Hornsea Project Four

Guillemot Compensation Implementation and Monitoring Plan

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25/06/2025	4	Amended Final	Amended elements to implementation schedule

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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, and significant over delivery of, 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** states the objectives of the compensation measures;
- **Section 4** summarises the consultation that has been undertaken;
- **Section 5** sets out the chosen locations of the predator eradication project;
- **Section 6** presents the scale of delivery of the measure 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.*"

2.1.1.5 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.

3 Compensation Objectives

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 predating 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 rats from Lundy (UK).

3.1.1.3 To compensate for the potential displacement impacts on guillemot, a predator eradication programme can be implemented in accordance with the DCO at identified islands within the Herm and Sark archipelagos as part of the Bailiwick of Guernsey, Channel Islands (see **Figure 3.1** with detail presented in **Section 5**). Adaptive management options are being explored on islands and islets within the Alderney Island complex (presented in **Section 11**).

3.1.1.4 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)).

3.1.1.5 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.

3.1.1.6 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**.

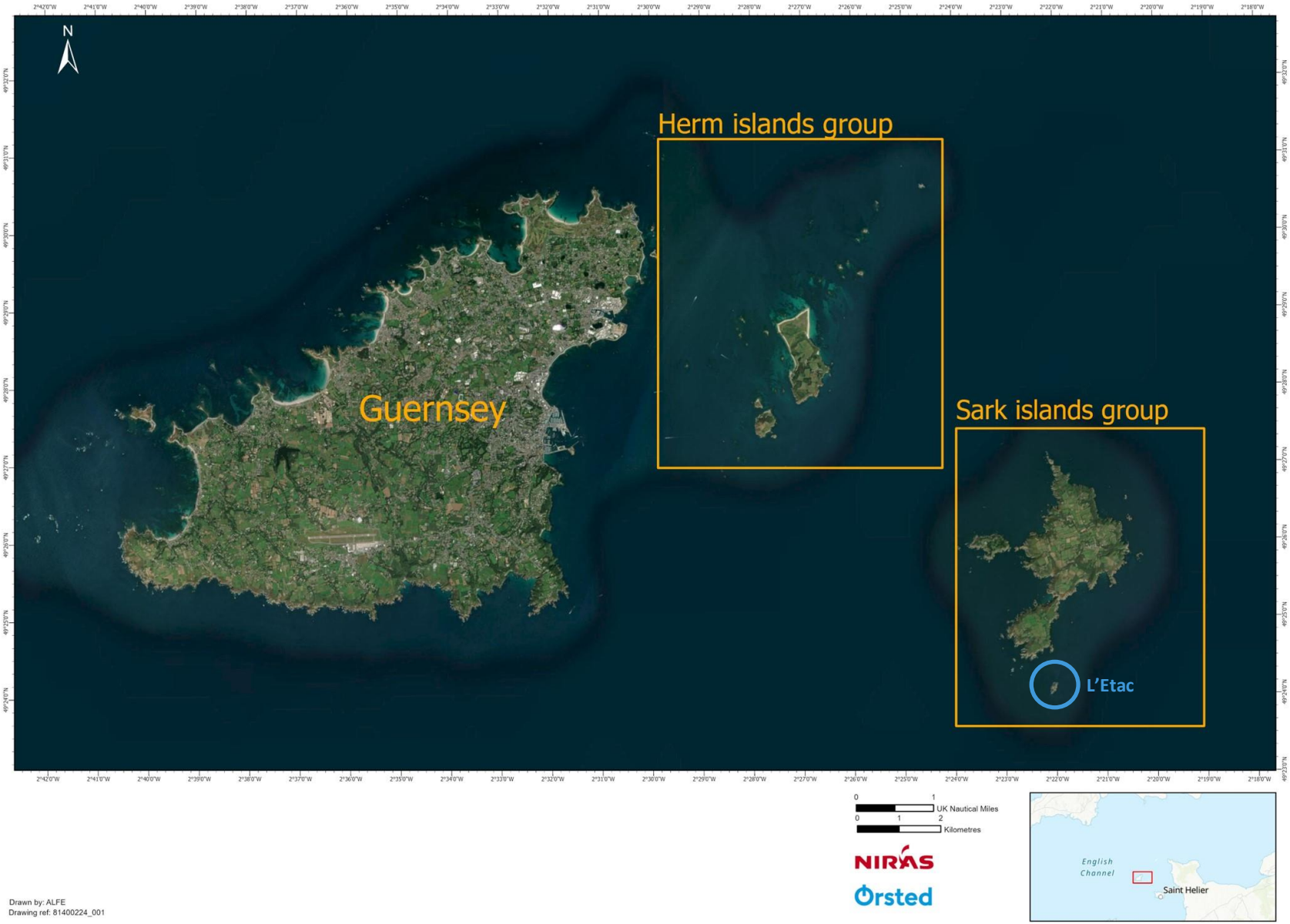

Figure 3.1: Map of the Bailiwick of Guernsey (excluding Alderney) showing the Herm and Sark islands groups with L'Etac circled.

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). Alderney Wildlife Trust were represented by the States of Guernsey and did not attend OOEG meetings. The States of Guernsey only attended guillemot relevant OOEG meetings (meeting numbers 5-9). The Wildlife Trusts were invited to join OOEG meetings but declined their involvement.

4.1.1.3 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).

4.1.1.4 The Hornsea Four OOEG met throughout the consultation period in accordance with the needs of the project, and as of June 2025, there have been 10 OOEG meetings comprising: an initial inception meeting on 24th March 2023, followed by 9 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 7th 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.

4.1.1.5 States of Guernsey and Orsted have now signed a formal agreement to support delivery of the project (including in relation to the predator eradication programme at the Herm Ramsar Site) as we move towards commencement. Hornsea Four have been working with Alderney Wildlife Trust under an MoU since 20th December 2022. Hornsea Four also has a current contractual agreement

with Alderney Wildlife Trust under which they undertook studies focused on predator eradication and elimination at locations around Alderney. Alderney Wildlife Trust are now progressing work to trial predator elimination at several locations (see **Section 11.2**) – once this work is done, Orsted will consider how best to progress matters. Hornsea Four is also progressing discussions with States of Alderney who have agreed in principle to entering into an MoU with the project.

5 Location of Compensation

5.1 Location Selection

5.1.1.1 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 which are part of the Bailiwick of Guernsey.

5.1.1.2 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)), with locations in Alderney 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*".

5.1.1.3 Further site refinement has been undertaken to determine the final implementation locations 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 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.

5.1.1.4 Therefore, the following islands within the Bailiwick of Guernsey are included within the final location strategy for the predator eradication:

- Herm: Including Herm, The Humps, Jethou, and Grand Fauconniere (see **Section 5.3.2** and **Figure 5.2**);
- Sark: Limited to the island of L'Etac to the south of the main island (see **Section 5.3.3** and **Figure 5.3**)

5.1.1.5 Within the Alderney Island complex, a number of islands/islets around the main island are being explored as an adaptive management option and are described further in **Section 11.2**.

5.2 Hornsea Four Information Collection

5.2.1.1 Orsted H4 has invested significant resources in collecting information to inform the implementation of the compensation measure. **Figure 5.1** 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 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.

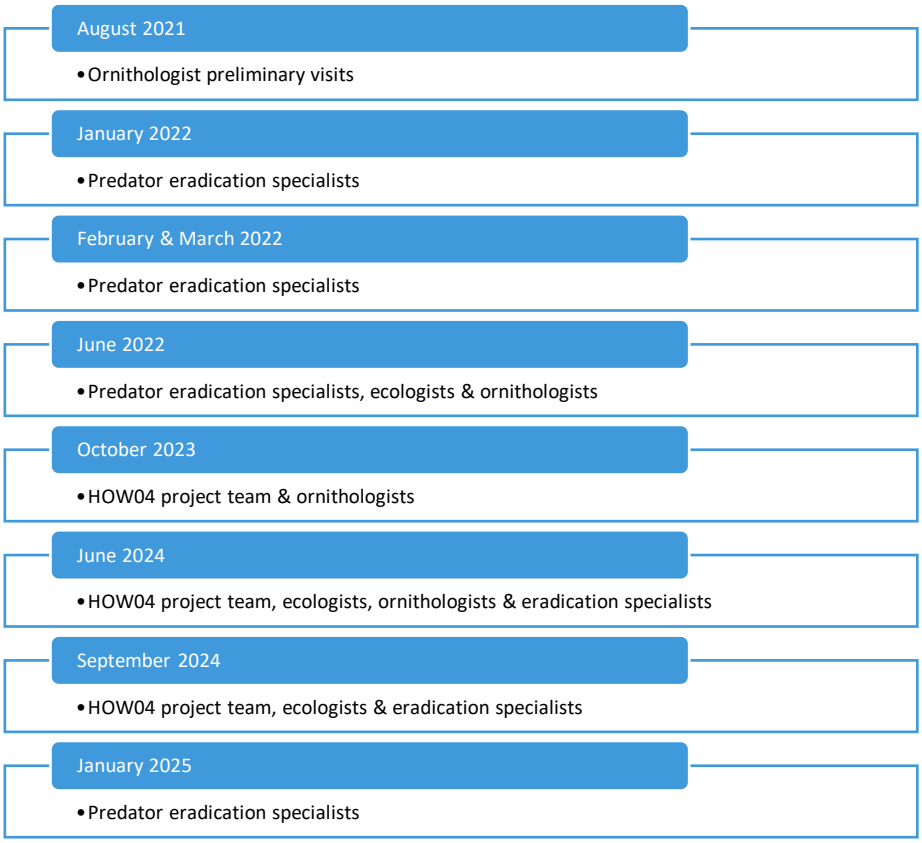

Figure 5.1 Overview of site visits undertaken by Orsted H4 and its consultants, with involvement from the States of Guernsey.

5.3 Feasibility Studies

5.3.1.1 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 affordability[1].

5.3.1.2 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.

5.3.1.3 Orsted H4 commenced predator eradication feasibility studies in late 2021/early 2022, relevant to Herm Island complex and 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 Herm Island complex and islands/islets surrounding Sark are summarised in **Sections 5.3.2** and

5.3.3 respectively. All feasibility studies were shared and consulted with OOEG members during the consultation process.

5.3.1.4 The final assessment of nesting sites available across final implementation locations following the removal of rats is presented within Section 6.3 below.

5.3.1.5 The results of eradication studies undertaken by the Alderney Wildlife Trust in reference to the islands/islets surrounding Alderney and its continued relevance with regards to adaptive management are described within Section 11.2.

5.3.2 Herm Island Complex

5.3.2.1 The Herm Island complex comprises the main island of Herm plus a number of smaller islets and stacks (Figure 5.2) 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.

5.3.2.2 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.

5.3.2.3 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 guillemot, razorbill (*Alca torda)*, puffin (*Fratercula arctica*), northern fulmar (*Fulmarus glacialis*), herring gull (*Larus argentatus*), lesser black-backed gull (*Larus fuscus*), great black-backed gull (*Larus marinus*), cormorant (*Phalacrocorax carbo*), and European shag (*Gulosus aristotelis*). 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.

5.3.2.4 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.

5.3.2.5 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.

Figure 5.2: Map of Herm Island complex

5.3.3 Sark Island Complex and L'Etac Island

5.3.3.1 The Sark Island complex comprises the main island of Sark and Little Sark plus a number of smaller islets, islands and stacks (**Figure 5.3**) including Brecqhou, Les Autelets, Les Burons, Grande Moie, Petite Moie, La Grune, and L'Etac. Sark is located approximately 9 km east of Guernsey and 5 km southeast of Herm. The islands occupy a combined area of approximately 520 hectares.

5.3.3.2 Sark and Brecqhou have a residential population of approximately 500 inhabitants. The offshore islets and stacks within the complex are uninhabited.

5.3.3.3 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 (circled in **Figure 5.3**). 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.

5.3.3.4 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 (see **Section 6.3**), leading experts to believe an invasive mammalian predator may be present.

5.3.3.5 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 the Sark and its surrounding islands (Barnes *et al.,* 2022).

5.3.3.6 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). The scale of this location's contribution to the compensation total of the measure is provided within **Section 6.3** below.

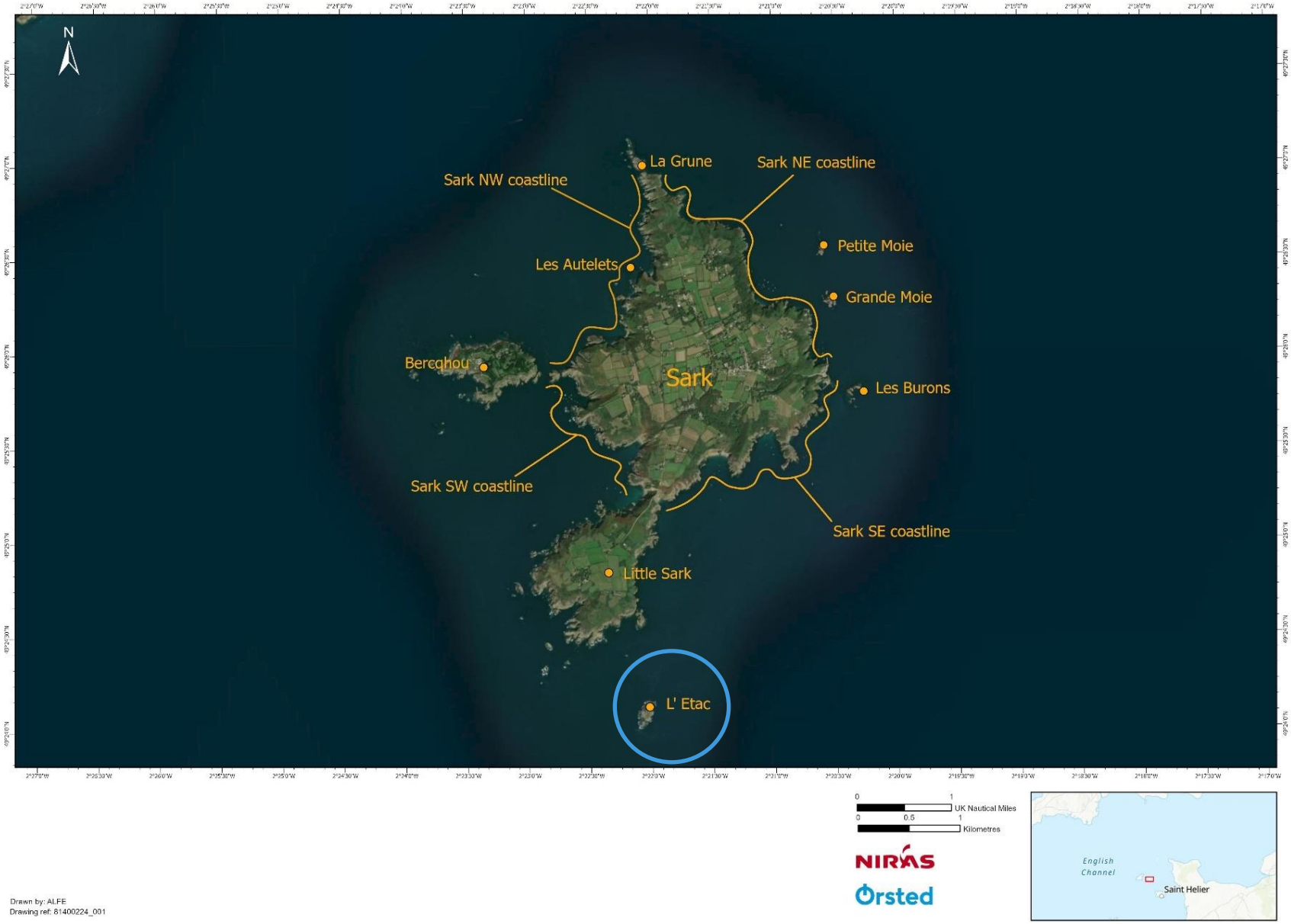

Figure 5.3: Map of Sark Island complex with L'Etac circled

5.3.4 Summary

5.3.4.1 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. The final capacity calculations for the Herm Island complex and L'Etac are described in the following sections.

6 Scale and Capacity of Compensation Implementation

6.1.1.1 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 6.2**) and how the locations chosen in the final location strategy are able to provide rat-free nesting opportunities above the required amount (with the potential to deliver 279% of the required compensation) to offset the predicated impact of Hornsea Four (**Section 6.3**).

6.2 Scale

6.2.1.1 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*".

6.2.1.2 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

6.2.1.3 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.

6.2.1.4 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.

6.2.1.5 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

6.2.1.6 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.

6.2.1.7 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.

6.2.1.8 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**.

6.2.1.9 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 being undertaken across the Herm Island complex and L'Etac, the 4,760 rat-free nesting spaces will be additional to what is currently available to breeding guillemot across the locations.

6.3 Capacity of Locations

6.3.1.1 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.).

6.3.1.2 Eradication experts (HAR and WMIL) and ornithologists (NIRAS) recommended Herm Island complex for large-scale eradication due to ecological suitability and stakeholder support, with additional sites around Sark, and Alderney 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 and increase benefits to guillemot above the required level. These locations and site-based breeding densities of existing colonies were consulted upon via the OOEG and agreed as suitable for inclusion in the compensation measure.

6.3.1.3 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 5.1**, 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.

6.3.1.4 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 6.3.1.5)**
- **46 breeding pairs/sqm (Harris and Wanless, 1987)**
- 70 breeding pairs/sqm (Birkhead, 2010)

6.3.1.5 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 Herm Island complex and L'Etac in meeting the compensation requirement.

6.3.1.6 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.

6.3.1.7 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.

6.3.1.8 The nesting estimations calculated during the 2022 seabird surveys were 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 Herm Island complex and L'Etac. Updates were based on additional observations and photos focused on current colony usage in and around the boulder fields.

6.3.1.9 The final estimation of additional nesting sites that would be suitable for guillemot following the rat eradication is provided in **Table 6.1**. The Herm Island complex is estimated to provide an additional 4,971 (27 pairs/sqm) to 8,469 (46 pairs/sqm) nesting sites and L'Etac 2,835 (27 pairs/sqm) to 4,830 (46 pairs/sqm) nesting sites. The estimation is presented as a range from the average nesting density currently observed to a more optimistic level with the knowledge that in favourable habitats, without predation pressure from rats, the nesting density may be greater than what is currently observed. These values have also been presented as percentages of the overall compensation requirement below.

Table 6.1: Final projection of additional guillemot nest sites that could be supported across the Herm Island complex

Location	Habitat Quality	Guillemot Nest Site Estimate		Evidence of Rat Presence
		27 pairs/sqm	*46 pairs/sqm*	
Herm				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 5.3.2.5). This is supported by eradication experts (HAR and WMIL).
Crevichon	**Moderate**	81	138	
Cul de L'Autel	Poor	97	166	
Galeu	**Moderate**	41	69	
Godin	**Good**	581	989	
Grande Amfroque	**Moderate**	97	166	
Grande Fauconniere	**Good**	1,458*	2,484*	
Herm Main Island	Poor	-	-	
Longue Pierre	**Good**	1,563*	2,663*	
Roberts Helmet and Saddle Rock	**Moderate**	1,150	1,960	
*Herm total across '**Good**' and '**Moderate**' habitat*		***4,971***	***8,469***	
Percentage of required compensation met by Herm total		*104%*	*178%*	
Sark				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).
L'Etac	**Good**	2,835	4,830	
*Grand total across '**Good**' and '**Moderate**' habitat*		***7,806***	***13,299***	
Percentage of required compensation met by grand total		*164%*	*279%*	

* 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

6.3.1.10 The seabird benefits that arise from the eradication will be tracked as per Section 10.3. Eradication experts HAR and WMIL have recommended the inclusion of all locations in Table 6.1 to ensure a complete rat eradication. Due to the close proximity of the entirety of the Herm Island complex, it is considered as a single geographical location for the purpose of the eradication with the knowledge that the present rats are capable of consistently accessing all offshore features. This approach for Herm 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).

6.3.2 Summary

6.3.2.1 The process described above follows the approach presented within the GCP and methods which have been consulted on extensively and agreed with the OOEG. Based on this approach, and the observed nesting density of 27 pairs/sqm, Herm Island complex alone has capacity to meet 104% of the required compensation (4,760 nesting spaces, which includes the contribution back to the UK NSN or colonies supporting the UK NSN). With the inclusion of L'Etac, this raises the total to 164% of the compensation required for Hornsea Four. Based on the higher range estimates, the Herm Island complex has the potential to deliver 178% of the required compensation, with L'Etac bringing the total up to 279% of the compensation required for Hornsea Four. The locations in

Table 6.1 have been consulted upon extensively via the OOEG and agreed as suitable for inclusion in the compensation measure.

6.3.2.2 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, with the ability to potentially deliver 279% of the required compensation.

7 Eradication Implementation and Biosecurity

7.1.1.1 The eradication programme on the Herm Island complex and L'Etac is a ground-based operation using rodenticide deployment via a bait station grid. The Eradication Operation Plan is currently being 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. The indicative programme for eradication implementation is described in Section 13.

7.1.1.2 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 will be implemented post-eradication will be described in detail within a Biosecurity Plan that is currently being 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 cargo and passenger boat operators to ensure their efficacy.

7.1.1.3 The Eradication Operation Plan and Biosecurity Plan are live documents that are continuously updated as the project progress, and therefore are not submitted with this GCIMP.

8 Delivery Mechanism

8.1.1.1 Orsted H4 and HAR have engaged with the relevant landowners and leaseholders since the feasibility stage of the project through in person meetings and via correspondence. Negotiations are progressing well to secure land access agreements with the relevant landowners and leaseholders to ensure the eradication and biosecurity activities can be carried out on the Herm Island complex and L'Etac and it is expected that these agreements will be finalised and signed prior to the start of works. The land access agreements are intended to be the mechanism by which the necessary biosecurity measures are secured.

8.1.1.2 There are several other licences and approvals that will be obtained to enable the eradication and biosecurity works. HAR 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 Veterinary Officer. There are ongoing discussions regarding methods to mitigate potential seal and pup disturbance, and HAR are preparing the necessary documentation.
- 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.

8.1.1.3 The status of agreements with States of Guernsey, Alderney Wildlife Trust, and States of Alderney are set out in **Paragraph 4.1.1.5**.

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 in the Bailiwick of Guernsey via the implementation of a predator eradication program. In accordance with the DCO (and detailed within **Section 6.2**), 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 (noting that within **Section 6.3**, the locations secured provide significantly more nesting sites than required, and on a precautionary basis).

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 Herm Island complex and L'Etac; 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 Herm Island complex and L'Etac, 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 Herm Island complex and L'Etac (as established in **Section 6.2**). This will be achieved via the eradication 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, the Herm Island complex is estimated to provide an additional 4,971 nesting sites and L'Etac 2,835 nesting sites, for a total of 7,806 nesting sites or 164% of the required amount of compensation (see **Section 6.3**). However, success will be based on the minimum requirement of 4,760 rat-free nesting spaces, with the 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, it will be important to distinguish between the failure of the eradication and a biosecurity failure should rodents be detected. Following a rapid incursion response to remove any rats, (see **Section 10.2** for more details regarding incursion response), DNA analysis of the captured rats would be compared with previous samples of rats collected within the Bailiwick of Guernsey and other locations in the UK. If the rat is determined to have originated from the established Herm and/or L'Etac population, the eradication cannot be deemed a success, and further eradication work will take place, with the monitoring phase timeline being reset (see **Section 10.2**). If the failure is that of biosecurity, the incursion will not necessitate a failure of the entire measure, but rather a re-examination of the biosecurity measures with improvements to prevent further incursions. As long as the establishment of a new rat colony is prevented, Herm Island complex and/or L'Etac 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 6.2**.

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 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. Herm Island will also have an incursion response hub 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.

10.2.1.5 Monitoring of rat presence on the eradicated islands via permanent monitoring stations, for example wax blocks or trail cameras, will continue, as required and agreed with leaseholders, 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. The results of the 2022 and 2024 colony counts are presented in **Table 10.1**. No baseline productivity data exists for the planned eradication locations as the inaccessibility of guillemot nesting locations without causing significant disturbance make establishing a baseline productivity level unfeasible.

Table 10.1: 2022 and 2024 Herm Island complex and Sark: L'Etac guillemot colony census results

Location	Guillemot Max Count (IND)	
	May 2022	*June 2024*
Herm		
Crevichon	*None recorded*	
Cul de L'Autel	*None recorded*	
Galeu	*None recorded*	
Godin	2	8
Grande Amfroque	*None recorded*	
Grande Fauconniere	*None recorded*	
Herm Main Island (Belvoir and Puffin Bay)	*None recorded*	
Longue Pierre	144	167
Sark		
L'Etac	*None recorded*	

10.3.1.2 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.

10.3.1.3 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.

10.3.1.4 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).

10.3.1.5 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

10.3.1.6 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.

10.3.1.7 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.

10.3.1.8 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.

10.3.1.9 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.

10.3.1.10 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.

10.3.1.11 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

10.3.1.12 States of Guernsey's Animal Welfare Ordnance 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.

10.3.1.13 Going forward, potential productivity monitoring techniques around Herm Island complex will continue to be explored. These techniques may include the deployment of 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

10.3.1.14 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. 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.

10.3.1.15 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 without causing significant disturbance. 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. Both species 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:

- Implementation of a rat control programme at current, historic, and potential guillemot nesting locations at nearshore islets across Alderney if trials deem the programme to be successful (for more details, see **Section 11.2**);
- 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; and
- Contribution to the Marine Recovery Fund (MRF) to deliver compensation strategically (further detail provided in paragraph 11.1.1.11).

11.1.1.6 Orsted H4 has also signed an option agreement with another developer for up to 700 nests on a prospective offshore ANS. The option agreement provides for 700 multispecies nests for Hornsea Four, meaning there is flexibility in whether the nests could be utilised for either kittiwake or guillemot adaptive management, as required. This aligns with paragraph 10(a)(vii) of Part 3 of the DCO.

11.1.1.7 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.

11.1.1.8 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**.

11.1.1.9 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.

11.1.1.10 The approach to identifying appropriate adaptive management will follow a hierarchy-based system driven by what is within control. 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.

11.1.1.11 As set out within the GCP, potential linkages with strategic compensation mechanisms (such as the MRF) will be explored as opportunities to discharge compensation obligations as either a primary or an adaptive management option. At the time of drafting this GCIMP, the MRF does not have sufficient detail to allow its incorporation, or provision of funds, within the current planned approach. However, predator removal is an approved measure on the long list of strategic compensation measure for the MRF. Advancements of strategic compensation measures (including but not limited to the MRF) will be monitored during the lifetime of the compensation measure, and discuss with the OOEG any emerging opportunities, if relevant and required.

11.1.1.12 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.

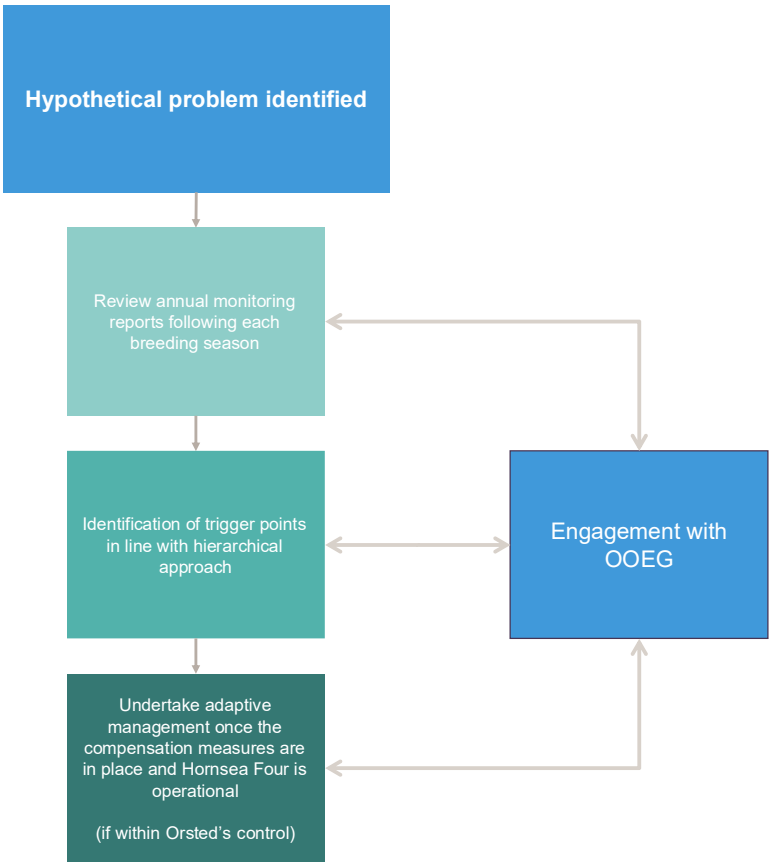

Figure 11.1: Flow diagram illustrating the process of identifying trigger points for adaptive management

11.2 Alderney Rat Control

11.2.1 Alderney Eradication Study

11.2.1.1 An eradication study conducted on the Alderney Island complex for brown and black rats was completed by the Alderney Wildlife Trust in 2023. Alderney is located approximately 30 km northeast of Guernsey and has both black and brown rats present on the island. 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.

11.2.1.2 The study confirmed rat presence on the majority of Alderney's tidal islets, overlapping with the nesting locations of breeding guillemot. Brown rats were mostly present on 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 a black rat eating a guillemot egg being obtained via camera trap. Alderney Wildlife Trust has suggested further studies to assess the benefit to guillemot if rats were removed.

11.2.1.3 Given that the Herm Island complex has the capacity to compensate for the total guillemot requirement, with L'Etac providing significant overcompensation, Alderney is being retained as a potential adaptive management option. Further feasibility research for Alderney has been undertaken to explore additional evidence related to the extent of rat presence across the Alderney Island complex, impacts of the rats on nesting guillemots, and the potential guillemot nesting capacity of Alderney's offshore islets currently being considered for rat control. This information will be shared with the OOEG when available.

11.2.2 Rat Elimination Trial

11.2.2.1 Due to the locations of breeding seabirds being situated on offshore stacks, and legal complexities regarding land ownership on the main island of Alderney, a full rat eradication was not deemed required or feasible at present. Instead, a rat elimination project focused on rat control at key locations on the coasts and nearshore stacks of Alderney, rather than full eradication, was considered the most appropriate technique management and is currently being assessed on a trial basis.

11.2.2.2 A rat elimination focuses on controlling rats in only a subsection of an entire island complex (target islet plus predetermined buffer zone). Located at the innermost area of the buffer zone will be the offshore islet where the elimination trial is creating rat-free nesting space. Trials are being conducted into whether certain islets around Alderney are suitable for rat elimination. The target islet plus the predetermined buffer zone are then initially eradicated of rats using rodenticide similar to an eradication. The rats are then prevented from recolonising the area using long term biosecurity, typically with a grid of pulse baiting and A24 kill traps. The outer rat-free buffer zone will likely be directly next to a rat-present zone on the Alderney main island. Therefore, incursions into the outer buffer zones are inevitable and an expected part of the measure.

11.2.2.3 The targeted Alderney guillemot population affected by the rat elimination could be monitored in regards to its population and productivity similar to Herm and L'Etac (**Section 10.3**) with the final monitoring details agreed with the OOEG. If successful, rat-free nesting space provided by the Alderney rat elimination trial could act as an option for adaptive management should it be necessary in the future and in consultation with the OOEG.

11.3 OOEG Engagement in Adaptive Management

11.3.1.1 As outlined in the section above, monitoring of the Herm Island complex and L'Etac 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.

11.3.1.2 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.

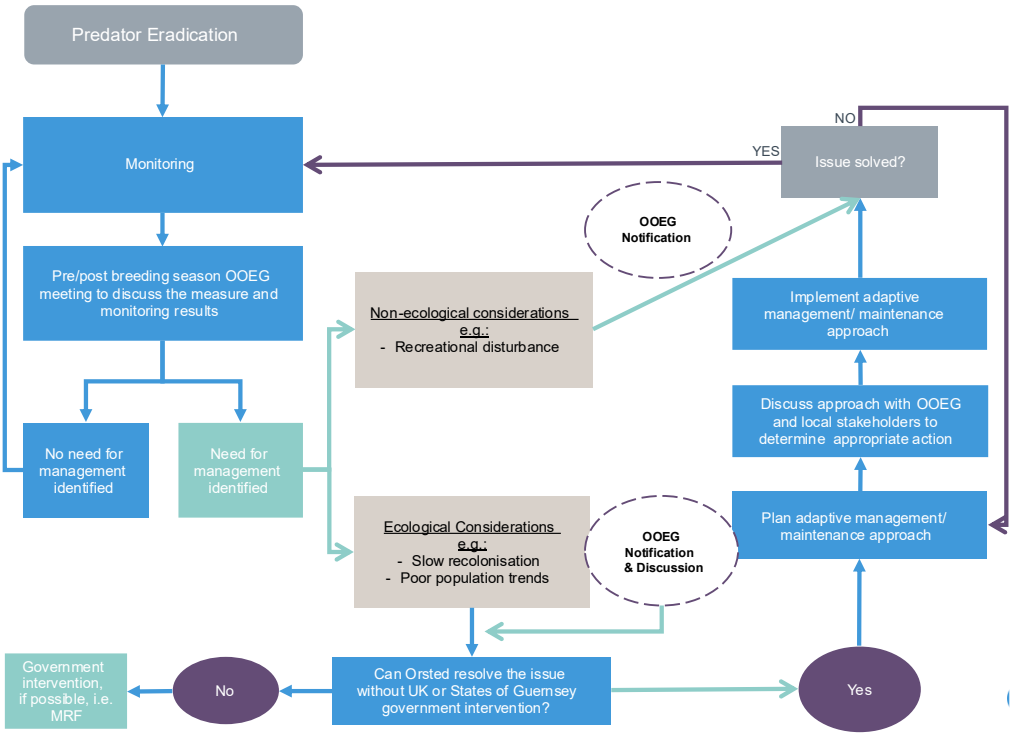

Figure 11.2: Flow diagram outlining the process informing the OOEG of monitoring results and adaptive management solutions

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 programme and the commencement of specified offshore works as set out in paragraph 11 of Part 3 of Schedule 16 of the DCO. Following the project announcement on 7th May 2025, the eradication programme is indicatively planned to commence in 2026. It is expected that a new construction schedule will mean that there will likely be more than two years before the commencement of the specified

offshore works. This would allow more time for the measure to be functionally established before the impact occurs.

13.1.1.2 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.

13.1.1.3 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 of Herm Island complex and L'Etac will 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**).

13.1.1.4 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.

13.1.1.5 The key tasks and milestones for the eradication operation are summarised in **Table 13.1.**

13.1.1.6 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.

Table 13.1: Indicative schedule of Herm and L'Etac 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																				
Eradication operation: planning																				
Establish biosecurity network																				
Eradication operation: Track cutting and baiting																				
Post eradication monitoring: rats, seabirds, and ecosystem recovery																				
Declaration of rat-free status																				
Long term monitoring: rat incursion																				
Long term monitoring: seabird and ecosystem recovery																				
Management and maintenance of long term biosecurity and incursion response																				

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) *details of the location(s) where the compensation measure will be delivered;*	Section 5 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.
(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;	Section 6 presents how this requirement has been met by setting out the calculations used to determine the necessary scale of compensation delivery. The predator eradication measure has the potential to deliver up to 279% of the compensation. The scale determination process has been consulted upon extensively via the OOEG and agreed as suitable for the compensation measure.
(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;	Section 7 and Section 8 present how this requirement has been met.
(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);	Section 13 presents how this requirement has been met for the GCIMP and shows the programme for implementation and delivery.
(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;*	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 10.3.1.12 and 10.3.1.13 discuss monitoring seabird productivity rates (ee) Paragraphs 10.3.1.6 through 10.3.1.9 discuss monitoring the seabird breeding population (ff) Paragraph 10.3.1.11 discusses monitoring the distribution of breeding seabirds (gg) Paragraphs 10.3.1.14 and 10.3.1.15 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.
(vi) recording of H4 OOEG consultations and project reviews;	**Section 4** summarises the OOEG consultation and project reviews that have been undertaken.
(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;	**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.
(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;	**Section 11** and **Section 12** sets out how this requirement has been met.

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Appendix A - Evidence of Rat Presence on L'Etac

OOEG 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.

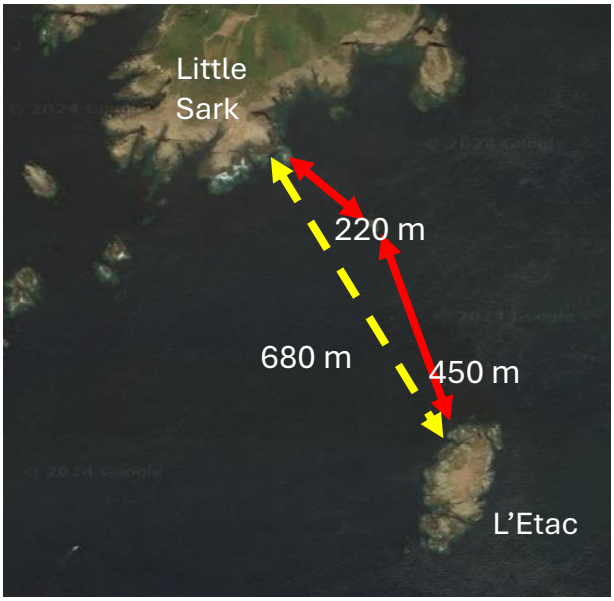

Figure 2. *Proximity of L'Etac to Little Sark with swimming distances for rats indicated by a red line (stepping stone route) and a dashed yellow line (direct route).*

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.

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