Environmental Impact Assessment Report
Volume 3, Appendix 23.7: Winter Birds Report 2023 and 2024

MarramWind Offshore Wind Farm

December 2025

MarramWind

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1. Introduction

1.1 About this Document

1.1.1.1 MarramWind Offshore Wind Farm (hereafter referred to as 'the Project') is wholly owned by ScottishPower Renewables UK Limited (SPR). MarramWind Limited, a subsidiary of SPR, is the Applicant for the Project.

1.1.1.2 MarramWind Limited (the Applicant) requires onshore ornithological surveys for the proposed onshore infrastructure associated with the Project, located 75 kilometres (km) off the north-east coast of Scotland.

1.1.1.3 WSP was appointed by MarramWind to undertake a winter geese and swans survey for the onshore component of the Project outside Peterhead. The survey was completed to inform the planning application. The Study Area for this survey is detailed in **Figure 1: Study area – Appendix B**.

1.1.1.4 This Report describes the methods and results of the second year of surveys (2023 / 2024), designed to provide baseline information on geese and swans within the Study Area.

1.2 Background and Scope

1.2.1.1 Wild geese and swans are known to utilise farmland within the wider environs of the Loch of Strathbeg Special Protection Area (SPA) and the Ythan Estuary, Sands of Forvie and Meikle Loch SPA (see **Winter Bird Report 2022 / 2023, Figure 3: Designated sites within study area** [MAR-GEN-ENV-REP-WSP-000001].

1.2.1.2 Given the potential for works within the Study Area to impact pink-footed geese (*Anser brachyrhynchus*) and other geese and swans associated with the Loch of Strathbeg Special Protection Area (SPA) (NatureScot, 2022) and Ythan Estuary, Sands of Forvie and Meikle Loch SPA, there was a requirement to undertake a two-year programme of surveys (2022 / 2023 and 2023 / 2024) during the non-breeding season in order to understand the distribution, and therefore likely sensitivity, associated with any future proposals. Surveys focus on land identified as 'functionally linked,' i.e. where SPA species utilise non-designated habitats within the wider vicinity of the European site. For the purposes of this Report, potential functional linkage for pink-footed geese and greylag geese (*Anser anser*) is considered within 20km of a roost site, and for whooper swan (*Cygnus cygnus*) within 5km, based on Scottish Natural Heritage (SNH) (2016). Additional records of wildfowl and waders were also recorded.

1.3 Study Area Description

1.3.1.1 Surveys were undertaken within the Study Area (see **Figure 1 – Appendix B**), which is reduced in scope from the previous year of surveys due to the selection of a smaller defined project boundary (identified as the 'Marram Wind Proposal of Application Notice Boundary' within **Figure 1 – Appendix B**), which defines the full potential extent of the scheme at the time of Statutory Consultation 1 in 2024.

1.3.1.2 The Study Area is located in northeastern Aberdeenshire. It covers approximately 101km^2, much of which comprises agricultural land, including cropland and pastures (typically for cows and sheep). Tracts of coniferous forestry and broad-leaved or mixed woodland occur across the area, along with several villages and scattered farmsteads. The town of Peterhead is located at the eastern edge of the Study Area. Coastal habitats and elements of tourist infrastructure are present along the North Sea coast in the east.

2. Methodology

2.1 Desk-based Review

2.1.1.1 Baseline data collection and a review of literature have been undertaken to obtain information on the Study Area (no new data sources from the previous **Winter Bird Report 2022 / 2023** [MAR-GEN-ENV-REP-WSP-000001] have been used):

- NatureScot Sitelink (https://sitelink.nature.scot/home);
- North East Scotland Biodiversity Record Centre (NESBReC), the North East Scotland Scottish Ornithologists' Club (SOC) Bird Recorder, and other relevant bodies;
- British Trust for Ornithology (BTO) Non-Estuarine Waterbird Surveys (NEWS) and Wetland Bird Survey (WeBS) data;
- Royal Society for the Protection of Birds (RSPB) data specific to the Loch of Strathbeg;
- Scottish Bird Reports (https://www.the-soc.org.uk/about-us/online-scottish-bird-report);
- North East Scotland Bird Reports;
- RSPB for provision of goose counts made on the Loch of Strathbeg reserve;
- Littlewood, N.A. & Sideris, K. 2016. A survey of the feeding distribution of geese around the Loch of Strathbeg. SNH Commissioned Report No. 937; and
- Patterson, I.J. 2015. Goose flight activity in relation to distance from SPAs in Scotland, including an analysis of flight height distribution. SNH Commissioned Report No. 735.

2.2 Consultation

2.2.1.1 To agree the appropriate survey methodology and coverage, consultation was undertaken with NatureScot and RSPB. Liaison with RSPB was also undertaken with regards to access to the Loch of Strathbeg RSPB reserve. The dates and outcomes of, and parties to, these meetings and related communications are presented in the **Winter Bird Report 2022 / 2023** [MAR-GEN-ENV-REP-WSP-000001].

2.3 Field Surveys

2.3.1.1 North-eastern Aberdeenshire is an important non-breeding area for geese; the overwhelming majority of these are pink-footed geese. Most geese wintering in north-eastern Aberdeenshire roost overnight at the Loch of Strathbeg SPA and RSPB reserve. This is one of the main goose roosting sites in the United Kingdom (UK) that holds internationally important numbers of pink-footed geese. The main roost is found at the loch, with its geese feeding in surrounding fields during the day (and on moonlit nights). The area around the Ythan Estuary and Meikle Loch also holds internationally important numbers of pink-footed geese.

2.3.1.2 Surveys followed an approach adapted from that outlined in Littlewood and Sideris (2016) "*A survey of the feeding distribution of geese around the Loch of Strathbeg*."

2.3.1.3 Key objectives of the surveys were to:

- Survey the feeding distribution within the Study Area of geese that roost at the Loch of Strathbeg and Ythan Estuary and Meikle Loch; and

- Identify the parts of the Study Area most heavily used by the geese.

2.3.1.4 Fieldwork was undertaken over two to four days each month (depending on survey logistics and daylight available) between September 2023 and March 2024. Due to the very low numbers of geese and swans recorded as still present during surveys in April 2023, no repeat survey visit was conducted in April 2024.

2.3.2 Distribution Surveys

2.3.2.1 The distribution survey method was adapted from Littlewood & Sideris (2016) who surveyed the feeding distribution of geese around the Loch of Strathbeg in 2016. Survey scope was also informed by the fact that most pink-footed geese in north-eastern Scotland forage within 20km of their roost site (Patterson, 2013).

2.3.2.2 The Study Area was therefore designed to encompass:

- All likely areas where significant numbers of geese and swans that roost at Loch of Strathbeg may feed within the Study Area; and
- Likely goose feeding areas within the south of the Study Area potentially associated with the Ythan Estuary, Sands of Forvie and Meikle Loch SPA.

2.3.2.3 Survey approach involved driving most of the rural roads within the Study Area, noting the presence and size of geese and swan flocks. The Study Area was split into Northern and Southern areas. The combined length of the Northern and Southern transects totalled 123.3km per month (see **Figure 2: Driven transects – Appendix B**). Survey effort was consistent each month across the period. Both driven transects provide good visual coverage of the Study Area and likely foraging areas.

2.3.2.4 Following Littlewood and Sideris (2016), the starting point and direction of the route was varied for each survey visit. This was to reduce systematic bias relating to the time of day when each part of the Study Area was visited. Fieldwork was scheduled to optimise observation whilst birds were foraging during the day, avoiding the first and last two hours of daylight when geese were flying to and from roosts. Whilst driving the route, if geese were noted they were observed from the roadside, where safe to do so. Suitable informal view-point positions that provided clear views across large areas were identified. The surveyor employed binoculars and telescope to assist identification, where appropriate.

2.3.2.5 When geese on the ground were observed, their species was noted and the location of the centre of the flock was marked on a high-resolution digital map. The number of geese of each species in each flock was counted or estimated. If there were areas within a flock that were not visible from the road, the geese were observed for a few minutes to make a judgement based on birds moving in and out of view. Swans seen on land were also noted. The field type was noted based on one of the following categories: grass, stubble, ploughed, winter cereal, other arable crop, and other. Bird activity was not, however, noted within a field. This is because although most birds may be feeding when found, this will not necessarily be the case for all birds in the flock.

2.3.2.6 Fieldwork was planned for days on which the weather was forecast to be suitable for making observations, and not likely to influence goose distribution abnormally around the Study Area. This comprised days when the wind was forecast to be no stronger than Beaufort force 5, with rain not exceeding short showers and with good visibility.

2.3.2.7 During the course of the surveys, six days saw winds exceeding Beaufort force 5 and three survey days occurred in moderate to heavy rain. Weather-related constraints are described in more detail in **Section 2.3.5 - Limitations**. Distribution survey dates, surveyors and weather conditions are presented in **Appendix A**.

2.3.2.8 In light of the reduced scope of the Study Area and distance from the roost at Loch of Strathbeg, survey methods in 2023/24 did not incorporate vantage point/flight activity surveys, which formed a supplementary element to the wider scale coverage of the surveys in 2022/2023. However, any flights were recorded during distribution surveys. Surveyors noted the time, flight height, species, flock size (estimated if necessary), direction of flight, and the direction and distance from observer.

2.3.3 Incidental Records

Waders

2.3.3.1 Although not a key objective of the surveys, wading birds were also recorded where encountered. Waders were recorded using the same data collection parameters as for geese and swans, whether on land or in flight.

2.3.4 Analysis

2.3.4.1 For the distribution survey, the grid references of goose flocks (all species combined) were initially mapped into QGIS before being transferred into ArcGIS Pro software for further analysis. Data were then used, along with open-source background maps, to generate maps of goose abundance. The data were analysed to display trends through the survey period.

2.3.4.2 Data were also analysed to determine the proportion of birds recorded in each field type.

2.3.5 Limitations

2.3.5.1 While surveys were planned for days with acceptable weather, actual conditions during surveys were not always optimal. The surveys on 4 October 2023 and 25 January 2024 occurred during moderate rain. The survey on 1 November 2023 was hampered by heavy rain, and the survey on 24 January 2024 occurred during winds measuring 6 on the Beaufort scale. Wind speeds also peaked between 6 and 7 on the Beaufort scale during the surveys on 23 November 2023, 27 and 29 February and 21 - 22 March 2024.

2.3.5.2 While this reduced the amount of data available for the baseline, it is still considered that the data set captured is fit for purpose. This set comprises 72 goose, swan and wader observations collected during 23 days of fieldwork over a seven-month period. Importantly, no key survey period or key locations were missed, and the results of the baseline survey provide the ability to suitably assess potential impacts.

3. Results

3.1 Field Surveys

3.1.1 Distribution Surveys

3.1.1.1 The 2023 / 2024 distribution surveys recorded a total of **12,821 geese** of two species on land. These comprised 12,741 pink-footed geese and 80 greylag geese. Pink-footed goose abundance peaked in October 2023 with a peak count of 3,094 birds.

3.1.1.2 In addition, **59 swans** were recorded on land during the surveys. These consisted entirely of whooper swans, also peaking in number in October 2023.

3.1.1.3 Between October 2023 and March 2024, goose flocks made heavy use of the area east of St Fergus. Between September and December, high numbers were also recorded in the area south of Sandfordhill and north of Buchan. Additional clusters were evident south to southwest of Kirktown/St Fergus (November and February), Lunderton (November and February) and southwest of Dales Industrial Estate (chiefly in January 2024). In March, birds were again clustered close to Buchan. Monthly distributions are illustrated on **Figures 3 – 9 – Appendix B** and a combined distribution map on **Figure 11: Combined geese and swan distribution map – Appendix B**. Monthly counts (highest daily total) are shown in **Table 3.1** (locations are given in brackets).

Table 3.1 Monthly counts recorded in 2023 / 2024

Month / Year	Pink-footed geese		Greylag geese		Whooper swans	
	North	South	North	South	North	South
September 2023	0	1000 - Buchan	0	0	0	0
October 2023	1,150 - St Fergus; 223 - Lunderton 21 - Ednie, 200 – Moss of Auchlee	1,500 - Longhaven	30 - Longside	0	30 - Ednie	0
November 2023	1,843 - St Fergus 550 – Lunderton,	250 - Buchan	0	0	0	0
December 2023	804 - St Fergus	710 – Buchan; 1,550 - Sandfordhill	0	0	29 - St Fergus	0
January 2024	200 - St Fergus	500 - southwest of Dales Industrial Estate 25 south of Dales Industrial Estate	50 - Longside	0	0	0

Month / Year	Pink-footed geese		Greylag geese		Whooper swans	
	North	South	North	South	North	South
February 2024	140 - St Fergus; 350 – Lunderton; 500 - Ednie	11 – Hillhead of Cocklaw, 52 - Longhaven, 23 – Buchan;	0	0	0	0
March 2024	150 – Kirktown; 12 - St Fergus; 580 - Scotstown Head	350 - Buchan 50 – Hillhead of Cocklaw	0	0	0	0

3.1.1.4 The goose hotspot south of the St Fergus gas terminal (noted by Littlewood & Sideris (2016), and in the 2022 / 2023 surveys) was recorded again in 2023 / 2024. Flocks of between 350 and 1,150 pink-footed geese were found in this same area during October and November 2023 and January, February and March 2024.

3.1.1.5 76.7% of all geese and swans recorded on land were found in grass fields, with a further 23.3% using stubble. Both the geese and the swans showed a preference for grass fields. All records from stubble fields related to geese rather than swans and were made between September 2023 and January 2024.

3.1.1.6 Proportional use of stubble was higher than noted by Littlewood & Sideris in 2016. This is probably because by March and April, when the 2016 study was conducted, little stubble remained from the previous year's farming. Indeed, stubble usage by geese during winter 2023 / 2024 did not occur after January 2024. This trend corroborates the findings from 2022 / 2023.

3.1.2 Geese in Flight

3.1.2.1 31 goose or swan flocks, comprising **5,476 pink-footed geese** in total, were recorded in flight. The highest numbers were seen south of the St Fergus gas terminal, close to the main feeding area noted. Like goose numbers on land, the total flight count peaked in October 2023. The mean height of flocks was 190.5m above ground. **Plate 3.1** and **Table 3.2** provide a breakdown of these records (number of flocks is provided in brackets).

Plate 3.1 Monthly total counts of geese in flight between September 2023 and March 2024

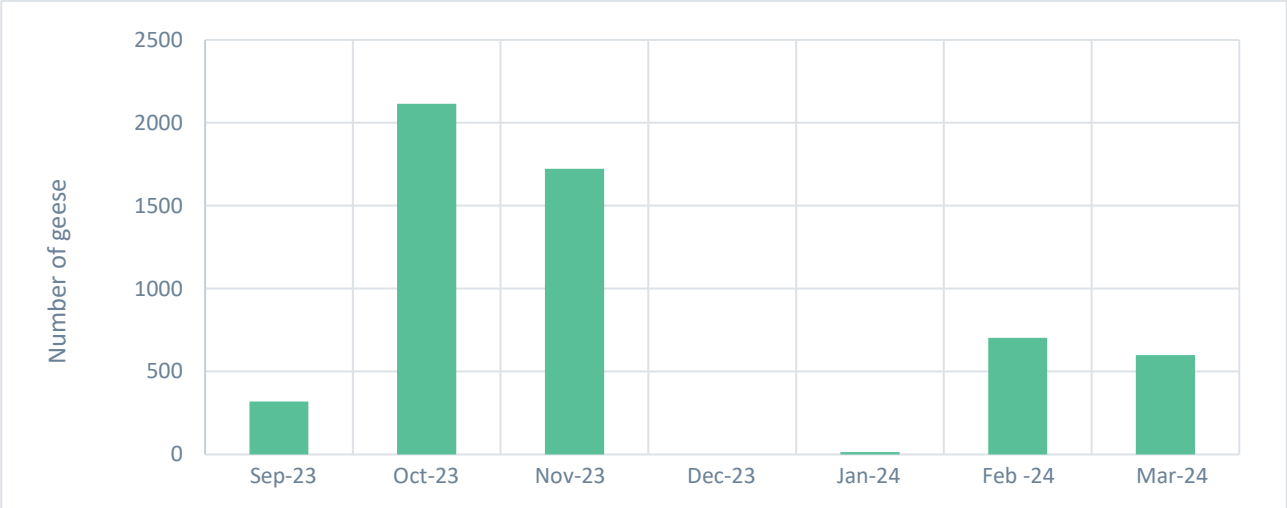

Table 3.2 Sum of geese recorded in flight during monthly surveys in 2023 / 2024

Month / Year	Pink-footed geese
September 2023	320 (3)
October 2023	2,115 (11)
November 2023	1,723 (6)
December 2023	0
January 2024	15 (2)
February 2024	703 (8)
March 2024	600 (1)

3.1.2.2 Only a single instance of direct disturbance triggering flock flight was noted. This related to loud noise from a vehicle approach. The disturbance event is summarised in **Table 3.3**.

Table 3.3 Disturbance events

Location	Species	Number	Date / Time	Disturbance event
Southeast of Longhaven.	Pink-footed goose.	850	04/10/2023, 17:15	Vehicle

Waders

3.1.2.3 A total of **1,344 wading birds** were recorded on land (**Figure 10: Incidental wader records distribution map – Appendix B**). These comprised 902 curlew (*Numenius arquata*), 230 golden plover (*Pluvialis apricaria*), 196 lapwing (*Vanellus vanellus*), seven common snipe (*Gallinago gallinago*), six redshank (*Tringa totanus*), two oystercatcher (*Haematopus ostralegus*) and one jack snipe (*Lymnocryptes minimus*). Numbers peaked in January and February 2024, largely due to high counts of 213 golden plover in January and 421 curlews in February.

3.1.2.4 A relatively low total of **14 wading birds** was recorded in flight. These consisted of nine common snipe and five golden plover observed in flight between December 2023 and January 2024. This raises the totals for these species to 16 and 235 respectively.

3.1.2.5 Most of the waders on land (and all those in flight) were noted between St Fergus and Scotstown Head. Where field type was established, 93.7% of the waders were recorded using grassy areas. The conservation status[1] for the species recorded are shown in **Table 3.4**.

Table 3.4 Conservation summary of incidental wader records

Species	Total on land	Total in flight	Conservation status
Common snipe.	7	9	BoCC5 Amber List.
Curlew	902	0	SBL, BoCC5 Red List.
Golden plover.	230	5	Annex 1, SBL, BoCC5 Green List.
Jack snipe.	1	0	BoCC5 Green List.
Lapwing	196	0	SBL, BoCC5 Red List.
Oystercatcher	2	0	BoCC5 Amber List.
Redshank	6	0	BoCC5 Amber List.

[1] Annex I = listed on Annex I of the Birds Directive (SNH, 2018); SBL = species on the Scottish Biodiversity List; BoCC5 = most recent Birds of Conservation Concern assessment (Stanbury *et al.*, 2021)

4. Summary

4.1.1.1 Goose and swan distribution surveys carried out in the 2023 / 2024 non-breeding season recorded a total of 12,831 geese of two species on land. In addition, 59 whooper swans were recorded on land during the surveys. A peak count of 2,873 pink-footed geese was made Throughout the surveys, geese and swans made heavy use of the area east of St Fergus (see **Figure 11 – Appendix B**); similar distribution in this location was made during surveys over the 2022 / 2023 winter period. Additional clusters were evident between Sandford Hill and Bullers o' Buchan, south and southwest of Kirktown, and southwest of Dales Industrial Estate.

4.1.1.2 76.7% of all geese and swans recorded were found in grass fields, with a further 23.3% using stubble. Both geese and swans showed a preference for grass fields. This trend corroborates the findings from 2022 / 2023.

4.1.1.3 31 flocks comprising 5,476 pink-footed geese were recorded in flight. The highest numbers were seen south of the St Fergus gas terminal, close to the main feeding area noted.

4.1.1.4 A total of 1,344 wading birds were recorded on land. These comprised 902 curlew, 235 golden plover, 196 lapwing, 16 common snipe, six redshank, two oystercatcher and one jack snipe. Wader numbers peaked in January and February 2024. The majority of these waders were noted between St Fergus and Scotstown Head.

5. References

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Appendix A
Distribution Survey Dates and Conditions

Table A.1 Distribution survey dates and conditions

Date	Surveyor	Transect	Weather conditions
26/09/2023	J Sneddon	North	100% cloud cover, 15ºC, no precipitation, Beaufort wind force 3 variable.
27/09/2023	J Sneddon	South	10% cloud cover, 13ºC, no precipitation, Beaufort wind force 1 variable.
04/10/2023	J Everett	South	100% cloud cover, 11ºC, moderate rain, Beaufort wind force 4 south-west.
05/10/2023	J Everett	North	38% cloud cover, 8ºC, no precipitation, Beaufort wind force 2 south-west.
23/10/2023	J Sneddon	North	20% cloud cover, 10ºC, no precipitation, Beaufort wind force 1 variable.
24/10/2023	J Sneddon	North + South	60% cloud cover, 10ºC, no precipitation, Beaufort wind force 2 northeast to south-east.
01/11/2023	J Everett	South	100% cloud cover, 7ºC, heavy rain, Beaufort wind force 5 east.
02/11/2023	J Everett	North	35-100% cloud cover, 2-10ºC, no precipitation, Beaufort wind force 1-3 north-east to south.
22/11/2023	J Sneddon	North	0-75 % cloud cover, 11-14ºC, no precipitation, Beaufort wind force 2-4 south-west.
23/11/2023	J Sneddon	North + South	0-75% cloud cover, 7-12 ºC, no precipitation, Beaufort wind force 5-6.
05/12/2023	J Everett	South	75% cloud cover, 0ºC, light rain, Beaufort wind force 1 north-west.

Date	Surveyor	Transect	Weather conditions
06/12/2023	J Everett	North	13% cloud cover, -1ºC, no precipitation, Beaufort wind force 1 south.
10/01/2024	J Sneddon	North + South	75-100% cloud cover, 2-5ºC, light rain showers, Beaufort wind force 3 north-west.
11/01/2024	J Sneddon	South	75-100% cloud cover, 4-5ºC, light rain showers, Beaufort wind force 3 north-west.
24/01/2024	J Everett	South	88% cloud cover, 6ºC, no precipitation, Beaufort wind force 6 north-west.
25/01/2024	J Everett	North	100% cloud cover, 6ºC, moderate rain, Beaufort wind force 4 south.
15/02/2024	J Everett	North + South	100% cloud cover, 7ºC, light rain, Beaufort wind force 2 south-east.
27/02/2024	J Sneddon	North	0-75% cloud cover, 5-10ºC, no precipitation, Beaufort wind force 3-6 south-west.
28/02/2024	J Sneddon	North	0-75% cloud cover, 4-8ºC, light rain shower, Beaufort wind force 2-5 north to south-west.
29/02/2024	J Sneddon	South	0% cloud cover, 5-9ºC, no precipitation, Beaufort wind force 4-7 south-west.
20/03/2024	J Sneddon	North	75-100% cloud cover, 6-8ºC, no precipitation, Beaufort wind force 1-2 north to east.
21/03/2024	J Sneddon	North	0-75% cloud cover, 7-14ºC, no precipitation, Beaufort wind force 5-6 south to south-west.
22/03/2024	J Sneddon	South	0-75% cloud cover, 6-10ºC, no precipitation, Beaufort wind force 2-6 south-west.

Appendix B Figures

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St Fergus Moss

Kirktown

St Fergus

Scotstown Head

Lunderton

Moss of Auchlee

Ednie

Rora Moss

Rora

Moss of Auchlee

Moss of Longmuir

Longside

Longside Airfield

Inverugie

Waterside

Buchanhaven

Coplandhill

Peterhead

Middle Grange

Kirktown

Clerkhill

Keith Inch

Meethill

Whitehill

Invernettie

Dales Industrial Estate

Hillhead of Cocklaw

Boddam

Stirling Village

Sandfordhill

Longhaven

Buchan

Brae of Coynach

Moss of Kinmundy

Moss of Savock

Ardallie Bog

Moss of Muirtack

Moss of Auchleuchries

Hatton

Fetterangus

Mintlaw

Dunshillock

A952

A90

A950

A975

840000

405000

Study Area

Proposal of Application Notice Boundary

SSEN Netherton Hub Site Boundary

0 2.5 Kilometres

Firth

199

Scale: 1:2,500,000

REV	REV DATE	GIS CREATOR	GIS REVIEWER	TECHNICAL CHECKER	TECHNICAL APPROVER
3	09/04/2025	SS	LT	DF	AM
2	29/10/2024	SS	LT	DF	AM
1	02/07/2024	PS	LT	DF	AM

WSP DRAWING NUMBER	808368-WEIS-IA-E5-FG-T7-74748
MarramWind DRAWING NUMBER	MAR-GEN-ENV-REP-WSP-000003
DATUM	OSGB 1936
PROJECTION	British National Grid
SCALE	1:65,000
PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

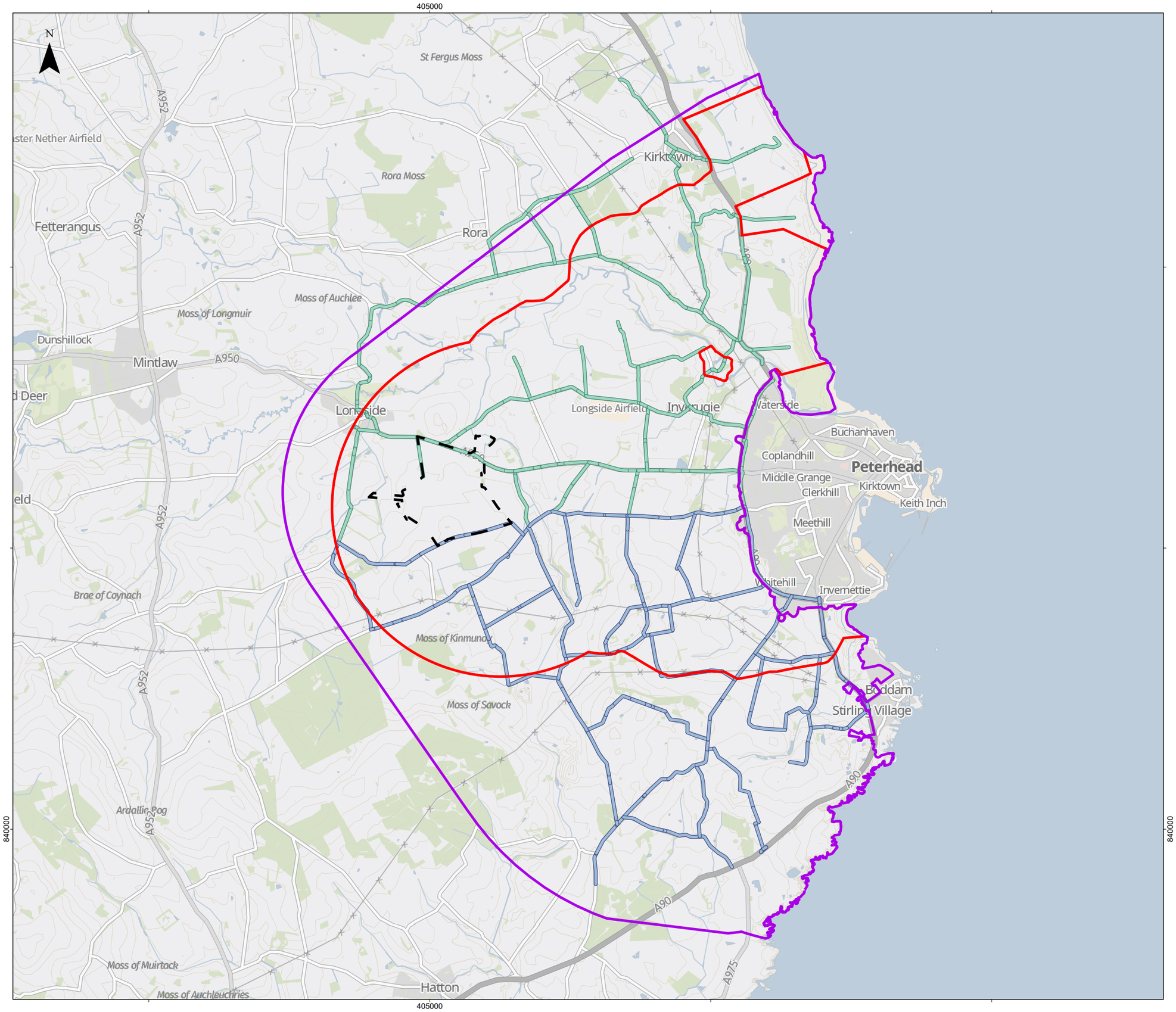
Figure 1 Study area

Environmental Impact Assessment Report
Appendix 23.7

NOT TO BE USED FOR NAVIGATION

wsp

MarramWind



Study Area

Proposal of Application Notice Boundary

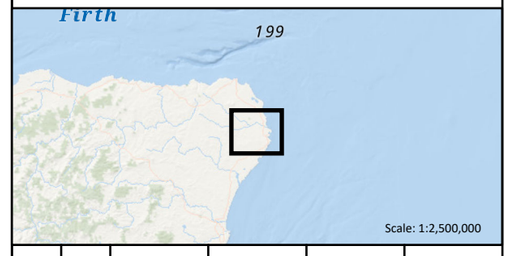
SSEN Netherton Hub Site Boundary

Driven Transects

Northern Transect

Southern Transect

0 2.5 Kilometres



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DATUM	OSGB 1936	PROJECTION	British National Grid
SCALE	1:65,000	PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

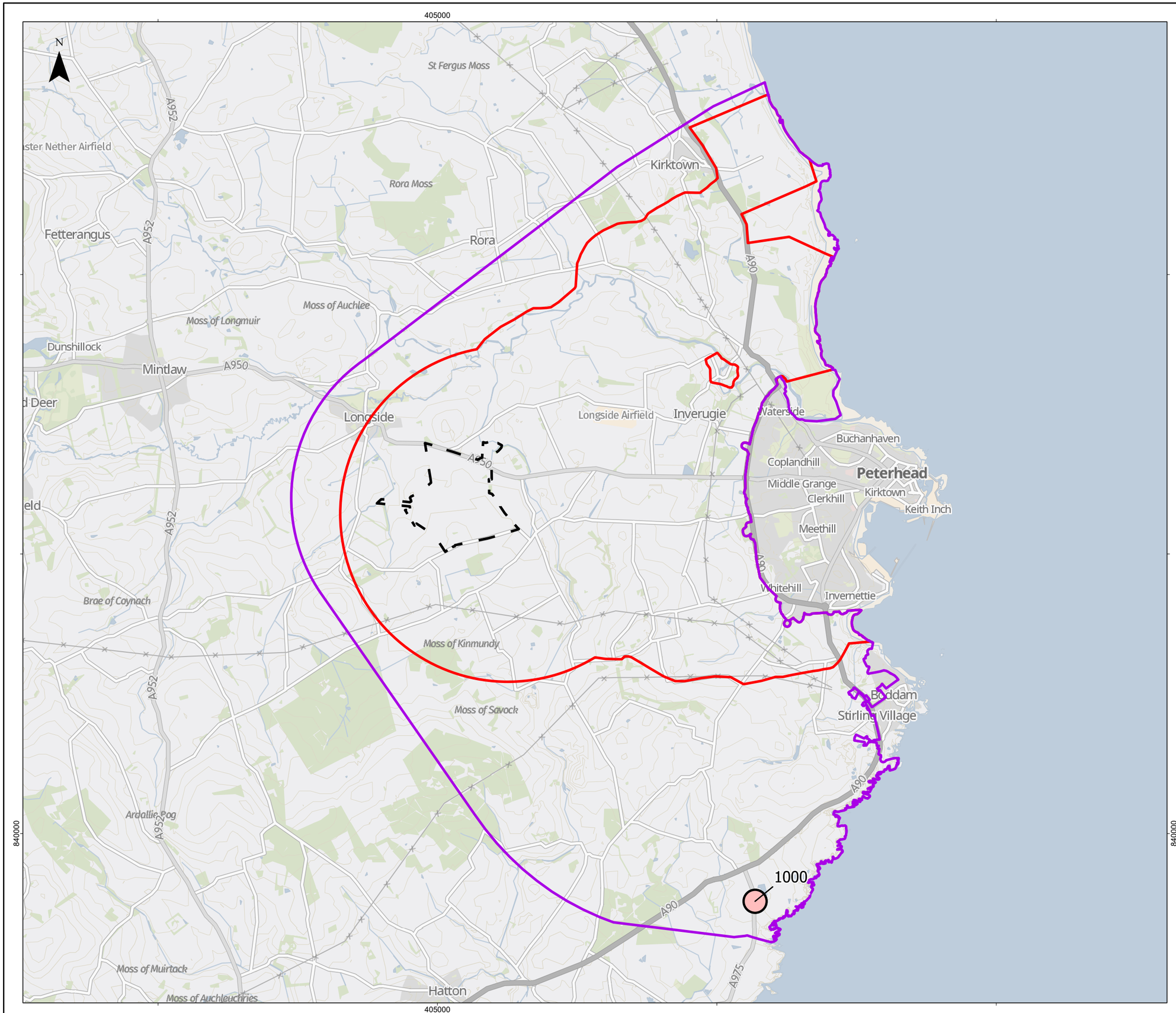
Figure 2 Driven transects

Environmental Impact Assessment Report
Appendix 23.7

NOT TO BE USED FOR NAVIGATION

wsp

MarramWind



Winter Geese and Swans Survey Study Area

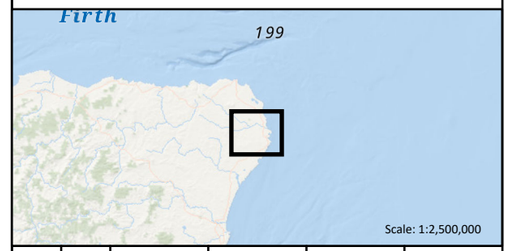
Proposal of Application Notice Boundary

SSEN Netherton Hub Site Boundary

Geese and Swans September 2023

1000

0 2.5 Kilometres



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DATUM	OSGB 1936	PROJECTION	British National Grid
SCALE	1:65,000	PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

Figure 3 Occurrence of geese and swans (September 2023)

Environmental Impact Assessment Report
Appendix 23.7

NOT TO BE USED FOR NAVIGATION

wsp MarramWind

405000

N

St Fergus Moss

Rora Moss

Fetterangus

Rora

Kirktown

1150

223

200

30

21

Moss of Auchlee

Moss of Longmuir

Dunshillock

Mintlaw

A950

A952

A90

Longside

30

Longside Airfield

Inverugie

Waterside

Buchanhaven

Coplandhill

Peterhead

Middle Grange

Kirktown

Clerkhill

Keith Inch

Meethill

Whitehill

Invernettie

Brae of Coynach

Moss of Kinmundy

Moss of Savock

Boddam

Stirling Village

1500

Ardallie Bog

Moss of Muirtack

Moss of Auchleuchries

Hatton

A975

840000

405000

Winter Geese and Swans Survey Study Area

Proposal of Application Notice Boundary

SSEN Netherton Hub Site Boundary

Geese and Swans October 2023

1 - 21

22 - 30

31 - 200

201 - 223

224 - 1500

0 2.5 Kilometres

Firth

199

Scale: 1:2,500,000

	dd/mm/yyyy	--	--	--	--
	dd/mm/yyyy	--	--	--	--
1	02/07/2024	PS	LT	DF	AM
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DATUM	OSGB 1936	PROJECTION	British National Grid
SCALE	1:65,000	PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

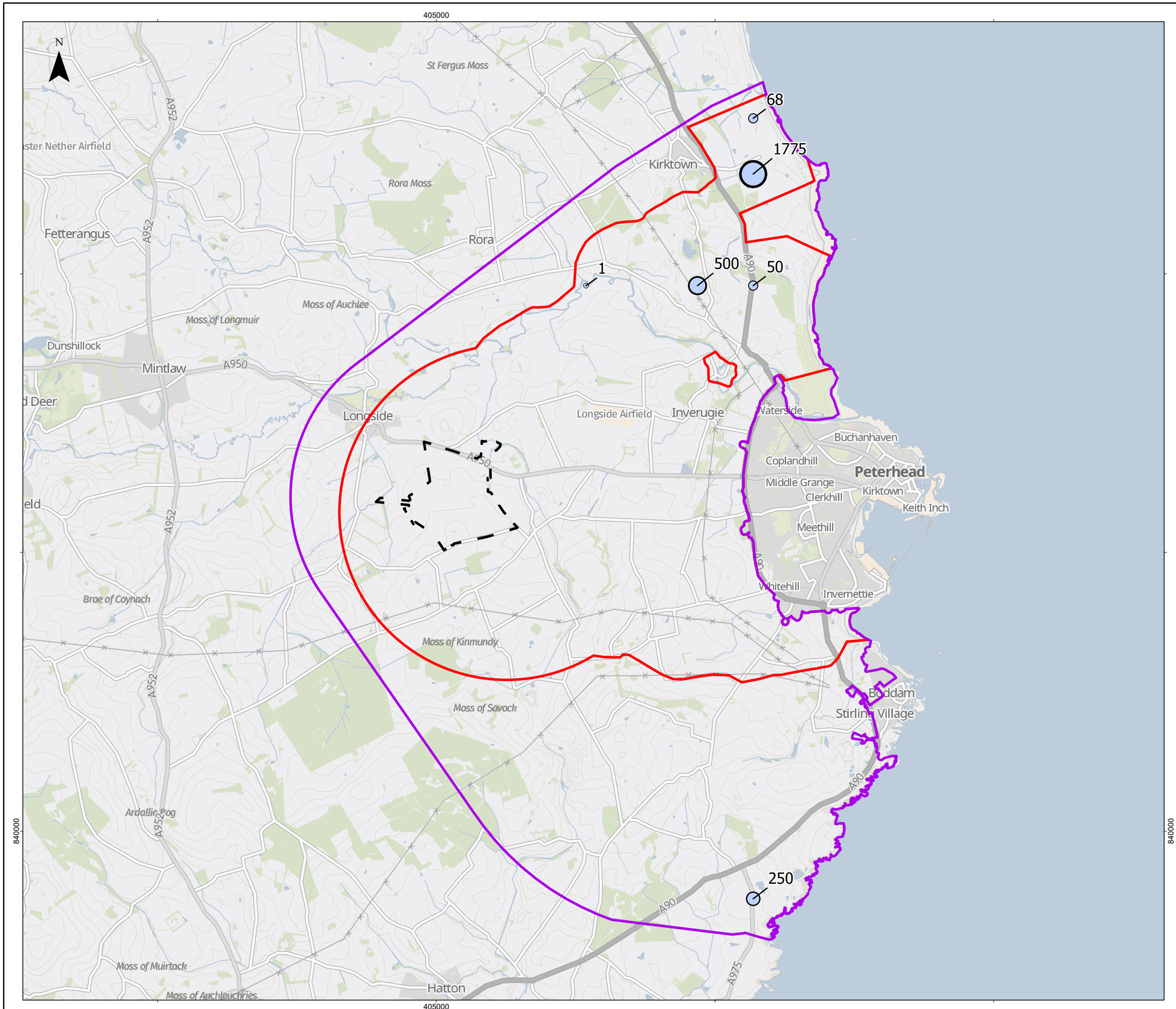
Figure 4 Occurrence of geese and swans (October 2023)

Environmental Impact Assessment Report
Appendix 23.7

NOT TO BE USED FOR NAVIGATION

wsp

MarramWind



Winter Geese and Swans Survey Study Area

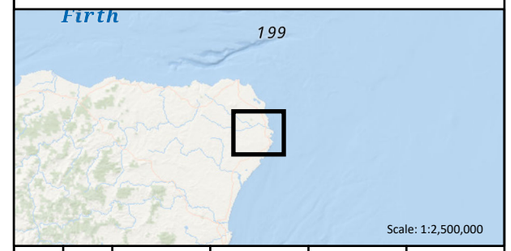
Proposal of Application Notice Boundary

SSEN Netherton Hub Site Boundary

Geese and Swans November 2023

- 1 - 2
- 3 - 68
- 69 - 250
- 251 - 500
- 501 - 1775

0 2.5 Kilometres



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DATUM	OSGB 1936	PROJECTION	British National Grid
SCALE	1:65,000	PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

Figure 5 Occurrence of geese and swans (November 2023)

Environmental Impact Assessment Report
Appendix 23.7

NOT TO BE USED FOR NAVIGATION

wsp MarramWind

405000

N

St Fergus Moss

Rora Moss

Moss of Auchlee

Moss of Longmuir

Moss of Kinmundy

Moss of Savock

Ardallie Bog

Moss of Muirtack

Moss of Auchleuchries

Brae of Coynach

Fetterangus

Rora

Kirktown

833

Dunshillock

Mintlaw

A950

Longside

Longside Airfield

Inverugie

Waterside

Buchanhaven

Coplandhill

Peterhead

Middle Grange

Kirktown

Clerkhill

Keith Inch

Meethill

Whitehill

Invernettie

Boddam

Stirling Village

1550

710

Hatton

A952

A90

A975

840000

405000

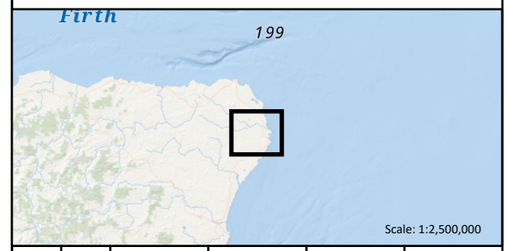
Legend

- Winter Geese and Swans Survey Study Area
- Proposal of Application Notice Boundary
- SSEN Netherton Hub Site Boundary

Geese and Swans December 2023

- 710 - 833
- 834 - 1550

0 2.5 Kilometres



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DATUM	OSGB 1936
PROJECTION	British National Grid
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PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

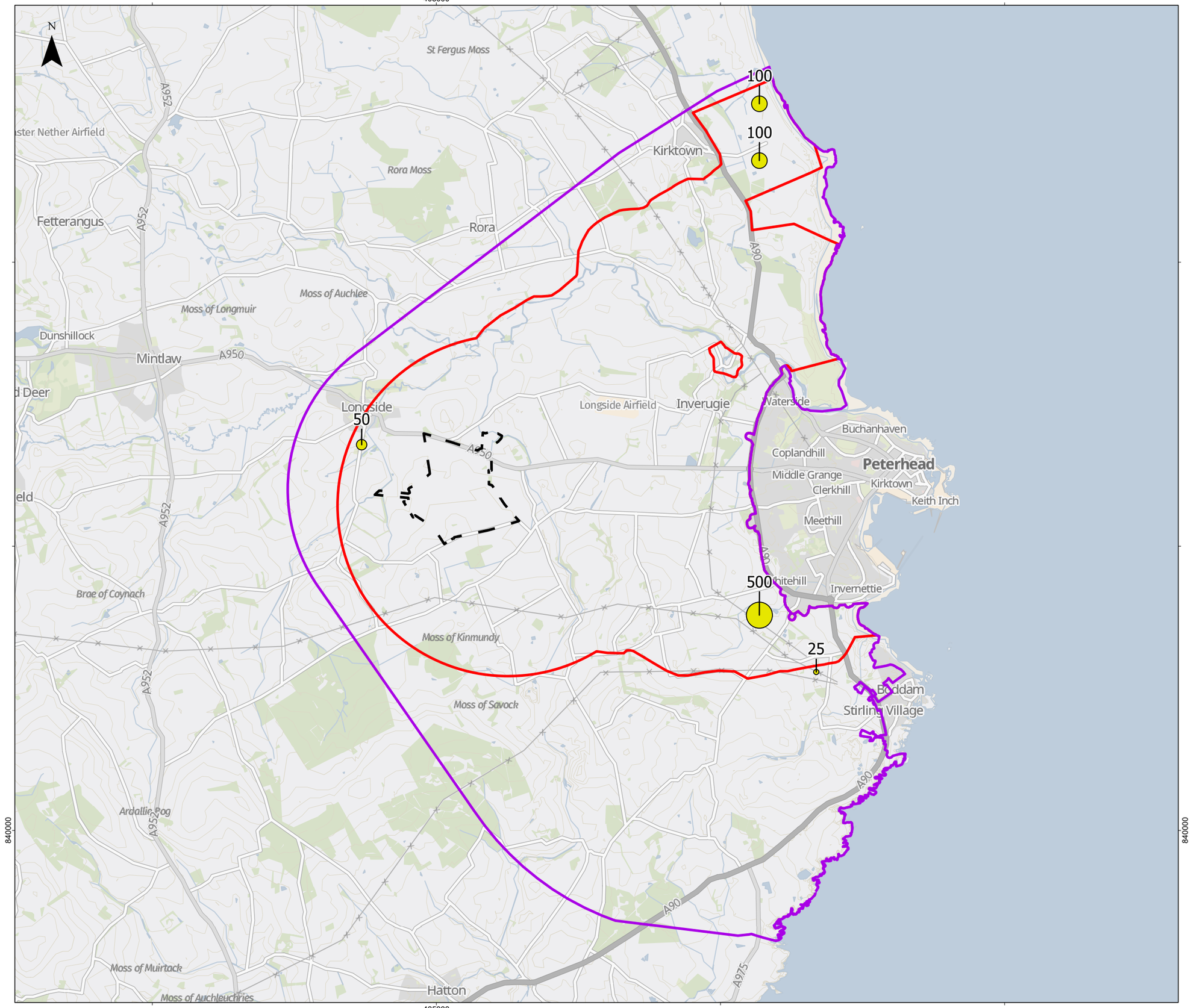
Figure 6 Occurrence of geese and swans (December 2023)

Environmental Impact Assessment Report
Appendix 23.7

NOT TO BE USED FOR NAVIGATION

wsp

MarramWind



Winter Geese and Swans Survey Study Area

Proposal of Application Notice Boundary

SSEN Netherton Hub Site Boundary

Geese and Swans January 2024

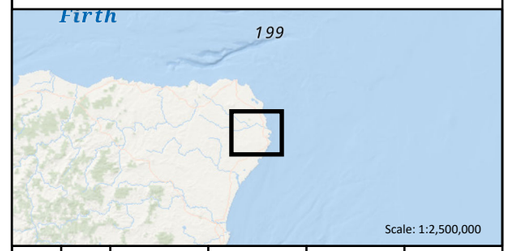
1 - 25

26 - 50

51 - 100

101 - 500

0 2.5 Kilometres



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SCALE	1:65,000	PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

Figure 7 Occurrence of geese and swans (January 2024)

Environmental Impact Assessment Report
Appendix 23.7

NOT TO BE USED FOR NAVIGATION

wsp MarramWind

405000

N

St Fergus Moss

Rora Moss

Moss of Auchlee

Moss of Longmuir

Moss of Kinmundy

Moss of Savock

Ardallie Bog

Moss of Muirtack

Moss of Auchleuchries

Brae of Coynach

Fetterangus

Rora

Kirktown

Mintlaw

Dunshillock

Longside

Longside Airfield

Inverugie

Waterside

Buchanhaven

Coplandhill

Peterhead

Middle Grange

Kirktown

Clerkhill

Keith Inch

Meethill

Whitehill

Invernettie

Boddam

Stirling Village

Hatton

A952

A950

A90

A975

140

350

500

11

22

30

23

840000

405000

Winter Geese and Swans Survey Study Area

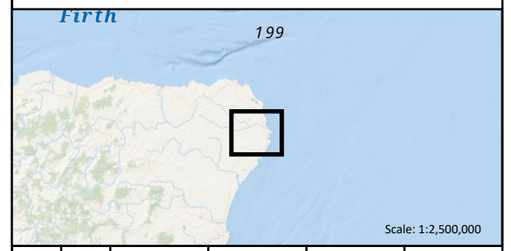
Proposal of Application Notice Boundary

SSEN Netherton Hub Site Boundary

Geese and Swans February 2024

- 6 - 11
- 12 - 23
- 24 - 30
- 31 - 140
- 141 - 500

0 2.5 Kilometres



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DATUM	OSGB 1936	PROJECTION	British National Grid
SCALE	1:65,000	PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

Figure 8 Occurrence of geese and swans (February 2024)

Environmental Impact Assessment Report
Appendix 23.7

wsp

MarramWind

405000

N

St Fergus Moss

Rora Moss

Fetterangus

Rora

Moss of Auchlee

Moss of Longmuir

Dunshillock

Mintlaw

A950

Longside

Longside Airfield

Inverugie

Waterside

Buchanhaven

Coplandhill

Peterhead

Middle Grange

Kirktown

Clerkhill

Keith Inch

Meethill

Whitehill

Invernettie

Boddam

Stirling Village

Brae of Coynach

Moss of Kinmundy

Moss of Savock

Ardallie Bog

Moss of Muirtack

Moss of Auchleuchries

Hatton

A952

A90

A975

Kirktown

150

12

580

50

300

50

840000

405000

Winter Geese and Swans Survey Study Area

Proposal of Application Notice Boundary

SSEN Netherton Hub Site Boundary

Geese and Swans March 2024

- 1 - 12
- 13 - 50
- 51 - 150
- 151 - 300
- 301 - 580

0 2.5 Kilometres

Firth

199

Scale: 1:2,500,000

	dd/mm/yyyy	--	--	--	--
	dd/mm/yyyy	--	--	--	--
1	02/07/2024	PS	LT	DF	AM
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PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

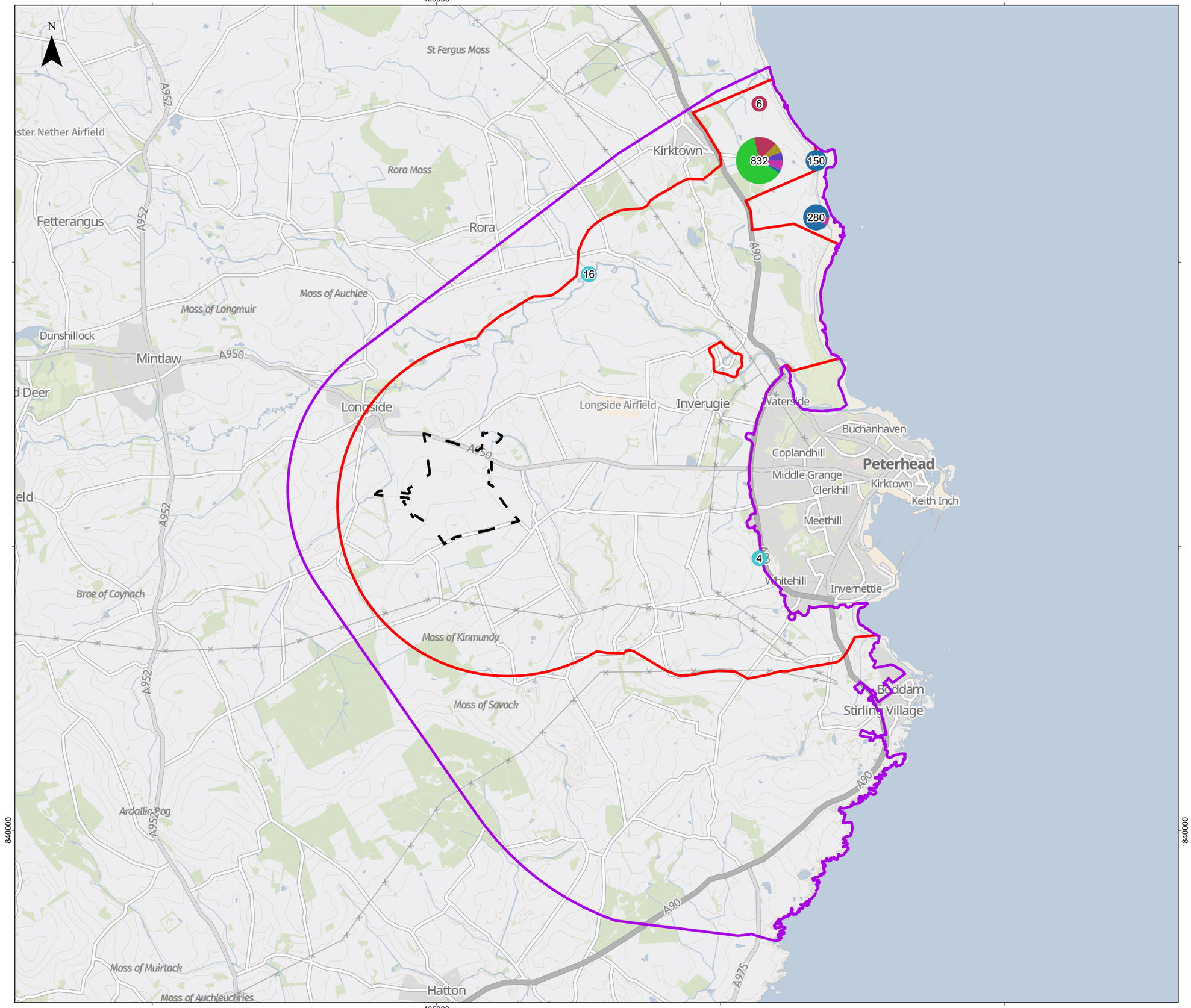
Figure 9 Occurrence of geese and swans (March 2024)

Environmental Impact Assessment Report
Appendix 23.7

NOT TO BE USED FOR NAVIGATION

wsp

MarramWind



Winter Geese and Swans Survey Study Area

Proposal of Application Notice Boundary

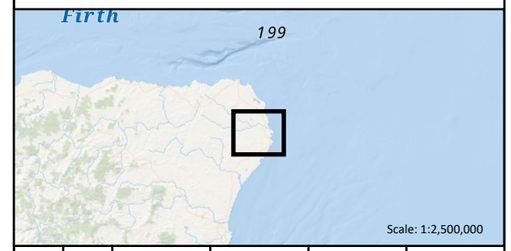
SSEN Netherton Hub Site Boundary

Occurence of Wading Birds

830
420
4

September
October
November
December
January
February
March

0 2.5 Kilometres



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DATUM	OSGB 1936	PROJECTION	British National Grid
SCALE	1:65,000	PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

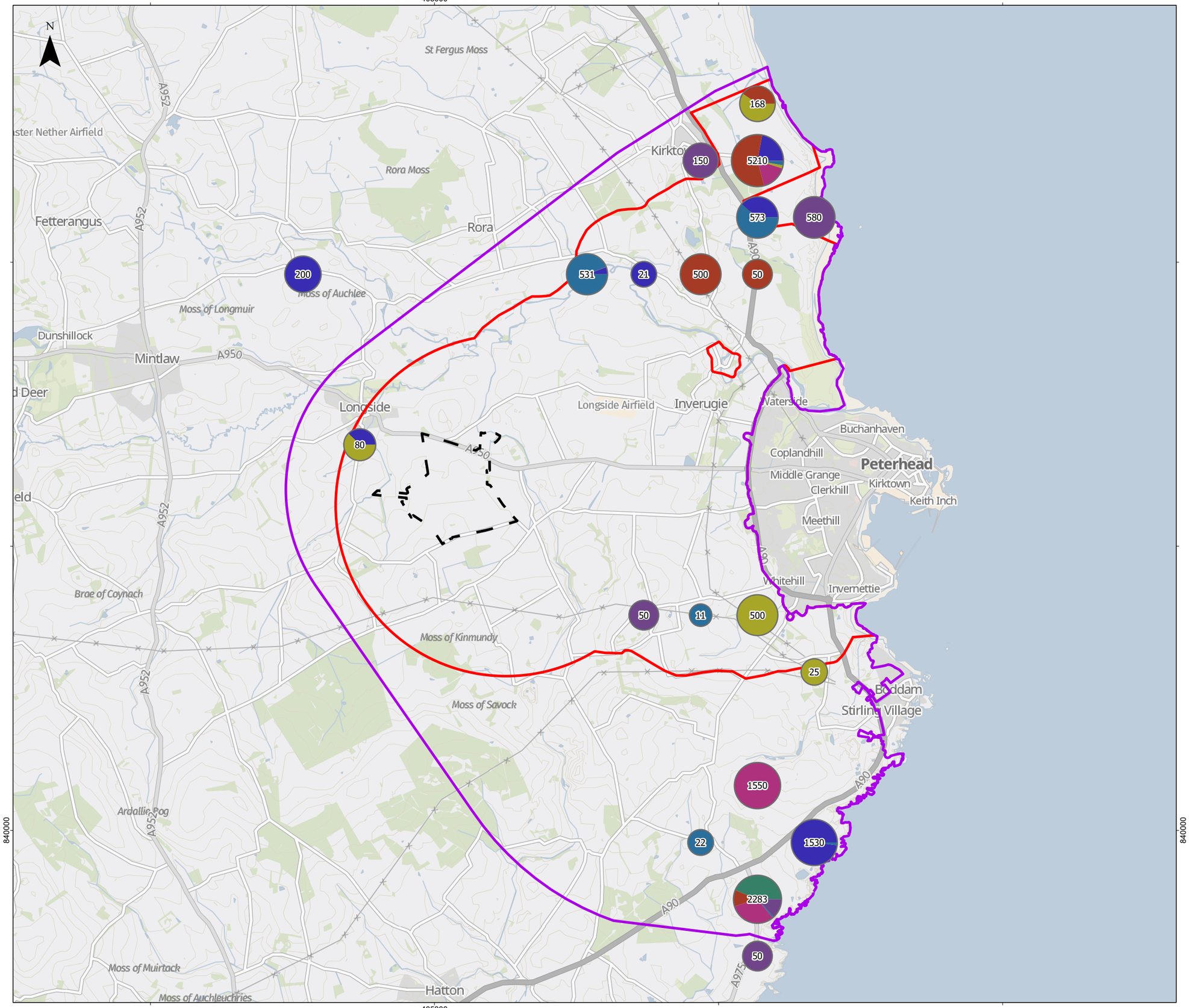
Figure 10 Incidental wader records distribution map

Environmental Impact Assessment Report
Appendix 23.7

NOT TO BE USED FOR NAVIGATION

wsp

MarramWind



Winter Geese and Swans Survey Study Area

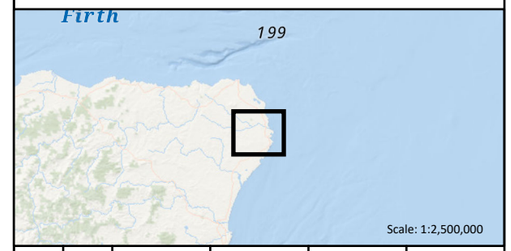
Proposal of Application Notice Boundary

SSEN Netherton Hub Site Boundary

Geese and Swan Count

- September
- October
- November
- December
- January
- February
- March

0 2.5 Kilometres



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DATUM	OSGB 1936	PROJECTION	British National Grid
SCALE	1:65,000	PAGE SIZE	A3

PROJECT TITLE

MarramWind Offshore Wind Farm

DRAWING TITLE

Figure 11 Combined geese and swan distribution map

Environmental Impact Assessment Report
Appendix 23.7

NOT TO BE USED FOR NAVIGATION

wsp MarramWind

MarramWind