

Magnitude of Impact

104. The installation of Proposed Development infrastructure within the Proposed Development array area and along the Proposed Development export cable corridor may displace recreational activities from the footprint of the Proposed Development and from any areas subject to temporary advisory safety zones and advisory clearance distances, resulting in a loss of recreational resource.

105. The maximum design scenario is represented by the installation of up to 307 wind turbines, up to ten OSPs/Offshore convertor station platforms, up to 1,225 km of inter-array cables, up to 94 km of interconnector cable and up to 872 km of offshore export cables, with associated advisory safety zones and/or advisory clearance distances, over a period of up to eight years. There may be up to 155 vessels on site within the Proposed Development array area during the construction phase up to 12 vessels on site for the offshore export cable installation activities at any given time (including activities at the landfall), comprised of jack-up barge/DP vessels, tug/anchor handlers, cable installation vessels, guard vessels, survey vessels, crew transfer vessels, and scour/cable protection vessels. The maximum design scenario at the landfall is represented by cable installation via trenchless technique (e.g. HDD), with associated advisory clearance distances. Construction activities may take place over a period of up to eight years (Table 17.4).

106. As described in section 17.7, there are a number of recreational activities occurring in the vicinity of the Proposed Development, although with most activities occurring closer to shore and overlapping with the nearshore sections of the Proposed Development export cable corridor rather than within the Proposed Development array area. General sailing areas are associated with Dunbar Sailing Club and East Lothian Yacht Club. Both sailing clubs are adjacent to the Proposed Development export cable corridor, situated north-west of the infrastructure and other users study area - inner area. General boating areas are located to the south of Elie, covering an area of approximately 23.3 km^2 and north of North Berwick, covering an area of approximately 38.04 km^2 (NMPi, 2021). Other activities occurring in proximity to the Proposed Development include recreational fishing and diving.

107. The spatial extent of the impact on boating activities will be relatively small in the context of the available sailing and sea angling areas in the vicinity of the Proposed Development. There will be potential for localised displacement of recreational marine craft from the individual 500 m safety zones around the structures being actively installed within the Proposed Development array area. Additionally, there will be advisory clearance distances around installation vessels operating within the Proposed Development array area and along the Proposed Development export cable corridor. The impact of advisory safety zones is mostly reversible as once each structure has been installed and commissioned these will be removed. Advisory clearance distances around cable installation vessels operating along the offshore export cable route will be transient as the vessel progressively installs the cable along the route from the Proposed Development array area to the landfall. The spatial extent of potential displacement will be greater along the Proposed Development export cable corridor compared with the Proposed Development array area, due to most recreational activity taking place along the coastline, although a small number of vessels and sailing events may be displaced from the Proposed Development array area and the immediate vicinity temporarily during the construction phase.

108. As described in Table 17.9, NtMs will be issued regularly during the construction phase, advising of the location, nature and timing of activities, and information and notices will be posted at the landfall, ensuring that recreational activities can be planned accordingly. The Applicant will also create a database of known

users (including local yacht clubs, local dive clubs and local recreational activity centres) to act as a mailing list for direct issue of NtMs.

109. The impact is predicted to be of local spatial extent, short to medium term duration, continuous (Proposed Development array area)/intermittent (offshore export cable routes) and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

110. It is anticipated that recreational boating and sea angling vessels will be able to alter their route or transit past installation activities and associated advisory safety zones and advisory clearance distances, given the adequate sea room around the Proposed Development. There are other locations available for sailing, sea angling and diving activities such that alternatives are available if required during installation works.

111. The receptor is deemed to be of medium vulnerability, high recoverability, and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

112. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Secondary Mitigation and Residual Effect

113. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

Operation and Maintenance Phase

Magnitude of Impact

114. The presence of Proposed Development infrastructure and/or operation and maintenance activities within the Proposed Development array area and the export cable corridor may displace recreational activities from the footprint of the development and from any areas subject to temporary advisory safety zones or advisory clearance distances, resulting in a loss of recreational resource.

115. The maximum design scenario is represented by the presence of up to 307 wind turbines, up to ten OSPs/Offshore convertor station platforms, up to 1,225 km of inter-array cables, up to 94 km of interconnector cable and up to 872 km of offshore export cables, with associated advisory safety zones and/or advisory clearance distances, over a period of up to eight years. There may be up to 12 vessels on site at any one time during the operation and maintenance phase, associated with routine inspections, seabed surveys, and any repairs or replacements required.

116. As described in section 17.7, there are a number of recreational activities occurring in the vicinity of the Proposed Development, although with most activities occurring closer to shore and overlapping with the nearshore sections of the offshore export cable routes rather than within the Proposed Development array area.

117. The spatial extent of the impact on boating activities will be relatively small in the context of the available sailing and sea angling area in the vicinity of the Proposed Development, with the potential for localised displacement of recreational craft around installed structures or around the individual 500 m advisory safety zones and/or advisory clearance distances temporarily and infrequently established around major maintenance activities. Recreational activity overlapping with the Proposed Development export cable corridor will be able to resume during the operation and maintenance phase, and there will be no long term exclusion of navigation within the Proposed Development array area during the lifetime of the Proposed Development (assessment of impacts on navigation is presented in volume 2, chapter 13).

118. As described in Table 17.9, NtMs will be issued regularly during the operation and maintenance phases, advising of the location, nature and timing of any maintenance activities, ensuring that recreational activities can be planned accordingly. The Applicant will also create a database of known users (including local yacht clubs, local dive clubs and local recreational activity centres) to act as a mailing list for direct issue of NtMs.

119. The impact is predicted to be of local spatial extent, long term duration, continuous (Proposed Development array area)/intermittent (Proposed Development export cable corridor) and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

120. It is anticipated that recreational boating and sea angling vessels will be able to alter their route or transit past installed structures and any maintenance activities, given the adequate sea room around the Proposed Development. There are other locations available for sailing, sea angling and diving activities such that alternatives are available if required during maintenance works.

121. The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

122. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Secondary Mitigation and Residual Effect

123. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

Decommissioning Phase

Magnitude of Impact

124. As above. The effects of decommissioning activities within the Proposed Development array area are expected to be the same or similar to the effects from construction. At the end of the operational lifetime of the Proposed Development, it is anticipated that all structures above the seabed or ground level will be either completely removed where this is feasible and practicable. Piled foundations will be cut at an agreed

depth below the seabed for partial removal. This will be kept under review depending on current legislation and guidance requirements, best practice and other options may be required including cutting structures below the seabed.

125. An assessment has been undertaken on a maximum design scenario of removing all inter-array cables and offshore export cables. The decommissioning sequence will generally be the reverse of the construction sequence and involve similar types and numbers of vessels and equipment. The significance of effect is therefore minor, which is not significant in EIA terms.

Sensitivity of the Receptor

126. It is anticipated that recreational boating and sea angling vessels will be able to alter their route or transit past installed structures and any maintenance activities, given the adequate sea room around the Proposed Development. There are other locations available for sailing, sea angling and diving activities such that alternatives are available if required during maintenance works.

127. The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore considered to be medium.

Significance of the Effect

128. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Secondary Mitigation and Residual Effect

129. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

DISPLACEMENT OF RECREATIONAL FISHING (SHORE ANGLING) AND OTHER RECREATIONAL ACTIVITIES (KAYAKING, KITE SURFING, SURFING AND WINDSURFING, SCUBA DIVING AND BEACH USERS)

130. Installation, construction and maintenance, and decommissioning activities may lead to displacement of recreational fishing (shore angling) and other recreational activities (kayaking, kite surfing, surfing, and windsurfing, scuba diving and beach users) due to advisory safety distances in the nearshore and intertidal section of the Proposed Development export cable corridor resulting in a loss of recreational resource.

Construction Phase

Magnitude of Impact

131. The installation of Proposed Development infrastructure within the Proposed Development array area and along the Proposed Development export cable corridor may displace recreational activities from the footprint of the Proposed Development and from any areas subject to temporary advisory safety zones and advisory clearance distances, resulting in a loss of recreational resource.

132. The maximum design scenario is represented by the installation of up 872 km of offshore export cables, with associated advisory safety zones and/or advisory clearance distances, over a period of up to 12 months. There may be up to 129 vessels on site within the Proposed Development array area at any one time during the construction phase and up to 12 vessels on site for offshore export cable installation activities at any given time (including activities at the landfall), comprised of jack-up barge/DP vessels, tug/anchor handlers, cable installation vessels, guard vessels, survey vessels, crew transfer vessels, and scour/cable protection vessels. The maximum design scenario at the landfall is represented by cable installation via a trenchless technique (e.g. HDD), with associated advisory clearance distances. Offshore export cable installation at the landfall may take place over a period of 12 months (Table 17.4).

133. As described in section 17.7, there are a number of recreational activities occurring in the vicinity of the Proposed Development, although with most activities occurring closer to shore and overlapping with the nearshore sections of the Proposed Development export cable corridor rather than within the Proposed Development array area. Specific to the Proposed Development, recreational sea angling occurs to the north and to the south of the of the Proposed Development, with an increase in fishing effort towards the coast and near to the Proposed Development export cable corridor landfall.

134. There were 11 dive sites identified from the desktop review that are located within the broad infrastructure and other users study area - potential increased turbidity area (NMPi, 2021). These diving sites, mentioned in order of distance from the shoreline, are referred to as River Garry, Boyne Castle, U12, Dunbar Harbour, Dove, Dunscore, Sabbia, HMS Pathfinder, SS Grenmar, St. Briac, and Burnstone (NMPi, 2021). Diving generally takes place between March/May and October. Wrecks within and around the broad infrastructure and other users study area – potential increased turbidity area.

135. Popular surfing areas are known to be located at Seacliff in North Berwick and Belhaven Bay in Dunbar, located north of the Proposed Development export cable corridor (NMPi, 2021). South of the Proposed Development, there are surfing locations in Pease Bay near Cove and Coldingham Bay near Eyemouth. The Proposed Development export cable corridor is located in close proximity to Skateraw Beach, and in the vicinity of Thorntonloch beach, Belhaven Bay, Dunbar East and Whitesands beaches to the north and Coldingham beach to the south of the Proposed Development export cable corridor (NMPi, 2021). Skateraw beach is located within the infrastructure and other users study area.

136. The spatial extent of the impact on recreational marine activities will be relatively small in the context of the available shore angling, diving, surfing, kite surfing and wind surfing and beach swimming areas in the vicinity of the Proposed Development, with the potential for localised displacement of recreational activities from the individual 500 m advisory safety zones around structures being installed within the Proposed Development array area and advisory clearance distances around installation vessels operating within the Proposed Development array area and along the Proposed Development export cable corridor. The impact of advisory safety zones is mostly reversible as once each structure has been installed and commissioned these will be removed. Advisory clearance distances around cable installation vessels operating along the offshore export cable routes will be transient as the vessel progressively installs the cable along the route from the Proposed Development array area to the landfall. The spatial extent of potential displacement will be greater along the offshore export cable routes compared with the Proposed Development array area, due to most recreational activity taking place along the coastline, although a small number of marine recreational events (diving) may be displaced from the Proposed Development array area and the immediate vicinity temporarily during the construction phase.

137. As described in Table 17.9, NtMs will be issued regularly during the construction phase, advising of the location, nature and timing of activities, and information and notices will be posted at the landfall, ensuring that recreational activities can be planned accordingly. The Applicant will also create a database of known users (including local yacht clubs, local dive clubs and local recreational activity centres) to act as a mailing list for direct issue of NtMs.

138. The impact is predicted to be of local spatial extent, short to medium term duration, continuous (Proposed Development array area)/intermittent (Proposed Development export cable corridor) and medium

reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

139. It is anticipated that recreational marine activities will be able to alter their location or transit past installation activities and associated advisory safety zones and advisory clearance distances, given the adequate sea room and coastal area around the Proposed Development. There are other locations available for recreation, such as sea angling and diving activities such that alternatives are available if required during installation works.

140. The receptor is deemed to be of medium vulnerability, high recoverability, and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

141. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Secondary Mitigation and Residual Effect

142. No infrastructure and other sea user mitigation is considered necessary because the likely effect t in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

Operation and Maintenance Phase

Magnitude of Impact

143. The presence of Proposed Development infrastructure and/or operation and maintenance activities within the Proposed Development array area and along the Proposed Development export cable corridor may displace recreational activities from the footprint of the Proposed Development and from any areas subject to temporary advisory safety zones or advisory clearance distances, resulting in a loss of recreational resource.

144. The maximum design scenario is represented by the installation of up to 872 km of offshore export cables, with associated advisory safety zones and/or advisory clearance distances, over a period of up to 12 months. There may be up to 12 vessels on site within the Proposed Development array area at any one time during the operation and maintenance phase for offshore export cable installation activities (including activities at the landfall), comprised of jack-up barge/DP vessels, tug/anchor handlers, cable installation vessels, guard vessels, survey vessels, crew transfer vessels, and scour/cable protection vessels. The maximum design scenario at the landfall is represented by cable installation via trenchless technique (e.g. HDD), with associated advisory clearance distances. Offshore export cable installation at the landfall may take place over a period of 12 months (Table 17.4).

145. As described in section 17.7, there are a number of recreational activities occurring in the vicinity of the Proposed Development, although with most activities occurring closer to shore and overlapping with the nearshore sections of the offshore export cable routes rather than within the Proposed Development array area.

146. The spatial extent of the impact on marine recreational activities will be relatively small in the context of the available sea angling, diving, surfing, and swimming areas in the vicinity of the Proposed Development, with the potential for localised displacement of recreational activities around installed structures or around the individual 500 m advisory safety zones and/or advisory clearance distances temporarily and infrequently established around major maintenance activities. Recreational activity overlapping with the offshore export cable routes will be able to resume during the operation and maintenance phase, and there will be no long term exclusion of navigation within the Proposed Development array area during the lifetime of the Proposed Development (assessment of impacts on navigation is presented in volume 2, chapter 13.

147. As described in Table 17.9, NtMs will be issued regularly during the operation and maintenance phase, advising of the location, nature, and timing of any maintenance activities, ensuring that recreational activities can be planned accordingly. The Applicant will also create a database of known users (including local yacht clubs, local dive clubs and local recreational activity centres) to act as a mailing list for direct issue of NtMs.

148. The impact is predicted to be of local spatial extent, long term duration, continuous (Proposed Development array area)/intermittent (offshore export cable routes) and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

149. It is anticipated that recreational marine activities will be able to alter their location or transit past installation activities and associated advisory safety zones and advisory clearance distances, given the adequate sea room and coastal area around the Proposed Development. There are other locations available for recreation, such as sea angling and diving activities such that alternatives are available if required during maintenance works.

150. The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

151. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Secondary Mitigation and Residual Effect

152. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

Decommissioning Phase

Magnitude of Impact

153. The effects of decommissioning activities within the Proposed Development array area are expected to be the same or similar to the effects from construction. Decommissioning activities are not anticipated along the Proposed Development export cable corridor as the cables and cable protection will remain *in situ*.

154. The impact is predicted to be of local spatial extent, short to medium term duration, continuous (Proposed Development array area)/intermittent (Proposed Development export cable corridor) and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

155. It is anticipated that recreational marine activities will be able to alter their location or transit past installation activities and associated advisory safety zones and advisory clearance distances, given the adequate sea room and coastal area around the Proposed Development. There are other locations available for recreation, such as sea angling and diving activities such that alternatives are available if required during maintenance works.

156. The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

157. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Secondary Mitigation and Residual Effect

158. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

TEMPORARY RESTRICTED ACCESS TO THE NEART NA GAOITHE OFFSHORE EXPORT CABLE

159. The potential for temporary restriction of access to the NnG offshore export cables is applicable to the construction and operation and maintenance and decommissioning phases of the Proposed Development.

Construction Phase

Magnitude of Impact

160. The installation of Proposed Development infrastructure and associated presence of advisory safety zones and advisory clearance distances may restrict access to the planned NnG offshore export cables for repair or maintenance.

161. Any restriction of access to the planned NnG offshore cable with any advisory safety zones or advisory clearance distances around individual vessels carrying out installation activities is considered to be temporary and limited in spatial extent. Cable crossing installations will be coordinated with appropriate personnel and ongoing consultation will ensure close communication and planning between both parties to ensure disruption of activities will be minimised.

162. The impact is predicted to be of local spatial extent, short to medium term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

163. Ongoing inspection and maintenance of the Proposed Development export cable corridor and NnG offshore export cables are crucial to ensuring the integrity of the infrastructure and securing ongoing power supply resulting in prolonged commercial operation.

164. NnG offshore export cable infrastructure is deemed to be of medium vulnerability, high recoverability and high value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

165. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which not significant in EIA terms.

Secondary Mitigation and Residual Effect

166. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

Operation and Maintenance Phase

Magnitude of Impact

167. During the operation and maintenance phase, major maintenance activities associated with the Proposed Development (for example, component replacement activities, cable repair/burial activities) and associated presence of advisory safety zones and advisory clearance distances, may restrict access to the planned NnG offshore export cables for repair or maintenance.

168. Any restriction of access to the planned NnG offshore export cables due to maintenance activities associated with the Proposed Development is considered to be temporary, limited in spatial extent, and infrequent over the lifetime of the Proposed Development. Crossing and proximity agreements will be established between the Developer and appropriate personnel, which will ensure close communication and planning between both parties to ensure disruption of activities is minimised.

169. The impact is predicted to be of local spatial extent, long term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

170. Ongoing inspection and maintenance of the Proposed Development export cable corridor and NnG offshore export cables are crucial to ensuring the integrity of the infrastructure and securing ongoing power supply resulting in prolonged commercial operation.

171. NnG offshore export cable infrastructure is deemed to be of medium vulnerability, high recoverability and high value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

172. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which not significant in EIA terms.

Secondary Mitigation and Residual Effect

173. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

Decommissioning Phase

Magnitude of Impact

174. The decommissioning of Proposed Development infrastructure and associated presence of advisory safety zones and advisory clearance distances may restrict access to the planned NnG offshore export cables during decommissioning.

175. Any restriction of access to the planned NnG offshore cable with any advisory safety zones or advisory clearance distances around individual vessels carrying out installation activities is considered to be temporary and limited in spatial extent. Cable extraction (if undertaken) at crossing points will be coordinated with appropriate personnel and ongoing consultation will ensure close communication and planning between both parties to ensure disruption of activities will be minimised.

176. The impact is predicted to be of local spatial extent, short to medium term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

177. Ongoing inspection and maintenance of the NnG offshore export cables is crucial to ensuring the integrity of the infrastructure and securing ongoing power supply resulting in prolonged commercial operation.

178. NnG offshore export cable infrastructure is deemed to be of medium vulnerability, high recoverability and high value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

179. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which not significant in EIA terms.

Secondary Mitigation and Residual Effect

180. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

TEMPORARY RESTRICTED ACCESS TO THE EASTERN LINK 1 OFFSHORE EXPORT CABLES

181. The potential for temporary restriction of access to the planned Eastern Link 1 offshore export cables is applicable to the construction, operation and maintenance and decommissioning phases of the Proposed Development.

Construction Phase

Magnitude of Impact

182. The installation of Proposed Development infrastructure and associated presence of advisory safety zones and advisory clearance distances may restrict access to the planned Eastern Link 1 offshore export cables for repair or maintenance.

183. Any restriction of access to the planned Eastern Link 1 offshore export cables (located approximately 28 km from the Proposed Development array area and 2 km from the Proposed Development export cable corridor), with any safety zones or advisory clearance distances around individual vessels carrying out installation activities is considered to be temporary and limited in spatial extent. Cable crossing installations will be coordinated with appropriate personnel and ongoing consultation will ensure close communication and planning between both parties to ensure disruption of activities will be minimised.

184. The impact is predicted to be of local spatial extent, short to medium term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

185. Ongoing operation and maintenance of the Proposed Development export cable corridor and planned Eastern Link 1 offshore export cables are crucial to ensuring the integrity of the infrastructure and securing ongoing power supply resulting in prolonged commercial operation.

186. The planned Eastern Link 1 offshore export cables are deemed to be of medium vulnerability, high recoverability and high value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

187. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which not significant in EIA terms.

Secondary Mitigation and Residual Effect

188. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

Operation and Maintenance Phase

Magnitude of Impact

189. During the operation and maintenance phase, major maintenance activities associated with the Proposed Development (for example, component replacement activities, cable repair/burial activities) and associated presence of advisory safety zones and advisory clearance distances, may restrict access to planned Eastern Link 1 offshore export cables for repair or maintenance.

190. Any restriction of access to the planned Eastern Link 1 offshore export cables due to maintenance activities associated with the Proposed Development is considered to be temporary, limited in spatial extent, and infrequent over the lifetime of the Proposed Development. Crossing and proximity agreements will be established between the Developer and appropriate personnel, which will ensure close communication and planning between both parties to ensure disruption of activities is minimised.

191. The impact is predicted to be of local spatial extent, long term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

192. Ongoing operation and maintenance of the Proposed Development export cable corridor and planned Eastern Link 1 offshore export cables are crucial to ensuring the integrity of the infrastructure and securing ongoing power supply resulting in prolonged commercial operation.

193. The Eastern Link 1 offshore export cables are deemed to be of medium vulnerability, high recoverability and high value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

194. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which not significant in EIA terms.

Secondary Mitigation and Residual Effect

195. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

Decommissioning Phase

Magnitude of Impact

196. The decommissioning of Proposed Development infrastructure and associated presence of advisory safety zones and advisory clearance distances may restrict access to the planned Eastern Link 1 offshore export cables during decommissioning.

197. Any restriction of access to the planned Eastern Link 1 offshore export cables with any advisory safety zones or advisory clearance distances around individual vessels carrying out installation activities is considered to be temporary and limited in spatial extent. Cable extraction (if undertaken) at crossing points will be coordinated with appropriate personnel and ongoing consultation will ensure close communication and planning between both parties to ensure disruption of activities will be minimised.

198. The impact is predicted to be of local spatial extent, short to medium term duration, intermittent and high reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the Receptor

199. Ongoing inspection and maintenance of the planned Eastern Link 1 offshore export cables is crucial to ensuring the integrity of the infrastructure and securing ongoing power supply resulting in prolonged commercial operation.

200. Eastern Link 1 offshore export cables infrastructure is deemed to be of medium vulnerability, high recoverability and high value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the Effect

201. Overall, the magnitude of the impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The effect will, therefore, be of **minor** adverse significance, which not significant in EIA terms.

Secondary Mitigation and Residual Effect

202. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of further mitigation (beyond the designed in measures outlined in Table 17.9) is not significant in EIA terms.

17.11.2. PROPOSED MONITORING

203. No infrastructure and other users monitoring to test the predictions made within the assessment of likely significant effects on infrastructure and other users receptors is considered necessary.

17.12. CUMULATIVE EFFECTS ASSESSMENT

17.12.1. METHODOLOGY

204. The CEA assesses the potential impacts associated with the Proposed Development together with other relevant plans, projects and activities within the broad infrastructure and other users study area – potential increased turbidity area (yellow). Cumulative effects are therefore the combined effect of the Proposed Development in combination with the effects from a number of different projects, on the same receptor or resource. Refer to volume 1, chapter 6 for detail on CEA methodology.

205. The projects and plans selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise (see volume 3, appendix 6.4 of the Offshore EIA Report). Volume 3, appendix 6.4 further provides information regarding how information pertaining to other plans and projects is gained and applied to the assessment. Each project or plan has been considered on a case by case basis for screening in or out of this chapter's assessment based upon data confidence, effect-receptor

pathways and the spatial/temporal scales involved. Those projects and plans that have been screened in for Infrastructure and Other Users CEA are summarised in Table 17.10.

206. In undertaking the CEA for the Proposed Development, it is important to bear in mind that other projects and plans under consideration will have differing potential for proceeding to an operational stage and hence a differing potential to ultimately contribute to a cumulative impact alongside the Proposed Development. Therefore, a tiered approach has been adopted. This provides a framework for placing relative weight upon the potential for each project/plan to be included in the CEA to ultimately be realised, based upon the project/plan's current stage of maturity and certainty in the projects' parameters. The tiered approach which will be utilised within the Proposed Development CEA employs the following tiers:

- tier 1 assessment – Proposed Development (Berwick Bank Wind Farm offshore) with Berwick Bank Wind Farm onshore grid infrastructure;
- tier 2 assessment – All plans/projects assessed under Tier 1, plus projects which became operational since baseline characterisation, those under construction, those with consent and submitted but not yet determined;
- tier 3 assessment – All plans/projects assessed under Tier 2, plus those projects with a Scoping Report; and
- tier 4 assessment – All plans/projects assessed under Tier 3, which are reasonably foreseeable, plus those projects likely to come forward where an Agreement for Lease (AfL) has been granted.

207. The specific projects scoped into the CEA for infrastructure and other users, are outlined in Table 17.10.

208. As described in volume 1, chapter 3, the Applicant is developing an additional export cable grid connection to Blyth, Northumberland (the Cambois connection). Applications for necessary consents (including marine licenses) will be applied for separately. The CEA for the Cambois connection is based on information presented in the Cambois connection Scoping Report (SSER, 2022e), submitted in October 2022. The Cambois connection has been scoped into the CEA for infrastructures and other users on the basis that Cambois connection will overlap spatially and temporally with the Proposed Development and the project will engage in activities such as cable burial and installation of cable protection which will impact infrastructure and other users receptors.

209. The range of potential cumulative impacts that are identified and included in Table 17.11, is a subset of those considered for the Proposed Development alone CEA assessment. This is because some of the potential impacts identified and assessed for the Proposed Development alone, are localised and temporary in nature. It is considered therefore, that these potential impacts have limited or no potential to interact with similar changes associated with other plans or projects. These have therefore been scoped out of the cumulative effects assessment.

210. Similarly, some of the potential impacts considered within the Proposed Development alone assessment are specific to a particular phase of development (e.g. construction, operation and maintenance or decommissioning). Where the potential for cumulative effects with other plans or projects only have potential to occur where there is spatial or temporal overlap with the Proposed Development during certain phases of development, impacts associated with a certain phase may be omitted from further consideration where no plans or projects have been identified that have the potential for cumulative effects during this period.

Table 17.10: List of Other Development Considered Within the CEA for Infrastructure and Other Users

Development	Status	Distance from Proposed Development array area (km)	Distance from Offshore Export Cable Routes (km)	Description of Development	Dates of Construction (If Applicable)	Dates of Operation (If Applicable)	Overlap with the Proposed Development
Tier 1							
Offshore Wind Projects and Associated Cables							
Berwick Bank Wind Farm Onshore Grid Infrastructure	Proposed	39.6	0.0	Onshore electricity cables from cable landfall near Skateraw Harbour (from Mean Low Water Springs) to a new onshore electricity substation or converter station; New onshore electricity substation or converter station located in an agricultural field south of the A1;Onshore electricity cables from the substation to the new Branxton Grid Substation (being developed by Scottish Power Transmission); and Associated infrastructure, potentially including (but not limited to) landscaping; parking and servicing areas; drainage infrastructure; and temporary and/or permanent new access tracks/road, road and junction alterations/improvements	Commencing in 2025, for approximately 36 months	2030 to 2065	Screened out as no impact receptor pathway with infrastructure and other users receptors seaward of MHWS.
Tier 2							
Offshore Wind Projects and Associated Cables							
NnG Offshore Wind Farm	Under Construction	16.0	15.0	NnG Offshore Wind Farm is consented for up to 75 wind turbines at a capacity of 450 MW.	2022 to 2023	2023 to 2047	Screened in due to potential for survey works, development operation or maintenance to coincide with the construction phase of the Proposed Development.
Inch Cape Offshore Wind Farm	Consented	19.0	39.0	Inch Cape Offshore Wind Farm is consented for up to 72 wind turbines at a capacity of 1,000 MW.	2023 to 2025	2026 to 2049	Screened in due to potential for survey works, development construction, operation and maintenance to coincide temporally with the construction phase of the Proposed Development.
Seagreen 1	Under Construction	5.0	35.0	The Seagreen 1 Offshore Wind Farm consists of up to 114 wind turbines at a capacity of 1,075 MW.	2022 to 2023	2024 to 2049	Screened in due to potential for survey works, development construction, operation or maintenance to coincide with the construction phase of the Proposed Development.
Seagreen 1A Project	Consented	5.0	36.0	Seagreen 1A Offshore Wind Farm is consented for up to 36 wind turbines with no capacity limit.	2023 to 2025	2026 to 2049	Screened in due to potential for survey works, development construction, operation or maintenance to coincide with the construction phase of the Proposed Development.
Seagreen 1A Export Cable Corridor	Consented	6.0	28.0	The Seagreen 1A Export Cable Corridor is proposed to connect Seagreen and Seagreen 1A to the national grid at Cockenzie landfall.	2023 to 2024	2025 to 2049	Screened in due to potential for survey works, development construction, operation or maintenance to coincide with the construction phase of the Proposed Development.

Development	Status	Distance from Proposed Development array area (km)	Distance from Offshore Export Cable Routes (km)	Description of Development	Dates of Construction (If Applicable)	Dates of Operation (If Applicable)	Overlap with the Proposed Development
Kincardine Floating Offshore Wind Farm	Active/In Operation	57.0	86.0	Kincardine Offshore Wind Farm consists of up to 8 wind turbines at a capacity of 48 MW.	2020 to 2022	2022 to 2045	Screened out as no impact receptor pathway with infrastructure and other users.
European Offshore Wind Development Centre (EOWDC) – Previously Aberdeen Demo	Active/In Operation	84.0	112.0	The EOWDC consists of up to 11 wind turbines at a capacity of 100 MW.		2022 to 2038	Screened out as no impact receptor pathway with infrastructure and other users.
Blyth Offshore Wind Farm	Inactive/Decommissioned	112.0	105.0	The Blyth Offshore Wind Farm was comprised of up to 4 MW generating capacity prior to decommissioning.			Screened out as no impact receptor pathway with infrastructure and other users.
Blyth Demonstration 1	Active/In Operation	111.0	104.0	Blyth Demonstration 1 consists of up to 15 wind turbines at a capacity of 41.5 MW.		2022 to 2037	Screened out as no impact receptor pathway with infrastructure and other users.
Blyth Demonstration 2	Consented	102.0	97.0	Blyth Demonstration 2 consist of up to 5 wind turbines at a capacity of 58.4 MW.	2023 to 2024	2025 to 2049	Screened out as no impact receptor pathway with infrastructure and other users.
Hywind Scotland Floating Offshore Wind Farm	Active/In Operation	108.0	141.0	The Hywind Scotland offshore wind farm consists of up to 5 wind turbines at a capacity of 30 MW.		2022 to 2042	Screened out as no impact receptor pathway with infrastructure and other users.
Teesside Wind Farm	Active/In Operation	167.0	166.0	Teeside Offshore Wind Farm consists of up to 100 wind turbines at a capacity of 100 MW.		2022 to 2038	Screened out as no impact receptor pathway with infrastructure and other users.
Moray East Offshore Wind Farm	Active/In Operation	192.0	219.0	Moray East Offshore Wind Farm consists of up to 186 wind turbines at a capacity of 1,116 MW.		2022 to 2046	Screened out as no impact receptor pathway with infrastructure and other users.
Moray West Offshore Wind Farm	Consented	203.0	229.0	Moray West Offshore Wind Farm is consented for up to 85 wind turbines at a capacity of 950 MW.	2023 to 2024	2025 to 2049	Screened out as no impact receptor pathway with infrastructure and other users.
Beatrice Offshore Wind Farm	Active/In Operation	203.0	230.0	Beatrice offshore wind farm consists of up to 140 wind turbines at a capacity of 750 MW.		2022 to 2044	Screened out as no impact receptor pathway with infrastructure and other users.
Subsea Pipelines							
Everest to Teeside	Active/In Operation	102	106	The Everest to Teeside (also known as CATS Platform) transmits gas from Everest gas field in the North Sea to the CATS terminal at Teeside.		2022 to 2035	Screened out as no impact receptor pathway with infrastructure and other users.

Development	Status	Distance from Proposed Development array area (km)	Distance from Offshore Export Cable Routes (km)	Description of Development	Dates of Construction (If Applicable)	Dates of Operation (If Applicable)	Overlap with the Proposed Development
Eastern Link 1	Pre-planning Application	28.0	2.0	The Eastern Link Project (Eastern Link 1) is a proposed offshore cable connector linking Torness to Hawthorn Pit, supporting renewable energy growth.	2023 to 2027	2028 to 2050	Screened in due to potential for survey works, development construction, operation or maintenance to coincide with the construction phase of the Proposed Development.
Eastern Link 2	Pre-planning Application	14.0	21.0	The Eastern Link Project (Eastern Link 2) is a proposed offshore HVDC cable linking Peterhead, Scotland to North Yorkshire, England, supporting renewable energy growth.	2023 to 2027	2028 to 2050	Screened out as no impact receptor pathway with infrastructure and other users.
Tier 3							
Subsea Cables							
Cambois connection	Pre-planning Application	0.0	0.0	Export cable to meet the capacity of the Proposed Development	Q1 2028	Q4 2031	Screened in due to potential for survey works, development construction, operation or maintenance to coincide with the construction phase of the Proposed Development.
Tier 4							
Offshore Wind Projects and Associated Cables							
Dogger Bank South	Pre-planning Application	122.0	125.0	Dogger Bank South Offshore Wind Farm is proposed for up to 200 wind turbines.			Screened out as no impact receptor pathway with infrastructure and other users.
Green Investment Group – Total (Eastern Regions)	Pre-planning Application	322.0	324.0	Green Investment Group – Total (Eastern Regions) has a proposed capacity of up to 1,500 MW			Screened out as no impact receptor pathway with infrastructure and other users.

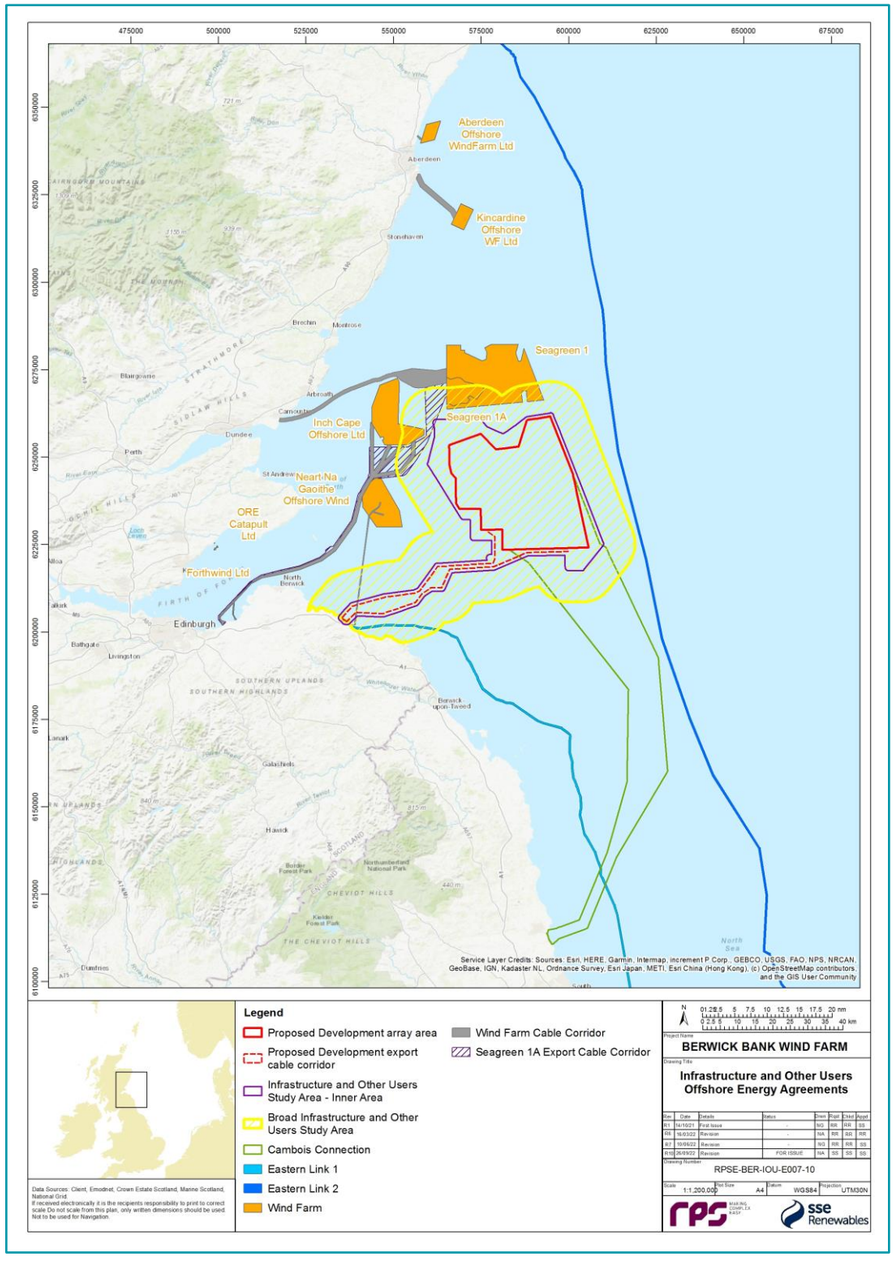

Figure 17.7: Offshore Energy Agreements Screened into the Cumulative Effects Assessment for Infrastructure and Other Users

17.12.2. MAXIMUM DESIGN SCENARIO

211. The maximum design scenarios identified in Table 17.11 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. The cumulative effects presented and assessed in this section have been selected from the details provided in volume 1, chapter 3 of the Offshore EIA Report as well as the information available on other projects and plans (see volume 3, appendix 6.4), to inform a 'maximum design scenario'. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g. different wind turbine layout), to that assessed here, be taken forward in the final design scheme.

Table 17.11: Maximum Design Scenario Considered for each Impact as part of the Assessment of Likely Significant Cumulative Effects on Infrastructure and Other Users

Potential Cumulative Impact	Phase[3]			Tier	Maximum Design Scenario	Justification
	C	O	D			
Displacement of recreational sailing and motor cruising, recreational fishing (boat angling) and other recreational activities (diving vessels) due to the presence of the infrastructure safety zones and advisory safety distances in the Proposed Development array area and export cable corridor may result in a loss of recreational resource.	✓	✓	✓	Tier 2 • NnG Offshore Wind Farm; • Inch Cape Offshore Wind Farm; • Eastern Link 1; • Seagreen 1 Export Cable Corridor; and • Seagreen 1A Export Cable Corridor. Tier 3 • Cambois connection.	Maximum design scenario as described for the Proposed Development (Table 17.4) assessed cumulatively with the following other projects/plans present.	Outcome of the CEA will be greatest when the activities of other projects/plans occur within the same recreational area creating the greatest area that will be restricted at any one time for any single receptor.
Displacement of recreational fishing (shore angling) and other recreational activities (kayaking, kite surfing, surfing and windsurfing, scuba diving and beach users) due to advisory safety distances in the nearshore and intertidal section of the Proposed Development export cable corridor resulting in a loss of recreational resource.	✓	✓	✓	Tier 2 • NnG Offshore Wind Farm; • Inch Cape Offshore Wind Farm; • Seagreen 1 Export Cable Corridor; • Seagreen 1A Export Cable Corridor; and • Eastern Link 1. Tier 3 • Cambois connection.	Maximum design scenario as described for the Proposed Development (Table 17.4) assessed cumulatively with the following other projects/plans present.	Outcome of the CEA will be greatest when the activities of other projects/plans occur within the same recreational area creating the greatest area that will be restricted at any one time for any single receptor.

[3] C = Construction, O = Operation and maintenance, D = Decommissioning

17.12.3. CUMULATIVE EFFECTS ASSESSMENT

212. An assessment of the likely significance of the cumulative effects of the Proposed Development upon infrastructure and other users receptors arising from each identified impact is given below.

213. The CEA for infrastructure and other users assesses cumulative effects for all infrastructure and other users receptors considered within the assessment of effects undertaken above. Only the displacement of recreational vessels and recreational activities (as per Table 17.12) has been taken forward for assessment at a cumulative level. Potential for damage to NnG and both the Cambois connection and Eastern Link 1 offshore export cables and restriction of access to NnG and both the Cambois connection and Eastern Link 1 offshore export cables resulting from construction, maintenance and decommissioning activities, are specific to the Proposed Development alone assessment presented in section 17.11, with no potential for cumulative effects with other projects and plans.

DISPLACEMENT OF RECREATIONAL VESSELS

Tiers 2 and 3

Construction phase

Magnitude of impact

214. The installation of Proposed Development infrastructure within the Proposed Development array area and along the Proposed Development export cable corridor, together with the Tier 2 and Tier 3 projects identified in Table 17.11, may displace recreational vessels, resulting in a loss of recreational resource.

215. Figure 17.7 provides an overview of the location of other projects screened into the cumulative assessment in relation to recreational interests. There are general sailing areas associated with Dunbar Sailing Club and East Lothian Yacht Club. Both sailing clubs are adjacent to the offshore Proposed Development export cable corridor, situated north-west of the infrastructure and other users study area - inner area. General boating areas are also located to the south of Elie. Extensive recreational boating occurs in the area of sea between North Berwick, and Elie and Earlsferry, with motor cruising areas extending to the east towards the Proposed Development array area. Smaller levels of displacement may also occur due to site investigation activities associated with NnG, Inch Cape, Seagreen 1 Cable Corridor, Seagreen 1A Export Cable Corridor, and Cambois connection. Additional displacement may also occur during maintenance activities undertaken at Eastern Link 1 offshore export cables.

216. The spatial extent of the impact on boating activities taking place along the east coast of Scotland will be relatively small in the context of the available sailing, boating and sea angling area in the wider vicinity, with the potential for localised displacement of recreational craft from the individual advisory safety zones and advisory clearance distances around structures and vessels associated with each project. Advisory safety zones will be temporary until each structure has been installed and commissioned, and advisory clearance distances around vessels will be transient as the vessel progressively completes the relevant installation, maintenance, and survey activity. It is unlikely that the activities of all projects would temporally coincide to displace the same recreational vessel on multiple occasions.

217. As described in Table 17.9, NtMs will be issued regularly during the construction phase of the Proposed Development, advising of the location, nature and timing of activities, ensuring that recreational activities can be planned accordingly. Similar measures are likely to apply at the other offshore wind farm projects as standard practice.

218. The cumulative impact is predicted to be of regional spatial extent, short to medium term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of receptor

219. It is anticipated that recreational boating and sea angling vessels will be able to alter their route or transit past installation and survey activities, given the adequate sea room in the vicinity of each project. There are other locations available for sailing, sea angling and diving which are unlikely to be affected by multiple projects at the same time, such that alternatives are available.

220. The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of effect

221. Overall, the magnitude of the cumulative impact is deemed to be **low** and the sensitivity of the receptor is considered to be **medium**. The cumulative effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Further mitigation and residual effect

222. No infrastructure and other sea user mitigation is considered necessary because the predicted impact in the absence of mitigation is not significant in EIA terms.

Operation and maintenance phase

Magnitude of impact

223. The presence of Proposed Development infrastructure and/or operation and maintenance activities within the Proposed Development array area and along the Proposed Development export cable corridor, together with the Tier 2 and Tier 3 projects identified in Table 17.11, may displace recreational vessel activities, resulting in a loss of recreational resource.

224. It is understood that NnG and Seagreen 1 are currently under construction and updated applications for Inch Cape and Seagreen 1A Export Cable Corridor are being prepared, although the application material is not available at this time. Therefore, it has been assumed for the purposes of this assessment, as a maximum design scenario, operation and maintenance phases for these projects may overlap with the operation and maintenance phase for the Proposed Development. However, due to the lack of project information at this stage, a qualitative assessment is provided below. For the purposes of this assessment, these projects are expected to include similar maintenance activities as those described for the Proposed Development, including similar types of vessels.

225. The NnG project is likely to be decommissioned during the lifetime of the Proposed Development. It is also likely that the Eastern Link 1 offshore export cables will be decommissioned during the lifetime of the Proposed Development. The decommissioning strategy for these projects is anticipated to be similar to that proposed for the Proposed Development.

226. At the end of the operational lifetime of the Proposed Development, it is anticipated that all structures above the seabed or ground level will be completely removed where this is feasible and practicable. This will be kept under review depending on current legislation and guidance requirements, best practice and other options may be required including cutting structures below the seabed. It is proposed that an assessment will be undertaken on a maximum design scenario of removing all inter-array cables and offshore export cables. The decommissioning sequence will generally be the reverse of the construction sequence and involve similar types and numbers of vessels and equipment.

227. As described above, there are a number of recreational vessel activities taking place along the east coast of Scotland, with activity likely to be concentrated inshore of the projects considered in this cumulative assessment. Once the offshore export cables have been installed for each project, only temporary and infrequent maintenance is likely to be required over the project lifetimes, which is unlikely to take place concurrently at multiple project locations. Therefore, the potential for cumulative displacement of recreational vessel activities within the nearshore sea area is considered to be low. There is potential for recreational vessels undertaking long distance journeys further offshore to be displaced by the presence of infrastructure within each application area.

228. The spatial extent of the impact on boating activities taking place along the east coast of Scotland will be relatively small in the context of the available sailing, boating and sea angling areas in the wider vicinity, with the potential for localised displacement of recreational craft from the individual advisory safety zones and advisory clearance distances around structures and vessels associated with maintenance activities at each project. It is unlikely that maintenance activities at all projects would temporally coincide to displace the same recreational vessel on multiple occasions.

229. As described in Table 17.9, NtMs will be issued regularly during the lifetime of the Proposed Development, advising of the location, nature and timing of activities, ensuring that recreational activities can be planned accordingly. Similar measures are likely to apply at the other offshore wind farm projects as standard practice.

230. The cumulative impact is predicted to be of regional spatial extent, long term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the receptor

231. It is anticipated that recreational boating and sea angling vessels will be able to alter their route or transit past infrastructure and maintenance activities, given the adequate sea room in the vicinity of each project. There are other locations available for sailing, sea angling and diving activities which are unlikely to be affected by multiple projects at the same time, such that alternatives are available.

232. The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the effect

233. Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The cumulative effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Further mitigation and residual effect

234. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of mitigation is not significant in EIA terms.

<u>Decommissioning phase</u>

Magnitude of impact

235. The decommissioning of Proposed Development infrastructure within the Proposed Development array area and along the Proposed Development export cable corridor, together with the Tier 2 and Tier 3 projects identified in Table 17.11, may displace recreational vessels, resulting in a loss of recreational resource.

236. Figure 17.7 provides an overview of the location of other projects screened into the cumulative assessment in relation to recreational interests. There are general sailing areas associated with Dunbar Sailing Club and East Lothian Yacht Club. Both sailing clubs are adjacent to the offshore Proposed Development export cable corridor, situated northwest of the infrastructure and other users study area - inner area. General boating areas are also located to the south of Elie. Extensive recreational boating occurs in the area of sea between North Berwick, and Elie and Earlsferry, with motor cruising areas extending to the east towards the Proposed Development array area. Smaller levels of displacement may also occur due to site investigation activities associated with NnG, Inch Cape, Seagreen 1 Cable Corridor, Seagreen 1A Export Cable Corridor, and Cambois connection. Additional displacement may also occur during maintenance activities undertaken at Kincardine, Hywind Scotland, and Eastern Link 1 offshore export cables.

237. The spatial extent of the impact on boating activities taking place along the east coast of Scotland will be relatively small in the context of the available sailing, boating and sea angling area in the wider vicinity, with the potential for localised displacement of recreational craft from the individual advisory safety zones and advisory clearance distances around structures and vessels associated with each project. Advisory safety zones will be temporary until each structure has been installed and commissioned, and advisory clearance distances around vessels will be transient as the vessel progressively completes the relevant installation, maintenance, and survey activity. It is unlikely that the activities of all projects would temporally coincide to displace the same recreational vessel on multiple occasions.

238. As described in Table 17.9, NtMs will be issued regularly during the construction phase of the Proposed Development, advising of the location, nature and timing of activities, ensuring that recreational activities can be planned accordingly. Similar measures are likely to apply at the other offshore wind farm projects as standard practice.

239. The cumulative impact is predicted to be of regional spatial extent, short to medium term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the receptor

240. It is anticipated that recreational boating and sea angling vessels will be able to alter their route or transit past installation and survey activities, given the adequate sea room in the vicinity of each project. There are other locations available for sailing, sea angling and diving which are unlikely to be affected by multiple projects at the same time, such that alternatives are available.

241. The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the effect

242. Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The cumulative effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Further mitigation and residual effect

243. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of mitigation is not significant in EIA terms.

DISPLACEMENT OF RECREATIONAL ACTIVITIES

Tiers 2 and 3

Construction phase

Magnitude of impact

244. The installation of Proposed Development infrastructure within the Proposed Development array area and along the offshore export cable routes, together with the Tier 2 and Tier 3 projects identified in Table 17.11, may displace recreational activities, resulting in a loss of recreational resource.

245. Figure 17.7 provides an overview of the location of other projects screened into the cumulative assessment in relation to recreational interests. There were 11 dive sites identified from the desktop review that are located within the broad infrastructure and other users study area - potential increased turbidity area (NMPi, 2021). These diving sites, mentioned in order of distance from the shoreline, are referred to as River Garry, Boyne Castle, U12, Dunbar Harbour, Dove, Dunscore, Sabbia, HMS Pathfinder, SS Grenmar, St. Briac, and Burnstone (NMPi, 2021). Diving generally takes place between March/May and October.

246. Popular surfing areas are known to be located at Seacliff in North Berwick and Belhaven Bay in Dunbar, located north of the Proposed Development export cable corridor (NMPi, 2021). South of the Proposed Development, there are surfing locations in Pease Bay near Cove and Coldingham Bay near Eyemouth. The Proposed Development export cable corridor is located in close proximity to Skateraw Harbour, making landfall on Skateraw Beach. The landfall is in close vicinity of Belhaven Bay, Dunbar East and Whitesands beaches to the north and Coldingham beach located near St. Abbs, to the south of the Proposed Development export cable corridor (NMPi, 2021). Skateraw beach is located within the infrastructure and other users study area. Smaller levels of displacement may also occur due to site investigation activities associated with NnG, Inch Cape, , Seagreen 1 Cable Corridor, Seagreen 1A Export Cable Corridor, and Cambois connection. Additional displacement may also occur during maintenance activities undertaken at Kincardine, Hywind Scotland and Eastern Link 1 offshore export cables.

247. The spatial extent of the impact on marine recreational activities taking place along the east coast of Scotland will be relatively small in the context of the available shore angling, diving, surfing, kite surfing, wind surfing and beach swimming areas in the wider vicinity, with the potential for localised displacement of recreational activities from the individual advisory safety zones and advisory clearance distances around structures and vessels associated with each project. Advisory safety zones will be temporary until each structure has been installed and commissioned, and advisory clearance distances around vessels will be transient as the vessel progressively completes the relevant installation, maintenance, and survey activity. It is unlikely that the activities of all projects would temporally coincide to displace the same recreational vessel on multiple occasions.

248. As described in Table 17.9, NtMs will be issued regularly during the construction phase of the Proposed Development, advising of the location, nature and timing of activities, ensuring that recreational activities can be planned accordingly. Similar measures are likely to apply at the other offshore wind farm projects as standard practice.

249. The cumulative impact is predicted to be of regional spatial extent, short to medium term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the receptor

250. It is anticipated that marine recreational activities will be able to alter their route or transit past infrastructure and maintenance activities, given the adequate sea room in the vicinity of each project. There are other locations available shore angling, diving, surfing, kite surfing, wind surfing and beach swimming activities which are unlikely to be affected by multiple projects at the same time, such that alternatives are available.

251. The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the effect

252. Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The cumulative effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Further mitigation and residual effect

253. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of mitigation is not significant in EIA terms.

Operation and maintenance phase

Magnitude of impact

254. The presence of Proposed Development infrastructure and/or operation and maintenance activities within the Proposed Development array area and along the Proposed Development export cable corridor, together with the Tier 2 and Tier 3 projects identified in Table 17.11, may displace marine recreational activities, resulting in a loss of recreational resource.

255. NnG and Seagreen 1 are currently under construction and that an updated application for Seagreen 1A is being prepared. Therefore, it has been assumed for the purposes of this assessment, as a maximum design scenario, that the operation and maintenance phases for these projects may overlap with the operation and maintenance phase for the Proposed Development. However, due to the lack of project information at this stage, a qualitative assessment is provided below. For the purposes of this assessment, these projects are expected to include similar maintenance activities as those described for the Proposed Development, including similar types of vessels.

256. The NnG project is likely to be decommissioned during the lifetime of the Proposed Development. It is also likely that the Eastern Link 1 offshore export cables will be decommissioned during the lifetime of the Proposed Development. The decommissioning strategy is anticipated to be similar to that proposed for the Proposed Development (i.e. removal of above surface infrastructure, removal of foundations to seabed level, with cables and any scour/cable protection to be left *in situ*).

257. As described above, there are a number of recreational activities taking place along the east coast of Scotland, with activity likely to be concentrated inshore of the projects considered in this cumulative assessment. Once the offshore export cables have been installed for each project, only temporary and infrequent maintenance is likely to be required over the project lifetimes, which is unlikely to take place concurrently at multiple project locations. Therefore, the potential for cumulative displacement of recreational vessel activities within the nearshore sea area is considered to be low.

258. The spatial extent of the impact on recreational activities taking place along the east coast of Scotland will be relatively small in the context of the available shore angling, diving, surfing, kite surfing, wind surfing and beach swimming areas in the wider vicinity, with the potential for localised displacement of recreational activities from the individual advisory safety zones and advisory clearance distances around structures and vessels associated with maintenance activities at each project. It is unlikely that maintenance activities at all projects would temporally coincide to displace the same recreational vessel on multiple occasions.

259. As described in Table 17.9, NtMs will be issued regularly during the lifetime of the Proposed Development, advising of the location, nature and timing of activities, ensuring that recreational activities can be planned

accordingly. Similar measures are likely to apply at the other offshore wind farm projects as standard practice.

260. The cumulative impact is predicted to be of regional spatial extent, long term duration, intermittent and medium reversibility. It is predicted that the impact will affect the receptor directly. The magnitude is therefore, considered to be low.

Sensitivity of the receptor

261. It is anticipated that recreational activities will be able to alter their location or transit past infrastructure and maintenance activities, given the adequate sea room in the vicinity of each project. There are other locations available for shore angling, diving, surfing, kite surfing, wind surfing and beach swimming activities which are unlikely to be affected by multiple projects at the same time, such that alternatives are available.

262. The receptor is deemed to be of medium vulnerability, high recoverability and medium value. The sensitivity of the receptor is therefore, considered to be medium.

Significance of the effect

263. Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium. The cumulative effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

Further mitigation and residual effect

264. No infrastructure and other sea user mitigation is considered necessary because the likely effect in the absence of mitigation is not significant in EIA terms.

Decommissioning Phase

265. The effects of decommissioning activities are expected to be the same or similar to the effects from construction. The significance of effect will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.

17.12.4. PROPOSED MONITORING

266. No infrastructure and other users monitoring to test the predictions made within the assessment of likely significant effects on infrastructure and other users is considered necessary.

17.13. TRANSBOUNDARY EFFECTS

267. A screening of transboundary impacts has been carried out and has identified that there were no likely significant transboundary effects with regard to infrastructure and other users from the Proposed Development upon the interests of other European Economic Area (EEA) States.

17.14. INTER-RELATED EFFECTS

268. A description of the likely inter-related effects arising from the Proposed Development on infrastructure and other users is provided in volume 2, chapter 20 of the Offshore EIA Report.

269. For infrastructure and other users, the following potential impacts have been considered within the inter-related assessment:

- physical restriction on space for recreational craft and recreational fishing vessels;
- physical restriction on space for recreational activities/recreational fishing; and
- physical impact or loss of access to existing cables and pipelines.

270. Table 17.12 lists the inter-related effects (project lifetime effects) that are predicted to arise during the construction, operation and maintenance and decommissioning of the Proposed Development and also the inter-related effects (receptor-led effects) that are predicted to arise for infrastructure and other users receptors.

271. As noted above, effects on infrastructure and other users also have the potential to have secondary effects on other receptors and these effects are fully considered in the topic-specific chapters. These receptors and effects are:

- physical restriction on space for recreational craft and recreational fishing vessels;
- displacement of recreational sailing and motor cruising, recreational fishing (boat angling) and other recreational activities (diving vessels).
- physical restriction on space for recreational activities/recreational fishing;
- displacement of recreational fishing (shore angling) and other recreational activities (kayaking, kite surfing, surfing and windsurfing, scuba diving and beach users); and
- physical impact or loss of access to existing cables and pipelines.

Table 17.12: Summary of Likely Significant Inter-Related Effects on the Environment from Individual Effects Occurring across the Construction, Operation and Maintenance and Decommissioning Phases of the Proposed Development and from Multiple Effects Interacting Across all Phases (Receptor-led Effects)

Description of Impact	Phase			Likely Significant Inter-Related Effects	Significance
	C	O	D		
Physical restriction on space for recreational craft/recreational fishing vessels.	✓	✓	✓	The presence of infrastructure, safety zones and advisory safety distances during the construction phase may result in the displacement of recreational craft and recreational fishing vessels from the Proposed Development array area and along the Proposed Development export cable corridor. During the operation and maintenance phase, the presence of infrastructure, operational safety zones and temporary safety zones and advisory safety distances around maintenance activities may result in the displacement of recreational craft and recreational fishing vessels from the Proposed Development array area and along the Proposed Development export cable corridor. During the decommissioning phase, the presence of infrastructure, safety zones and advisory safety distances may result in the displacement of recreational craft and recreational fishing vessels from the Proposed Development array area and along the Proposed Development export cable corridor. The level of recreational activity within the Proposed Development array area is low. There is low to medium recreational vessel activity in nearshore areas of the Proposed Development export cable corridor, with boating and angling also taking place closer to shore, however any displacement along the Proposed Development export cable corridor will be temporary. Therefore, across the project lifetime, the effects on recreational craft users and recreational fishing vessels are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase.	Minor
Physical restriction on space for recreational activities/recreational fishing.	✓	✓	✓	The presence of infrastructure, safety zones and advisory safety distances during the construction phase may result in the displacement of recreational activities and recreational fishing from the Proposed Development array area and along the Proposed Development export cable corridor. During the operation and maintenance phase, the presence of infrastructure, operational safety zones and temporary safety zones and advisory safety distances around maintenance activities may result in the displacement of recreational activities and recreational fishing from the Proposed Development array area and along the Proposed Development export cable corridor. During the decommissioning phase, the presence of infrastructure, safety zones and advisory safety distances may result in the displacement of recreational activities and recreational fishing from the Proposed Development array area and along the Proposed Development export cable corridor. The level of recreational activity within the Proposed Development array area is low. There is low to medium recreational activity in nearshore areas of the Proposed Development export cable corridor. Any displacement along the Proposed Development export cable corridor will be temporary. Therefore, across the project lifetime, the effects on recreational users and recreational fishing are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase.	Minor
Physical impact or loss of access to existing cables and pipelines.	✓	✓	✓	Existing cables and pipelines may be affected where they are crossed by Proposed Development infrastructure. In addition, the presence of Proposed Development infrastructure, safety zones and advisory safety distances may restrict access to existing cables and pipelines during construction, maintenance and decommissioning activities. Cable and pipeline crossing and proximity agreements will be developed and implemented with each relevant cable and pipeline operator to minimise the potential for any impact. Crossing agreements will include the ability of a cable/pipeline operator to access their infrastructure as far as practical during the Proposed Development construction and decommissioning phases and the crossing agreements will ensure close communication and planning between the affected parties to ensure disruption of activities is minimised. Therefore, across the project lifetime, the effects on infrastructure and other users are not anticipated to interact in such a way as to result in combined effects of greater significance than the assessments presented for each individual phase.	Minor
Receptor Led Effects					
Potential exists for spatial and temporal interactions between direct and indirect impacts to infrastructure and other users receptors. Based on current understanding and expert knowledge, there is scope for potential inter-related impacts to arise from the physical restriction on space for recreational craft and recreational fishing vessels interacting with the displacement of recreational sailing and motor cruising, recreational fishing (boat angling) and other recreational activities (diving vessels). Where both impacts overlap spatially and temporally, there is potential for inter-related effects as the restriction/displacement on movements of recreational activity may cover a larger area. However, as a vast extent of alternative resource for recreational activities will remain available and the impacts initially identified were of minor adverse significance. These impacts are not likely to interact in way that results in a significant inter-related effect.					

17.15. SUMMARY OF IMPACTS, MITIGATION MEASURES, LIKELY SIGNIFICANT EFFECTS AND MONITORING

272. Information on infrastructure and other users within the broad infrastructure and other users study area – potential increased turbidity area (yellow) was collected through desktop review.

273. Table 17.13 presents a summary of the potential impacts, mitigation measures and the conclusion of likely significant effects in EIA terms in respect to infrastructure and other users. The impacts assessed include: displacement of recreational sailing and motor cruising, recreational fishing (boat angling) and other recreational activities (diving vessels), as well as due to the presence of the infrastructure safety zones and advisory safety distances, resulting in the loss of recreational resources, displacement of shore angling, kayaking, kite surfing, surfing, windsurfing and scuba diving, and temporary restricted access to the NnG, Eastern Link 1, Seagreen 1 and Cambois connection offshore export cables as a result of installation, maintenance and decommissioning activities. Overall, it is concluded that there will be minor effects arising from the Proposed Development during the construction, operation and maintenance or decommissioning phases, which are not significant in EIA terms.

274. Table 17.14 presents a summary of the potential impacts, mitigation measures and the conclusion of likely significant effects on infrastructure and other users in EIA terms. The cumulative effects assessed include displacement of recreational vessels and displacement of recreational activities. Overall, it is concluded that there will be no likely significant cumulative effects from the Proposed Development alongside other projects/plans.

275. No potential likely significant transboundary effects impacts have been identified in regard to effects of the Proposed Development.

Table 17.13: Summary of Likely Significant Environmental Effects, Mitigation and Monitoring

Description of Impact	Phase			Magnitude of Impact	Sensitivity of Receptor	Significance of Effect	Additional Measures	Residual Effect	Proposed Monitoring
	C	O	D						
Displacement of recreational vessels	✓	✓	✓	C: Low O: Low D: Low	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	C: Minor O: Minor D: Minor	None
Displacement of recreational activities	✓	✓	✓	C: Low O: Low D: Low	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	C: Minor O: Minor D: Minor	None

Table 17.14: Summary of Likely Significant Cumulative Environmental Effects, Mitigation and Monitoring

Description of Impact	Phase			Cumulative Effects Assessment Tier	Magnitude of Impact	Sensitivity of Receptor	Significance of Effect	Additional Measures	Residual Effect	Proposed Monitoring
	C	O	D							
Displacement of recreational vessels	✓	✓	✓	Tier 2	C: Low O: Low D: Low	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	C: Minor O: Minor D: Minor	None
Displacement of recreational activities	✓	✓	✓	Tier 2	C: Low O: Low D: Low	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	C: Minor O: Minor D: Minor	None
Displacement of recreational vessels	✓	✓	✓	Tier 3	C: Low O: Low D: Low	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	C: Minor O: Minor D: Minor	None
Displacement of recreational activities	✓	✓	✓	Tier 3	C: Low O: Low D: Low	C: Medium O: Medium D: Medium	C: Minor O: Minor D: Minor	N/A	C: Minor O: Minor D: Minor	None

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