



The Great Grid Upgrade

Sea Link

Sea Link

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Hazel Dormouse Survey Report

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1. Hazel Dormouse Survey Report

1.1 Introduction

Background

- 1.1.1 The Sea Link Project (hereafter referred to as the 'Proposed Project') is a proposal by National Grid Electricity Transmission plc (hereafter referred to as National Grid) to reinforce the transmission network in the southeast and East Anglia. The Proposed Project is required to accommodate additional power flows generated from renewable and low carbon generation, as well as accommodating additional new interconnection with mainland Europe. This would be achieved by reinforcing the network with a High Voltage Direct Current (HVDC) Link between the proposed Friston substation in the Sizewell area of Suffolk and the existing Richborough to Canterbury 400kV overhead line close to Richborough in Kent.
- 1.1.2 The purpose of this document is to detail the results of presence/likely absence surveys for hazel dormouse (*Muscardinus avellanarius*) conducted in relation to the Suffolk Onshore Scheme Order Limits.
- 1.1.3 The baseline findings of this report provide information on any potential ecological constraints associated with hazel dormouse, for incorporation into the **Application Document 6.2.2.2 Part 2 Suffolk Chapter 2 Ecology and Biodiversity**.
- 1.1.4 This appendix should be read in conjunction with the following figures:
- **Application Document 6.4.4.2.J Dormice Survey Report.**

Scope

- 1.1.5 Survey areas were identified based on mapping data, aerial imagery and observations made during the extended Phase 1 habitat survey. The survey areas are shown in **Application Document 6.4.2.2.J.1 Suffolk Dormouse Survey Results**.
- 1.1.6 This report aims to confirm the presence or likely absence of hazel dormice within the Suffolk Onshore Scheme Order Limits through nest tube surveys. The findings of the hazel dormouse survey have informed the ecological impact assessment and identification of mitigation measures (where required) which are reported in **Application Document 6.2.2.2 Part 2 Suffolk Chapter 2 Ecology and Biodiversity**.

1.2 Relevant Wildlife Legislation

- 1.2.1 The hazel dormouse is a European Protected Species, afforded full protection under the Wildlife and Countryside Act 1981 (as amended) (HM Government, 1981) and the Conservation of Habitats and Species Regulations 2017 (as amended) (HM Government, 2017). Together this legislation makes it an offence to:
- deliberately capture or kill, injure or disturb a hazel dormouse;
 - damage or destroy a breeding site or resting place of a hazel dormouse;

- keep, transport, sell or exchange, or offer for sale or exchange a live or dead hazel dormouse or any part of a hazel dormouse; and
 - cause disturbance which is likely to impair a hazel dormouse's ability to survive, breed, hibernate and/or migrate and to intentionally or recklessly disturb a hazel dormouse while it is occupying a structure or place which it uses for that purpose.
- 1.2.2 Note that, under the Conservation of Habitats and Species Regulations 2017 (as amended), damaging or destroying a breeding site or resting place is an offence regardless of whether the act was deliberate or not.
- 1.2.3 Hazel dormouse is listed as a species of principal importance within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (HM Government, 2006).

1.3 Methodology

Desk Study

- 1.3.1 A desk study was undertaken in June 2022 and updated in October 2024. The desk study requested records of the protected and notable species hazel dormouse (HM Government, 2006), (Suffolk Biodiversity Planning Group, 2012) within the preceding ten years and within a 2 km radius of the Suffolk Onshore Scheme Order Limits from the Suffolk Biodiversity Information Centre.

Nest Tube Survey

- 1.3.2 A total of 584 hazel dormouse nest tubes and nine hazel dormouse nest boxes were set out within suitable habitats within and adjacent to the Suffolk Onshore Scheme Order Limits. The survey was undertaken by suitably experienced AECOM ecologists during 2023 and 2024. Dormouse nest tubes were installed at 20 m intervals in suitable habitats in accordance with best practice guidance specified in the Dormouse Conservation Handbook (Bright, Morris, & Mitchell-Jones T, 2006). Nest tubes (wooden/plastic nest tubes 250 mm long and 65 mm square with a wooden tray that extends beyond the end of the tube by 55 mm) were secured just below branches in the suitable habitat to encourage hazel dormice to nest within them. Nest boxes were also secured to the trunks of suitable trees in dense woodland with the entrance hole facing towards the trunk, to provide supplementary information (see **Application Document 6.4.2.2.J.1 Suffolk Dormouse Survey Results** for tube and box locations).
- 1.3.3 Owing to the size of the Suffolk Onshore Scheme Order Limits and presence of features such as roads presenting barriers to hazel dormouse movement, the hazel dormouse nest tubes were grouped into survey Zones A to F as follows:
- Zone A – consisted of two arable fields bordered by woodland and hedgerow north of Saxmundham and west of the railway line (major barrier) between Saxmundham and Halesworth. This area was subsequently removed from the Suffolk Onshore Scheme Order Limits and therefore is not considered further within this report.
 - Zone B – consisted of three arable fields bordered by woodland, hedgerow and scrub northeast of Saxmundham, east of the railway line (major barrier) between Saxmundham and Halesworth and north of the B1119 (major barrier). This area was subsequently removed from the Suffolk Onshore Scheme Order Limits and therefore is not considered further within this report.

- Zone C – consisted of arable fields bordered by hedgerow and woodland following the Order Limits southeast of Saxmundham and the B1119 across to Grove Road which is located northeast of Friston. Due to the size of Zone C this was subdivided for survey and access purposes into segments C1 to C6.
- Zone D – consisted of arable fields bordered by hedgerow and woodland following the Order Limits southeast of Grove Road to the B1069 southeast of Friston. Due to the size of Zone D this was subdivided for survey and access purposes into segments D1 to D4. Two areas of Zone D (D1 and D2) that were included in the scope were not accessible at the time of the surveys and no surveys were completed therefore results are only reported for Zone D3 and D4.
- Zone E - consisted of arable fields and acid grassland bordered by hedgerow and woodland between the B1069 southeast of Friston and the B1122 northwest of Aldeburgh and north of the Aldeburgh Golf Course. Due to the size of Zone E this was subdivided for survey and access purposes into segments E1 to E4.
- Zone F – consisted of acid grassland fields bordered by hedgerow and woodland east of the B1122, two of these fields were located west of the RSPB North Warren Reserve and one field within the reserve itself. Due to the size of Zone F this was subdivided for survey and access purposes into segments F1 and F2.

1.3.4 Although Zones C to F were subdivided for survey and access purposes, as habitats are connected within each Zone the scoring indices have been calculated by Zone.

1.3.5 Table 1.1 provides a summary of the survey locations, the number of tubes set out at these locations and when these were set out. Due to access restrictions not all of the tubes/boxes were set out at the same time. This is taken into consideration in the scoring index calculations.

Table 1.1 Summary of survey locations

Zone	Segment	No. tubes and boxes	Date of refugia set-up.
Zone C	C1	52 tubes	3 to 7 July 2023
Total tubes: 254	C2	30 tubes	3 to 7 July 2023
Total boxes: 9	C3	48 tubes 3 boxes	23 to 27 October 2023
	C4	34 tubes	23 to 27 October 2023
	C5	44 tubes 3 boxes	23 to 27 October 2023
	C6	46 tubes 3 boxes	23 to 27 October 2023

Zone	Segment	No. tubes and boxes	Date of refugia set-up.
Zone D	D3	43 tubes	8 to 9 April 2024
Total tubes: 64 Total boxes: 0	D4	21 tubes	23 to 27 October 2023
Zone E	E1	20 tubes	3 to 7 July 2023
Total tubes: 216 Total boxes: 0	E2	66 tubes	3 to 7 July 2023
	E3	50 tubes	3 to 7 July 2023
	E4	80 tubes	3 to 7 July 2023
Zone F	F1	20 tubes	23 to 27 October 2023
Total tubes: 78 Total boxes: 0	F2	58 tubes	23 to 27 October 2023

Scoring index

- 1.3.6 There is an established scoring system to ensure any nest-tube survey is sufficiently robust (Table 1.2). All of the monthly scores for the period over which the tubes are in place are added together (provided that the tubes are inspected on a monthly or bi-monthly basis during the recognized survey season of May to November). Assumed absence should not be based on a search effort score of less than 20 (Channin & Woods, 2003). This is the index of probability of finding evidence of dormice in nest-tubes in any one month. These monthly scores are based on a minimum of 50 tubes having been deployed in a given survey area. The scores should be adjusted to account for situations in which greater or fewer than 50 tubes are deployed. Therefore, the monthly scores can be doubled for 100 tubes but should be halved for 25. However, where more than 100 tubes are used, the search effort scores are increased up to a maximum multiplier of 2.
- 1.3.7 The total index score for the survey period is a sum of the check month score and the previous month score provided no more than bi-monthly checks occur, as a fraction of the 50 tubes score below for the number of tubes found and checked in that month. A hypothetical scoring situation is provided below as an example of the calculations:
- If 65 tubes were set up in March and checks occurred in May and July finding all 65 tubes each time, the total index score would include April, May, June and July. The score for April would be calculated as $1 / 50 = 0.02 \times 65 = 1.3$. May at 5.2, June at 2.6 and July at 2.6. The total index score for this example would, therefore, be 11.7.

Table 1.2 Scoring index based on 50 nest tubes

Month	Survey effort score (based on 50 nest tubes)
January	0
February	0
March	0
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2
December	0

Nest tube check dates and environmental conditions

1.3.8 Nest tube checks were undertaken on four occasions between September 2023 and October 2024 within each Zone/ segment by two ecologists, one of whom is registered to use the WML-CL10a Natural England hazel dormouse class licence (Class 1 survey licence). The timings of each check varied according to when access was granted for set up and subsequent checks, as detailed within Table 1.3. Weather conditions for each survey are detailed in Table 1.4.

Table 1.3 Dates of nest tube checks by zone

Zone	Tubes	Set out date	25 to 27 September 2023	27 to 30 November 2023	7 to 10 May 2024	9 to 12 July 2024	3 to 5 September 2024	8 to 9 October 2024
C1	52	3 to 7 July 2023	Check 1	Check 2	Check 3	Check 4	-	-
C2	30	3 to 7 July 2023	Check 1	Check 2	Check 3	Check 4	-	-
C3	48	23 to 27 October 2023	-	Check 1	Check 2	Check 3	Check 4	
C4	34	23 to 27 October 2023	-	Check 1	Check 2	Check 3	Check 4	-
C5	44	23 to 27 October 2023	-	Check 1	Check 2	Check 3	Check 4	-
C6	46	23 to 27 October 2023	-	Check 1	No Access	Check 2	Check 3	Check 4
D3	43	8 to 9 April 2024	-	-	Check 1	Check 2	Check 3	Check 4
D4	21	23 to 27 October 2023	-	Check 1	Check 2	Check 3	Check 4	-
E1	20	3 to 7 July 2023	Check 1	Check 2	Check 3	Check 4	-	-

Zone	Tubes	Set out date	25 to 27 September 2023	27 to 30 November 2023	7 to 10 May 2024	9 to 12 July 2024	3 to 5 September 2024	8 to 9 October 2024
E2	66	3 to 7 July 2023	Check 1	Check 2	Check 3	Check 4	-	-
E3	50	3 to 7 July 2023	Check 1	Check 2	Check 3	Check 4	-	-
E4	80	3 to 7 July 2023	Check 1	Check 2	Check 3	No Access	No Access	No Access
F1	20	23 to 27 October 2023	-	Check 1	Check 2	Check 3	Check 4	-
F2	58	23 to 27 October 2023	-	Tubes Destroyed, Replaced 8 to 9 April 2024	Check 1	Check 2	Check 3	Check 4

Table 1.4 Weather Conditions for Nest Tube Surveys

Date of Survey	Weather Conditions
25/09/2023	17-21°C, 60-90% cloud cover, light breeze (Beaufort 2), dry
26/09/2023	19-22°C, 40-50% cloud cover, light breeze (Beaufort 2), dry
27/09/2023	18-20°C, 60-90% cloud cover, light breeze (Beaufort 2), dry
27/11/2023	7°C, 100% cloud cover, moderate breeze (Beaufort 4), light rain
28/11/2023	5 °C, 40-50% cloud cover, fresh breeze (Beaufort 5), dry
29/11/2023	3 °C, 40-50% cloud cover, gentle breeze (Beaufort 3) dry
30/11/2023	4 °C, 40-50% cloud cover, gentle breeze (Beaufort 3) dry
07/05/2024	16- 17°C, 10-40% cloud cover, gentle breeze (Beaufort 3) dry
08/05/2024	14-18 °C, 0-10% cloud cover, gentle breeze (Beaufort 3) dry
09/05/2024	18-21 °C, 0-10% cloud cover, fresh breeze (Beaufort 4) dry
10/05/2024	18-21 °C, 0-10% cloud cover, fresh breeze (Beaufort 4) dry
09/07/2024	18-20 °C, 100% cloud cover, fresh breeze (Beaufort 4) light rain
10/07/2024	22°C, 60-90% to 100% cloud cover, light air (Beaufort 1), dry
11/07/2024	17-20°C, 100% cloud cover, light air (Beaufort 1) to light breeze (Beaufort 2), recent rain
12/07/2024	14-16 °C, 60-90% cloud cover, strong breeze (Beaufort 6) dry
03/09/2024	22°C, 60-90% cloud cover, light air (Beaufort 1) to light breeze (Beaufort 2), recent rain
04/09/2024	19-20°C, 0% to 100% cloud cover, still air (Beaufort 0) to light air (Beaufort 1), dry to drizzle
05/09/2024	19-20°C, 100% cloud cover, light breeze (Beaufort 2), dry to drizzle
08/10/2024	12-16°C, scattered clouds, light breeze (Beaufort 2), dry
09/10/2024	12-14°C, partly sunny, light breeze (Beaufort 2), dry

Limitations

Desk study

- 1.3.9 The aim of a desk study is to help characterise the baseline context of the Suffolk Onshore Scheme Order Limits with regards to dormouse and provide valuable background information that would not be captured by a single on-site survey alone. Information obtained during a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records does not necessarily mean that the species does not occur in the Study Area. Likewise, the presence of records for particular species does not automatically mean that these

still occur within the area of interest or are relevant in the context of the Suffolk Onshore Scheme Order Limits.

Field survey

- 1.3.10 It should be noted that an ecological survey represents a 'snapshot' of habitats and species at a specific point in time. Ecosystems are dynamic and constantly changing, and therefore species may move, or new species may be recorded in subsequent years. For this reason, and in accordance with current CIEEM (The Chartered Institute of Ecology and Environmental Management, 2019) the field survey data detailed in this report are likely to be valid for 12-18 months unless species specific guidance dictates otherwise. Further to this, within their standing advice Natural England consider that survey data up to three years old is acceptable for hazel dormouse if the habitats have not significantly changed since the survey was conducted (HM Government, 2022). Therefore, it is recommended an appropriately qualified ecologist assesses whether there have been any significant changes to the habitats within the Suffolk Onshore Scheme Order Limits at 18 months, where no significant changes to habitats, updated surveys are likely to be required where survey data reaches three years from the start of the surveys in September 2023.. Advice should be sought from an appropriately qualified ecologist to determine survey scope and methods.
- 1.3.11 It was identified at the time of the survey in November 2023 that dormouse nest tubes within Zone F2 were destroyed by hedgerow flailing before the first scheduled survey date. Therefore, a survey of Zone F2 was not undertaken in November 2023. The tubes were replaced at this location on the 8 to 9 April 2024 and the four surveys were completed in May, July, September and October 2024. Therefore, this is not considered to be a constraint to the survey results.
- 1.3.12 A check could not be undertaken of the dormouse nest tubes within Zone C6 during the May 2024 survey, due to landowner access restrictions. However, surveys were undertaken in November 2023, July, September and October 2024. Therefore, this is not considered to pose a constraint to the survey results.
- 1.3.13 Zone A and B were initially within the survey scope; however, these areas were subsequently removed from the Order Limits as a result of design development. Therefore, surveys were not undertaken in these Zones. The location and description of these Zones have been included for information on the original scope of the surveys and to highlight the progress of the design of the Suffolk Onshore Scheme only. As these areas no longer form part of the Proposed Project this is not considered to be a constraint to the survey results.
- 1.3.14 Two areas of Zone D (D1 and D2) that were included in the scope were not accessible at the time of the surveys and no surveys were completed therefore results are only reported for Zone D3 and D4.
- 1.3.15 Due to landowner management practices (flailing), nest tubes that could not be relocated and general degradation of nest tubes and inserts due to the weather, over the survey period a lower number of tubes were checked than were set out. However, given the total number of nest tubes checked across the Suffolk Onshore Scheme Order Limits this is not considered to be a significant constraint to the survey results as a score of at least 20 was achieved in all zones surveyed.

1.4 Results

Desk Study

- 1.4.1 A single record of a hazel dormouse nest in a nest tube was returned in the desk study in 2017 and located approximately 330 m northwest of the Suffolk Onshore Scheme Order Limits, south of Saxmundham.

Nest Tube Presence/Absence Survey

Zone C

- 1.4.2 The findings of the hazel dormouse refugia presence/absence surveys undertaken are set out in Table 1.5 to Table 1.6 below.
- 1.4.3 No evidence of hazel dormouse was found during surveys undertaken in September and November 2023 and May, July and October 2024.
- 1.4.4 Evidence of refugia use by Eurasian blue tit (*Cyanistes caeruleus*) was recorded in May 2024, evidence of wood mouse (*Apodemus sylvaticus*) in November 2023 and July 2024 and evidence of harvest mouse (*Micromys minutus*) was recorded in July 2024.

Table 1.5 Dormouse nest tube/box survey results September 2023 (Zone C1 and C2)

Date	Refugia Number	Refugia type	Observation
25/9/2023	All	Tube	No evidence present

Table 1.6 Dormouse nest tube/box survey results November 2023 (Zone C1 to C6)

Date	Refugia Number	Refugia type	Observation
28/11/2023	Zone C2-25	Tube	Food cache
28/11/2023	Zone C2-27	Tube	Wood mouse
28/11/2023	Zone C2-29	Tube	Wood mouse nest

Table 1.7 Dormouse nest tube/box survey results May 2024 (Zone C1 to C5)

Date	Refugia Number	Refugia type	Observation
08/05/2024	Zone C3-B1	Box	Wren nest
08/05/2024	Zone C3-B3	Box	Active bird nest
08/05/2024	Zone C3-9	Tube	Bird nest likely wren (green moss), loose brown leaves behind likely old wood mouse nest

Date	Refugia Number	Refugia type	Observation
08/05/2024	Zone C4-21	Tube	Active blue tit nest

Table 1.8 Dormouse nest tube/box survey results July 2024 (Zone C1 to C6)

Date	Refugia Number	Refugia type	Observation
09/07/2024	Zone C3-B1	Box	Bird nest
09/07/2024	Zone C3-B2	Box	Bird nest
09/07/2024	Zone C3-B3	Box	Bird nest
09/07/2024	Zone C3-48	Tube	Wood mouse nest (start)
09/07/2024	Zone C5-27	Tube	Harvest mouse

Table 1.9 Dormouse nest tube/box survey results September 2024 (Zone C3 to C6)

Date	Refugia Number	Refugia type	Observation
05/09/2024	Zone C3-B1	Box	Disused bird nest
05/09/2024	Zone C3-B2	Box	Disused bird nest
05/09/2024	Zone C3-B3	Box	Loose brown leaves, likely wood mouse

Table 1.10 Dormouse nest tube/box survey results October 2024 (Zone C6)

Date	Refugia Number	Refugia type	Observation
08/10/2024	Zone C6-B2	Box	Likely wood mouse skeleton

Zone C scoring index

1.4.5 Based on the methodology in the Dormouse Conservation Handbook (Bright, Morris, & Mitchell-Jones T, 2006), the following survey effort scores are achieved. (Note that a score of 20 or more is required to assume likely absence of hazel dormouse):

- 70.76 for habitats in Zone C.

1.4.6 A full breakdown of the calculation can be found in **Annex 2.J.1**.

Zone D

- 1.4.7 The findings of the hazel dormouse refugia presence/absence surveys undertaken are set out in Table 1.11 to Table 1.15 below.
- 1.4.8 No conclusive evidence of hazel dormouse was found during surveys undertaken in September and November 2023 and May and July 2024. A single possible hazel dormouse nest was recorded during the October 2024 survey in Zone D3-11 (Tube).
- 1.4.9 Evidence of refugia use by Eurasian blue tit was recorded in November 2023 and May 2024, and evidence of wood mouse refugia use in November 2023, May 2024 and October 2024.

Table 1.11 Dormouse nest tube/box survey results November 2023 (Zone D4)

Date	Refugia Number	Refugia type	Observation
28/11/2023	Zone D4-11	Tube	Wood mouse,
28/11/2023	Zone D4-4	Tube	Wood mouse nest, loose brown leaves and some loosely woven dry grass

Table 1.12 Dormouse nest tube/box survey results May 2024 (Zone D3 and D4)

Date	Refugia Number	Refugia type	Observation
07/05/2024	Zone D4-3	Tube	Wood mouse nest
07/05/2024	Zone D4-4	Tube	Wood mouse in nest

Table 1.13 Dormouse nest tube/box survey results July 2024 (Zone D3 and D4)

Date	Refugia Number	Refugia type	Observation
11/07/2024	Zone D3-40	Tube	Wood mouse nest
11/07/2024	Zone D3-41	Tube	Wood mouse in nest

Table 1.14 Dormouse nest tube/box survey results September 2024 (Zone D3 and D4)

Date	Refugia Number	Refugia type	Observation
03/09/2024	Zone D4-6	Tube	Loose brown/green leaves, likely wood mouse.

Date	Refugia Number	Refugia type	Observation
03/09/2024	Zone D4-9	Tube	Loose brown/green leaves, likely wood mouse.
03/09/2024	Zone D4-16	Tube	Loose brown/green leaves, likely wood mouse.
03/09/2024	Zone D3-39	Tube	Loose brown/green leaves, likely wood mouse.

Table 1.15 Dormouse nest tube/box survey results 9 October 2024 (Zone D3)

Date	Refugia Number	Refugia type	Observation
09/10/2024	Zone D3-7	Tube	Wood mouse nest, loose brown leaves.
09/10/2024	Zone D3-11	Tube	Loose fresh green leaves, possible hazel dormouse nest.
09/10/2024	Zone D3-19	Tube	Gnawed acorn (not dormouse).
09/10/2024	Zone D3-21	Tube	Food cache, gnawed acorns (not dormouse).
09/10/2024	Zone D3-26	Tube	Wood mouse nest, loose brown/green leaves.
09/10/2024	Zone D3-42	Tube	Wood mouse nest, loose brown leaves.

Zone D scoring index

1.4.10 Based on the methodology in the Dormouse Conservation Handbook, the following survey effort scores are achieved. (Note that a score of 20 or more is required to assume likely absence of hazel dormouse):

- 20.1 for habitats in Zone D.

1.4.11 A full breakdown of the calculation can be found in **Annex 2.J.1**.

Zone E

1.4.12 The findings of the hazel dormouse refugia presence/absence surveys carried out are set out in Table 1.16 to Table 1.17.

1.4.13 No evidence of hazel dormouse was found during checks in September and November 2023 and May and July 2024.

1.4.14 Evidence of use by Eurasian blue tit was recorded in May 2024 evidence of wood mouse in November 2023 and May 2024.

Table 1.16 Dormouse nest tube/box survey results September 2023 (Zone E)

Date	Refugia Number	Refugia type	Observation
25/09/2023	All	Tube	No evidence present

Table 1.17 Dormouse nest tube/box survey results November 2023

Date	Refugia Number	Refugia type	Observation
27/11/2023	Zone E2-63	Tube	Wood mouse nest, loosely woven grass.
27/11/2023	Zone E2-64	Tube	Small mammal nest (not hazel dormouse).
28/11/2023	Zone E2-13	Tube	Wood mouse nest.

Table 1.18 Dormouse nest tube/box survey results May 2024 (Zone E)

Date	Refugia Number	Refugia type	Observation
09/05/2024	Zone E2-B2	Box	Active blue tit nest.
09/05/2024	Zone E2-61	Tube	Loose green leaf nest, 4 pink hairless young, no adult. Probable wood mouse.
09/05/2024	Zone E2-63	Tube	Wood mouse nest, loosely woven grass.
10/05/2024	Zone E3-B1	Box	Blue tit nest.
10/05/2024	Zone E3-B3	Box	Single likely blue tit egg no nest material.
10/05/2024	Zone E3-B5	Box	Active blue tit nest.
10/05/2024	Zone E3-41	Tube	Bird nest.
09/05/2024	Zone E4-20	Tube	Bird nest with chick.
09/05/2024	Zone E4-B5	Box	Active blue tit nest.
09/05/2024	Zone E4-B6	Box	Bird nest with eggs.
09/05/2024	Zone E4-B4	Box	Active blue tit nest.
09/05/2024	Zone E4-B3	Box	Active blue tit nest.
09/05/2024	Zone E4-B1	Box	Active blue tit nest, 10 chicks.

Date	Refugia Number	Refugia type	Observation
09/05/2024	Zone E4-43	Tube	Bird nest.

Table 1.19 Dormouse nest tube/box survey results July 2024 (Zone E)

Date	Refugia Number	Refugia type	Observation
11/07/2024	Zone E3-B1	Box	Bird nest old, previously recorded as blue tit nest.
11/07/2024	Zone E3-B2	Box	Bird nest old.
11/07/2024	Zone E3-B4	Box	Bird nest old.
11/07/2024	Zone E3-B5	Box	Blue tit nest (old).
11/07/2024	Zone E3-54	Tube	Brown leaves, no structure, likely wood mouse nest.

Zone E scoring index

1.4.15 Based on the methodology in the Dormouse Conservation Handbook, the following survey effort scores are achieved. (Note that a score of 20 or more is required to assume likely absence of hazel dormouse):

- 48 for habitats in Zone E.

1.4.16 A full breakdown of the calculation can be found in **Annex 2.J.1**.

Zone F

Nest Tube Presence/ Absence Survey

1.4.17 The findings of the hazel dormouse refugia presence/absence surveys carried out are set out in Table 1.20 to Table 1.24 below.

1.4.18 No evidence of hazel dormouse was found during checks in September and November 2023 and May and July 2024.

1.4.19 Evidence of use of refugia by wood mouse was found in July and October 2024.

Table 1.20 Dormouse nest tube/box survey results November 2023 (Zone F1)

Date	Refugia Number	Refugia type	Observation
27/09/2024	All	All	No evidence present

Table 1.21 Dormouse nest tube/box survey results 7 to 10 May 2024 (Zone F1 and F2)

Date	Refugia Number	Refugia type	Observation
07/05/2024	All	Tube	No evidence present

Table 1.22 Dormouse nest tube/box survey results 9 to 12 July 2024 (Zone F1 and F2)

Date	Refugia Number	Refugia type	Observation
10/07/2024	Zone F1-17	Tube	Wood mouse

Table 1.23. Dormouse nest tube/box survey results 3 to 5 September 2024 (Zone F1 and F2)

Date	Refugia Number	Refugia type	Observation
04/09/2024	Zone F1-17	Tube	Wood mouse nest, brown leaves and dry grass loosely woven.

Table 1.24 Dormouse nest tube/box survey results 9 October 2024 (Zone F1 and F2)

Date	Refugia Number	Refugia type	Observation
09/10/2024	Zone F2-10	Tube	Wood mouse nest
09/10/2024	Zone F2-20	Tube	2 wood mice in nest
09/10/2024	Zone F2-35	Tube	3 wood mice in nest
09/10/2024	Zone F2-51	Tube	3 wood mice in nest
09/10/2024	Zone F2-57	Tube	2 wood mice in nest
09/10/2024	Zone F2-59	Tube	2 wood mice in nest

Zone F scoring index

1.4.20 Based on the methodology in the Dormouse Conservation Handbook, the following survey effort scores are achieved. (Note that a score of 20 or more is required to assume likely absence of hazel dormouse):

- 24.04 for habitats in Zone F.

1.4.21 A full breakdown of the calculation can be found in **Annex 2.J.1**.

1.5 Discussion

- 1.5.1 Hazel dormice are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). Under this legislation it is an offence to deliberately capture, disturb, injure or kill a hazel dormouse, or to damage or destroy a breeding site or resting place. Hazel dormouse is also listed as a priority species in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.
- 1.5.2 A total of 584 hazel dormouse nest tubes and nine nest boxes were deployed in six zones (A to F) throughout the Suffolk Onshore Scheme Order Limits. In line with best practice guidelines the nest tubes were checked by two suitably qualified ecologists, one of whom is registered to use the Natural England WML-CL10a hazel dormouse class licence (Class 1 survey licence), for evidence of hazel dormice. Where access permitted, four survey visits were completed every other month during the April to November survey period following deployment, between November 2023 and October 2024.
- 1.5.3 Zones A and B were subsequently removed from the Order Limits therefore survey of these zones was not conducted. This report presents the findings of the hazel dormouse presence/ absence nest tube checks undertaken between November 2023 and October 2024 for Zones C to F.
- 1.5.4 Based on the methodology in the Dormouse Conservation Handbook the nest tube checks undertaken within each Zone between November 2023 and October 2024 (irrespective of whether the tubes are actually inspected in that month) gives the following search effort scores, taking account of the total number of nest tubes checked each month and not exceeding a doubling of search effort score where the number of nest tubes checked exceeds 100:
- Zone C: 70.76.
 - Zone D: 20.1.
 - Zone E: 48.
 - Zone F: 24.04.
- 1.5.5 A potential hazel dormouse nest tube comprising one green leaf nest with a partially woven structure was recorded within Zone D during the October 2024 survey visit, indicating the possible presence of hazel dormouse within this zone.
- 1.5.6 No evidence of hazel dormouse was recorded within Zones C, E or F, which are separated from both the location of the hazel dormouse record returned by the desk study and from Zone D by roads lacking any habitat connectivity.
- 1.5.7 Hazel dormice live at low densities and as a result are difficult to detect. Therefore, given the inconclusive result of a potential presence of a hazel dormouse nest within Zone D and presence of hazel dormice within the wider area based on a desk study record from 2017, it is recommended that updated surveys are completed within Zone D prior to vegetation clearance being conducted.
- 1.5.8 Should hazel dormouse or signs of hazel dormouse be discovered, clearance should stop immediately, and a Natural England licence should be obtained before works continue.

- 1.5.9 Due to the isolated nature of the habitats, it is assumed that hazel dormouse is likely absent from the suitable habitats within Zones C, E and F.
- 1.5.10 Some evidence of refugia use by other species, including harvest mouse which is a protected species under the Natural Environment and Rural Communities Act (HM Government, 2006) was found.

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Annex 2.J.1 Survey Score Calculations

Table A.1 Zone C Survey Score Calculation

Zone	Tubes	Set out date	25 to 27 September 2023	27 to 30 November 2023	7 to 10 May 2024	9 to 12 July 2024	3 to 5 September 2024	8 to 9 October 2024
Number of tubes checked each survey								
C1	52	3 to 7 July 2023	49	49	49	41	-	-
C2	30	3 to 7 July 2023	30	30	28	13	-	-
C3	48	23 to 27 October 2023	-	48	43	39	20	
C4	34	23 to 27 October 2023	-	34	33	22	14	-
C5	44	23 to 27 October 2023	-	44	40	33	31	-
C6	46	23 to 27 October 2023	-	46	No Access	46	46	45

Zone	Tubes	Set out date	25 to 27 September 2023		27 to 30 November 2023		7 to 10 May 2024		9 to 12 July 2024		3 to 5 September 2024		8 to 9 October 2024		
Total Tubes in Zone C		254	79		251		193		194		111		45		
Index Score for Month (based on maximum of 100 tubes)		August = 7.9	September = 11.06	October = 4	November = 4	April = 2	May = 8	June = 4	July = 4	August = 10	September = 14	October = 1.8			
Total Score for Zone C							70.76								

Table A.2 Zone D Survey Score Calculation

Zone	Tubes	Set out date	25 to 27 September 2023	27 to 30 November 2023	7 to 10 May 2024	9 to 12 July 2024	3 to 5 September 2024	8 to 9 October 2024
D3	43	8 to 9 April 2024	-	-	42	42	15	15
D4	21	23 to 27 October 2023	-	21	21	21	21	-
Total Tubes in Zone D	64			21	63	63	36	15

Zone	Tubes	Set out date	25 to 27 September 2023		27 to 30 November 2023		7 to 10 May 2024		9 to 12 July 2024		3 to 5 September 2024	8 to 9 October 2024
Index Score for Month (based on maximum of 100 tubes)			September = 0	October = 0.84	November = 0.84	April = 1.26	May = 5.04	June = 1.44	July = 1.44	August = 3.6	September = 5.04	October = 0.6
Total Score for Zone D							20.1					

Table A.3 Zone E Survey Score Calculation

Zone	Tubes	Set out date	25 to 27 September 2023	27 to 30 November 2023	7 to 10 May 2024	9 to 12 July 2024	3 to 5 September 2024	8 to 9 October 2024			
E1	20	3 to 7 July 2023	19	19	19	13	-	-			
E2	66	3 to 7 July 2023	66	66	58	58	-	-			
E3	50	3 to 7 July 2023	50	50	45	45	-	-			
E4	80	3 to 7 July 2023	80	80	No Access	No Access	No Access	No Access			
Total tubes in Zone E	216		215	215	112	116	-	-			
Index Score for Month			August = 10	September = 14	October = 4	November = 4	April = 2	May = 10	June = 4	-	-
Total score for Zone E			48								

Table A.4 Zone F Survey Score Calculation

Zone	Tubes	Set out date	25 to 27 September 2023	27 to 30 November 2023	7 to 10 May 2024	9 to 12 July 2024	3 to 5 September 2024	8 to 9 October 2024				
F1	20	23 to 27 October 2023	-	16	16	16	16	-				
F2	58	23 to 27 October 2023	-	Tubes Destroyed, Replaced 8 to 9 April 2024	51	51	51	51				
Total tubes in Zone F 78				16	57	67	67	51				
Index Score for Month			September = 0	October = 0.52=	November = 0.52	April =1	May = 4	June = 2	July = 2	August = 5	September =7	October =2
Total Score for Zone F			24.04									

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