



Hornsea Project Four

Guillemot Compensation Implementation and Monitoring Plan

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Acronyms

Acronym	Definition
AEoI	Adverse Effect on Integrity
ANS	Artificial Nesting Structure
BTO	British Trust for Ornithology
DCO	Development Consent Order
DESNZ	Department for Energy Security and Net Zero
FFC	Flamborough and Filey Coast
GCIMP	Guillemot Compensation Implementation and Monitoring Plan
GCP	Guillemot Compensation Plan
HAR	Habitat Assessment & Restoration
HPAI	Highly Pathogenic Avian Influenza
HRA	Habitats Regulations Assessment
JNCC	Joint Nature Conservation Committee
MMO	Marine Management Organisation
MoU	Memorandum of Understanding
NMC	Non-Material Change
NSN	National Site Network
OOEG	Offshore Ornithology Engagement Group
RSPB	Royal Society for the Protection of Birds
SNCB	Statutory Nature Conservation Body
SPA	Special Protection Area
sqm	Square Metre
WMIL	Wildlife Management International Ltd.

1 Introduction

1.1.1.1 A Development Consent Order (DCO) was awarded to Orsted Hornsea Project Four Limited (company number 08584182) (hereafter referred to as "Orsted H4") on 12th July 2023 authorising the construction and operation of the Hornsea Project Four Offshore Wind Farm (hereafter referred to as "Hornsea Four"). The Hornsea Four Offshore Wind Farm Order 2023 is hereinafter referred to as "the DCO". As part of the DCO, there is a requirement to compensate for predicted mortality from displacement of adult common guillemot (*Uria aalge*) (hereafter referred to as 'guillemot') associated with the Flamborough and Filey Coast Special Protection Area (FFC SPA) due to the presence of the operational turbines of Hornsea Four. The compensation that is required to be implemented for guillemot is in the form of a non-native invasive mammalian predator eradication project designed to improve nesting conditions and increase the number of breeding pairs of guillemot to ensure that the predicted impacts from Hornsea Four on this feature is offset.

1.1.1.2 This document serves as the Guillemot Compensation Implementation and Monitoring Plan (GCIMP) for Hornsea Four. It has been produced to fulfil the requirements of paragraph 10 of Part 3 of Schedule 16 of the DCO that requires the undertaker to develop a GCIMP based on the strategy set out in the Guillemot and Razorbill Compensation Plan (GCP), as relevant to guillemot following the conclusion of no adverse effect on site integrity for razorbill within the Secretary of State's Appropriate Assessment.

1.1.1.3 An application for a non-material change (NMC) to the Hornsea Four DCO to remove the bycatch reduction compensation measure as a primary compensation measure for guillemot was approved by the Department for Energy Security and Net Zero (DESNZ) via the Hornsea Four Offshore Wind Farm (Amendment) Order 2025 which came into force on 14th April 2025. This reflects the confidence in the predator eradication measure as the mechanism to offset Hornsea Four's compensation requirement. Bycatch reduction will therefore be scaled down to zero and be retained as an adaptive management measure ([Section 11](#)). This approach was supported by the Offshore Ornithology Engagement Group (OOEG) (meeting number 8).

1.1.1.4 The document includes the following sections:

- [Section 2](#) presents the background to the guillemot compensation and the DCO requirements;
- [Section 3](#) summarises the approach to the compensation measures;
- [Section 4](#) summarises the consultation that has been undertaken;
- [Section 5](#) presents the scale of delivery of the measure and the calculations used to determine location capacity;
- [Section 6](#) sets out the chosen locations of the predator eradication project and the capacity of the chosen locations to deliver the measure;
- [Section 7](#) outlines the eradication implementation and biosecurity protocols that will be undertaken throughout the lifetime of the measure;
- [Section 8](#) details of how any necessary land access rights, licences and approvals have or will be obtained;
- [Section 9](#) sets out the success criteria;
- [Section 10](#) presents the plans for monitoring;
- [Section 11](#) summarises the potential adaptive management measures and associated triggers;

- [Section 12](#) outlines reporting requirements;
- [Section 13](#) shows the programme for implementation and delivery; and
- [Section 14](#) concludes how the paragraphs at Part 3 of Schedule 16 of the DCO have been discharged.

2 Background

- 2.1.1.1 In granting the DCO, the Secretary of State prepared a Habitats Regulations Assessment (HRA) Report which concluded that an adverse effect on integrity (AEoI) of the FFC SPA could not be excluded due to predicted impacts on the guillemot population from the project, in combination with other projects. With regards to the guillemot feature of the FFC SPA, the Secretary of State determined that a derogation case was required. Based on the information provided by Orsted H4, the Secretary of State was satisfied that appropriate compensation measures have been identified to offset the loss of 452.3 adult guillemot per year, and that these measures can be secured in the DCO. This GCIMP addresses guillemot compensation only. Compensation related to the kittiwake feature of the FFC SPA has been presented within the Kittiwake Compensation and Implementation Monitoring Plan (KCIMP) (submitted to the Secretary of State on the 5th November 2024 and approved by the Secretary of State on 19th March 2025).
- 2.1.1.2 A number of documents were submitted by Orsted H4 in relation to guillemot compensation. They can be viewed on the Planning Inspectorate website (Planning Inspectorate, n.d.).
- 2.1.1.3 In the DCO, the Secretary of State stipulated that a GCIMP be produced. Paragraph 10 of Schedule 16 of the DCO states that *"Following consultation with the H4 OOEG, the GCIMP must be submitted to the Secretary of State for approval in consultation with Natural England, the local planning authority and Alderney Wildlife Trust. The GCIMP must be based on the strategy for guillemot compensation set out in the guillemot and razorbill compensation plan (as relevant to guillemot)"*.
- 2.1.1.4 Paragraph 11 of Schedule 16 of the DCO also states *"The undertaker must carry out the predator eradication method as set out in the GCIMP approved by the Secretary of State in consultation with Natural England, the Alderney Wildlife Trust and the local planning authority. Work No. 1(a) and 1(b), Work No. 2(a), 2(b) and (c) and Work No. 3(a) must not commence until the GCIMP has been approved by the Secretary of State in accordance with paragraph 10, and at least 2 years have elapsed since the start of the predator eradication works."*¹
- 2.1.1.5 The condition in paragraph 11 requires that specified works may not commence until at least two years have elapsed since the start of the predator eradication works. The start of the predator eradication works will occur when the predator eradication programme, as set out in the GCIMP, has been initiated at any confirmed primary location in accordance with this plan (as per the DCO requirement). The programme for implementation and the sequencing of locations is set out in [Section 13](#), and the basis on which commencement satisfies the DCO requirement is addressed in [Section 14](#).
- 2.1.1.6 The establishment of the OOEG is a requirement of Part 1 of Schedule 16 of the DCO, with the first meeting of the Hornsea Four OOEG having taken place on 24th March 2023. This GCIMP presents the guillemot compensation measures that have been consulted on with the Hornsea Four OOEG in accordance with the plan of work approved by the Secretary of State on 4th June 2024.

¹ Note the aforementioned NMC application seeks to remove the text quoted here relating to the bycatch reduction measure from Schedule 16 of the DCO.

3 Compensation Approach

3.1 Non-native Invasive Mammalian Predator Eradication

- 3.1.1.1 Guillemot have a number of natural predators distributed across their range. Natural predators generally pose a low risk to breeding seabirds as they have co-evolved with predation pressure and have mechanisms or behaviours to avoid or withstand it, such as nesting on remote islands which are free from ground dwelling predators.
- 3.1.1.2 When non-native predators, such as black and brown rats (*Rattus rattus* and *Rattus norvegicus*) are introduced to these island colonies, they can have profound impacts on the native fauna (Jones *et al.*, 2016; Thomas *et al.*, 2017). Rats influence guillemot colonies by preying on eggs, chicks and adults; changing the distribution of breeding colonies, and changing their nesting habitat. Multiple eradication examples presented within the [Predator Eradication Evidence Report \(B2.8.3 Compensation measures for FFC SPA: Predator Eradication: Ecological Evidence \(APP-196\)\)](#) and summarised within the GCP, clearly demonstrate that where rats of either species overlap in range with breeding seabirds, including guillemot, and are able to access nesting locations, they can have a profound population level effect. There is strong evidence that non-native invasive mammalian predator eradication programmes (referred to as ‘predator eradication programmes’ hereafter) increase guillemot breeding success, with one recent example being the eradication of black and brown rats from Lundy (UK).
- 3.1.1.3 To compensate for the potential displacement impacts on guillemot, a predator eradication programme will be implemented in accordance with the DCO at certain identified stacks and islands within the Sark, Alderney, and/or Herm archipelagos as part of the Bailiwick of Guernsey, Channel Islands (see [Figure 3.2](#) with detail presented in [Section 6](#)).
- 3.1.1.4 Due to the number of smaller islands and stacks associated with the main archipelagos of Herm, Sark and Alderney, the term ‘complex’ has been used to clearly differentiate each group of islands. The primary location for implementation is the Sark Island complex (specifically L’Etac), given the strength of the ecological evidence, the manageability of the site, and the current status of access and permissions. Additionally, specific stacks around the Alderney Island complex (specifically the Twin Sisters site) represent the preferred secondary location, where discussions with landowners and required stakeholders are more progressed and where earlier implementation is therefore anticipated. The Twin Sisters site and Herm Island complex remain the two alternative locations under consideration, with ongoing stakeholder engagement to inform the way forward. Progression of either option will be subject to implementation feasibility and stakeholder outcomes. (see [Section 6.2](#)).
- 3.1.1.5 In addition, delivery of the full or part of the compensation required via the Marine Recovery Fund (MRF) is being explored. The MRF is a strategic compensation mechanism to allow developers to fund conservation outcomes at a portfolio scale. This is consistent with the approach set out within the GCP, which identified potential linkages between the project-specific measures and strategic compensation mechanisms, including the MRF, as opportunities to discharge compensation obligations as either a primary or adaptive management measure. Predator removal for guillemot is an approved measure on the long list of strategic compensation measures for the MRF. As such, a contribution to the MRF could allow the Hornsea Four to deliver the whole, or in combination with the project-level set out in this plan, compensation required to discharge the DCO requirement.
- 3.1.1.6 At the time of submission of this GCIMP, the MRF has not yet reached a state of operational readiness sufficient to allow a specific financial commitment or allocation to be confirmed within

this plan. However, Orsted H4 commits to actively monitoring the development of available predator control measures in the MRF and to continue engaging with relevant bodies to explore the terms under which a contribution could be made, if required. Any such contribution, and its role within the overall compensation programme, will be discussed with the OoEG and reported to the Secretary of State as part of the annual reporting process set out in [Section 12](#). If reliance on the MRF for a measure is formalised it will be presented as a revision to this GCIMP for approval in accordance with paragraph 10 of Part 3 of Schedule 16 of the DCO.

- 3.1.1.7 The combined capacity of the proposed locations, alongside using the MRF (as set out above), provides the basis for meeting and exceeding the required compensation (with further detail on the scale presented within [Section 5](#)). The selected locations have been identified based on ecological evidence and thorough feasibility studies supporting an eradication project for guillemot, including evidence relating to the locations' delivery potential and connectivity to the biogeographic region (and specifically the UK National Site Network (UK NSN)). An overview of the compensation delivery strategy is illustrated in [Figure 3.1](#).

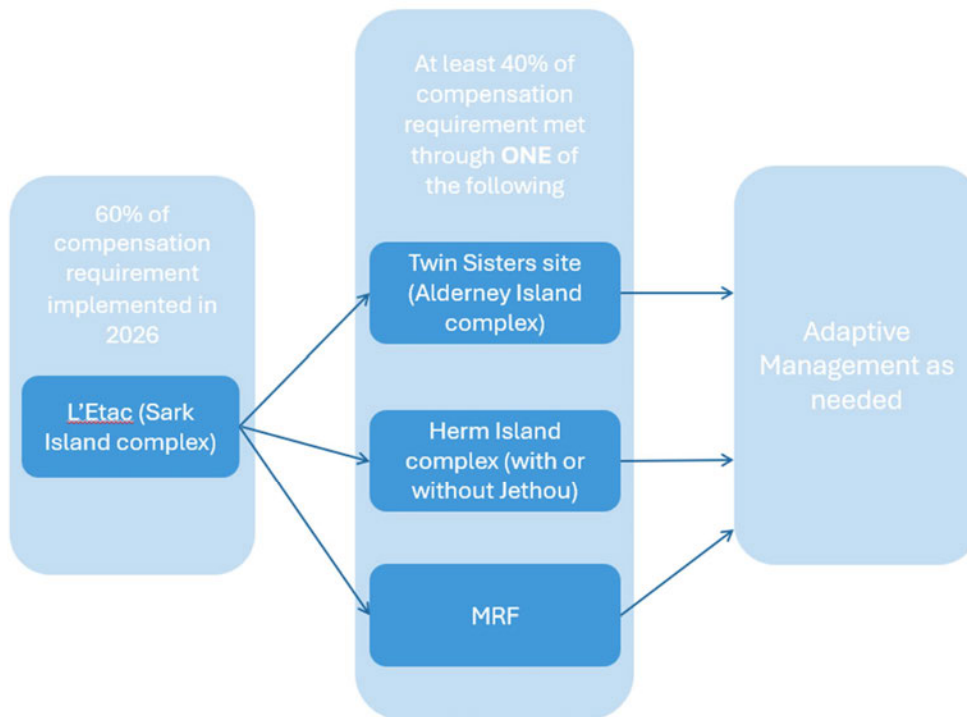


Figure 3.1: Overview of compensation implementation strategy

- 3.1.1.8 It should be noted that in relation to the stacks around Twin Sisters site and/or the Herm Island complex excluding Jethou, the eradication programme will take place in the form of a predator elimination project. Elimination is a subset of eradication implemented at a location with heightened re-invasion risk. Elimination is defined by eradication experts as reducing the target population down to zero, similar to eradication, but also including the establishment of a buffer zone adjacent to the eradication. Incursions into the buffer zone are then detected and dealt with

before the target predator can breed. Elimination is the primary technique for eradication projects focussed on peninsulas, stacks, and tidally connected islands (see [Section 7.3](#) for more detail). Therefore, reference to 'predator eradication programmes' also includes elimination.

- 3.1.1.9 The implementation of a predator eradication programme is intended to provide rat-free nesting space to accommodate additional breeding pairs of guillemot to subsequently increase productivity and offset the predicted impacts from the operation of Hornsea Four on the UK NSN. This aligns with the proposed approach set out within the GCP and consequently the relevant DCO requirements established by the Secretary of State.
- 3.1.1.10 A detailed account of the evidence supporting the measure, location determination, and other key aspects relevant to this measure can be found within the [Predator Eradication Evidence Report \(B2.8.3 Compensation measures for FFC SPA: Predator Eradication: Ecological Evidence \(APP-196\)\)](#), with information on how the measure will be implemented presented within the GCP and the [Predator Eradication Roadmap \(Revision 5 of B2.8.4 Compensation measures for FFC SPA: Predator Eradication: Roadmap \(updated at Deadline 7\)\)](#). The following sections detail how the DCO conditions relevant to this measure will be discharged, with a summary table provided within [Section 14](#).

Hornsea 4

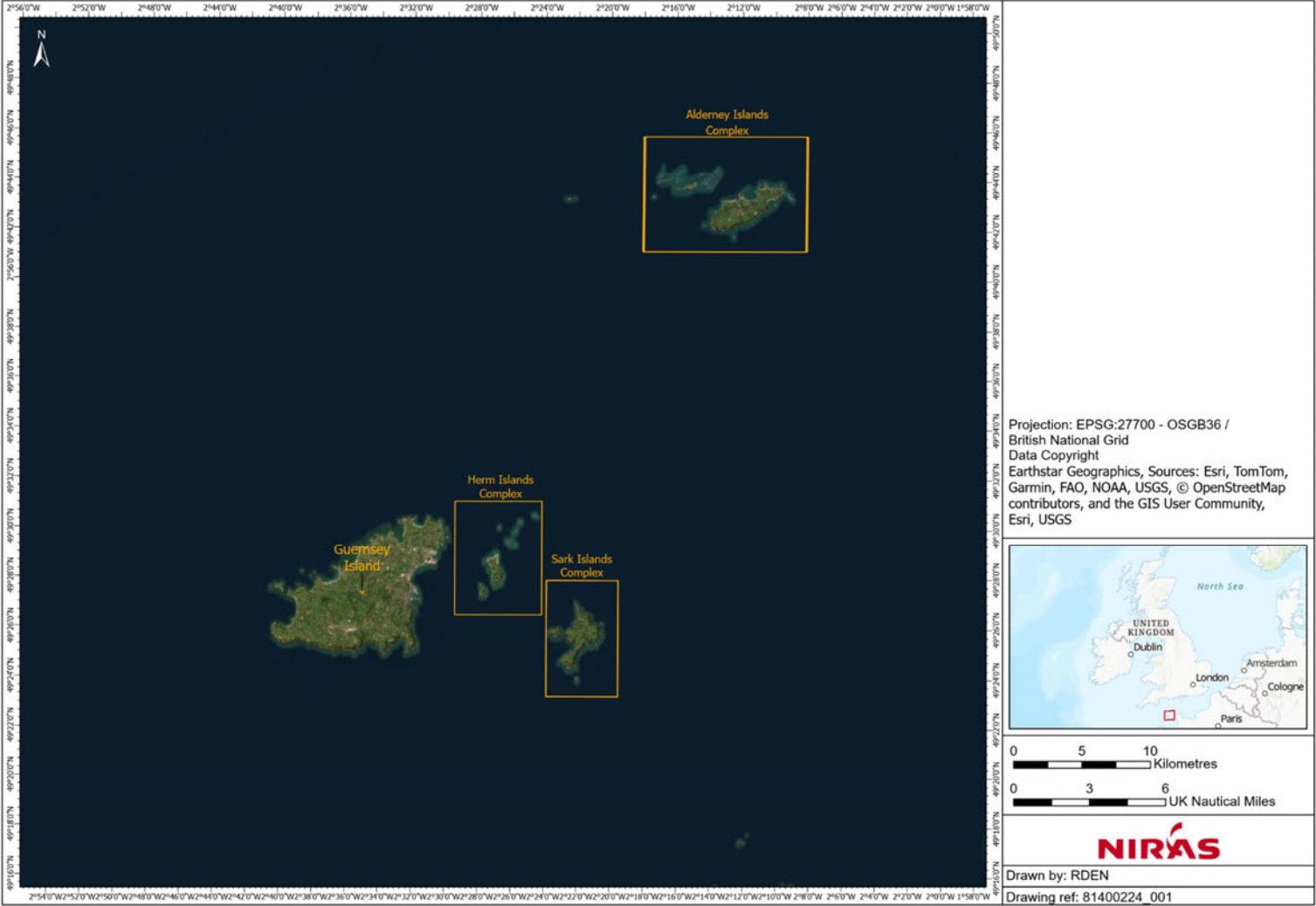


Figure 3.2: Map of the Bailiwick of Guernsey showing the Alderney, Herm, and Sark Island complexes

4 Consultation

4.1.1.1 Orsted H4 established the OOEG following DCO award. Alongside Orsted H4 as the named undertaker, Orsted H4 were required to include the following members as the named consultees for guillemot compensation, as set out in paragraph 2(b)(ii) and 2(b)(iii) of Part 1 of Schedule 16 of the DCO:

- The relevant statutory nature conservation body, i.e. Natural England (as core member for both compensation measures);
- The Marine Management Organisation (MMO) (as core member for the bycatch reduction compensation measure);
- The relevant local planning authority, i.e. The States of Guernsey (as core member for the predator eradication compensation measure);
- The Royal Society for the Protection of Birds (RSPB) (as an advisory member for both compensation measures);
- The Alderney Wildlife Trust (as an advisory member for the predator eradication compensation measure); and
- The Wildlife Trusts (as an advisory member for both compensation measures).

4.1.1.2 OOEG members provided representative(s) to attend meetings of the OOEG and otherwise participate in the business of the Hornsea Four OOEG in accordance with Orsted H4 (2024) Plan of Work (approved by DESNZ on 4th June 2024).

4.1.1.3 The States of Guernsey only attended guillemot relevant OOEG meetings where Herm Island complex was discussed (meeting numbers 5-10). Alderney Wildlife Trust were represented by the States of Guernsey at these OOEG meetings and did not attend. Following Orsted H4's shift in focus from Herm Island complex to Twin Sisters site (see [Section 6.2](#) for more detail), the States of Guernsey ceased attending OOEG meetings and the States of Alderney and Alderney Wildlife Trust attended in their place (meeting numbers 11 and 12). The Wildlife Trusts were invited to join OOEG meetings but declined their involvement.

4.1.1.4 Orsted H4 also invited a number of specialist consultants or delivery partners (who are assisting in the delivery of the guillemot compensation measures) to the OOEG meetings, as follows:

- Collaborative Environmental Advisers (independent chair);
- NIRAS (ornithological specialists and compensation lead);
- Habitat Assessment & Restoration (HAR) (predator eradication specialists and ecologists); and
- Wildlife Management International Ltd. (WMIL) (predator eradication specialists and ecologists).

4.1.1.5 The Hornsea Four OOEG met throughout the consultation period in accordance with the needs of the project, and as of March 2026, there have been 13 OOEG meetings comprising an initial inception meeting on 24th March 2023, followed by 12 further meetings, a summary of which is provided in [Table 4.1](#) below (note that some OOEG meetings also covered matters related to kittiwake compensation as part of the KCIMP process).

Table 4.1: Summary of Hornsea Four OOEG meetings

Meeting	Date	Context
OOEG Meeting #0	24/03/2023	Meeting to provide a Hornsea Four and guillemot compensation recap and updates; review lessons learned from Hornsea Three OOEG process; and discuss plans of work, survey and monitoring, strategic compensation, and next steps.
OOEG Meeting #1	23/08/2023	Meeting to provide an update and overview of the compensation measures proposed for kittiwake in relation to requirements of the DCO; ensure an efficient and productive process by discussing the OOEG engagement programme, beginning the discussion around processes for the group such as the terms of reference; provide an update on artificial nesting structure design progress for kittiwake; and discuss next steps to ensure transparency and opportunity for input at the appropriate stage.
OOEG Meeting #2	29/09/2023	Meeting to provide general updates on Hornsea Four in relation to compensation; provide updates on new offshore Artificial Nesting Structure (ANS) design for kittiwake and guillemot following discussions held and feedback provided at previous meetings; and discuss monitoring expectations and requirements for the new offshore ANS.
OOEG Meeting #3	24/11/2023	Kittiwake focused OOEG. Meeting to provide general updates on Hornsea Four in relation to compensation; introduce and explain the NMC to the Hornsea Four DCO to reduce the number of breeding seasons that the ANS is required to be installed ahead of windfarm operation; and to introduce and discuss the monitoring proposal for the Hornsea Four offshore ANS. The NMC has been approved and come into force.
OOEG Meeting #4	26/02/2024	Meeting to provide general updates on Hornsea Four in relation to compensation; to introduce the proposed strategy for the predator eradication compensation measure for guillemot; and to discuss any queries or feedback on the Bycatch Reduction Technology Selection Phase 2 Summary Report.
OOEG Meeting #5	10/06/2024	Meeting to provide general updates on Hornsea Four in relation to compensation and to discuss key topics regarding the predator eradication compensation measure to help inform drafting of the GCIMP.
OOEG Meeting #6	25/10/2024	Meeting to provide general updates on Hornsea Four in relation to compensation; to continue to discuss key topics on the predator eradication compensation measure to help inform drafting of the GCIMP; and to provide an update on the bycatch reduction compensation measure for guillemot, including the consideration of a NMC to remove bycatch reduction as a primary measure.
OOEG Meeting #7	27/11/2024	Meeting to provide general updates on Hornsea Four in relation to compensation, and to continue discussing success criteria for the predator eradication compensation measure to help inform drafting of the GCIMP.
OOEG Meeting #8	31/01/2025	Meeting to provide an update on the Offshore Bycatch Study and the Predator Eradication January visit and schedule towards commencement; to inform of the NMC being prepared to remove bycatch reduction as a compensation measure for guillemot; and to discuss the note provided on the predator eradication measure on success criteria, monitoring, and adaptive management.
OOEG Meeting #9	21/05/2025	Meeting to provide an update on the Hornsea Four project following the announcement on 7 th May 2025 that the project was being discontinued in its current

		form, and how this will relate to compensation projects relevant to guillemot and kittiwake. The stakeholder engagement/branding work was also shared for information.
OOEG Meeting #10	23/10/2025	Meeting to provide an update on Hornsea Four in relation to stakeholder agreements for the commencement of the predator eradication compensation measure, and to discuss potential post-implementation monitoring scenarios.
OOEG Meeting #11	16/01/2026	Meeting to provide an update on Hornsea Four in relation to compensation progress, and to discuss a shift in predator eradication compensation delivery strategy to help inform GCIMP amendments.
OOEG Meeting #12	18/03/2026	Meeting to provide an update on Hornsea Four in relation to compensation progress, and to discuss a shift in predator eradication compensation delivery strategy to help inform GCIMP amendments.

4.1.1.6 States of Guernsey and Orsted H4 have a formal agreement to support delivery of the project in relation to the predator eradication programme at the Herm Island complex. Orsted H4 have been working with Alderney Wildlife Trust under an MoU since 20th December 2022. Alderney Wildlife Trust are now developing the predator elimination measure. Orsted H4 is also progressing discussions with States of Alderney to secure a formal agreement. Orsted H4 has signed an access agreement with the L'Etac leaseholder which confirms all required access permissions.

5 Scale and Capacity of Compensation Implementation

5.1.1.1 Part 3 of Schedule 16 of the DCO establishes that the GCIMP (and therefore, the compensation measure proposals) must be developed in line with the strategy for guillemot compensation set out in the GCP. Section 3.2.2 of the GCP states that the implementation of a predator eradication programme is to provide rat-free nesting space which will accommodate additional breeding pairs of guillemots to subsequently increase productivity to offset the predicted impacts from the operation of Hornsea Four. This section of the GCIMP details how the number of required nesting sites were calculated ([Section 5.2](#)) and how the rat-free nesting capacity of the locations chosen in the final location strategy is determined ([Section 5.3](#)).

5.2 Scale

5.2.1.1 Paragraph 10(a)(ii) of Part 3 of Schedule 16 of the DCO requires the GCIMP to include “*details of the number of nest sites that need to be created within the Herm Island complex (Herm, Jethou, including Grand Fauconniere and the Humps) and locations around Alderney. This must take into account both the number of chicks that will need to be produced to ensure that the required number of adults survive to adulthood and the proportion of adult birds that are expected to be recruited into the UK NSN*”.

5.2.1.2 The calculations used to establish the nesting requirement has been discussed extensively and agreed with the OOEG. Addressing this requirement involves converting 452.3 adult guillemot per year into the number of nest sites required using two key calculations:

- Step 1: ‘*the number of chicks that will need to be produced to ensure that the required number of adults survive to adulthood*’ and
- Step 2: ‘*the proportion of adult birds that are expected to be recruited into the UK NSN*’

Step 1

- 5.2.1.3 Step 1 was addressed by Orsted H4 in [Hornsea Project Four: G1.41 Calculation Methods of Hornsea Four's Proposed Compensation Measures for Features of the FFC SPA](#) which set out an evidenced method of calculation for all compensation considerations for Hornsea Four. Section 3.3 of the report presents the approach used for predator eradication and control relevant to guillemot compensation. The report was submitted by Orsted H4 at Deadline 1 and was agreed with stakeholders as a suitable approach to determine scale.
- 5.2.1.4 The method used three key demographic parameters to determine the scale of compensation required:
- Age of recruitment to breeding colonies;
 - Productivity rate; and
 - Survival rate of both immatures and adults.
- 5.2.1.5 Following the determination of a predicated impact of 452.3 breeding adults, Orsted H4 used the same method of calculation described above to determine the required scale of compensation based on the Secretary of State's conclusion. This process identified 1,999 (1,998.9) nesting spaces would be required to support the number of breeding pairs of guillemot needed to produce enough chicks to compensate for an annual impact of 452.3 breeding adults.

Step 2

- 5.2.1.6 For step 2, an additional calculation was required considering the species' philopatry. Adult guillemot have high breeding philopatry; once they first start to breed, they repeatedly return to the same nesting site each year (Harris *et al.*, 1996; Halley *et al.*, 1995). They also display a relatively high degree of natal philopatry, with a proportion of birds returning to the colony in which they originated for their first breeding season (42% Harris *et al.*, 1996; 58% Halley *et al.*, 1995). However, Harris *et al.* (1996) stated that the recorded natal philopatry was most likely an overestimation due to dispersed individuals being less likely to be resighted.
- 5.2.1.7 For Hornsea Four's compensation planning, the more conservative rate of 58% natal philopatry has been used (Halley *et al.*, 1995), with the assumption that the remaining 42% of birds produced by the compensation could disperse into the UK NSN and associated guillemot colonies supporting the UK NSN.
- 5.2.1.8 This additional factor equates to 4,760 nesting spaces in total to be provided at identified locations within the Bailiwick of Guernsey which would be needed to account for adequate dispersal of 452.3 into the UK NSN and associated guillemot colonies supporting the UK NSN. Information relating to how the measure will be deemed as successful (i.e. the success criteria) is presented within [Section 9](#).
- 5.2.1.9 While this measure is a form of landscape restoration (rather than building an artificial nesting platform), it requires the nesting spaces to be provided within rat-free locations. As rat eradications are intended to be undertaken across the Bailiwick of Guernsey, the 4,760 rat-free nesting spaces will be additional to what is currently available to breeding guillemot across the locations.

5.3 Capacity of Locations Calculation

- 5.3.1.1 At examination, a suite of potential eradication locations was presented within the GCP (and associated documents) for feasibility purposes, based on low and precautionary breeding densities. Following the examination phase, Orsted H4 committed to feasibility studies to determine suitable

locations for rat eradication across the Bailiwick of Guernsey and provide a more realistic breeding density to be used to inform the approach. During the feasibility study, HAR and WMIL compiled a high-resolution digital photograph log documenting the key areas of habitat determined to be suitable for supporting breeding guillemot across all potential locations in the Bailiwick of Guernsey. These areas were then visually assessed to match known guillemot nesting preferences (including the presence of any existing colony, orientation of the feature, shelter, width and incline of the ledge etc.).

- 5.3.1.2 The nest site estimates for Twin Sisters site were completed by Alderney Wildlife Trust in 2024 following the same methodology.
- 5.3.1.3 Ornithologists (NIRAS) and eradication experts (HAR and WMIL) initially recommended Herm Island complex for large-scale eradication due to ecological suitability and stakeholder support, with L'Etac and Twin Sisters site considered for over-compensation and adaptive management respectively. Orsted H4 decided to continue with delivery across all feasible locations to maximise the chances of the predator eradication compensation measure being successful. These locations and site-based breeding densities of existing colonies were consulted upon via the OOEK and agreed as suitable for inclusion in the compensation measure.
- 5.3.1.4 When determining the suitability of the Bailiwick of Guernsey for the rat eradication project and the ability for the islands and islets to support the required number of guillemot nesting sites, numerous visits were undertaken between 2021 and 2024, as described in [Figure 6.1](#), to ensure accuracy and resilience with regards to the nest site estimates and the feasibility of eradication. Each visit refined the project's team of ornithologists' and eradication experts' understanding of the local guillemot populations, the distribution of rats, and the feasibility of rat eradication across the islands.
- 5.3.1.5 The calculations used during the eradication feasibility study to estimate potential available nesting habitat was consistent with the calculations set out within [Hornsea Project Four: G1.33 Predator eradication island suitability assessment: Bailiwick of Guernsey](#). The estimated area available for additional guillemot breeding was based on the estimated length and depth of the ledges from photographs and then multiplied by guillemot breeding density. The team included favourable crevices and boulder fields on islets and stacks as guillemots are known to breed in these habitats throughout low lying locations and when archetypal cliff habitat is absent. It is pertinent to note that the team only considered locations where the nesting habitat was judged to be 'good' or 'moderate' for guillemot breeding. The breeding densities considered during the feasibility study calculations were as follows:
- 20 breeding pairs/sqm (Harris and Birkhead, 1985)
 - 27 breeding pairs/sqm (2022; See [Paragraph 5.3.1.6](#))
 - 46 breeding pairs/sqm (Harris and Wanless, 1987)
 - 70 breeding pairs/sqm (Birkhead, 2010)
- 5.3.1.6 The nesting density of 27 pairs/sqm was based on ground truthing surveys conducted during the seabird census in May 2022 as part of the eradication feasibility study. This observed density was considered the average guillemot breeding density for the local Bailiwick guillemot population and the key density used in determining the feasibility of the eradication locations in meeting the compensation requirement.

- 5.3.1.7 As guillemot are currently under predation pressure by rats across the Bailiwick, 27 pairs/sqm was considered the lowest average nesting density likely to be observed, and thus 20 pairs/sqm was not considered realistic for the natural guillemot population present and was not considered further.
- 5.3.1.8 While breeding densities for guillemots have been reported as high as 70 pairs/sqm where the surface was uneven (Birkhead, 2010), Orsted H4 deemed this density too optimistic and did not consider it further during nesting site estimations.
- 5.3.1.9 The capacity estimations for each location are therefore presented as a range from the average nesting density currently observed (27 pairs/sqm) to a more optimistic level (46 pairs/sqm) with the knowledge that in favourable habitats, without predation pressure from rats, the nesting density may be greater than what is currently observed.
- 5.3.1.10 The nesting estimations for L'Etac and Herm Island complexes were initially calculated during the 2022 seabird surveys and later verified following a site survey by experienced ornithologists in June 2024. The purpose of revisiting the estimations was to ensure that the projections were consistent with those features that are currently favoured by the guillemot nesting across the Bailiwick. The nest site estimates for the Twin Sisters site were completed by Alderney Wildlife Trust in 2024.
- 5.3.1.11 The process described above follows the approach presented within the GCP and methods which have been consulted on extensively and agreed with the OOEG. The final estimation of additional nesting sites that would be suitable for guillemot following the rat eradication is provided in each location's respective sections in [Section 6](#). The seabird benefits that arise from the eradication will be tracked as per [Section 10.3](#).

6 Location of Compensation

6.1 Hornsea Four Information Collection

- 6.1.1.1 Orsted H4 has invested significant resources in collecting information to inform the implementation of the compensation measure. [Figure 6.1](#) provides an overview of the visits to the Bailiwick of Guernsey commissioned by Orsted H4 up until the time of drafting this GCIMP, along with the continued collaborative involvement from the States of Guernsey, States of Alderney, and Alderney Wildlife Trust throughout the process. The data collected during this extensive information collection period has enabled Orsted H4 to develop a robust case towards the implementation of the compensation measure and utilise the expert network of ornithologists and predator eradication experts employed by the project. Further site visits, including a stakeholder launch, will be undertaken prior to the implementation of the measure.

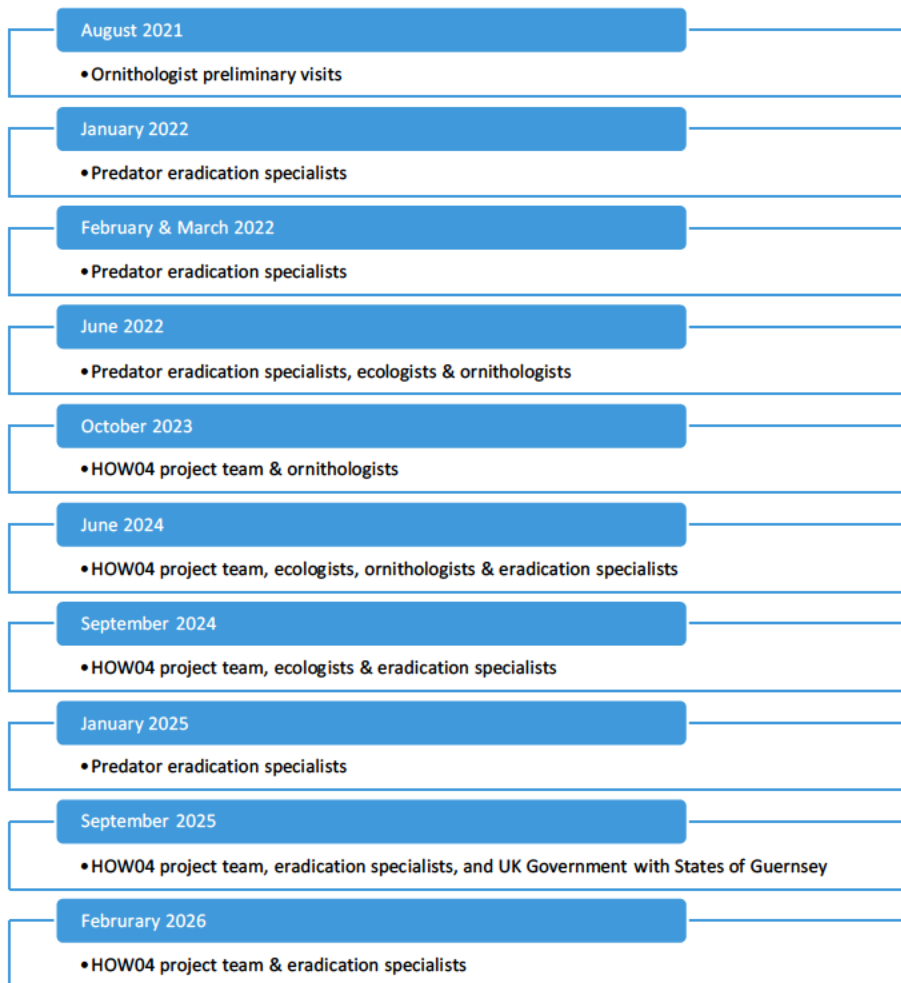


Figure 6.1 Overview of site visits undertaken by Orsted H4 and its consultants, with involvement from the States of Guernsey, States of Alderney, and Alderney Wildlife Trust.

6.2 Location Selection

- 6.2.1.1 The location options for predator eradication presented within the GCP were identified during the initial site selection process set out within Section 3.3 of the GCP. The aim of the process was to determine a number of suitable locations to enable scalability and flexibility in relation to the outcomes of the Secretary of State’s HRA. During the identification process, it was deemed that the most suitable locations were those islands/islets surrounding Herm, Sark, and Alderney complexes which are part of the Bailiwick of Guernsey.
- 6.2.1.2 During Issue Specific Hearing 12, Orsted H4 confirmed that their preference would be to focus the compensation measure on the Herm Island complex (referring to all islands including but not limited to Herm, Jethou, including Grand Fauconniere and the Humps (islands and islets within the Ramsar site)), and certain locations within the Alderney Island complex providing an adaptive management option. This preference was reflected within paragraph 10(a)(ii) of Part 3 of Schedule 16 of the Hornsea Four DCO where it is stated “*details of the number of nest sites that need to be*

created within the Herm Island complex (Herm, Jethou, including Grand Fauconniere and the Humps) and locations around Alderney”.

- 6.2.1.3 Following DCO award, logistical challenges with delivering the compensation measure on the required timescales meant that predator eradication across the Herm Island complex could not be relied upon. Orsted H4 were unable to secure access agreements for all necessary eradication locations within the required timeframe, and eradication experts and Orsted H4 determined that proceeding with the Herm Island complex without those locations would increase implementation complexity and delivery risk. The Herm Island complex is therefore retained as a contingency location, to be progressed only if required and subject to further consultation and logistical consideration.
- 6.2.1.4 Key locations within the Alderney Island complex were considered for compensation delivery within the initial shortlist of locations and was identified by Orsted H4 as one of the preferred locations for compensation during Issue Specific Hearing 12. Whilst those key locations associated with the Alderney Island complex were originally proposed as an adaptive management option, the Twin Sisters site was selected as a primary location following the logistical challenges at Herm Island complex, with the measure developed in collaboration with Alderney Wildlife Trust and eradication experts. An eradication programme focussed on key stacks within the Twin Sisters site presents a clear and robust eradication strategy, with high confidence in successful implementation, a predictable programme, and low stakeholder risk.
- 6.2.1.5 The shift in compensation strategy was discussed with the OOEG in meeting number 11 and within a follow up note subsequently circulated to OOEG members providing additional rationale around the decision-making process. The OOEG understood the complexities with compensation delivery and supported the change in the implementation location, recognising that the new strategy meets the compensation requirements.
- 6.2.1.6 Further site refinement has also been undertaken to determine the final implementation locations within the Bailiwick of Guernsey since DCO award. This included additional visits by island restoration and enhancement experts, and ornithologists to provide further evidence in support of the eradication proposal. This process was undertaken alongside continued consultation with the OOEG and with site/reserve managers, wardens, landowners, NGOs, local governments, the local community, and other relevant stakeholders to determine each location’s feasibility. Although the Sark Island complex was not included in the final locations set out within the DCO, the site selection process also continued to explore the stacks around the Sark main island due to their high potential to provide guillemot nesting space following rat eradication.
- 6.2.1.7 The following locations within the Bailiwick of Guernsey are therefore included within the final location strategy for the predator eradication, in order of implementation priority:
- Sark Island complex: L’Etac, to the south of the main island, is the confirmed first location for eradication implementation. It has been identified by eradication experts and core OOEG stakeholders as ecologically suitable, technically feasible, and ready for progression. Eradication at L’Etac is intended to commence in 2026 (see [Section 6.4](#), [Figure 6.2](#)).
 - Alderney Island complex: Limited to the stacks of the Twin Sisters site (La Nache, Fourquie, and Little Sister) to the south of the main island. Following the elevation of these locations from an adaptive management option to a primary location, the Twin Sisters site are confirmed as the preferred secondary implementation location (see [Section 6.5](#) and [Figure 6.3](#)); and

- Herm Island complex: The Herm Island complex (including Herm, The Humps, Jethou, and Grand Fauconniere) remains as a contingency location to be progressed only if feasible and required. Access agreements with landowners have not yet been finalised, and implementation at Herm remains deferred pending conclusion of those discussions. Orsted H4 will maintain active engagement with relevant landowners (see [Section 6.6](#) and [Figure 6.4](#)).

6.2.1.8 The revised location strategy described above provides an agile approach whilst remaining cognisant of the practical realities of predator eradication implementation. The options set out also maintain full alignment with the DCO compensation requirement. L'Etac can be implemented first, with the additions of either the Twin Sisters site or Herm Island complex as appropriate. This strategy will allow for the delivery of the required 4,760 rat-free nesting spaces as well as maintaining the flexibility and resilience of the compensation measure (see [Figure 3.1](#)).

6.3 Feasibility Studies

6.3.1.1 As per RSPB guidance, all potential eradication islands must undergo an extensive feasibility study addressing technical feasibility, sustainability, social acceptance, political and legal acceptance, environmental acceptance, capacity, and affordability².

6.3.1.2 Orsted H4 commissioned highly experienced eradication experts from HAR and WMIL (who are currently leading RSPB's Rathlin (Northern Ireland) predator eradication project and have led numerous rat eradications across the UK on behalf of RSPB and other organisations (including NatureScot)) to undertake the feasibility studies on Sark and Herm Island complexes.

6.3.1.3 Orsted H4 commenced predator eradication feasibility studies in late 2021/early 2022, relevant to Herm Island complex and the islands/islets surrounding Sark. The feasibility studies focused on surveys of predators (i.e. rats) and seabirds across the islands and islets in the Bailiwick of Guernsey. Information gathered during the feasibility studies also allowed an updated assessment of the available nesting space for guillemot if rats were eradicated. The results of the feasibility studies on the islands/islets surrounding Sark and Herm Island complex are summarised in [Section 6.4](#) and [Section 6.6](#) respectively. The feasibility studies were shared and consulted with OOEG members during the consultation process.

6.3.1.4 The Alderney Wildlife Trust commenced the Hornsea Four Alderney Predator Eradication Project in 2021 with the aim to investigate whether implementation of a rat eradication or elimination programme would be feasible within Alderney Island complex and to understand the potential benefit that could be experienced by locally breeding guillemot following an eradication. The study was completed in 2023 and the results are summarised within [Section 6.5](#). The results of the eradication study were shared and consulted with OOEG members during the consultation process.

6.3.1.5 Since the transition of Alderney Island complex from an adaptive management measure to a primary measure, HAR and WMIL have continued to work with Alderney Wildlife Trust to confirm the feasibility of the Twin Sisters site for an eradication project and develop an implementation strategy that maximises the viability of the measure at the site.

6.3.1.6 The final assessment of nesting sites available across final implementation locations following the removal of rats is presented within each location's respective sections below.

6.4 Sark Island Complex and L'Etac

6.4.1.1 The Sark Island complex comprises the main island of Sark and Little Sark plus a number of smaller islets, islands and stacks ([Figure 6.2](#)) including the focus of the predator eradication measure,

² <https://biosecurityforlife.org.uk/resources/detail/uk-rodent-eradication-best-practice-toolkit>

L'Etac. Sark Island complex is located approximately 10 km east of Guernsey and occupies an area of approximately 520 hectares.

- 6.4.1.2 Sark and Brecqhou have a residential population of approximately 500 to 600 inhabitants. The offshore islets and stacks within the complex are uninhabited.
- 6.4.1.3 The eradication of black rats from Sark and other locations close to the island was initially removed from the shortlisted locations within the GCP due to concerns over a lack of support for an eradication on the mainland of Sark. However, post consent community engagement has established that these concerns were limited to the main island of Sark and that there was a majority of support for an eradication across Sark's islets, notably L'Etac (identified in [Figure 6.2](#)). According to personal accounts from Sark inhabitants, L'Etac historically supported breeding guillemot, razorbill and puffin. Recent seabird surveys commissioned by Orsted H4 ([Table 10.1](#)) suggest populations have been reduced to a handful of razorbill, with guillemot and puffin extinct as breeding species.
- 6.4.1.4 Further evidence gathered by eradication experts and ornithologists during the feasibility study identified L'Etac as a viable location for rat eradication. L'Etac is located approximately 680 metres south of the main island of Sark, comprises an area of 3 hectares, and is not inhabited. There are two main habitats on L'Etac: coastal grassland on its top and bare rock and boulder on its slopes. L'Etac has, relative to its size, small numbers of breeding seabirds with no guillemot currently known to breed there despite comprising a significant amount of suitable guillemot nesting habitat, leading experts to believe an invasive mammalian predator may be present.
- 6.4.1.5 HAR and WMIL undertook site visits following the 2024 seabird breeding season to determine if invasive mammalian predators were present. [Appendix A](#) presents the evidence collected by the eradication experts which indicates rats are currently present on the island as the physical evidence collected was deemed to be produced recently (within the previous seabird breeding season). [Appendix A](#) was presented to OoEG members ahead of the October 2024 OoEG meeting (OoEG meeting number 6) where it was discussed by the Managing Director of WMIL. Written feedback provided by Natural England to Orsted H4 following the OoEG meeting (OoEG meeting number 6) supported the evidence provided in [Appendix A](#) stating "*Natural England are content that the evidence presented indicates rat presence on L'Etac is highly likely, and the expert opinion on the evidence gives considerable comfort.*" A recent BTO review of breeding seabird populations also called for rat eradications across Sark and its surrounding islands (Barnes *et al.*, 2022).
- 6.4.1.6 The inclusion of this location is therefore supported by core OoEG stakeholders and provides significant additional nesting capacity for guillemot in addition to the locations set out in within paragraph 10(a)(ii) of Part 3 of Schedule 16 of the Hornsea Four DCO (Herm and Alderney).
- 6.4.1.7 The capacity of L'Etac was determined following the calculation set out in [Section 5.3](#). The scale of this location's contribution to the compensation total of the measure is provided within [Table 6.1](#).

Table 6.1: Final projection of additional guillemot nest sites that could be supported across L'Etac

Location	Guillemot Nest Site Estimate		Evidence of Rat Presence
	<i>27 pairs/sqm</i>	<i>46 pairs/sqm</i>	
L'Etac	2,835	4,830	Black rats were confirmed on Sark main island with index trapping.* Black rats were confirmed on L'Etac with the collection of physical evidence indicating rat predation activity (See Appendix A).
<i>Percentage of required compensation met</i>	<i>60%</i>	<i>101%</i>	

* Index trapping refers to rat detection trapping including using kill traps, tracking tunnels, and flavoured wax blocks

Hornsea 4

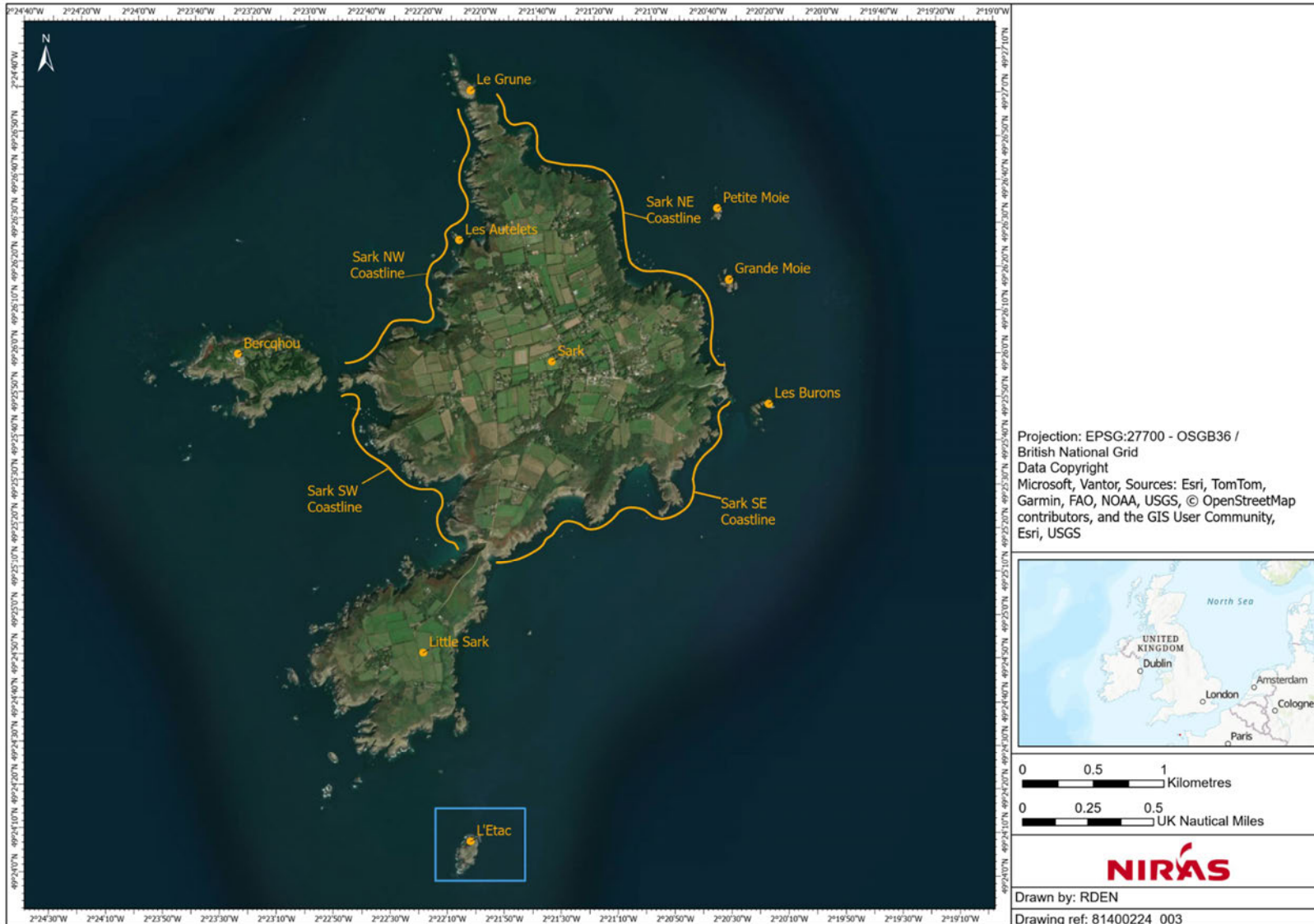


Figure 6.2: Map of Sark Island complex with L'Etac identified

6.5 Alderney Island Complex and the Twin Sisters Site

- 6.5.1.1 The island of Alderney is the northernmost inhabited island in the Channel Islands. The Alderney Island complex comprises the main island of Alderney plus a number of smaller islets, islands and stacks (Figure 6.3) including the focus of the predator eradication project, the Twin Sisters complex. Alderney Island complex is located approximately 30 km north-east of Guernsey and occupies an area of approximately 1,000 hectares. The Twin Sisters site comprises three tidal islets/stacks off of Alderney's south coast: Fourquie, La Nache, and Little Sister.
- 6.5.1.2 Alderney has a residential population of approximately 2,100 inhabitants. The offshore islets and stacks within the complex are uninhabited.
- 6.5.1.3 There are a range of habitats across the Alderney Island complex with at least 36 distinct habitats including woodland, wetland, scrubland, grassland, heathland, sandy beaches, and rocky shores. The Alderney Island complex supports regionally, nationally and internationally important breeding populations of seabirds. The areas hosts breeding Atlantic puffin (*Fratercula arctica*), cormorant (*Phalacrocorax carbo*), European storm petrels (*Hydrobates pelagicus*), fulmar (*Fulmarus glacialis*), gannet (*Morus bassanus*), great black-backed gull (*Larus marinus*), guillemot, herring gull (*Larus argentatus*), lesser black-backed gull (*Larus fuscus*), razorbill (*Alca torda*), and shag (*Gulosus aristotelis*). The Twin Sisters site specifically supports breeding great black-backed gull, guillemot, herring gull, lesser black-backed gull, razorbill, and shag. In part due to the recognition of its seabird assemblage, a large section of the island complex, including the gannetries (Ortac and Les Etacs), achieved Ramsar site designation in 2005 (Figure 6.3).
- 6.5.1.1 The eradication study conducted by Alderney Wildlife Trust across the Alderney Island complex for brown and black rats was completed in 2023. The study sought to establish the demographic status of Alderney's guillemot populations, what impact rats have on the nesting birds, and whether eradication could be used effectively to mitigate their impact. The study confirmed rat presence on the majority of Alderney's tidal islets, overlapping with the nesting locations of breeding guillemot. Brown rats were the primary species on the top of the main island of Alderney, whereas black rats were more common on the steeper cliffs and offshore locations. Black rat activity was detected on all tidal islet nesting sites during the summer breeding period, with images of black rats accessing guillemot breeding areas and a black rat scavenging a guillemot egg being obtained via camera traps.
- 6.5.1.2 Within the Twin Sisters site, four years of intensive monitoring have revealed that guillemot will attempt to nest on La Nache, but no successful breeding was recorded. Guillemot made multiple nesting attempts, but either they were disrupted before laying or lost their egg very quickly (< 1 day after laying). Two main sources for failure were attributed to avian predation and rat presence (predation and/or disturbance). Multiple camera traps have recorded rats consistently moving through and foraging within guillemot nesting areas at night on the stacks.
- 6.5.1.3 It is worth noting that avian predation is a threat to all nesting guillemot across Alderney Island complex. However, there are several successful breeding guillemot sub-colonies across the islets where avian predation is observed and rats are absent, for example on Ortac and Les Etacs.
- 6.5.1.4 During the eradication study, Alderney Wildlife Trust also noted that recent counts from Alderney indicate that a substantial proportion of guillemot present are non-breeders that could readily populate new sites as they become available.
- 6.5.1.5 The Twin Sisters site was selected as the final implementation location within the Alderney Island complex as it was the location most likely to benefit guillemot due to overlap between breeding

guillemot and rats, available nesting opportunities, and implementation feasibility. Therefore, a rat elimination project focussed at the Twin Sisters site, rather than a full island eradication, was considered the most appropriate and proportionate management technique.

- 6.5.1.6 The capacity of the Twin Sisters site was determined following the calculation set out in [Section 5.3](#). The scale of this location's contribution to the compensation total of the measure is provided within [Table 6.2](#).

Table 6.2: Final projection of additional guillemot nest sites that could be supported across the Twin Sisters site

Location	Guillemot Nest Site Estimate		Evidence of Rat Presence
	<i>27 pairs/sqm</i>	<i>46 pairs/sqm</i>	
Fourquie	624	924	Brown and black rats were confirmed across the Alderney Island complex with index trapping. * Black rats were confirmed on the Twin Sisters site with index trapping, camera traps, and thermal drones.
La Nache	842	1,248	
Little Sister	526	779	
Total	1,992	2,951	
<i>Percentage of required compensation met</i>	<i>42%</i>	<i>62%</i>	

* Index trapping refers to rat detection trapping including using kill traps, tracking tunnels, and flavoured wax blocks

Hornsea 4

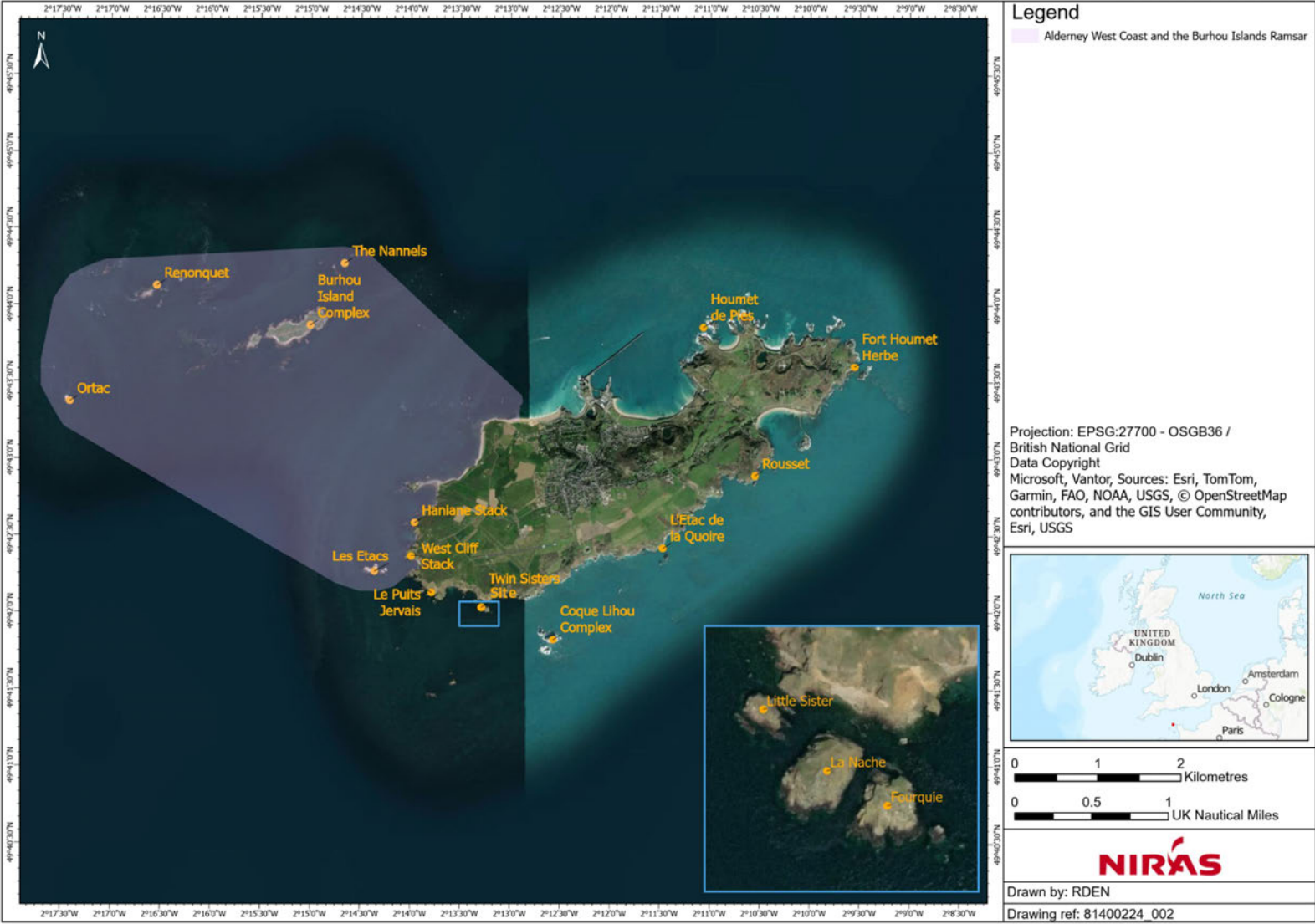


Figure 6.3: Map of Alderney Island complex and Twin Sisters site

6.6 Herm Island Complex

- 6.6.1.1 The Herm Island complex comprises the main island of Herm plus a number of smaller islets and stacks ([Figure 6.4](#)) including: Jethou, Grand Fauconniere, Crevichon, Caquorobert (Roberts Helmet), and The Humps: notably Grande Amfroque, Cul de L'Autel, Longue Pierre, Galeu, and Godin. The main island Herm is located approximately 2 km off Guernsey. The Herm Island complex occupies a combined area of approximately 200 hectares.
- 6.6.1.2 Herm has a population of approximately 65 tenant workers, and Jethou has a transient population of up to four tenant workers. None of the other islets and stacks are inhabited.
- 6.6.1.3 There are a range of wildlife habitats across the Herm Island complex, from beaches, dunes, landscaped lawns and gardens, farm pasture and crops, scrubland, forest, and coastal grassland. The Herm Island complex has breeding seabirds including Atlantic puffin, cormorant, fulmar, great black-backed gull, guillemot, herring gull, lesser black-backed gull, razorbill, and shag. During the feasibility study, a significant amount of suitable guillemot nesting habitat not currently occupied was identified on islands with confirmed rats or in close proximity to those with confirmed rats.
- 6.6.1.4 During the feasibility study, the Herm Island complex successfully fulfilled all of the defined criteria (technical feasibility, sustainability, social acceptance, political and legal acceptance, environmental acceptance, capacity, and affordability) and was deemed feasible for a ground-based brown rat eradication. The eradication would involve the widespread deployment of rodenticide via bait stations, a decision widely supported by key Herm Island complex stakeholders. Additionally, the feasibility study judged that with unobtrusive biosecurity measures, the risk of rat re-introduction was low.
- 6.6.1.5 The close proximity of the main island of Herm with its network of islets and rock stacks means that brown rats, with a maximum potential swimming distance of 2 km, are capable of consistently swimming (and at extreme low tides, potentially walking) between all of these offshore features. Given that rats will be able to reach the entirety of the Herm Island complex, all of the islets and stacks would have to be considered part of the eradication operation to ensure the seabird breeding locations remain free of rats. This approach was not only confirmed by HAR and WMIL, but also an independent feasibility study led by the RSPB (confidential document purchased by Orsted H4 from RSPB). A recent review of breeding seabird populations by the British Trust for Ornithology (BTO) (Barnes *et al.*, 2022) also called for rat eradications across the Bailiwick.
- 6.6.1.6 Due to complexities with implementation across the entirety of the Herm Island complex within the necessary project timelines, an additional scenario for eradication is being explored by Orsted H4 and eradication experts to eradicate rats from the Herm Island complex, excluding Jethou and its stacks. This would take the form of an elimination project similar to the Twin Sisters site. Continuing with the Herm Island complex eradication excluding these locations has been deferred at this time given the increased complexities in implementation to the necessary timescales. However, Orsted H4 will maintain active engagement with relevant landowners and the Herm Island complex remains as a potential measure should it be needed.
- 6.6.1.7 The capacity of Herm Island complex was determined following the calculation set out in [Section 5.3](#). The scale of this location's contribution to the compensation total of the measure is provided within [Table 6.3](#).

Table 6.3: Final projection of additional guillemot nest sites that could be supported across the Herm Island complex

Location	Guillemot Nest Site Estimate		Evidence of Rat Presence
	27 pairs/sqm	46 pairs/sqm	
<i>Herm islets and stacks</i>			Brown rats were confirmed across the Herm Island complex with index trapping**. The close proximity of all islands across the network of islets and rock stacks means that brown rats are capable of consistently accessing all offshore features (See Paragraph 6.6.1.5). This is supported by eradication experts (HAR and WMIL).
Galeu	41	69	
Godin	581	989	
Grande Amfroque	97	166	
Longue Pierre	1,563*	2,663*	
Roberts Helmet and Saddle Rock	1,150	1,960	
Total Herm	3,432	5,847	
<i>Percentage of required compensation met by Herm</i>	72%	123%	
<i>Jethou islets and stacks</i>			
Crevichon	81	138	
Grande Fauconniere	1,458*	2,484*	
Total Jethou	1,539	2,622	
<i>Percentage of required compensation met by Jethou</i>	32%	55%	
Grand Total	4,971	8,469	
<i>Percentage of required compensation met by Grand Total</i>	104%	178%	

* Represents nest site estimates that were amended following the June 2024 site visit

** Index trapping refers to rat detection trapping including using kill traps, tracking tunnels, and flavoured wax blocks

Hornsea 4

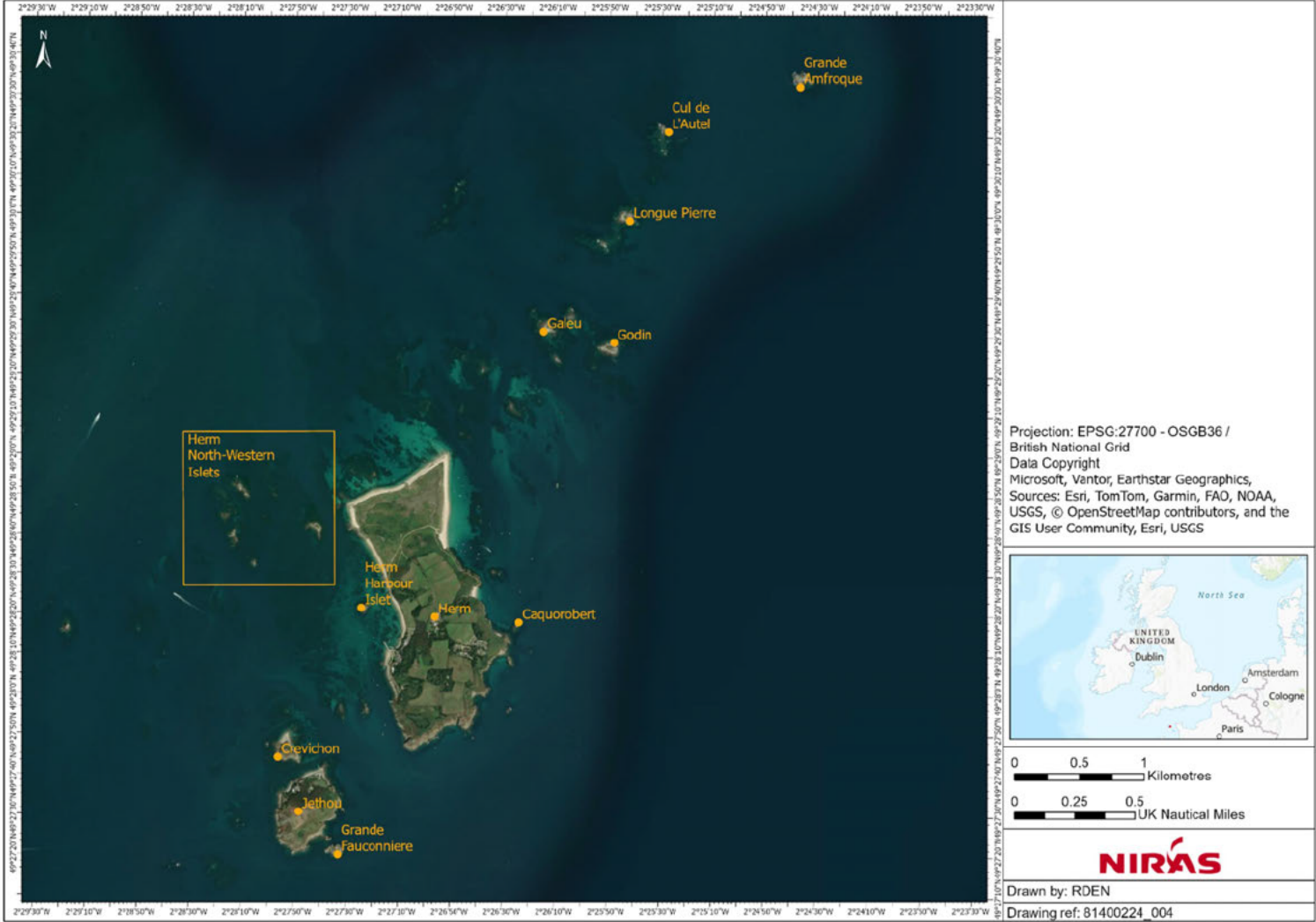


Figure 6.4: Map of Herm Island complex

6.7 Summary

6.7.1.1 The selected locations have a high level of suitability for eradication implementation and habitat likely to be colonised by guillemot, fulfilling the ecological objectives of this GCIMP (and satisfying paragraph 10 (a)(ii) of Part 3 of Schedule 16 of the Hornsea Four DCO). The process above has built on the considerable detail provided within the GCP with the final selected locations providing significant opportunities for breeding guillemot once rats have been removed. These locations have been consulted upon extensively via the OOEG and agreed as suitable for inclusion in the compensation measure.

6.7.1.2 Based on the capacity calculations for each location, and the observed nesting density of 27 pairs/sqm, the potential delivery locations have capacity to meet the compensation requirement for Hornsea Four of 4,760 nesting spaces. L'Etac is confirmed as a location within the final eradication delivery package with an elimination at the Twin Sisters site as the preferred second implementation location to meet the remaining compensation requirement. An eradication or elimination on the Herm Island complex is being considered if the Twin Sisters site is not progressed and the Herm Island location is required. The final implementation locations will be determined following legal agreements and logistical considerations around delivery. A summary of the different implementation scenarios is provided in [Table 6.4](#).

Table 6.4: Compensation delivery scenario matrix presenting the number of nest sites provided by each delivery scenario: Green cells meet/exceed 100% of compensation requirement; Amber cells represents less than 100% of requirement; Grey cells represent scenarios not considered.

Location	L'Etac (Sark)	Twin Sisters site	Herm Island complex	Herm Island complex (excl. Jethou)
L'Etac (Sark)	2,835 nest sites (60% of req.) [single site]	4,827 nest sites (101% of req.)	7,806 nest sites (164% of req.)	6,267 nest sites (132% of req.)
Twin Sisters site	4,827 nest sites (101% of req.)	1,992 nest sites (42% of req.) [single site]	N/A	N/A
Herm Island complex	7,806 nest sites (164% of req.)	N/A	4,971 nest sites (104% of req.) [single site]	N/A
Herm Island complex (excl. Jethou)	6,267 nest sites (132% of req.)	N/A	N/A	3,432 nest sites (72% of req.) [single site]

6.7.1.3 As set out both within the GCP and the relevant sections of the Hornsea Four DCO, the implementation of a predator eradication programme is to provide rat-free nesting space which will accommodate additional breeding pairs of guillemot to subsequently increase productivity to offset the predicted impacts from the operation and maintenance of Hornsea Four. Therefore, the scale set out within this GCIMP is developed in line with the GCP's strategy and can be implemented at a scale to offset the compensation requirement.

7 Eradication Implementation and Biosecurity

7.1.1.1 The eradication and biosecurity strategies across the implementation locations will differ as L'Etac and/or Herm Island complex (including Jethou) would be an eradication, and the Twin Sisters site or Herm Island complex (excluding Jethou) would be an elimination. [Section 7.2](#) describes how eradication would be applied and [Section 7.3](#) described how elimination would be applied. The Eradication Operation Plan and Biosecurity Plan for L'Etac, the Herm Island complex, and the Twin Sisters site are controlled 'live' implementation documents that will continue to be refined as detailed design, contractor methodologies, logistics, timing, and stakeholder requirements are confirmed. At the GCIMP stage these elements are not sufficiently fixed to support approval of final operational procedures without creating an unnecessary risk of inconsistency between approved documents and the eventual on-the-ground methods. Accordingly, the GCIMP sets the required outcomes, principles, and minimum standards that will govern implementation, while the Eradication Operation Plan and Biosecurity Plan act as standalone documents and will be maintained thereafter under project document control and change management.

7.2 Eradication

7.2.1.1 The eradication programme on L'Etac and Herm Island complex (including Jethou) would be a ground-based operation using rodenticide deployment via a bait station grid. The Eradication Operation Plan has been prepared by leading eradication experts HAR and WMIL in accordance with international best practice guidelines and is scoped to minimise the risk of eradication failure. The plan also details the required consents and permissions necessary to deliver the eradication, timeframes and contingency, and how the work will be undertaken (logistically and practically). The plan accounts for the steps taken from Hornsea Four's consent to the completion of the predator eradication, including biosecurity measures.

7.2.1.2 Biosecurity measures will be put in place during the eradication implementation and will continue, to the extent required, for the operational lifetime of Hornsea Four (currently expected to be 35 years from first power) to ensure that rat-free status is maintained. The required long-term biosecurity protocols that will be implemented post-eradication will be described in detail within a Biosecurity Plan prepared by leading eradication experts HAR and WMIL in accordance with international best practice guidelines. These include permanent monitoring stations, for example wax blocks or trail cameras, maintaining good waste management practices, and will involve continuous engagement with local stakeholders, including local boat operators, to ensure their efficacy.

7.2.1.3 The indicative programme for eradication implementation is described in [Section 13](#).

7.3 Elimination

7.3.1.1 The rat elimination programme for the Twin Sisters site will include an eradication on the Twin Sisters stacks and a controlled buffer zone on mainland Alderney. The Operation Plan has been prepared by leading eradication experts HAR and WMIL in accordance with international best practice guidelines and is scoped to minimise the risk of eradication failure. The initial elimination on the Twin Sisters site will follow the same ground-based methodology as eradication. Following the removal of rats, the rats will then be prevented from recolonising the inner area of the buffer zone and the Twin Sisters stacks using long term biosecurity, such as A24 traps. The outer area of the buffer zone will be directly next to a rat-present zone on the Alderney main island. Therefore, incursions into the outer buffer zone is inevitable and an expected part of the measure. The whole buffer zone is currently estimated at 15-20 ha with scope to adjust the size and layout as needed and informed by monitoring.

- 7.3.1.2 Biosecurity measures on the Twin Sisters site and Alderney mainland will be put in place during the eradication implementation and will continue, to the extent required, for the operational lifetime of Hornsea Four to ensure that rat-free status is maintained on the stacks. The required long-term biosecurity protocols that will be implemented post-eradication will be described in detail within a Biosecurity Plan prepared by HAR and WMIL in accordance with international best practice guidelines. In addition to the buffer zone biosecurity, biosecurity on the Twin Sisters stacks will include permanent monitoring stations, for example wax blocks and trail cameras, and continuous engagement with local stakeholders to ensure its efficacy.
- 7.3.1.3 A similar elimination approach would be considered for Herm Island complex (excluding Jethou), although the approach to the implementation on Herm Island complex has not been finalised and is therefore not described within this GCIMP.
- 7.3.1.4 The indicative programme for elimination implementation is described in [Section 13](#)

8 Delivery Mechanism

- 8.1.1.1 Orsted H4 will imminently sign an access agreement with the L'Etac leaseholder to deliver the eradication on L'Etac. Negotiations are progressing well to secure land access agreements with the relevant landowners on Alderney.
- 8.1.1.2 Orsted H4 and HAR have engaged with the relevant landowners and leaseholders of the Herm Island complex since the feasibility stage of the project through in person meetings and via correspondence. Orsted H4 had progressed significantly access agreements for all but one location of the Herm Island complex. Should Orsted H4 look to pursue Herm Island location (excluding Jethou), conversations with the leaseholders and landowners would resume. The land access agreements are intended to be the mechanism by which the necessary biosecurity measures are secured.
- 8.1.1.3 There are several other licences and approvals that will be obtained to enable the eradication and biosecurity works. HAR and Alderney Wildlife Trust have been and continue to engage closely with the decision makers for the various licences and approvals and are confident that they will all be secured prior to the start of works. Further details are as follows:
- Licences to use rodenticide – to be issued by the Health and Safety Executive in Guernsey (HSE). HAR are preparing the necessary documentation.
 - Licence to Disturb for accessing the Humps during the eradication phase when breeding seals and pups may be present - to be issued by the States of Guernsey/Alderney Veterinary Officer. There are ongoing discussions regarding methods to mitigate potential seal and pup disturbance, and HAR are preparing the necessary documentation.
 - License for potential disturbance of Wild Birds in Alderney - to be issued by the General Services Committee of the States of Alderney on guidance from the States Veterinary Officer.
 - Permission to Land for accessing the Humps during the bird breeding season - to be issued by Guernsey Agriculture, Countryside and Land Management Services (ACLMS).
 - Waste carrier licence - to be issued by the HSE, to cover removal of spent rodenticides, sharps waste and rodent carcasses. The status of agreements with States of Guernsey, Alderney Wildlife Trust, and States of Alderney are set out in [Paragraph 4.1.1.6](#)

9 Success Criteria

- 9.1.1.1 In order to define the compensation as successful, criteria must be established and monitored, as required, during the lifetime of the compensation measure. The basis for establishing success criteria (as required by the DCO Schedule 16, Part 3, paragraph 10 (a)(v)(bb)) is formed by the requirement to compensate for a predicted 452.3 adult guillemot mortalities per year. As set out in this GCIMP, this compensation will be provided via sufficient nesting sites via the implementation of a predator eradication program. In accordance with the DCO (and detailed within [Section 5.2](#)), Orsted H4 has calculated that 4,760 rat-free nesting sites would be needed to account for this level of mortality, when factoring in guillemot productivity, survival, and expected dispersal to the UK NSN.
- 9.1.1.2 Therefore, the success of the predator eradication programme compensation measure will be based upon two criteria:
1. Deliver and maintain at least 4,760 additional rat-free guillemot nesting spaces across the Bailiwick of Guernsey; and
 2. Achieve increases in the number and distribution of breeding guillemot across the eradication areas that shows sustained progress towards the occupancy of 4,760 rat-free guillemot nesting spaces by guillemot across the Bailiwick of Guernsey.
- 9.1.1.3 Both success criteria have been agreed as appropriate with the OOEG, along with agreement between OOEG members and Orsted H4 for flexibility to periodically review, as appropriate, what is considered 'sustained' in relation to criterion 2 (agreed via consultation after meeting number 8). Further information relevant to each criterion is presented below. Determining success for the compensation measure will depend on the results of monitoring relevant to each criterion. Monitoring results will be discussed with the OOEG as displayed within [Figure 11.2](#). Any future adaptive management options will be linked to either the ability of biosecurity to maintain rat-free nesting space across the implementation locations, and/or on the response of the guillemot population as informed by monitoring to ensure compensation success (as described in [Section 11](#)).

9.2 Criterion 1: Rat-free Nesting Space

- 9.2.1.1 Success will be based on the provision and maintenance of 4,760 rat-free nesting spaces suitable for guillemot across the Bailiwick of Guernsey (as established in [Section 5.2](#)). This will be achieved via the eradication and elimination, and long-term biosecurity put in place to prevent reinvasion of rats.
- 9.2.1.2 Based on an observed average nesting density of 27 pairs/sqm, L'Etac is estimated to provide an additional 2,835 nesting sites, the Twin Sisters site would provide 1,992 nesting sites, and Herm Island complex would provide 4,971 nesting sites (3,432 nesting sites excluding Jethou) (see [Section 6](#)). Orsted H4 will meet the required compensation of 4,760 nesting spaces through eradication on L'Etac and either the Twin Sisters site or Herm Island complex (with or without Jethou). The combination of L'Etac with either the Twin Sisters site or Herm Island complex has the ability to surpass the compensation requirement, and the final implementation locations will be determined following legal agreements and logistical considerations around delivery (see [Table 6.4](#)). Success will be based on the minimum requirement of 4,760 rat-free nesting spaces, with any additional nesting spaces providing further confidence to the measure.
- 9.2.1.3 Monitoring of the measure to inform success relevant to this criterion is covered in [Section 10.2](#) and will follow international best practice approaches to ascertain rat-free status to the extent

reasonably practicable. Criterion one also requires that the rat-free nesting space is maintained continuously, as required, for the operational lifetime of Hornsea Four (currently expected to be 35 years) via adequate biosecurity protocols.

- 9.2.1.4 During post-eradication monitoring and biosecurity, should there be a re-incursion, a rapid incursion response will be initiated to remove any rats (see [Section 10.2](#) for more details regarding incursion response). DNA analysis of the captured rats may be compared with previous samples of rats collected within the Bailiwick of Guernsey and other locations in the UK to better understand incursion pathways and the overall impact on the measure. Following the incursion response, a re-examination of the biosecurity measures will be necessary with improvements made to prevent further incursions. It is worth noting that incursion risk is different between eradication and elimination locations. For eradication locations, the entirety of the location will be maintained rat-free. For elimination locations, the sites which comprise the guillemot breeding area will be maintained as rat-free, whereas the buffer zones will not. As the outer buffer zone will be directly next to a rat-present zone, incursions into the outer buffer zones are inevitable and an expected part of the measure. As long as the establishment of a new rat colony is prevented at the guillemot breeding locations on the targeted site, then the locations can continue to maintain its rat-free status for compensation.
- 9.3 Criterion 2: Increases in the Number and Distribution of Breeding Guillemot
- 9.3.1.1 Success for this measure will be based on the increases in the number and distribution of breeding guillemot across the eradication areas that shows sustained progress towards the occupancy of 4,760 rat-free guillemot nesting spaces by guillemot across the Bailiwick of Guernsey.
 - 9.3.1.2 The GCP established in [G1.41 Calculation Methods of Hornsea Four Proposed Compensation Measures for Features of the FFC SPA](#) a precautionary, yet realistic, set of assumptions on which to calculate the number of breeding pairs required to deliver compensation for 452.3 breeding adults to the existing wider breeding population. Orsted H4 has calculated that 4,760 rat-free nesting sites would be needed to account for this, when factoring in guillemot productivity, survival, and expected dispersal to the UK NSN (as aligned with the requirements set out within the DCO). Further detail relating to the scale of compensation is presented within [Section 5.2](#).
 - 9.3.1.3 Monitoring to inform success relevant to this criterion is covered in [Section 10.3](#) and will be based on the results from breeding seabird surveys (with a correction factor) to ascertain the number of breeding guillemot in relation to the 4,760 rat-free nesting spaces. It is pertinent to note that while guillemot productivity is not explicitly described within the success criteria, the feasibility of monitoring productivity across the eradication locations to better understand how the guillemots respond post-eradication will be investigated. This was agreed with the OOEG (meeting number 8) as a suitable process. Further details are provided within [Section 10.3](#).

10 Monitoring

10.1 Introduction

- 10.1.1.1 To document the benefit of the predator eradication compensation measure and align with the success criteria above, monitoring will be undertaken, as required, for the lifetime of the compensation measure. The following sections demonstrate how monitoring activities relevant to island biosecurity to maintain the rat-free nesting sites and the monitoring of guillemot may be undertaken.
- 10.1.1.2 Paragraph 10 (a)(v) of Part 3 of Schedule 16 of the DCO establishes that the GCIMP must include *“details for the proposed ongoing monitoring of the measure including:*

- *survey methods for predators and seabirds;*
- *success criteria;*
- *survey and reporting programmes;*
- *seabird productivity rates;*
- *seabird breeding population;*
- *distribution of breeding seabirds; and*
- *evidence of guillemot natal dispersal to the UK NSN"*

10.1.1.3 The following sections provide a comprehensive overview of the intended monitoring approaches, DCO requirements, and the technological limitations associated with current monitoring techniques. Success criteria were described in [Section 9](#) and reporting in [Section 12](#).

10.1.1.4 The proposed monitoring procedures have been consulted on and agreed with the OOEG during OOEG meeting number 8.

10.2 Core Predator Monitoring Approaches

10.2.1.1 Monitoring of the rat-free nesting sites post-eradication will be initiated during the eradication operation and maintained continuously, as required, for the lifetime of Hornsea Four. Rat presence will be monitored through the deployment of a variety of biosecurity monitoring devices installed across the eradicated islands and at high incursion risk areas such as ports. Any potential rat incursions will trigger the need for an immediate incursion response to the level agreed with each leaseholder to ensure rat-free status is maintained and the biosecurity measures are sufficient.

10.2.1.2 Following international best practice, sites will be declared rat free when they have met two conditions:

1. No rats have been detected in an established two-year monitoring phase post-eradication (based on the life expectancy of a wild rat at c.18 months) with regular on site/remote checks to detect the presence of rats; and
2. No rats are detected during an established intensive monitoring check following the two-year monitoring phase. This phase will involve putting a range of monitoring devices over the entire area and checking every two days for six weeks.

10.2.1.3 Upon successful implementation and completion of the two phases, with no rats having been detected, the area can be declared rat-free.

10.2.1.4 Rat-free status would be intended to be maintained on L'Etac, the Twin Sisters site (La Nache, Fourquie, and Little Sister) and applicable guillemot breeding sites within the Herm Island complex. The buffer zone within an elimination would not be intended to reach rat-free status.

10.2.1.5 If a rat re-incursion is detected and confirmed, it is important to respond immediately and launch a full incursion response within 48 hours, where feasible, to prevent a population from becoming established. An incursion response hub will be established and fully stocked with the necessary biosecurity equipment to initiate a rapid incursion response, including baiting and trapping tools to remove the rats as quickly as possible. Biosecurity procedures would also be re-examined to ensure all measures are sufficient to prevent further re-incursions.

10.2.1.6 Monitoring of rat presence on the eradicated locations via permanent monitoring stations, for example wax blocks or trail cameras, will continue, as required, post-eradication and throughout

the operational phase of Hornsea Four (currently expected to be 35 years) to measure eradication success, identify barriers to success, and inform whether adaptive management measures should be considered.

10.3 Seabird Monitoring Approaches

10.3.1.1 Pre-eradication baseline population monitoring was carried out by Orsted H4 at existing guillemot colonies within the Herm Island complex and Sark Island complex (including L'Etac and other islands surrounding Sark) in 2022, 2024, and will be done in the summer before eradication is set to commence for one final population count prior to eradication implementation.

10.3.1.2 Pre-eradication baseline population monitoring is carried out by Alderney Wildlife Trust at existing guillemot colonies within the Alderney Island complex (including the Twin Sisters site and other islands surrounding Alderney) each year and would be undertaken in the summer before eradication is set to commence for one final population count prior to eradication implementation.

10.3.1.3 The results of the recent colony counts for the potential implementation locations are presented in [Table 10.1](#).

Table 10.1: 2022 to 2025 L'Etac, Twin Sisters site, and Herm Island complex guillemot colony census results

Location	Guillemot Max Count (IND)			
	2022	2023	2024	2025
<i>Sark</i>				
L'Etac	0	<i>Not surveyed</i>	0	<i>Not surveyed</i>
<i>Alderney*</i>				
Fourquie	0	0	0	0
La Nache	12**	3	3	<i>Not surveyed</i>
Little Sister	0	0	0	0
<i>Herm</i>				
Crevichon	0	<i>Not surveyed</i>	0	<i>Not surveyed</i>
Cul de L'Autel	0	<i>Not surveyed</i>	0	<i>Not surveyed</i>
Galeu	0	<i>Not surveyed</i>	0	<i>Not surveyed</i>
Godin	2	<i>Not surveyed</i>	8	<i>Not surveyed</i>
Grande Amfroque	0	<i>Not surveyed</i>	0	<i>Not surveyed</i>
Grande Fauconniere	0	<i>Not surveyed</i>	0	<i>Not surveyed</i>
Herm Main Island (Belvoir and Puffin Bay)	0	<i>Not surveyed</i>	0	<i>Not surveyed</i>
Longue Pierre	144	<i>Not surveyed</i>	167	<i>Not surveyed</i>

* Counts on Alderney were recorded as apparently occupied nests and subsequently converted to IND using the k-value of 1.49 (Burnell *et al.* (2023)).

** In 2022, rat control was trialled on the Twin Sisters site. Eight separate nesting attempts (converted to 12 IND), in different locations, were recorded on trail cameras. It is not certain that these are all different individual pairs and therefore may not be directly comparable to subsequent count years.

10.3.1.4 Guillemot population monitoring at the eradication locations will be implemented from the first breeding season following eradication and encompass the Bailiwick of Guernsey. Growth will be tracked in relation to the pre-eradication baseline population level and placed in spatial context with other guillemot colonies located outside of the Bailiwick of Guernsey when count data is available.

- 10.3.1.5 Data will be sought from sites where guillemot currently nest, based on baseline surveys, or have the potential to nest in the future, as established during the feasibility studies. This will be achieved via core monitoring objectives (those objectives which can be undertaken with confidence following established protocols and directly inform success of the compensation measure) and experimental monitoring objectives (those objectives which have uncertainty in relation to their practicality and technical feasibility and therefore cannot be relied upon to inform success at the time of submission of the GCIMP) as presented below. During the lifetime of the compensation measure, if the experimental monitoring objectives prove to be reliable, efficient, and non-disruptive (for example with technological advances or the availability of suitable breeding locations which avoid or minimise disturbance risk to an acceptable level), changing the experimental monitoring objectives to core monitoring objectives in consultation with the OOEG will be considered.
- 10.3.1.6 Methods will follow those outlined for guillemot in the Joint Nature Conservation Committee's (JNCC) Seabird Monitoring Handbook (Walsh *et al.*, 1995) and in line with the JNCC's Seabird Monitoring Programme (SMP). Where necessary, some adjustments to methods may be required based on the topography, accessibility/observability of each nesting site, and disturbance concerns for nesting birds. Data collection is (and will continue to be) carried out by at least two trained observers (paired to meet Orsted's Health and Safety requirements).
- 10.3.1.7 Monitoring at guillemot colonies will continue, as required, post-eradication and throughout the lifetime of Hornsea Four (currently expected to be 35 years) to measure eradication success, identify barriers to success, and inform whether adaptive management measures should be considered.

Core Monitoring Objective – Breeding Guillemot Population and Distribution

- 10.3.1.8 The method used for monitoring the breeding guillemot population will follow that stated in Walsh *et al.* (1995) for the 'whole-colony census' method with all counts undertaken from a vessel. A minimum of one full colony count (ideally between five and ten counts) will be made between the last ten days of May and the first five days of June as this is the optimal time for the incubation/early nestling period of guillemots breeding in the Bailiwick of Guernsey (as described during personal communication with the Alderney Wildlife Trust). However, it should be noted that the optimal time for incubation/early nestling may vary over the lifetime of the measures in response to climate change, and the timing of the surveys will be kept under review so that it can be adapted if necessary. Counts will be completed annually, unless otherwise agreed with the OOEG at a later date that the frequency can be reduced, i.e. if the established colony is responding appropriately to the eradication. Counts will be conducted between 0800 and 1600 BST in good weather and sea conditions. No counts will be undertaken on days with heavy rain, fog, or wind and sea conditions stronger than Beaufort Force 4. Weather conditions will be recorded using standardised forms in Walsh *et al.* (1995) at the time of each count.
- 10.3.1.9 The census count unit is 'individual adults on land.' The population census counts will only include individuals on potential breeding ledges or in suitable boulder fields. Counts of birds only loosely associated with the colony, such as those at the base of the cliffs or on the sea, may be recorded but will be kept separate from the population census totals.
- 10.3.1.10 For open cliff face colonies, as much of the colony will be surveyed as possible by transiting around islands/islets in a slow-moving vessel in calm sea conditions, with surveyors making direct observations. For boulder colonies with no access, there is no accepted methodology described in Walsh *et al.* (1995). Counts from sea will be conducted as described for open cliff face colonies,

however, only a minimum/maximum count of visible birds is able to be recorded. Areas of the colony where birds are suspected to be breeding but are not visible from vantage points will be identified and mapped. When reporting these estimates, it will be noted that they are of lower reliability than direct counts.

- 10.3.1.11 Counts will be expressed in the census unit used in the field (individual birds) with final counts expressed as the mean value and standard deviation recorded for each colony, with the level of accuracy of each count clearly noted. Counts for individual dates will also be included in reports.
- 10.3.1.12 Following the surveys, counts of individuals will also be converted into breeding pairs. When conducting a census count of individuals, it is impossible to differentiate between the incubating and brooding adults, some of their mates, failed and nonbreeders, and immature birds that visit the colonies before they recruit (Harris *et al.* 2015). In order to convert individuals derived from the breeding population census count into breeding pairs, a correction factor will need to be applied (*k*-value; Harris *et al.* 2015). The correction factor that was employed by the most recent National Seabird Census (Burnell *et al.* 2023), and that is expected to be used by Orsted H4 is 0.67. This value will be reviewed prior to its use each year to ensure the most up to date data is utilised.
- 10.3.1.13 To document colony range and distribution, the entire length of the colony will be photographed and mapped during census surveys. Ideally, images would be taken from the same level or slightly above, to produce a permanent record of the distribution and range of the colony. However, to minimise disturbance to the breeding seabirds due to the nature of the sites, all monitoring will need to be conducted from a vessel.

Experimental Monitoring Objective - Productivity Monitoring Trial

- 10.3.1.14 Productivity monitoring for guillemot is an active area of investigation within the project. However, concerns regarding logistical implementation and confidence in the output has kept productivity monitoring as an experimental objective at this time.
- 10.3.1.15 Productivity monitoring on the Twin Sisters site to date has relied on relatively limited data, underlining the need for further testing to strengthen confidence in the results. The most recent monitoring was undertaken in 2024 using a combination of camera traps and a small number of vantage point watches to account for the possibility of nesting outside the main focal area, with four cameras deployed around a single boulder nesting area on La Nache. Camera traps have also been used previously on other sites, including Fourquie. As mentioned in [Section 6.5](#), monitored guillemot productivity on the Twin Sisters was zero fledglings per pair. These efforts demonstrate the need for continued, expanded monitoring to improve robustness in the results before productivity monitoring can be considered to be elevated to a core objective.
- 10.3.1.16 It is also worth noting, for Herm Island complex, the States of Guernsey's Animal Welfare Ordinance seeks to prevent damaging disturbance to breeding birds including seabirds. Due to the nature of the offshore locations of current and likely future guillemot colonies (following rat eradication) being low-lying boulder colonies, access could cause significant disturbance to breeding birds, potentially inhibiting the recovery of guillemot at these sites. Additionally, ringing of seabirds on the Humps has not recently been permitted by the States of Guernsey due to the presence of highly pathogenic avian influenza (HPAI), the risks of spreading the disease, and the additional impacts from disturbance from the activity. In consequence, productivity cannot realistically be monitored at those sites as it would require the landing of observers to undertake intensive visual surveys of study plots to enable the monitoring of birds over multiple visits. Therefore, traditional methods of measuring productivity which would require landing amongst the colony cannot realistically be employed at these sites at this point in time, cannot be a core monitoring objective, and thus

cannot be used for determining the success of the compensation measure. Success will instead be based on the number of breeding guillemot occupying the newly established rat-free nesting spaces.

- 10.3.1.17 Going forward, potential productivity monitoring techniques around the implementation locations will continue to be explored. These techniques may include the deployment of additional remote cameras to provide intense surveillance of productivity monitoring across several plots within known guillemot sub-colonies to measure breeding success as per Walsh *et al.* (1995). Furthermore, if the impacts of accessing the offshore breeding colonies is deemed minimal in terms of human and animal welfare, productivity monitoring from land will also be considered.

Experimental Monitoring Objective - Natal Dispersal

- 10.3.1.18 The DCO requires consideration of natal dispersal from post-eradication guillemot colonies to the UK NSN as part of monitoring proposals (paragraph 10(a)(v)(gg) of Part 3 of Schedule 16 of the DCO). However, it is not currently possible to quantitatively measure natal dispersal with current technologies. This is due to the technological limitations (e.g. battery life, size and weight of device) of satellite, radio or archival tags that would be used for determining the natal dispersal of guillemot. The most feasible way of gathering evidence to qualitatively support this requirement would be to undertake chick ringing at the focal colonies. Ringing chicks with uniquely engraved colour-rings allows individuals to be re-sighted in subsequent years which will provide qualitative evidence of interchange between colonies. However, resighting of colour-ringed individuals recruiting to large colonies with restricted visibility of bird's legs, would be low.
- 10.3.1.19 Alderney Wildlife Trust does not currently ring guillemots. Alderney Bird Observatory does ring on the island of Coque Lihou, however, due to the lack of confidence in resighting colour-ringed individuals, this method of monitoring would not be reliable as a core objective.
- 10.3.1.20 Additionally, guillemot ringing is not currently permitted by the States of Guernsey within the Herm Island complex due to the high level of disturbance to incubating/brooding birds resulting from site-specific challenges of accessing colonies. It is therefore not currently possible to empirically measure the recruitment of birds into another SPA population (or other large guillemot colonies) from the Channel Islands.
- 10.3.1.21 It is possible that new technologies may be developed during the timescales involved with Hornsea Four, which could enable more comprehensive studies on natal dispersal to be undertaken. In this event, such developments and their potential for additional study opportunities will be considered and discussed with the OOEG post-implementation of the measure.
- 10.4 Additional Monitoring
- 10.4.1.1 The intensity and type of monitoring activities undertaken in addition to those described above will be limited by site specific factors regarding accessibility of colonies, health and safety risks to surveyors, and potential disturbance to breeding birds. Multi-species population monitoring can contextualise the colony population responses of other seabird species (such as razorbill, shags, and gulls) to the eradication project, and (where possible and relevant) will be carried out opportunistically at the same time as guillemot population monitoring and included within annual reports ([Section 12](#)).
- 10.4.1.2 Manx shearwater and storm petrel are two species likely to benefit significantly from predator eradications and are locally extinct from almost all locations across the proposed eradication areas. While Alderney Wildlife Trust has recorded storm petrels breeding on the rat-free islands of Coque Lihou and Burhou, none have been recorded breeding in the Twin Sisters site. Both Manx

shearwater and storm petrel require dedicated surveys which cannot be undertaken opportunistically alongside guillemot vessel based surveys. The incorporation of surveys of Manx shearwater and storm petrel will be considered to further contextualise the success of the eradication project. The ideal time to survey Manx shearwater is late May to early June, and the surveys will follow Walsh *et al.* (1995) with a preference to perform tape-playback surveys. The ideal time to survey storm petrels is early- to mid-July, and the surveys will follow Gilbert *et al.* (1998) which utilises tape-playback similar to Manx shearwaters. Other potential monitoring methods will be considered following the eradication. The results of any Manx shearwater or storm petrel surveys (if undertaken) would be included within annual reports and discussed with OOEG members.

- 10.4.1.3 Monitoring to inform adaptive management will also occur opportunistically (where possible and relevant) alongside core monitoring to identify barriers to success and target any adaptive management measures. The results will be included within annual reports (Section 12) and in accordance with paragraph 10(a)(viii) of Part 3 of Schedule 16 of the DCO. This is likely to take the form of anecdotal evidence such as observed recreational disturbance or avian predation. Surveys designed for adaptive management may also be requested by the OOEG (i.e. recreational disturbance survey or monitoring of avian predation) to provide additional evidence towards choosing an appropriate adaptive management measure if one is needed.

11 Adaptive Management

- 11.1.1.1 The predator eradication compensation measure will be implemented once the eradication programme has been initiated, to align with the commencement of works as set out in Paragraph 11 of Schedule 16 of the DCO. The compensation implementation and monitoring will adopt a pragmatic approach to determine whether adaptive management actions are necessary before the project is operational, and the OOEG will be consulted with regarding possible options for adaptive management, where required. If needed, adaptive management will also be applied after Hornsea Four becomes operational.
- 11.1.1.2 During the lifetime of the measure, adaptive management will be informed by monitoring (Section 10.4). Compensation performance will be given due consideration within each monitoring years' success criteria calculations (as discussed in Section 12). As confirmed in the GCP, adaptive management will be an iterative process which combines management measures and subsequent monitoring with the aim of improving effectiveness of the measure, whilst also updating knowledge and improving decision making over time. Adaptive management will be an important component of the compensation measure and will be used as a method to address unforeseen issues or deviations from expected outcomes of the compensation.
- 11.1.1.3 Through diligent site selection, and with the eradication being undertaken by leading eradication experts and following industry best practice, it is expected that the measure will not require any substantive adaptive management actions during the lifetime of Hornsea Four. However, it is important to remain mindful of unexpected and unforeseen events which might require adaptive management (e.g. lack of re-colonisation despite in-depth site selection; or predation risk e.g. from corvids). It is intended that all foreseen risks are mitigated as far as practicable through good design of the measure and planned maintenance.
- 11.1.1.4 Further adaptive management options to those listed below may become apparent and will subsequently be explored as the monitoring of the measure and associated guillemot population is undertaken (see Figure 11.1). If relevant (i.e. requiring discussion with OOEG members), OOEG members will be notified, and discussion points will be set for annual OOEG meetings (See Section

11.3 and Figure 11.2). Guillemot populations show a varying degree of interannual variability, so population variability will be an integral consideration, alongside review of monitoring results, before any subsequent adaptive management measures are considered.

11.1.1.5 Measures that have been discussed and agreed with the OOEG in principle as measures which could be investigated as potential options to support the delivery of the success criteria include:

- Adjustments to the buffer zone coverage and/or trapping grid density and layout on mainland Alderney to minimise rat incursions;
- Implementation of rat elimination/eradication at additional coastal stack locations around Alderney;
- Habitat modification to increase the capacity of nesting spaces for guillemot – such as: the removal or management of vegetation; landscape manipulation (i.e. removal of boulders blocking access to nesting spaces; marine debris removal (such as large plastic items and wooden boards noted at certain nesting locations)); and potentially the addition of artificial improvements (nesting ledges) to nesting locations to mimic natural nesting habitat (any modification would not adversely impact the features of the Ramsar sites);
- Disturbance reduction from recreational activities (both via land and sea);
- Identification and removal of additional invasive alien species (including vegetation) present at guillemot nesting locations;
- Management of avian predators (i.e. corvid species) if found to be negatively impacting the recovery of the guillemot population across eradication locations;
- Enhanced recruitment support – guillemot calls, decoys etc;
- Reduction of guillemot bycatch in UK commercial fisheries via bycatch reduction technology implementation that has been shown to be effective at the required scale;
- Revisiting the original long-list of island locations for predator eradication including other locations within the Bailiwick that were not pursued as a primary location; and
- Contribution to the MRF to deliver compensation strategically (further detail provided in paragraph 11.1.1.11).

11.1.1.6 The likely trigger points (Figure 11.1) for the application of adaptive management will relate to:

- Maintenance of rat-free nesting space at a required amount;
- Population trends (at eradication locations and of the wider population); and
- Colony establishment rates.

11.1.1.7 There is no firm commitment to any of the above individual adaptive management measures, with the adaptive management thresholds to be informed by monitoring of the measure. However, the measures listed above retain the necessary flexibility to be able to action the adaptive management measures that may be required for Hornsea Four. The link between specific adaptive management actions and how they will be informed by monitoring has been discussed with OOEG members during OOEG meetings. It has been agreed that ongoing consultation regarding the need for adaptive management will be undertaken with the Hornsea Four OOEG post implementation of the measure (as indicated by Figure 11.1 and Figure 11.2). The core monitoring of the above three drivers (rat-free nesting space, breeding population, and colony establishment) will be able to inform decisions relating to adaptive management. Some factors may be beyond control and may therefore not trigger adaptive management measures. This process has been highlighted within

Figure 11.1 and Figure 11.2 and will be informed by the monitoring process detailed in Section 10.4.

- 11.1.1.8 It is not necessarily appropriate to set quantitative timescales for trigger points in relation to adaptive management due to the complexity of potential issues (i.e., the drivers of seabird population recovery following rat eradication). At this stage, quantitative trigger points would only permit hypothetical and therefore potentially incorrect timescale estimates. A more appropriate approach, which has been discussed and agreed within the OOEG, is presented in Figure 11.1. This sets out the process of determining trigger points based on a review of monitoring each year following the breeding season. This will permit the monitoring results to be viewed in context at a wider regional and national level. If necessary, this process will inform the most appropriate response in terms of adaptive management. The OOEG will be involved in these discussions around the initial trigger points and the continual review process for triggering adaptive management as the measure progresses throughout the lifetime of the offshore wind farm.
- 11.1.1.9 The approach to identifying appropriate adaptive management will follow a hierarchy-based system driven by what is within control of Orsted H4. At this stage, a hypothetical example has been presented in Figure 11.1 and, in reality, the process would be discussed with the OOEG during the monitoring phase of the measure.
- 11.1.1.10 As a result of the recent outbreaks of HPAI in the UK, it may also be necessary to react to potential cases or prevent the spread of cases. Any work undertaken during a HPAI outbreak will be conducted in line with statutory advice and guidance and will be captured in monitoring reports.
- 11.1.1.11 An option to incorporate nesting spaces on a multi-species offshore Artificial Nesting Structure (ANS) was considered during the development of mitigation for H4, in order to meet the DCO requirement to 'consider' provision of ANS. However, following discussion and feedback from consultees during stakeholder engagement, this option has been discounted as the preferred approach for H4, on the basis that it would not provide a sufficiently certain, deliverable, and effective mechanism to achieve the intended outcomes compared with alternative measures. The consideration and subsequent discounting of a multi-species offshore ANS option is therefore documented as part of compliance with the DCO requirement.
- 11.1.1.12 As set out within the GCP and described within Section 3 of this GCIMP, Orsted H4 is also actively exploring contribution to the MRF as a primary compensation mechanism. This is no longer considered solely an adaptive management option; rather, reliance on the MRF is being pursued as a primary mechanism that can be used instead of, or to increase the overall capacity of, the project-level compensation programme. This allows flexibility in an approach which requires cooperation outside of the control of Orsted H4, particularly in the context of the phased location strategy. Orsted H4 will engage proactively with the relevant bodies responsible for MRF development and will report progress to the OOEG and Secretary of State at an appropriate frequency if this option is pursued.
- 11.1.1.13 Orsted H4 would like to acknowledge that future policy changes and legislative reform may offer developers a wider range of options for compensation. For example, the Environmental Compensatory Measures Reforms Statutory Instrument laid in February 2026 creates a mechanism for projects to deliver measures that do not directly benefit the impacted feature as compensation, subject to a compensation hierarchy. Should such options become available to Orsted H4 in the future, they may be considered for adaptive management.

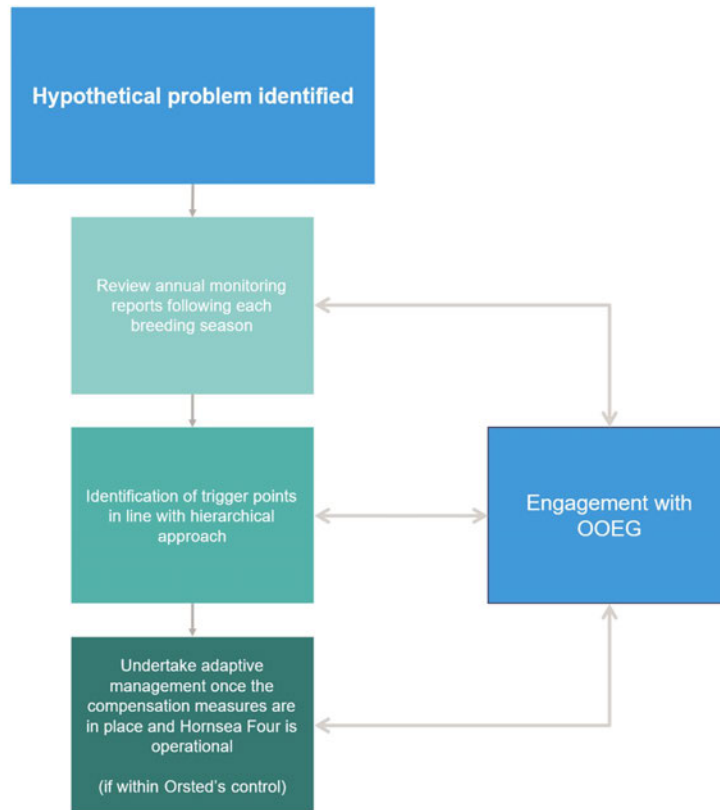


Figure 11.1: Flow diagram illustrating the process of identifying trigger points for adaptive management

11.2 OOEG Engagement in Adaptive Management

- 11.2.1.1 As outlined in the section above, monitoring will be used to inform a hierarchy-based approach to determine trigger points for adaptive management (presented in [Figure 11.1](#)). [Figure 11.2](#) presents a schematic overview of how monitoring will determine the level of input required by OOEG members.
- 11.2.1.2 Those issues which are classed as ‘non-ecological’ are deemed not to require discussion with OOEG members based on their simplicity. In this instance, OOEG members would be notified by email and any actions summarised as part of the OOEG reporting process. Ecological issues related to breeding guillemot are likely to be more complex and therefore require discussion with OOEG members regarding appropriate next steps. Such issues would be highlighted to OOEG members ahead of the OOEG meetings in which the issue would be discussed and, if necessary, appropriate action identified.

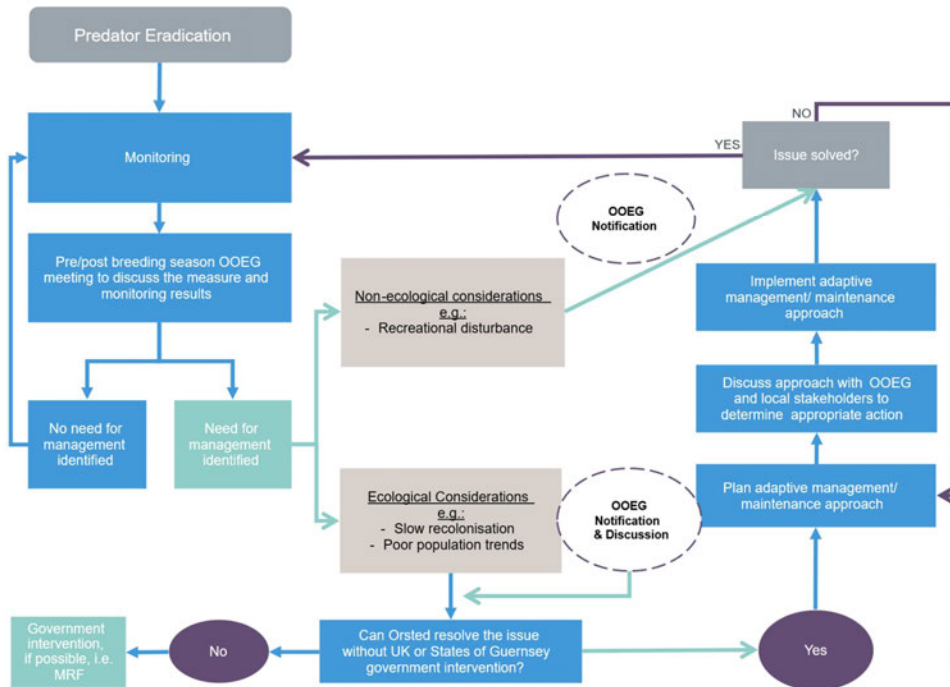


Figure 11.2: Flow diagram outlining the process informing the OOEG of monitoring results and adaptive management solutions

12 Reporting

12.1.1.1 Paragraph 10(a)(viii) of Part 3 of Schedule 16 of the DCO establishes the reporting requirements that will be adhered to in relation to guillemot compensation. This is as follows:

provision for reporting to the Secretary of State, to include details of the use of the location(s) by breeding guillemot to identify barriers to success and target any adaptive management measures;

12.1.1.2 The annual results from the monitoring of the compensation measure (which is described within Section 10 and will cover the requests set in paragraph 10 (a)(viii) of Part 3 of Schedule 16 of the DCO) will be provided within annual reports following each breeding season. Project reviews will take place after each breeding season, in consultation with the OOEG, once monitoring reports are available. These annual reports will be used to identify barriers to success and target any adaptive management measures, along with providing any other pertinent information gathered from the monitoring of the birds associated with the compensation measure. Reports will be shared with the Secretary of State on an annual basis, along with details of the OOEG consultation following each breeding season.

13 Programme for Implementation and Delivery

13.1.1.1 Two years must have elapsed between the start of the predator eradication works and the commencement of specified offshore works, as required by paragraph 11 of Part 3 of Schedule 16 of the DCO. As set out in Section 2.1.1.4, this condition requires that the predator eradication programme has been initiated, i.e. that eradication works have begun at least one of the confirmed primary locations set out in this GCIMP, rather than at all proposed locations.

- 13.1.1.2 The predator eradication programme will commence with works at L'Etac. It is the preference that works at the Twin Sisters site will follow in sequence as necessary agreements are finalised. However, if the Twin Sisters site does not progress, potential implementation at the Herm Island complex could be progressed if required. This phased, sequential commencement is appropriate to the nature of the programme, is consistent with international best practice for multi-site predator eradication projects and is consistent with the requirement that compensation must be functionally underway in advance of the operational impact.
- 13.1.1.3 Following the project announcement on 7th May 2025, it is expected that a revised construction schedule will provide more than two years between the commencement of eradication at L'Etac and the commencement of the specified offshore works. This would allow the compensation programme to be functionally established before the operational impact arises.
- 13.1.1.4 There are several steps that make up an eradication programme. First is the preparation phase, which includes obtaining permissions and approvals, procuring equipment, recruiting and training personnel, completing Health & Safety requirements etc. This is followed by an eradication readiness check to ensure preparations are complete and that the islands are ready for eradication implementation.
- 13.1.1.5 The eradication operation delivery is set to begin with the deployment of the rodenticide bait station grid in the third quarter of Year 1 and at least 2 years prior to the commencement of the specified offshore works. The baiting and subsequent intensive monitoring phases of the eradication are set to complete in the first quarter of Year 2 ([Table 13.1](#)). Following the completion of the eradication, long-term monitoring and biosecurity will then continue, as required, for the lifetime of Hornsea Four (currently expected to be 35 years). It is expected that rat-free status would be achieved two years following the completion of the eradication operation i.e. quarter two of Year 4 (based on the criteria set out in [Section 10.2](#)).
- 13.1.1.6 If a second year of rodenticide baiting at targeted remaining hot spots is necessary to complete the rat eradication, the schedule is flexible and accounts for this potential scenario ([Table 13.1](#)). In this instance, a second round of rodenticide bating would commence in the third quarter of Year 2 and finish in the first quarter of Year 3. Post-eradication monitoring would thus extend through the first quarter of Year 5 with rat free status reached in the second quarter of the same year.
- 13.1.1.7 The key differences in eradication and elimination delivery are described in [Section 7](#). The elimination operation delivery would be expected to follow similar timescales and phases as an eradication with rat-free status achieved two years following the completion of the eradication operation i.e. quarter two of Year 4 ([Table 13.2](#)).
- 13.1.1.8 Stakeholder and community engagement, long-term monitoring, and long-term biosecurity are all set to continue, as required, following the declaration of rat free status and for the lifetime of Hornsea Four.
- 13.1.1.9 It should be noted that within the presented timelines, *Year 1* is a placeholder year and does not refer to a set year, i.e. 2026, as projects may not occur concurrently. Therefore *Year 1* within [Table 13.1](#) may refer to different years for L'Etac and other locations. Similarly, *Year 1* within [Table 13.1](#) may refer to a different year than *Year 1* in [Table 13.2](#).

Hornsea 4



Table 13.1: Indicative schedule of eradication operation key tasks and milestones (dark blue represents programme if first year of baiting is successful; light blue represents additional programme shifts if a second year of baiting is needed)

Phase	Year 1				Year 2				Year 3				Year 4				Year 5					
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Stakeholder and community engagement	Dark blue																					
Eradication operation: planning	Dark blue																					
Establish biosecurity network		Dark blue																				
Eradication operation: Track cutting and baiting			Dark blue					Light blue														
Post eradication monitoring: rats, seabirds, and ecosystem recovery						Dark blue								Light blue								
Declaration of rat-free status																				Light blue		
Long term monitoring: rat incursion																				Dark blue		
Long term monitoring: seabird and ecosystem recovery																				Dark blue		
Management and maintenance of long term biosecurity and incursion response																				Dark blue		

Table 13.2: Indicative schedule of elimination operation key tasks and milestones (dark blue represents programme if first year of baiting is successful; light blue represents additional programme shifts if a second year of baiting is needed)

Phase	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Stakeholder and community engagement	Dark blue																			
Eradication operation: pre-monitoring and site preparation		Dark blue	Dark blue																	
Eradication operation: Baiting			Dark blue	Dark blue	Dark blue		Light blue	Light blue												
Eradication follow up: Initial biosecurity and adaptive management				Dark blue	Dark blue	Dark blue		Light blue	Light blue											
Post eradication monitoring: rats, seabirds, and ecosystem recovery							Dark blue	Dark blue	Dark blue	Dark blue	Dark blue	Dark blue	Dark blue	Dark blue	Dark blue	Dark blue				
Declaration of rat-free status															Dark blue	Dark blue	Dark blue	Dark blue	Light blue	
Long term monitoring: rat incursion															Dark blue	Dark blue	Dark blue	Dark blue	Dark blue	Dark blue
Long term monitoring: seabird and ecosystem recovery															Dark blue	Dark blue	Dark blue	Dark blue	Dark blue	Dark blue
Management and maintenance of long term biosecurity and incursion response															Dark blue	Dark blue	Dark blue	Dark blue	Dark blue	Dark blue

14 Discharge of Consent Condition

14.1.1.1 Table 14.1 sets out a summary of the Hornsea Four DCO conditions as required to be drafted into the GCIMP and which section of the GCIMP this detail is provided.

Table 14.1: Summary of DCO requirements as addressed within the GCIMP.

DCO Schedule 16, Part 3, Para. 10 (a)	Section and/or Appendix where requirement is addressed
<i>(i) details of the location(s) where the compensation measure will be delivered;</i>	Section 6 presents how this requirement has been met by setting out the location of the eradication. Further evidence surrounding guillemot breeding ecology and how it has been drawn upon during the site selection process is provided within the Hornsea Project Four: G1.33 Predator eradication island suitability assessment: Bailiwick of Guernsey . Locations have been consulted upon extensively via the OOEG and agreed as suitable for inclusion in the compensation measure.
<i>(ii) details of the number of nest sites that need to be created within the Herm Island complex (Herm, Jethou, including Grand Fauconniere and the Humps) and locations around Alderney. This must take into account both the number of chicks that will need to be produced to ensure that the required number of adults survive to adulthood and the proportion of adult birds that are expected to be recruited into the UK NSN;</i>	Section 5 and Section 6 presents how this requirement has been met by setting out the calculations used to determine the necessary scale of compensation delivery. The scale determination process has been consulted upon extensively via the OOEG and agreed as suitable for the compensation measure.
<i>(iii) details of how any necessary land access rights, licences and approvals have or will be obtained and any biosecurity measures will be or have been secured;</i>	Section 7 and Section 8 present how this requirement has been met.
<i>(iv) an implementation timetable for delivery of the predator eradication measure, such timetable to ensure that the predator eradication method has commenced no later than two years prior to the commencement of Work No. 1(a) and 1(b), Work No. 2(a), 2(b) and 2(c) and Work No. 3(a);</i>	Section 13 presents how this requirement has been met for the GCIMP and shows the programme for implementation and delivery.
<i>(v) details for the proposed ongoing monitoring of the measure including: (aa) survey methods for predators and seabirds; (bb) success criteria; (cc) survey and reporting programmes (dd) seabird productivity rates; (ee) seabird breeding population; (ff) distribution of breeding seabirds; and (gg) evidence of guillemot natal dispersal to the UK NSN;</i>	The following sections set out how this requirement has been met: (aa) Section 10.2 presents survey methods for predators and Section 10.3 presents survey methods for seabirds (bb) Section 9 sets out the success criteria (cc) Section 12 outlines survey and reporting requirements (dd) Paragraphs 10.3.1.14 and 10.3.1.17 discuss monitoring seabird productivity rates (ee) Paragraphs 10.3.1.8 through 10.3.1.12 discuss monitoring the seabird breeding population (ff) Paragraph 10.3.1.13 discusses monitoring the distribution of breeding seabirds (gg) Paragraphs 10.3.1.18 through 10.3.1.21 discuss monitoring the natal dispersal of guillemot

	The monitoring proposals and success criteria have been consulted upon extensively via the OOEG and agreed as suitable for the compensation measure.
<i>(vi) recording of H4 OOEG consultations and project reviews;</i>	Section 4 summarises the OOEG consultation and project reviews that have been undertaken.
<i>(vii) details of any adaptive management measures, with details of the factors used to trigger any such measures. Such measures should consider offshore artificial nesting structures for guillemot;</i>	Section 11 sets out how this requirement has been met and presents the plans for adaptive management. The adaptive management approach and potential measures have been consulted upon extensively via the OOEG and agreed as suitable in principle for the compensation measure.
<i>(viii) provision for reporting to the Secretary of State, to include details of the use of the location(s) by breeding guillemot to identify barriers to success and target any adaptive management measures;</i>	Section 11 and Section 12 sets out how this requirement has been met.

15 References

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Appendix A - Evidence of Rat Presence on L'Etac

OEOG MEETING: 25 OCTOBER 2024: EVIDENCE OF RAT PRESENCE ON L'ETAC

This information builds on early data provided in the feasibility assessment (Cain *et al.*, 2022a; Cain *et al.* 2002b) and onsite observations by the field team.

1. L'Etac

L'Etac (Figure 1) is located 700 metres (m) south of the island of Sark, 11 kilometres (km) southwest of Guernsey and 9 km southwest of Herm. It comprises an area of 3 hectares and is not inhabited. There are two main habitats on L'Etac coastal grassland on its top and bare rock and boulder on its slopes (Figure 1). L'Etac has, relative to its size, small numbers of breeding seabirds comprising razorbill, shag, great black backed gull, oyster catcher and herring gull.

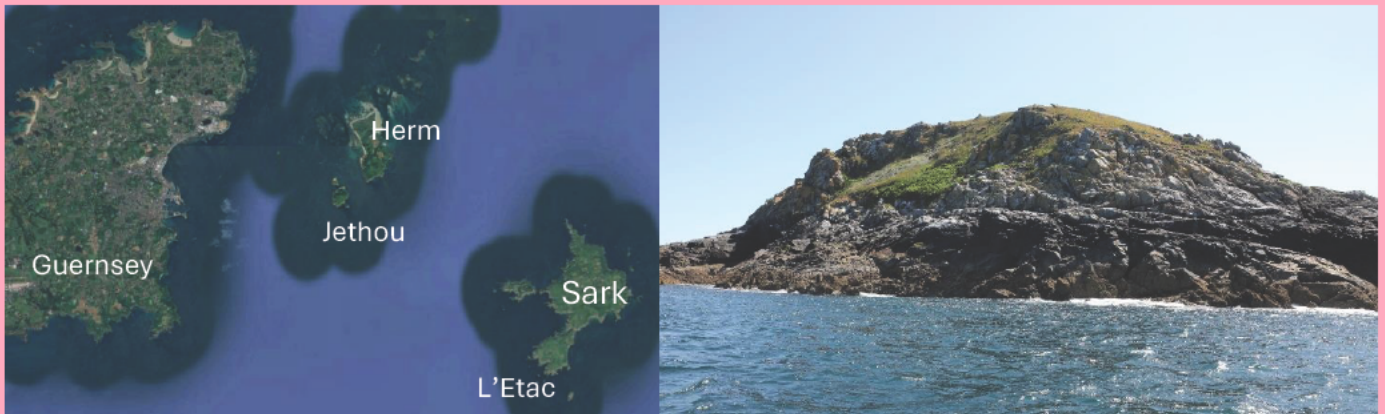


Figure 1. Proximity of L'Etac to Little Sark (Left) and aspect photograph of L'Etac showing habitat.

2. Evidence of rats

The distance between L'Etac and Little Sark is only 680 m which is within the maximum recorded swimming distance (750 m) across open water for black rats (Figure 2). There is also a stepping stone rock approximately 200 m from Little Sark which decreases the overall gap for swimming. This highlights the potential incursion risk for black rats between L'Etac and Little Sark.

It is standard practice for any island within swimming distance from a neighbouring island or mainland area would be included in any eradication operation. The presence of stepping stones adds to the importance of treating such islands as part of an eradication.

It is important to note that biosecurity measures implemented following eradication reduce the risk of reinvasion between islands in close proximity.

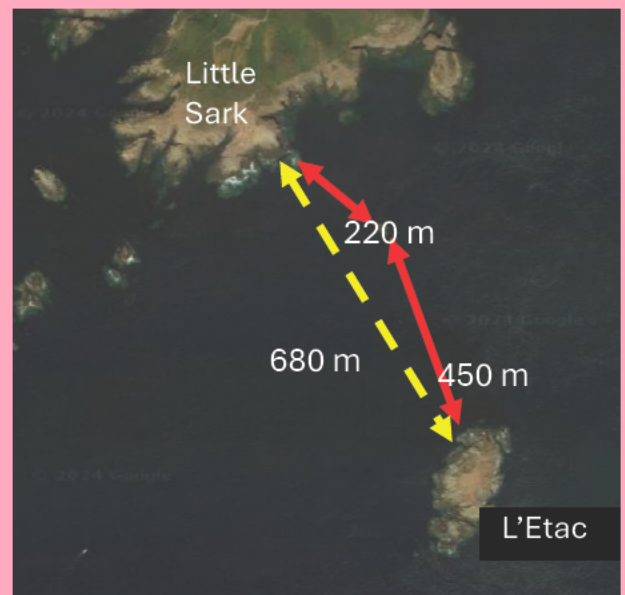


Figure 2. Proximity of L'Etac to Little Sark with swimming distances for rats indicated by a red line (stepping stone route) and a dashed yellow line (direct route).

Highly experienced field team members who visited L’Etac were confident that rats are present due to physical evidence found on the island (Figure 3), despite no physical rat being found or recorded on camera or other monitoring tool.

A predated seabird egg was found within a burrow; this egg lacked leathery membrane of a hatched chick, but as the predation event was old, there was limited other evidence (e.g., blood, rat saliva, etc.). (Figure 3). Given the location of the egg inside a burrow within the seabird zone on L’Etac, this suggests it was an egg from this season (i.e., mid-April to end-June 2024). The fact that it was mostly whole also suggests it was from this season. Old eggs are often removed or smashed up by the returning birds when they start a breeding season and dig out their burrows to tidy up before nesting material is dragged in. The egg was not faded, discoloured or brittle which would be the case if the egg was old.

Cached snail shells were present across the island, with similar chew patterns (tops nibbled through unlike bird evidence of smashed shells). Several caches of snail shells found by the team, and these appeared to vary in age, with some being recently eaten. This snail shell sign was also compared to confirmed rat sign on snail shell from Rathlin Island where both show identical patterns of gnawing through the top of the shells (Figure 4).

If this evidence had been found on an island known to be rat-free (i.e., after a successful rat eradication) then this would have been enough to initiate a biosecurity response.



Figure 3. Evidence of rats found on L’Etac in September 2024; A = Predated egg outside seabird burrow, B = Seabird burrow where predated egg was found inside, C = Predated egg, and D = Cached snail shells showing of gnaw marks through shells.



Figure 4. Comparison of predated snail shells from L’Etac (A) and Rathlin Island (B) showing identical gnaw marks through shells.

The images of snail shells and predated egg make a compelling case. Very similar evidence has been found on islands which then have had rats confirmed with trail camera images or footage, predation evidence/caches, rat bones or droppings. This evidence collected by the field team is highly suspicious and standard practice for island and seabird restoration projects would be to ensure that this island was included in any eradication operation especially as an offshore stack within swimming distance of the nearby main island. The presence of a stepping stone island would also add to the importance of treating this island within any eradication operation.

The whole island has not been accessed for rat presence due to rope access requirements and weather impacts over the previous survey periods. There was limited time available to survey the island. Monitoring equipment had to be removed early due to adverse weather forecasts.

All of L’Etac is accessible by ropes with a sufficient timeframe (i.e., through the eradication). A fixed cable system and ropes would be used to do this work safely and efficiently.

A single thermal drone survey was completed, but this was limited to one flight only at dusk.

The lack of physical evidence or sign on monitoring tools (such as wax blocks, tracking tunnels or traps) does not prove rats are not present on L’Etac as this lack of evidence has occurred on other islands off Herm where rats have since been confirmed on camera (showing neophobic behaviour traits around new monitoring devices) as well as rat skulls and predation evidence found by field teams when these other islands have been thoroughly surveyed.

Signature:



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