

**RWE Renewables UK Dogger Bank
South (West) Limited**

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South (East) Limited**

**Dogger Bank South Offshore
Wind Farms**

**Guillemot and Razorbill Compensation Site
Shortlist Refinement Report**

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Acronyms

Acronym	Definition
AEoI	Adverse Effect on Integrity
ASSI	Area of Special Scientific Interest
DBS	Dogger Bank South
DCO	Development Consent Order
ETG	Expert Topic Group
FFC SPA	Flamborough and Filey Coast Special Protection Area
IFCA	Inshore Fisheries and Conservation Authority
NIEA	Northern Ireland Environment Agency
NSN	National Site Network
RIAA	Report to Inform Appropriate Assessment
RSPB	Royal Society for the Protection of Birds
SoS	Secretary of State

1 Introduction

1.1 Background

1. RWE Renewables UK Dogger Bank South (East) Limited and RWE Renewables UK Dogger Bank South (West) Limited ('the Applicants') are applying for a single Development Consent Order (DCO) for both the Dogger Bank South (DBS) East and DBS West Offshore Wind Farms (hereafter referred to as 'the Projects'). When fully operational, the Projects would have the potential to generate renewable power for over 3 million homes in the United Kingdom (UK) from up to 200 wind turbines.
2. As part of their application, the Applicants have submitted **The Report to Inform Appropriate Assessment Habitats Regulations Assessment** (part 4 of 4 Marine ornithological Features) [APP-048] which provides the information necessary for the competent authority to undertake an appropriate assessment (AA) to determine if there is any adverse effect on integrity (AEol) of sites within the UK National Site Network (NSN).
3. The Applicants concluded that for the guillemot (*Uria aalge*) feature of the Flamborough and Filey Special Protection Area (FFC SPA) AEol could not be ruled out for displacement risk in-combination with other offshore wind farms. For the razorbill (*Alca torda*) feature of the FFC SPA the Applicants concluded that AEol could be ruled out but acknowledge that the Secretary of State (SoS) may come to a different conclusion. The Applicants have therefore proposed compensation for guillemot and, without prejudice, for razorbill. The compensation requirements for a variety of displacement, mortality and apportionment values are presented in the **Appendix 2 – Guillemot [and Razorbill] Compensation Plan** [APP-056].
4. The **Appendix 2 – Guillemot [and Razorbill] Compensation Plan** [APP-056] also sets out the proposed compensation measure, predator eradication/control. A shortlist of eight potential locations for implementation of the compensatory measure was identified through desk based assessment, from an original longlist of 82 sites (**Volume 6, Annex B - Guillemot [and Razorbill] Compensation Predator Eradication / Control Site Longlist** [APP-058]).
5. This document summarises the site refinement work that has been undertaken since initial submission of **Volume 6, Appendix 2 – Guillemot [and Razorbill] Compensation Plan** [APP-056] in order to select locations from the shortlist to take forward to the next phase of predator eradication feasibility work, the pre-eradication surveys, which would inform how an eradication would be conducted in practice.

1.2 Shortlisted Sites

6. From the original longlist of sites, the following locations (**Figure 1**) were identified through desk-based assessment, as the most likely to successfully provide the necessary compensation through predator eradication/control.
 - Sheep Island, Northern Ireland;
 - Muck Island, Northern Ireland;
 - Gobbins, Northern Ireland;
 - St Tudwals East and St Tudwals West, Wales;
 - Middle Mouse, Wales;
 - Worms Head, Wales;
 - The Needles, Isle of Wight; and
 - St Bees, England

7. In response to an Expert Topic Group (ETG) meeting (10th April 2024), the Applicants also committed to investigate potential opportunities in the Isles of Scilly.

2 Methodology

2.1 Refining the Shortlist

8. In order to refine the shortlist four key questions need to be addressed:
 - Would a potential eradication be approved and supported?
 - Are invasive predators present?
 - Is habitat suitable for breeding auks?
 - Is there space for additional breeding auks and are they likely to be attracted?
9. These questions were answered through a combination of landowner/leaseholder and stakeholder engagement and extensive site based surveys.

2.1.1 Landowner Consultation

10. Initial contact was made with landowners in June 2024 to inform them of the intention to undertake boat based surveys and also to request engagement regarding the possibility of a future predator eradication on their land.
11. At this point several landowners engaged and the opportunity was taken to gather additional information regarding the presence of invasive predators, the presence of seabirds and any past or proposed predator eradications. Where relevant, this information is reported with the survey results in section 3.
12. Consultation was also undertaken with additional stakeholders including local wildlife groups, reserve managers and universities regarding rat presence and eradication schemes.
13. A log of the consultation undertaken is provided in Appendix A – Consultation Log

2.1.2 Site Surveys

14. As a result of consultation, it was determined that landowner support would not be forthcoming for predator eradication/control projects on Muck Island. This location was therefore removed from the shortlist without any site visits being carried out.
15. Site specific surveys were undertaken at the remaining shortlisted sites in order to determine if there was:
 - an existing population of auks present; and
 - the availability of suitable habitat for guillemot and razorbill to colonise.
16. This information was used to enable estimates of the compensation potential of each site.

17. Site visits were undertaken using experienced surveyors that have been engaged in multiple predator eradication studies at seabird colonies across the UK through Habitat Assessment & Restoration Ltd (HAR). HAR Ltd work with developers, NGOs and global specialists to ensure that the most effective methods and up to date best practice are employed.
18. All photographs presented in this report were taken during the preliminary site visits.

2.1.2.1 Survey Methods

19. The site visits comprised boat transit around each location, with the exception of Worms Head where weather conditions did not allow for a vessel survey, hence surveys at this site were land based. While the majority of surveys at the Isles of Scilly were boat based, in some areas this was supplemented by land based surveys. All surveys were undertaken following the methods described by Walsh *et al.* (1995) and Gilbert *et al.* (2011) to undertake counts of seabirds, although only a single count was undertaken at each location.
20. For the surveys, birds were viewed with binoculars and count data was recorded by hand in the field and transferred to digital records when ashore. In addition, a high-resolution photographic record was taken to enable verification of counts on return to the office. The count unit is individual adult guillemot on land (above intertidal areas). A colony is defined as an aggregation of breeding individuals sufficiently separated from adjacent groups. Total numbers of other notable seabird species were also recorded.

2.1.3 Data Analysis

2.1.3.1 Bird Counts

21. As highlighted above, seabird counts were verified through examination of high-resolution photographs taken during the site visits.
22. Counting auks is extremely challenging and it is reasonable to assume some birds would have been present on concealed nests, hidden behind other individuals, or out at sea. Therefore, the actual number of guillemot and razorbill counted is a conservative underestimate. To better estimate the actual number of apparently occupied guillemot nests (or nesting pairs of adult birds) a correction factor of 0.67 was applied to the data, as is standard practice in seabird monitoring (Harris, 1989; Lloyd *et al.*, 1991). For example, a count of 100 individual guillemot would be reported as 67 breeding pairs.

2.1.3.2 Habitat Assessment

2.1.3.2.1 *Guillemot Habitat Preferences*

23. The guillemot is a colonial, sea-cliff nesting species found in the North Atlantic and Pacific (Harris and Birkhead, 1985). The species is widespread along the British and Irish coasts.
24. Guillemots breed at varying, often high, densities on ledges, in cliff niches (**Plate 1**), among boulders or on rock platforms (**Plate 2**) (Harris *et al.*, 1996). Densities as high as 46 pairs/m² in ledge colonies have been reported (Harris and Wanless, 1987) while Harris and Birkhead (1985) state that guillemots breed at densities averaging around 20 pairs/m².



Plate 1 Guillemot nesting on cliff ledge habitat



Plate 2 Guillemot nesting in boulder and crevice habitat

25. Guillemots nest from the top of cliffs down to two metres above wave height at high tide and appear to show a preference for sites further away from cliff tops, sites that slope inwards and sites that have walls (Harris *et al.*, 1997).
26. They can nest on ledges that are substantially sloped, with slopes recorded to vary “from +50° (sloping down, outwards) to -30° (sloping inwards)”, but generally place their eggs on spots that are almost completely level (+5° to -5°) (Harris *et al.*, 1997).
27. Birds show a preference for breeding next to members of the same species, and new breeders join existing colonies (Birkhead, 1977; Harris *et al.*, 1997).
28. On seabird islands, guillemots are also found to nest at lower densities than ledge colonies under boulders and on ledges in cavities, potentially related to high predation pressure and/or the absence of preferred ledges.
29. The focus of the habitat assessment was on guillemot suitability; however razorbill have relatively similar habitat requirements albeit with a preference for more enclosed nesting spaces on the periphery of colonies (Hipfner and Dussereault, 2001; JNCC, 2021).

2.1.3.2.2 *Estimation of Available Nesting Habitat*

30. Habitat visually assessed during the site visit as unoccupied and matching known guillemot breeding preferences (section 2.1.3.1) was photographed and the size of these areas was estimated with the aid of a laser measurement tool, and scaling on photographs.

31. Horizontal and inclined rocky ledges and platforms (greater than or equal to an estimated 0.3m ledge depth), and crevices and boulder fields on favourable aspects of the island were included in these estimates. The high tide mark plus a 2m 'splash zone' was subtracted from the measured height of the unoccupied island features to provide an estimate of the total area of habitat available for additional nesting.



Plate 3 Example of unoccupied wide ledge/crevice nesting habitat (circled in pink)



Plate 4 Example of unoccupied narrow ledge nesting habitat (underlined yellow)

32. Based on the area of unoccupied suitable nesting habitat observed at each location, an estimation was made of the number of breeding pairs that could be accommodated. Two values were generated for each site, one based on the conservative nesting density of 20 pairs/m² (Harris and Birkhead, 1985) and one based on the higher reported density of 46 pairs/m² (Harris and Wanless, 1987).

33. For example, a location estimated to have 50m² of unoccupied suitable nesting habitat would be calculated as being able to provide rat-free nesting spaces for between 1,000 (50m² x 20 pairs/m²) and 2,300 (50m² x 46 pairs/m²) breeding pairs.

3 Results

34. The following section presents a summary of the work undertaken over spring/summer 2024, including information obtained from stakeholder consultation, literature reviews, the survey results and the data analysis undertaken on the data collected.
35. Surveys were performed between 18th June and 8th July at the following locations (Table 3-1).

Table 3-1 Site survey dates and methods

Location	Survey Dates	Survey Method
Sheep Island	8 th July 2024	Boat based
Gobbins	4 th July 2024	Boat based
St Tudwals East	19 th June 2024	Boat based
St Tudwals West	19 th June 2024	Boat based
Middle Mouse	18 th June 2024	Boat based
Worms Head	21 st June 2024	Land based
The Needles	26 th June 2024	Boat based
St Bees	5 th July 2024	Boat based
Isles of Scilly	23 rd – 28 th June 2024	Boat and land based

3.1 Isles of Scilly

36. The Isles of Scilly are a group of about 50 small islands and many more islets lying southwest of Cornwall about 40 to 58km off Lands' End. The island group comprises a land area of approximately 16km². The resident population comprises approximately 2,300 people living on five of the larger islands of St. Mary's, Treseo, St. Martin's, Bryher, and St. Agnes, with most living on St. Mary's.

37. The Isles of Scilly are designated as a SPA, supporting significant populations of a number of important species (JNCC, 2020) including:
- storm petrel *Hydrobates pelagicus*;
 - shag *Gulosus aristotelis*;
 - great black-backed gull *Larus marinus*;
 - lesser black-backed gull *Larus fuscus*; and
 - seabird assemblage.
38. The islands also support regionally important numbers of fulmar (*Fulmarus glacialis*), Manx shearwater (*Puffinus puffinus*) and auks (puffin (*Fratercula arctica*), guillemot and razorbill).
39. The Isles of Scilly are owned by the Duchy of Cornwall. All residents are tenants, with the Isles of Scilly Wildlife Trust leasing around 45% of the islands and two thirds of the intertidal area. The Isles of Scilly have been designated as a National Landscape (previously known as Area of Outstanding Natural Beauty). The Isles of Scilly National Landscape Partnership consists of representatives from key organisations including the Duchy of Cornwall, the Isles of Scilly Wildlife Trust, Islands' Partnership, Isles of Scilly Inshore Fisheries and Conservation Authority (IFCA), Council of the Isles of Scilly, Tresco Estate, Natural England, the Environment Agency, English Heritage & the RSPB.
40. The Duchy of Cornwall and the Isles of Scilly Wildlife Trust have both indicated a desire to declare the Isles of Scilly as rat-free. Between 2013 and 2017 a successful eradication was carried out on the southern islands. More recently an eradication was attempted on Round Island in the northern islands but was either unsuccessful or a reinvasion of rats occurred, highlighting that a successful eradication would require a programme that encompasses the whole northern Scillies group to ensure reinvasion post-eradication does not occur. Consultation with the Isles of Scilly Wildlife Trust has indicated that further work is proposed but is not scheduled at this time.
41. A site visit to the Isles of Scilly was undertaken in June 2024 when boat-based surveys were conducted around the northern islands and islets (**Figure 2**), and a land based survey was conducted on Bryher which allowed for observation of Shipman Head, Scilly Rock and other northeastern isles. In total, 34 islands and islets were visited.
42. Guillemot were seen to be nesting in low densities across the northern Scillies in mixed colonies (with razorbill and puffin (**Plate 5**)). The densest and most populous colonies were situated on the outer-islets of Men-a-vaur, Scilly Rock and Mincarlo. Nesting behaviour was predominantly amongst boulder and crevice habitat, which is characteristic habitat of the Isles of Scilly. A total of 294 guillemots (196 breeding pairs) and 306 razorbill (205 breeding pairs) were observed along with puffin, kittiwake (*Rissa tridactyla*), fulmar, shag, lesser black-backed gull, herring gull (*Larus argentatus*), great black-backed gull, oystercatcher (*Haematopus ostralegus*) and peregrine falcon (*Falco peregrinus*).



Plate 5 Example mixed colony observed on the Isles of Scilly

43. Twenty of the islands and islets surveyed were assessed as offering little suitable habitat. The amount of suitable unoccupied habitat on each of the remaining islands surveyed is presented in **Table 3-2**.

Table 3-2 Suitable unoccupied habitat on the islands surveyed in the Isles of Scilly

Location	Narrow ledge habitat (m ²)	Rock platform, boulder and crevice habitat (m ²)	Rat-free nesting space (breeding pairs) (20 pairs/m ²)	Rat-free nesting space (breeding pairs) (46 pairs/m ²)
Little Gannick				
Great Arthur				
Menawethan				
Great Innesvoulks				
Great Ganilly and Nornour				
Round Island				
Men-a-vour				

Location	Narrow ledge habitat (m ²)	Rock platform, boulder and crevice habitat (m ²)	Rat-free nesting space (breeding pairs) (20 pairs/m ²)	Rat-free nesting space (breeding pairs) (46 pairs/m ²)
Shipman Head				
Scilly Rock				
Gweal				
Mincarlo				
Illiwilig				
Puffin Island				
Total				

44. Overall, a total of [REDACTED] suitable unoccupied habitat was recorded across [REDACTED] locations in the northern Isles of Scilly, which is estimated to provide rat-free nesting space for between [REDACTED] and [REDACTED] additional breeding pairs (using Harris and Birkhead (1985) and Harris and Wanless (1987) respectively).

3.2 Sheep Island

45. Sheep Island is approximately 3.5ha in size and is located 500m off the Antrim coast, 6km southwest of Rathlin Island. The island is almost circular, with a lower promontory to the northwest, a near vertical cliff face rising between 20m to 30m above the Mean High Water mark and a domed top overlaid with a thin layer of soil and vegetation (**Plate 6**).

46. The National Trust own and manage Sheep Island, and the site is designated as both a SPA and Area of Special Scientific Interest (ASSI) for the Northern European sub-species of cormorant *Phalacrocorax carbo carbo* (Department of Agriculture, Environment and Rural Affairs, 2015).



Plate 6 Sheep Island

- 47. Consultation with the National Trust has indicated that they have obtained evidence of rats on Sheep Island. It was also highlighted that the Northern Ireland Environment Agency (NIEA) and the National Trust have been working with the RSPB to look into the feasibility of predator control as a means of protecting the cormorant population.
- 48. During the site visit in early July 2024, guillemot were seen to be nesting around the coast of Sheep Island in mixed colonies (with razorbill and cormorant) and were making use of both cliff and boulder and crevice habitat. A total of 422 guillemot (283 breeding pairs) and 295 razorbill (197 breeding pairs) were counted on the day of survey, along with kittiwake, cormorant, shag and gulls. The number of birds recorded may be an under representation of the colonies on Sheep Island due to weather delays resulting in the survey being in early July rather than June. It is possible that this delay had presented an opportunity for some auk chicks to have fledged and some adult birds to have left Sheep Island.
- 49. The unoccupied habitat on Sheep Island consisted of approximately [REDACTED] boulder and crevice habitat, with [REDACTED] suitable unoccupied cliff habitat, estimated to provide predator-free nesting space for between [REDACTED] and [REDACTED] additional breeding pairs (using Harris and Birkhead (1985) and Harris and Wanless (1987) respectively).

3.3 Middle Mouse

- 50. Middle Mouse Island (**Plate 7**), also known as Ynys Badrig or St Patrick's Island, is an uninhabited island of approximately 1ha in size, situated 750m off the north coast of Anglesey at its closest point.
- 51. Middle Mouse is in private ownership. The landowner had no information on the presence of predators but suggested that Bangor University has previously done studies. Therefore, contact was made with Bangor University, who reported not having seen any evidence of predators but have not specifically searched for it.

52. During the site visit in June 2024 a total of 3,350 guillemot (2,244 breeding pairs) and 61 razorbill (40 breeding pairs) were recorded on Middle Mouse. Both cliff and boulder and crevice habitats were being used by nesting auks.
53. The unoccupied suitable habitat on Middle Mouse comprised approximately [REDACTED] boulder and crevice habitat, with no unoccupied suitable narrow ledge habitat observed. Based on the area of unoccupied suitable nesting habitat it was estimated that Middle Mouse could provide predator-free nesting space for between [REDACTED] and [REDACTED] additional breeding pairs (using Harris and Birkhead (1985) and Harris and Wanless (1987) respectively).



Plate 7 Middle Mouse

3.4 St Tudwals East

54. St Tudwals East (**Plate 8**) and West (see section 2.1.1) form a small archipelago lying south of Abersoch, on the Llyn Peninsula in North Wales. The East Island, which remains uninhabited, is approximately 10ha in size and lies 1.2km off the Llyn Peninsula at its closest point. St Tudwals East is in private ownership. To date the Applicants have been unable to contact the landowner.
55. During the site visit in June 2024 guillemot and razorbill were observed in mixed colonies around the coast of St Tudwals East nesting primarily on ledges but also using boulder and crevice habitat. A total of 1,822 guillemot (1,220 breeding pairs) and 164 razorbill (109 breeding pairs) were recorded on the day of survey, along with the presence of shag, cormorant, kittiwake and herring gull.

56. The unoccupied habitat on St Tudwals East comprised approximately [REDACTED] boulder and crevice habitat, with [REDACTED] narrow ledge habitat, estimated to provide predator-free nesting space for between [REDACTED] and [REDACTED] additional breeding pairs (using Harris and Birkhead (1985) and Harris and Wanless (1987) respectively).



Plate 8 St Tudwals East

3.5 St Tudwals West

57. St Tudwals West (**Plate 9**) along with St Tudwals East (see section 3.4) form a small archipelago lying south of Abersoch, on the Llyn Peninsula in North Wales. The West Island, with a single residence, is approximately 10ha in size and situated 750m off the Llyn Peninsula at its closest point.
58. St Tudwals West is in private ownership. The landowner has stated they do not believe they have rats on the islands and declined the approach to carry out a pre-eradication field study. Therefore, further contact has been suspended at this stage.
59. During the boat based site visit in June 2024, guillemot were seen to be nesting around the coast of St Tudwals West in mixed colonies with razorbill and were making use of both cliff and boulder and crevice habitat. A total of 505 guillemot (338 breeding pairs) and 161 razorbill (107 breeding pairs) were recorded on the day of survey, along with black guillemot, shag, cormorant, kittiwake and gulls.
60. The unoccupied habitat on St Tudwals West comprised approximately [REDACTED] of suitable ledge, boulder and crevice habitat, estimated to provide predator-free nesting space for between [REDACTED] and [REDACTED] additional breeding pairs.



Plate 9 St Tudwals West

3.6 Worms Head

61. Worms Head is an uninhabited headland of approximately 16ha in size, situated on the Gower peninsular to the west of Swansea (**Plate 10**). The headland comprises three aspects: the Inner Head, the Middle Head and the Outer Head. Each aspect is an island at high tide and can only be accessed by foot and at low tide.
62. The National Trust is the registered owner of Worms Head.
63. Due to poor weather conditions during the site visit in June 2024, a boat survey was not possible, and counts were made from a vantage point on the Middle Head overlooking the northern cliffs of the Outer Head. Cliff ledge habitat was being used by nesting auks. A total of 58 guillemot (38 breeding pairs) and 8 razorbill (5 breeding pairs) were recorded.
64. The observable unoccupied suitable habitat on Worms Head comprised approximately [REDACTED] cliff habitat. Based on the area of unoccupied suitable nesting habitat it was estimated that the northern cliffs of the Outer Head could provide predator-free nesting space for between [REDACTED] and [REDACTED] additional breeding pairs (using Harris and Birkhead (1985) and Harris and Wanless (1987) respectively).
65. These numbers are considered highly conservative due to the limitation of the land based survey meaning much of the potential habitat, including the far western cliffs of the Outer Head went undocumented. Additional survey by drone or boat would be required to better understand its potential (see section 5).



Plate 10 Worms Head

3.7 The Needles

66. The Needles are a row of three chalk stacks (**Plate 11**), covering less than a hectare in total, situated off the western extremity of the Isle of Wight in the English Channel. The Needles are owned and managed by the National Trust.
67. A site survey at the Needles in June 2024 recorded an absence of guillemot and razorbill, observing only cormorant, great black-backed gull and herring gulls in low numbers. The site was assessed as poor, with no significant quantities of habitat for breeding auks.



Plate 11 The Needles

3.8 The Gobbins

68. The Gobbins (**Plate 12**) is a headland cliff face approximately 5km long running from Whitehaven to Portmuck Harbour along the eastern coast of Islandmagee, County Antrim, Northern Ireland.
69. The custodian of the Gobbins is Mid and East Antrim Borough Council.
70. During the site visit in July 2024 an estimated 2,440 auks (1,634 breeding pairs) were recorded on the Gobbins cliff ledge habitat. The tall cliffs with narrow ledge and crevice habitat made distinction between guillemots and razorbill difficult from the boat at this location. It was estimated however that razorbill constituted less than 10% of the total number.
71. The unoccupied suitable habitat on the Gobbins comprised approximately [REDACTED] of ledge habitat. Based on the area of unoccupied suitable nesting habitat it was estimated that the Gobbins could provide predator-free nesting space for between [REDACTED] and [REDACTED] additional breeding pairs (using Harris and Birkhead (1985) and Harris and Wanless (1987) respectively).



Plate 12 The Gobbins

3.9 St Bees

72. St Bees is a headland cliff face (**Plate 13**) approximately 3km long between the town of St Bees and Whitehaven on the west coast of Cumbria, England.
73. Ownership and management of the nature reserve is shared between Trinity House and the RSPB. Consultation with the RSPB has suggested that the guillemot and razorbill colonies are in good health and there is no evidence of pressure from predatory mammals at St Bees.
74. During the site visit in July 2024 an estimated 12,550 auks (8,412 breeding pairs) were recorded on the St Bees sandstone cliff ledge habitat. As with the Gobbins, the tall cliffs with narrow ledge and crevice habitat, and in this instance the density of birds, made distinction between guillemots and razorbill difficult from the boat at this location. It was estimated however that razorbill constituted less than 10% of the total number.
75. The unoccupied suitable habitat on St Bees comprised approximately [REDACTED] of ledge habitat. Based on the area of unoccupied suitable nesting habitat it was estimated that St Bees could provide predator-free nesting space for between [REDACTED] and [REDACTED] additional breeding pairs (using Harris and Birkhead (1985) and Harris and Wanless (1987) respectively).




Plate 13 St Bees

4 Summary

76. The results of the landowner consultation and preliminary site visits were used to categorise the shortlisted sites into tiers representing their potential to provide the compensation required by the Project. Tier 1 sites are those which are still considered to potentially meet the necessary criteria. Tier 2 sites are those for which the information collected suggests the site may not be suitable as a stand alone location and/or there is significant uncertainty over a criterion. Tier 3 sites are those for which a vital criterion is not met. These results are summarised in **Table 4-1**.

Table 4-1 Summary of shortlist following site visits

Location	Tier	Landowner support for predator eradication scheme*	Predators Present	Auks Present	Available Auk Habitat	Estimated compensation potential (breeding pairs) (Harris and Birkhead (1985) and Harris and Wanless (1987))
Isles of Scilly	1	Likely	Yes	Yes	Yes	
Sheep Island	1	Yes	Yes	Yes	Yes	
Worms Head	2	Likely	Likely	Yes	Yes	
Middle Mouse	2	Likely	Not confirmed	Yes	Yes	
St Tudwals East	2	Not confirmed	Not confirmed	Yes	Yes	
St Tudwals West	3	No	No	Yes	Yes	
The Gobbins	3	Unlikely	Likely	Yes	Yes	
St Bees	3	No	Likely***	Yes	Yes	
The Needles	3	Not pursued	Unlikely	No	No	

Location	Tier	Landowner support for predator eradication scheme*	Predators Present	Auks Present	Available Auk Habitat	Estimated compensation potential (breeding pairs) (Harris and Birkhead (1985) and Harris and Wanless (1987))
Muck Island	N/A	No	Likely	Yes	Not confirmed	Not confirmed

* Supportive of future eradication scheme in principle – delivery and funding mechanism / partner not agreed

** Underestimate due to survey limitation

***Although predators are likely to be present, consultation with the RSPB has indicated that there is no evidence of predation pressure on the seabird colony.

77. Of the Tier 1 sites, the Isles of Scilly and Sheep Island have the greatest potential to meet the compensation needs of the Projects individually.
78. The Isles of Scilly have significant potential to provide the compensation required by the Projects. However, a predator eradication in this location is large-scale and complex due to the number of individual islands in close proximity and the number of stakeholders. The scale of a rat eradication for the entire northern islands and islets of the Isles of Scilly is beyond the scope of which the Applicants could deliver independently or within the timescale required. However, the Applicants will continue to engage with stakeholders on the Isles of Scilly to explore opportunities of supporting a rat eradication scheme. For example, through identification of geographically distinct islands where a predator eradication scheme could be undertaken, including maintenance of a biosecurity zone, until such time as an entire predator eradication scheme for the remaining islands would be undertaken (potentially through future strategic compensation funding).
79. Sheep Island has the potential to provide the required compensation and at a scale which the Applicants could deliver independently. Consultation with the landowners has demonstrated initial interest in an eradication and, although relatively close to the mainland, biosecurity would be significantly less complex than in a location such as the Isles of Scilly where there are multiple islands in close proximity. The Applicants consider Sheep Island to be a suitable location for implementation of predator eradication, subject to landowner agreement.
80. Worms Head may have the potential to provide the required compensation, however further insight will require additional survey by drone or boat to better understand its potential. Consultation with the landowners has demonstrated initial interest in an eradication. Connected to the mainland at low tide, this option would also require predator proof fencing and a commitment to long term biosecurity, fence maintenance and incursion response.

81. Middle Mouse potentially has sufficient habitat (at the upper density estimate) and initial discussions with the landowner have been positive, however the presence of predators on the island is unconfirmed at this stage.
82. St Tudwals East may have sufficient available habitat (if the upper density estimate is applied), however the Applicants have been unable to make contact with the landowner to ascertain whether rats are present or to obtain permission to undertake further surveys.
83. The headland cliffs of the Gobbins and St Bees both recorded good numbers of guillemot and razorbill. However, a predator eradication is unlikely to be viewed favourably by landowners/managers or members of the public at either of these locations. An effective eradication would require construction of a predator proof fence across the headland which is likely to conflict with visitor access and land use in these areas. In addition, the RSPB have confirmed that there is no evidence of mammalian predation at St Bees and therefore a predator eradication is unlikely to provide any compensation at this location.
84. Similarly, the landowner for St Tudwals West informed the Applicants that an eradication has already been undertaken and compensation for the Projects could not be achieved at this location.
85. The Needles recorded an absence of guillemot and razorbill. The site was assessed as poor, with no significant quantities of habitat for breeding auks.

5 Next Steps

86. The Applicants propose to undertake further pre-eradication studies at Sheep Island to gather information on the density and distribution of rats through a combination of index trapping, tracking tunnels, wax blocks, trail cameras, and thermal imaging surveys. In addition, stable isotope analysis of tissue samples will be used to obtain evidence of rat diet composition and rodenticide resistance. These surveys will provide information on how to conduct an eradication programme in practice, and how to maintain a rat free status on the Island. The Applicants have secured ASSI consent and, subject to landowner access consent, permission to carry out the pre-eradication study in the winter of 2024/25.
87. Given the complexities and importance of stakeholder engagement on the Isles of Scilly, the Applicants are not proposing to progress further surveys on the Isles of Scilly in winter 2024/25. However, to maintain an alternative option to Sheep Island, the Applicants will continue to work with stakeholders to explore opportunities to support a future eradication programme, potentially including an extensive stakeholder engagement process to enable further surveys in 2025/26 and a possible geographically distinct eradication and biosecurity zone in advance of a wider project funded by a strategic compensation fund.
88. The Applicants will also continue ongoing landowner consultation on the potential for eradication schemes at Worms Head and Middle Mouse. It is recognised that both of these will require further feasibility surveys to progress and if necessary these could be undertaken in 2025.
89. No further actions are proposed at the other sites unless additional information becomes available to demonstrate suitability as a compensation site.

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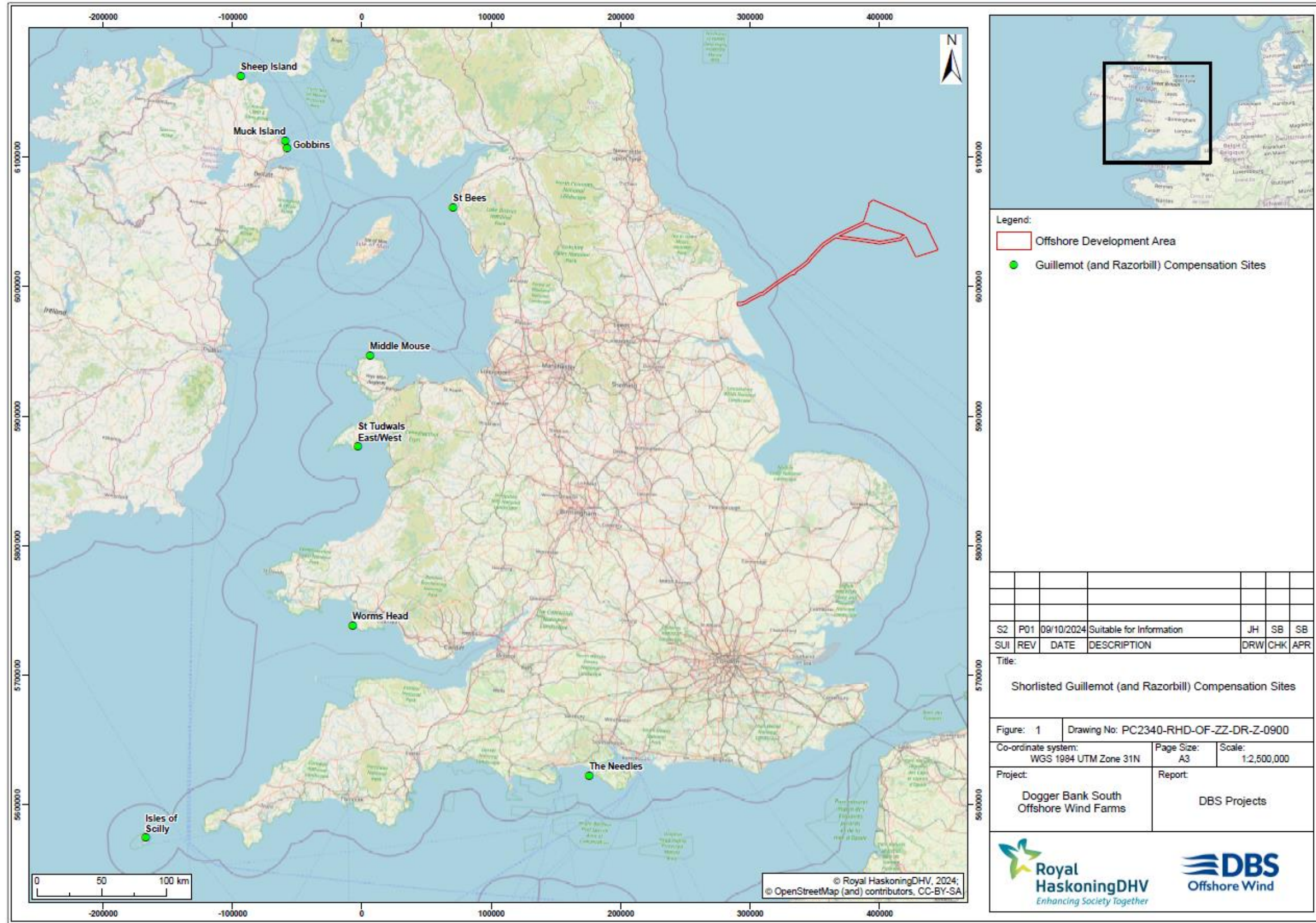


Figure 1 Shortlisted compensation sites

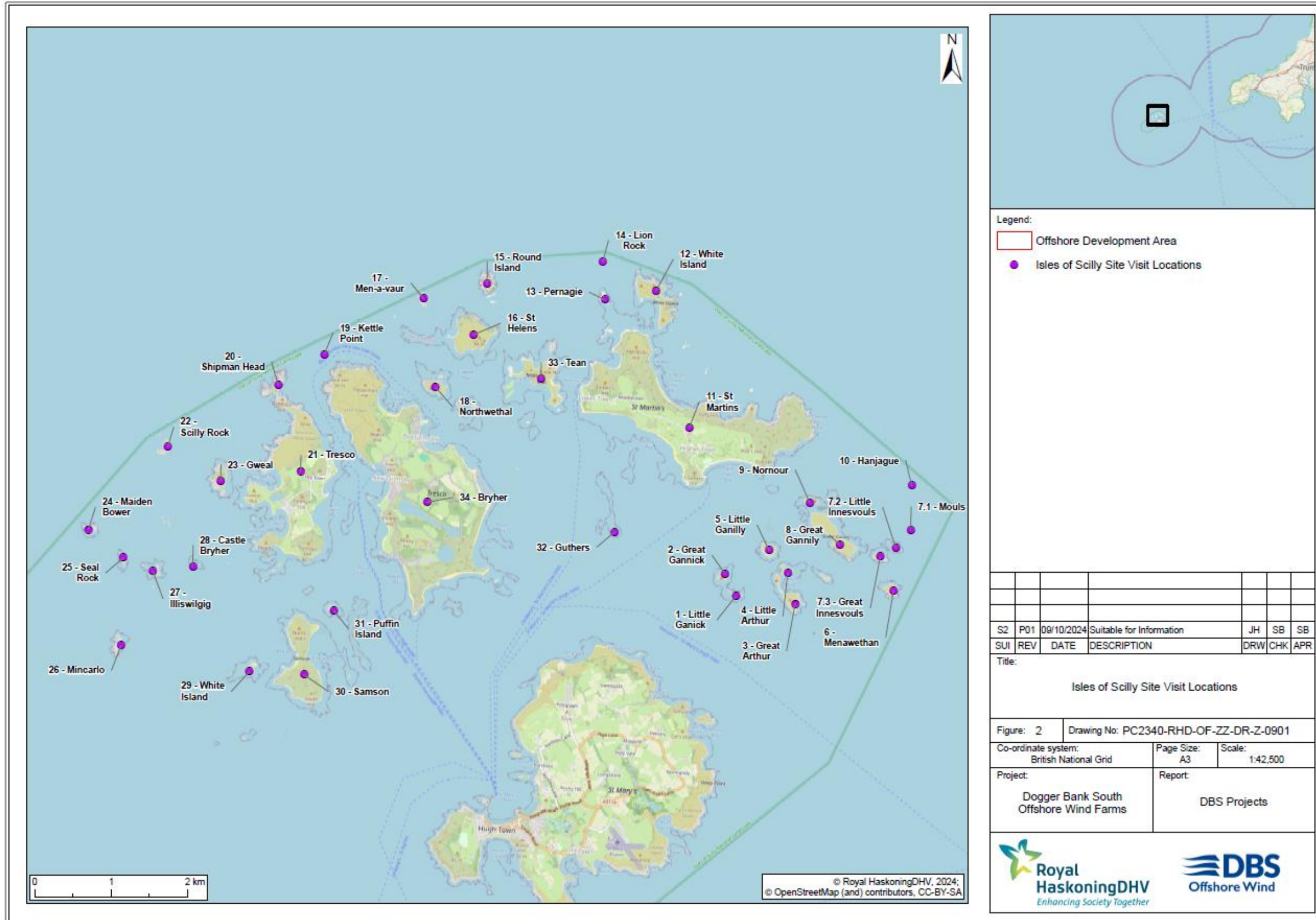


Figure 2 Isles of Scilly survey locations

Appendix A – Engagement Log

Location	Stakeholder	Engagement method	Notes
Sheep Island	National Trust	Letters / Emails	<p>Email chain (06/06/2024 – ongoing) discussing the Applicants’ compensation requirements and interest in implementing an eradication at Sheep Island. The Applicants provided regular updates on progress and discussed requirements of further studies.</p> <hr/> <p>Email dated (06/07/2024) introducing the project and informing of the Applicants’ intention to undertake boat based surveys.</p> <hr/> <p>Email chain (01/08/24 – Ongoing) with NI Estate manager to discuss the Wildlife Trust’s access requirements and the Applicants’ proposal to undertake pre-eradication studies. Indication that access would be welcome if all requirements can be met, including obtaining consent from DAERA and suggesting consultation with RSPB to ensure that surveys do not interfere with each other. Detailed information provided by the Applicants regarding proposed access methods.</p>

Location	Stakeholder	Engagement method	Notes
		Meetings (11/06/2024, 28/08/2024, 09/10/2024))	Meetings focused on discussions around the National Trust’s existing collaboration with RSPB for a feasibility study and short-term predator control with funding from DEARA, and how the Applicants could compliment this through a further pre-eradication study and potential future eradication. It was discussed that the Applicants’ pre-eradication study could provide further information to compliment the National Trusts’ study and that should the Applicants propose a scheme this could secure the biosecurity of the site beyond the existing funding.
	Northern Ireland Environment Agency (DAERA)	Meeting (02/09/2024)	Discussions about access requirements and ASSI consent, with ASSI consent provided on 09/10/2024.
Isles of Scilly	Isles of Scilly Wildlife Trust	Emails	Email dated 18/06/2024 introducing the project and informing of the Applicants’ intention to undertake boat based surveys. Email dated 11/09/2025 requesting engagement on further studies.

Location	Stakeholder	Engagement method	Notes
		Meeting (26/09/2024)	The meeting focused on discussions around the Applicants' need for compensation and associated timescales including undertaking of pre-eradication surveys in winter 2024/2025. The Isles of Scilly Wildlife Trust noted that they are progressing with a feasibility study and there is potential opportunity for collaboration, but with the scale of stakeholder engagement required (~250 households) it would not be possible within the Applicants' timeframe.
	Duchy of Cornwall	Emails	Emails dated 07/06/2024 and 18/06/2024 introducing the project and informing of the Applicants' intention to undertake boat based surveys. Email dated 28/08/2024 providing an update on the surveys and requesting engagement on further studies.
		Meeting (02/07/2024)	Discussions about a potential eradication on the Isles of Scilly. The Dutchy expressed an interest in the proposal. Further meeting planned on 4/11/24.
	The Wildlife Trust	Emails	Emails 03-04/07/2024 discussing The Wildlife Trust's request to be consulted at a national level.

Location	Stakeholder	Engagement method	Notes
		Meetings (28/08/2024, 05/09/2024)	Discussions around the Wildlife Trust's request for a more strategic approach to compensation and potential funding options through OWIC.
St Tudwals East	Private Landowner	Letters	Letter dated 11/06/2024 introducing the project and informing of the Applicants' intention to undertake boat based surveys No response to date
St Tudwals West	Private Landowner	Letters / Emails	Letter dated 11/06/2024 introducing the project and informing of the Applicants' intention to undertake boat based surveys Informed the Applicants that a rat eradication has already been undertaken in email of 02/08/2024.
Middle Mouse	Private Landowner	Letters / Emails	Letter dated 11/06/2024 introducing the project and informing of the Applicants' intention to undertake boat based surveys.
		Telephone Call (07/08/2024)	Discussed a potential eradication. Landowner interest in the proposal and recommendation to speak to Bangor University re: the presence of rats.
	Bangor University	Email	No evidence of rats observed but this has not been the focus of their study.

Location	Stakeholder	Engagement method	Notes
Worms Head	National Trust	Letter / Emails Meeting (28/08/2024)	Email dated 07/06/2024 and letter dated 11/06/2024 introducing the project and informing of the Applicants' intention to conduct boat based surveys. Follow up emails 01-02/07/2024 providing project information and compensation plans as requested.
			Meeting primarily to discuss Sheep Island, however the National Trust enquired as to whether the Applicants would consider Worms Head further and it was stated that it would remain under consideration.
The Needles	Trinity House	Email	Email dated 20/06/2024 introducing the project and informing of the Applicants' intention to undertake boat based surveys. No response
St Bees	Trinity House	Email	Email dated 20/06/2024 introducing the project and informing of the Applicants' intention to undertake boat based surveys. No response
	RSPB	Email	Email dated 20/06/2024 introducing the project and informing of the Applicants' intention to undertake boat based surveys.

Location	Stakeholder	Engagement method	Notes
			RSPB informed the Applicants that there is no evidence of rat predation at St Bees in email of 22/07/2024.
Gobbins	National Trust	Email	Email dated (06/07/2024) introducing the project and informing of the Applicants' intention to undertake boat based surveys.
		Meeting (11/06/2024)	Discussed along with Sheep Island as a potential location.
	Mid and East Antrim Borough Council	Emails	Email dated 12/06/2024 introducing the project and informing of the Applicants' intention to undertake boat based surveys. No response
Muck Island	Ulster Wildlife	Emails	Email dated 12/06/2024 introducing the project and informing of the Applicants' intention to undertake boat based surveys. Requested that the Applicants do not undertake any surveys in email dated 02/07/2024.
N/A	Natural Resources Wales	Emails	Discussions about ongoing eradications in Wales.

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