

Dormouse Survey

**Land at Thames Way,
Northfleet, Kent DA11 8HN**

Report to:
Speedgreen (Thames Way) Limited

21st November 2025



Responsibilities:

This document has been prepared for the titled project and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority by the author.

Biological Data:

As part of membership of our professional body we are required to provide our species data results to the relevant biological records centre. As such, it is our intention to supply biological data unless directly instructed in writing not to do so by the commissioning client.

Length of Time Report is Valid:

Provided no significant changes are made to the proposal or to the proposed site (*e.g.*, significant changes to management practices or habitats present) after the report's issue, the dormouse data can be considered valid for up to 5 years.

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SUMMARY

A dormouse survey of a parcel of land adjacent to Thames Way, Northfleet, Gravesend, Kent, DA11 8HL was undertaken in 2025, to inform the production of a mitigation strategy for planning application for *Installation of electricity infrastructure including a battery energy storage system, substation and ancillary electrical infrastructure*.

Dormouse evidence was found in five dormouse nest tubes in September and October 2025.

The proposals require removal and/or disturbance of dormouse habitat, comprising approximately 0.8 ha scrub and 0.19 km of native hedgerow.

A robust mitigation strategy is required to inform the development proposals, to minimise significant adverse impacts upon dormice and their habitats, and to ensure compliance with current wildlife legislation.

1 INTRODUCTION

1.1 Site Location

The focus of this report is an area of land adjacent to Thames Way, Northfleet, Gravesend, Kent, DA11 8HL (see Figure 1).



Figure 1 – Approximate site boundary (red) and ownership boundary (blue) (Image taken from Google Earth Pro, image date June 2025).

1.2 Proposed Works

The proposals are for *Installation of electricity infrastructure including a battery energy storage system, substation and ancillary electrical infrastructure*. The proposed development measures 0.99 ha. Habitats to be impacted are primarily scrub, native hedge, ruderal and grassland. Current proposals require the clearance of the entire site.

1.3 Objectives of The Survey

A dormouse survey was recommended following a Preliminary Environmental Appraisal (PEA) survey undertaken in 2025 by Calumma Ecological Services Ltd. This report should be read in conjunction with Calumma (2025) for further details.

The survey was undertaken to meet the following objectives: -

- Identify the presence or likely absence of dormice within the site.
- Assess the impact upon dormice, if present, by the development proposals.
- Make recommendations for any mitigation and/or enhancement measures that may be required.
- Identify the need for a European Protected Species Mitigation Licence (EPSML).

1.4 Hazel Dormouse Ecology

The hazel dormouse (*Muscardinus avellanarius*) is a nocturnal animal that is predominantly an arboreal species that mainly inhabits deciduous woodland and scrub. It is a very selective feeder; it feeds on hazel nuts, flowers, pollen, fruit and insects. All these foods are available at different times of year; as a result, dormice must select habitats rich in all these food sources. Except for hibernation, they rarely descend to the ground and are reluctant to cross open spaces (Bright *et al.*, 2006).

The hazel dormouse has declined both in range and numbers across the UK, largely as a consequence of habitat loss and fragmentation arising from changes in woodland management and development.

2 METHODOLOGY

2.1 Habitat Assessment

The habitat quality for dormice was assessed in accordance with Wells *et al.*, 2025, by combining the plant species diversity and structural complexity (Tables 1, 2 and 3).

High	>6 species per 1km hedgerow of 1ha of woodland/scrub
Medium	3-6 species per 1km hedgerow of 1ha of woodland/scrub
Low	<3 species per 1km hedgerow of 1ha of woodland/scrub

Table 1 – Plant species diversity (Taken from Table 3.4 Categories for species diversity, Wells *et al.*, 2025)

High	Canopy and understorey layers present and well connected, with or without a scrub layer beneath. OR Understorey and scrub generally present and well connected with canopy sparse or absent.
Medium	Canopy layer present with sparse or absent understorey but scrub layer generally present. OR Understorey layer generally present, with sparse or absent canopy and scrub layers. OR Scrub with developing understorey and/or canopy layers.
Low	Canopy present with sparse or absent understorey and scrub layers. OR Scrub present, with sparse or absent canopy and understorey above.

Table 2 – Structural complexity (Taken from Table 3.5a Structural complexity, Wells *et al.*, 2025)

		Diversity		
		High	Medium	Low
Complexity	High	Excellent	Good	Fair
	Medium	Good	Good	Poor
	Low	Fair	Poor	Poor

Table 3 – Habitat Quality (Taken from Table 3.6 Quality Assessment, Wells *et al.*, 2025)

2.2 Nest-tube Survey

A dormouse nest tube survey was undertaken in line with the protocol outlined in the Hazel Dormouse Mitigation Handbook (Wells *et al.*, 2025). Forty five dormouse nest tubes were installed on 24th July 2025. The tubes were placed at 10 to 20m intervals between 0.5m and 2.0m above ground level within the scrub along the accessible areas of the site (See Figure 2).



Figure 2 – Forty five dormouse tubes were set up around the accessible site boundary (orange line) at 10-20m intervals (Image taken from Google Earth Pro, image date June 2025).

To achieve a 95% probability of detection (Wells *et al.*, 2025), and in order to be able to confirm presence/likely absence of dormice within the survey area, the nest tubes were deployed for 3 months, between August and

October and checked on a monthly basis. Nest-tube surveys are valuable for determining presence/likely absence of dormice within a site, but do not give an indication of population size.

A map showing the location of dormouse nest tubes is shown in Figure 2.

2.3 Survey Dates and Weather Conditions

Date	Weather
24 th July 2025 (set-up)	n/a
23 rd August 2025	Dry, 20°C
30 th September 2025	Dry, 17°C
28 th October 2025	Dry, 14°C

Table 4 – Dormouse survey dates and weather conditions

2.4 Personnel

The surveys were conducted by ecologist Kate Baldock MCIEEM (Level 1 Class Dormouse Survey Licence 2016-22541-CLS-CLS). Kate has 19 years of dormouse survey and mitigation experience.

3 RESULTS

3.1 Habitat Assessment

The site has been described in the Preliminary Ecological Appraisal (Calumma, 2025) and Biodiversity Net Gain Baseline Assessment (Ecology and Land Management, 2025). The site was surveyed in July 2025 by drone and ground surveying during the BNG assessment. The habitat information below has been taken from these reports.

The vegetation includes extensive areas of dense bramble (*Rubus fruticosus* agg.) scrub, tall ruderal herbs and coarse grasses. Scattered trees and shrubs, including dog rose (*Rosa* spp.), hawthorn (*Crataegus monogyna*), and blackthorn (*Prunus spinosa*), are present throughout. The habitat structure is varied, with a mix of dense scrub, tall herbaceous vegetation, and occasional open patches. A native hedgerow forms the southwestern boundary of the site.

The site measures approximately 0.99 ha. Scrub species now account for approximately 79% of the vegetation cover, particularly bramble, blackthorn, and other woody species (approximately 0.8ha scrub and 0.19km of native hedgerow). Self-seeded trees such as ash (*Fraxinus excelsior*), cherry (*Prunus* spp.), and blackthorn are well-established across the site. These trees are gradually forming canopies in certain areas indicating that the site is moving towards a young woodland stage, a transition indicating ecological succession.

According to the quality assessment in Tables 1, 2 & 3, the species diversity is **high** (3-6 species), and the structural complexity is **low**, resulting in a **'fair'** habitat value for dormice.

The habitats are shown in Figure 3.

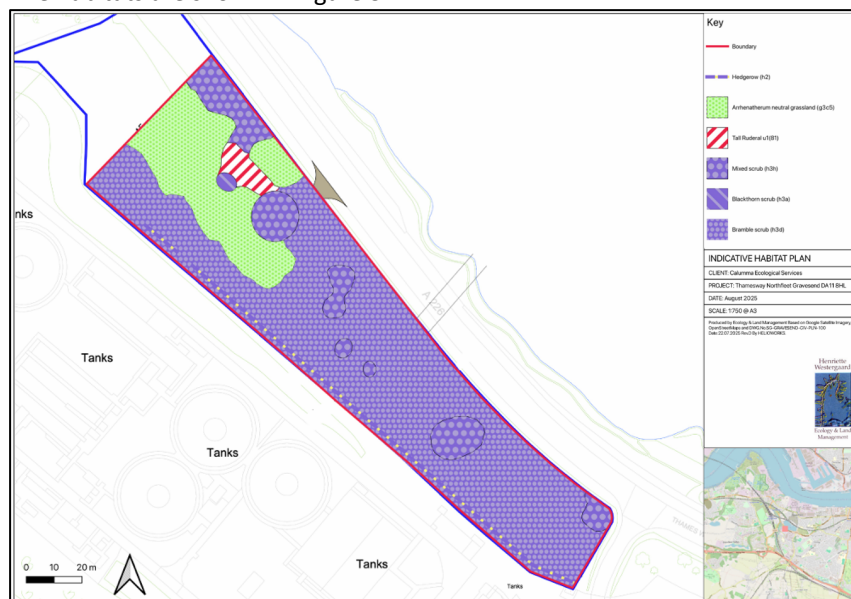


Figure 3 – Indicative Habitat Plan taken from Ecology and Land Management, 2025.

3.2 Nest tube survey

Evidence of dormice was found in five nest tubes during the surveys. The data is shown in Table 5, and the location of the evidence is shown in Figure 4. The habitat and nests are shown in Photographs 1-4.

Nest-tube surveys are valuable for determining presence/likely absence of dormice within a site, and do not give an indication of population size. However, once presence of dormice was confirmed, the objective was met and the survey ended, and all suitable and connected habitats can be assumed to support dormice.

It is possible to distinguish dormouse nests from those of other small mammals by the green leaves forming the outer part of the nest and shredded bark forming the neatly woven inner layer. This is as dormice are arboreal and so take their nesting materials (i.e., green leaves and bark) straight from the trees, whereas wood mice and yellow necked mice will use brown leaves, from the ground, to make their nests. Therefore, the empty dormouse nests could be confirmed as dormouse evidence.

Date	Results
23 rd August 2025	All tubes empty
30 th September 2025	T30 Empty dormouse nest
28 th October 2025	T3 Empty dormouse nest T18 Female dormouse (19g) and nest T25 Empty dormouse nest T27 Female dormouse (19g) and nest T30 Empty dormouse nest

Table 5 – Survey Results

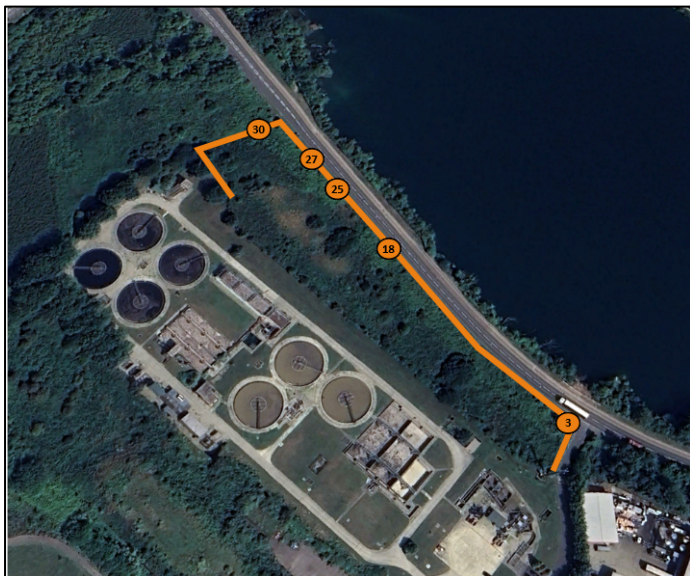


Figure 4 – Location of dormouse evidence (Image taken from Google Earth Pro, image date June 2025).



Photograph 1. Accessible vegetation on the site perimeter, along Thames Way (30th September 2025)



Photograph 2. Accessible vegetation on the site perimeter, along Thames Way (30th September 2025)



Photograph 3. T30. Empty dormouse nest (30th September 2025)



Photograph 4. T25. Empty dormouse nest (28th October 2025)

4 IMPACT ASSESSMENT

4.1 Survey limitations

The survey was restricted to the road verges and footpath, due to the dense vegetation preventing access to the centre and rear of the site. Only 45 dormouse tubes could be deployed, due to the restricted access to the majority of the site. This is not considered to be a significant constraint to the assessment because dormouse presence was confirmed on the second survey visit.

4.2 Potential Impacts

Due to the optimal habitats within and surrounding the site, it is assumed that all connected scrub, hedgerows and woodlands within and adjacent to the site are likely to be used by dormice, for breeding, resting, foraging and/or dispersal.

Unmitigated, the proposals will affect the local dormouse population through killing/injury of individuals, habitat loss and disturbance.

- The risks of killing/injury and disturbance will be addressed with specific timing and supervision of the habitat removal.
- Habitat loss will be addressed with a robust mitigation plan and the installation of dormouse nest boxes.

5 RECOMMENDATIONS AND MITIGATION

5.1 Mitigation Strategy

Dormice have been confirmed to be present within the site. Given the legal protection afforded to dormice and their habitat (See Appendix 1 Legislation), a mitigation strategy following the mitigation hierarchy will be required to support the planning application and subsequent European Protected Species Mitigation licence (see 5.3), to ensure that dormice are not adversely impacted by the proposals and no legal offences are committed.

5.2 Mitigation Hierarchy

The mitigation hierarchy is a widely accepted framework used in UK planning policy and environmental regulation to manage the impacts of development on biodiversity. It is structured as a sequence of steps that must be considered in order of priority:

- **Avoid** – Prevent impacts on biodiversity wherever possible, through careful site selection and design.
- **Minimise** – Reduce the extent of any unavoidable impacts through design and management changes.
- **Mitigate** – Implement measures to reduce the severity or duration of impacts on habitats and species.
- **Compensate** – Where impacts remain after avoidance and mitigation, provide biodiversity gains elsewhere to ensure no net loss, or ideally, a net gain.

5.3 Natural England's Standing Advice (Hazel dormice: advice for making planning decisions)

The following is adapted from Natural England's Standing Advice www.gov.uk/guidance/hazel-dormice-advice-for-making-planning-decisions, regarding the application of the mitigation hierarchy to impacts to dormice and their habitats.

It is imperative that up to date survey information is used to inform the design stages of a proposal, allowing the incorporation of a robust mitigation strategy, following the mitigation hierarchy.

Where possible, development proposals should avoid negative effects on hazel dormice. Where this is not possible, the developer will need to include adequate mitigation or, as a last resort, compensation measures in their development proposal to allow you to make a planning decision.

Avoidance

To avoid possible negative effects on hazel dormice, developers could redesign the development proposal to:

- leave dormice habitat in place/reduce the amount of habitat that will be impacted.

Mitigation

Where avoidance is not possible, mitigation could include:

- **improving existing habitat**, for example tree thinning, coppicing and new planting within the site/adjacent habitats. Management of retained dormouse habitat to increase its carrying capacity can be a useful mitigation tool in circumstances where there is insufficient space for compensatory planting. However, it can only work if retained habitats are in sub-optimal condition for dormice (Wells *et al.*, 2025).
- **installing dormouse nest boxes** in places where interference by humans can be avoided.
- **creating links to other habitats**, for example green bridges across gaps in habitat of less than 100 metres (usually over roads or railway tracks).
- **encouraging the hazel dormice to move to a nearby location** by clearing small sections habitat, to encourage dormice into neighbouring habitat. The habitat must either be large enough to support a hazel dormouse population, or be linked to other areas of habitat. Hazel dormice should not be left in small, isolated areas.

Compensation

- **creation of new habitat** by planting new areas.

The key requirement of proportionate mitigation is that new/improved habitat should be capable of supporting at least the same number of dormice as the habitats lost to development. To ensure no net loss in the long term, it

is appropriate to provide at least an equivalent area of planting/enhanced habitat compared to habitat lost, in order to demonstrate no detriment to the Favourable Conservation Status of the population (Wells *et al.*, 2025).

Translocation

If there is no reasonable alternative habitat close by, the mitigation proposal could include capturing hazel dormice and moving them to a different location, known as translocation. **Natural England will only grant a licence to translocate hazel dormice as a last resort.**

The new habitat must be capable of supporting the population of hazel dormice from the development site. The proposal should include evidence that translocation would benefit hazel dormice conservation.

If translocating hazel dormice, the proposal will need a suitable receptor site. The new receptor site should:

- not have a hazel dormouse population already.
- be ready before translocation takes place.
- be large enough to support an expanding hazel dormouse population.
- be connected to other areas of habitat within the wider landscape.
- ideally have a diverse structure and species of plants suitable for hazel dormice.

5.4 European Protected Species Licence

Once the mitigation strategy has been determined, a European Protected Species Mitigation Licence (EPSML) will be required for the vegetation clearance as it will result in the destruction of dormouse habitat and has the potential to kill/injure/disturb dormice. Additional details, such as timing and post works monitoring, will be confirmed in the mitigation strategy.

In order to gain a licence it will need to be demonstrated that the development is needed to meet imperative reasons of overriding public interest and that there is no satisfactory alternative to the development. It will also need to be demonstrated that the proposal will result in the maintenance of the favourable conservation status (FCS) of the dormouse population. In summary, maintenance of the FCS means that the natural range is stable or increasing and that the species structure and functions which are necessary for its long term maintenance exist and is likely to continue to exist for the foreseeable future, notwithstanding the development.

6 REFERENCES

Bright, P., Morris, P. and Mitchell-Jones, A. (2006). *The Dormouse Conservation Handbook*. 2nd Edition. English Nature.

Bullion, S., Wolton, R. & White, I. (2025). *Hazel Dormouse Conservation Handbook – Third edition*. The Mammal Society.

Calumma Ecological Services (2025). *Land at Thames Way, Northfleet, DA11 8HN. Preliminary Ecological Appraisal*.

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Natural England (2025). [Hazel dormice: advice for making planning decisions - GOV.UK](#)

Wells, D., Chanin, P. & Gubert, L. (2025). *Hazel Dormouse Mitigation Handbook*. The Mammal Society.

APPENDIX 1 LEGISLATION

In line with the legislation, the potential presence of protected species must be assessed when development proposals have the potential to impact them. It is the duty of planning authorities to consider the conservation impacts of development upon protected species and issue permissions accordingly.

Habitats and Species Regulations 2017 (as amended)

Dormice are protected under the Habitats and Species Regulations 2017 (as amended). It is an offence to:

- Deliberately capture, injure or kill a dormouse.
- Deliberately disturb wild dormice. Disturbance includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; to hibernate; or to significantly affect their local distribution.
- Deliberately damage or destroy a breeding site or resting place of a dormouse.

Wildlife and Countryside Act 1981(as amended)

Dormice are afforded full protection under Section 5 of the Wildlife and Countryside Act 1981(as amended). It is illegal to:

- Deliberately or recklessly kill, injure or disturb a dormouse.
- Deliberately or recklessly damage, destroy or obstruct access to a dormouse breeding site or resting place.



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