

M25 junction 10/A3 Wisley interchange TR010030

6.5 Environmental Statement: Appendix 7.13 Dormice

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Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009



Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)

M25 junction 10/A3 Wisley interchange

The M25 junction 10/A3 Wisley interchange Development Consent Order 202[x]

6.5 ENVIRONMENTAL STATEMENT: APPENDIX 7.13 DORMICE

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Appendix 7.13 Dormice

7.1 Hazel dormouse surveys (2016, 2017 and 2018)

7.1.1 Introduction

- 7.1.1.1 Hazel dormice are a European Protected Species (EPS) subject to full protection under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). They are also listed as a priority species¹. A summary of the relevant legislation can be found in Appendix 7.1.
- 7.1.1.2 Following an initial habitat assessment of the M25 junction 10/A3 Wisley interchange Improvement Scheme (hereafter referred to as the Scheme), a hazel dormouse survey was carried out using nest tubes from July until November 2016 and from March until May 2017. Nest tube locations were selected to target the most suitable habitat in each area to maximise the chance of detecting hazel dormice, if present, and where access was permitted. The nest tube survey area was located within approximately 250 metres (m) of the Scheme.
- 7.1.1.3 As the Scheme design developed, further areas were identified as potentially requiring dormouse surveys. Therefore, a hazel nut search was conducted in suitable woodland habitat located within Elm Corner Woods Site of Nature Conservation Importance (SNCI) on 19 September 2017. The woodland surveyed is situated immediately adjacent to the proposed Wisley Lane side access route. Negative results of this survey are indicative, and as a precaution they are not taken as confirmation of likely absence. Therefore, a hazel dormouse nest tube survey was also carried out in the same area of woodland within Elm Corner Woods SNCI from May to November 2018 and in an area of ancient woodland located at Heyswood Girl Guide Camp, situated immediately adjacent to the access track to Painshill properties.
- 7.1.1.4 The nest tube survey areas and hazel nut search area (hereafter referred to as the Site) are provided on Figure 7.18.
- 7.1.1.5 This report provides the results of the surveys to determine the presence/likely absence of hazel dormice within and in close proximity to the Scheme. An evaluation of the importance of the Site for hazel dormice, if present, will be provided in the Environmental Statement (ES) for the Scheme.

7.1.2 Objectives

- 7.1.2.1 The aim of the dormouse surveys was to determine the presence or likely absence of this species within and in close proximity to the Scheme.

7.1.3 Methodology

- 7.1.3.1 All hazel dormouse surveys detailed below have been undertaken in accordance with good practice guidance² and CIEEM competencies for undertaking hazel dormouse surveys³.

Desk study

- 7.1.3.2 A desk study was conducted in April 2017, which included the provision of

¹ Priority species are taken as principal species for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

² English Nature (2006). The Dormouse Conservation Handbook (2nd edition).

³ CIEEM (April 2013). Competencies for Species Survey: Hazel Dormouse.

records from Surrey Biodiversity Information Centre (SBIC) for hazel dormice up to 1 kilometre (km) from the Scheme.

Habitat assessment

- 7.1.3.3 In 2016, an initial hazel dormouse habitat assessment was undertaken during the extended Phase 1 habitat survey, where access permitted. As access to land within and adjacent to the Scheme was initially limited, this assessment was aided by the use of aerial imagery (Google Maps, 2016). The assessment involved mapping areas of habitat considered to be potentially suitable for hazel dormice within 250 m of the Scheme. The habitat assessment at this point, concentrated on those habitats surrounding the M25 junction 10, as at this time, the full extent of the Scheme was not known, and survey efforts prioritised the habitats surrounding the main junction.
- 7.1.3.4 The habitat assessment was updated in 2017 to consider the proposed options for the A3 improvements. This included an assessment of the habitats within Elm Corner Woods SNCI due to the Wisley Lane realignment and diversion, along with an area of ancient woodland located at Heyswood Girl Guide Camp as a result of the new private access for Heyswood Girl Guide Camp, New Farm, Court Close Farm and Gas Valve Compound.
- 7.1.3.5 The combined results of the habitat assessment were used to determine whether hazel dormouse survey was necessary in these new areas during 2018.

Hazel dormouse nest tube surveys

- 7.1.3.6 Hazel dormouse nest tube surveys were undertaken with reference to good practice guidance^{2, 3}. The main survey method involved using specially constructed artificial nest tubes, which were fastened underneath horizontal tree/shrub branches in areas of suitable habitat and left in place for a period of several months. The nest tubes were then checked monthly for the duration that they were deployed. When present, hazel dormice often find and make nests in the tubes, and their presence can be detected by means of periodic monitoring to find individuals, nests, nest/feeding remains, droppings or hairs, all of which are distinctive to hazel dormice.
- 7.1.3.7 The standard survey methodology requires the deployment of at least 50 nest tubes per area and the use of a scoring system based on the likelihood of a nest tube being occupied in any specific month, see Table 7.1.1 below. Nest tubes are most frequently occupied in May, August and September and so these months score the highest. A survey effort score of 20 or above should be achieved before likely absence can be assumed.

Table 7.1.1: Index of probability of finding hazel dormice in nest tubes in any one month

Month	Index of probability
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2

Table Source: English Nature (2006). *The Dormouse Conservation Handbook (2nd edition)*.

- 7.1.3.8 In 2016, a total of 241 nest tubes were installed between 1 June and 8 July in suitable habitats surrounding junction 10 at four locations (taken as quadrants) (survey area shown in Figure 7.18), where access permitted, and were distributed as follows:
- North-west quadrant – 60 tubes;
 - South-east quadrant – 58 tubes;
 - South-west quadrant – 60 tubes; and
 - North-east quadrant – 63 tubes.
- 7.1.3.9 In 2018, a total of 112 tubes were installed on 19 April in suitable habitats at Heyswood Girl Guide Camp and Elm Corner Woods SNCI (survey area shown in Figure 7.18). The nest tubes were distributed as follows:
- Elm Corner Woods SNCI – 60 tubes; and
 - Heyswood Girl Guide Camp – 52 tubes.
- 7.1.3.10 The nest tube surveys were led by a hazel dormouse licensed ecologist and checked on the dates shown in Table 7.1.2 below.
- 7.1.3.11 Nest tube surveys in all areas detailed above have a cumulative index score of at least 23 (see Table 7.1.2) based on the use of 50 tubes per quadrant. Taking into account that on average 60 tubes were used per quadrant, these surveys are considered robust.

Table 7.1.2: Hazel dormouse survey dates and index score

Visit number	Date and location	Index of probability (based on 50 tubes)	Cumulative index score	
			50 tubes per location	60 tubes per location
1	5 July 2016: south-east/south-west quadrant 8 July 2016: north-east/north-west quadrant	2	2	2.4
2	8 August 2016: south-east/south-west quadrant 10 August 2016: north-east/north-west quadrant	5	7	8.4
3	7 September 2016: south-east/south-west quadrant 9 September 2016: north-east/north-west quadrant	7	14	16.8
4	11 October 2016: south-east/south-west quadrant 14 October 2016: north-east/north-west quadrant	2	16	19.2
5	10 November 2016: south-east/south-west quadrant 11 November 2016: north-east/north-west quadrant	2	18	21.6
6	23 March 2017: north-east/north-west quadrant 24 March 2017: south-east/south-west quadrant	0	18	21.6
7	20 April 2017: north-east/north-west quadrant 21 April 2017: south-east/south-west quadrant	1	19	22.8
8	18 May 2017: north-east/north-west quadrant 19 May 2017: south-east/south-west quadrant	4	23	27.6
1	24 May 2018: Elm Corner Woods SNCI/Heyswood Girl Guide Camp	4	4	4.8
2	25 June 2018: Elm Corner Woods SNCI 27 June 2018: Heyswood Girl Guide Camp	2	6	7.2
3	23 July 2018: Elm Corner Woods SNCI/Heyswood Girl Guide Camp	2	8	9.6
4	20 August 2018: Heyswood Girl Guide Camp 31 August 2018: Elm Corner Woods SNCI	5	13	15.6

Visit number	Date and location	Index of probability (based on 50 tubes)	Cumulative index score	
			50 tubes per location	60 tubes per location
5	24 September 2018: Elm Corner Woods SNCI/Heyswood Girl Guide Camp	7	20	24
6	25 October 2018: Elm Corner Woods SNCI/Heyswood Girl Guide Camp	2	22	26.4
7	23 November 2018: Elm Corner Woods SNCI 27 November 2018: Heyswood Girl Guide Camp	2	24	28.8

Hazel nut searches

7.1.3.12 In addition to the nest tube surveys, hazel nut searches were conducted within suitable woodland habitat located in Elm Corner Woods SNCI on 19 September 2017. The survey area is shown on Figure 7.18. Surveys were undertaken in accordance with good practice guidance² and conducted by a hazel dormouse licensed ecologist.

7.1.3.13 The survey comprised a search of five 10 m x 10 m areas of heavily fruiting hazel for the characteristic nuts gnawed by hazel dormouse. Each area was searched for a period of 20 minutes. Should a search of five suitable squares fail to yield hazel dormouse chewed nuts, it is about 90% certain that hazel dormice are not present².

7.1.4 Survey limitations

7.1.4.1 Ecological surveys are limited by factors which affect the presence of animals such as the time of year, migration patterns and behaviour. Therefore, the absence of evidence of any species should not be taken as conclusive proof that the species is not present or that it will not be present in the future.

7.1.4.2 During the hazel dormouse survey in 2016 surrounding junction 10 at the four quadrants, a number of tubes were misplaced or removed, thereby occasionally reducing the survey effort. During the March 2017 survey, any missing or broken tubes were replaced. Taking this into account, across the eight survey visits, approximately 59 tubes were checked on average per quadrant. Based on this level of survey effort, the absence of individual tubes is not considered to pose a significant constraint to the assessment.

7.1.4.3 Initially, the Scheme focussed on the M25 Junction 10/A3 interchange only and did not include potential side road access routes. Once plans for side road access routes were confirmed, a walkover survey of the possible route options was undertaken in August 2017. This included the woodland within Elm Corner Woods SNCI, which may be affected as a result of the proposed Wisley Lane access route and Heyswood Girl Guide Camp, which may be affected by the new private access for Heyswood Girl Guide Camp, New Farm, Court Close Farm and Gas Valve Compound. The walkover survey identified suitable habitats present within these areas and the requirement for further hazel dormouse surveys. As a result, a hazel nut search was conducted in September 2017

within Elm Corner Woods SNCI to indicate whether hazel dormice may be present. However, while the negative results of this survey are indicative, as a precaution they are not taken as confirmation of likely absence. In order to determine presence/likely absence, standard nest tube surveys were undertaken during 2018. It was not possible to undertake a hazel nut search at Heyswood Girl Guide Camp due to the low availability of hazel within this area.

7.1.5 Results

Desk study

7.1.5.1 The desk study returned no records of hazel dormice within 1 km of the Site.

Habitat assessment

- 7.1.5.2 The Phase 1 habitat survey identified conifer woodland, with occasional broadleaved tree species, as the main habitat present immediately within and surrounding the Scheme. Much of the woodland surrounding junction 10 is considered sub-optimal for hazel dormice due to the dominance of conifers and absence of a substantial shrub layer. However, there are patches of more diverse habitat, such as adjacent to the M25 to the south-east of junction 10 within Hatchford Wood, where species such as bramble, honeysuckle, holly, birch, gorse and sweet chestnut are present.
- 7.1.5.3 The Phase 1 habitat survey conducted in woodland located within Elm Corner Woods SNCI identified areas of mixed and deciduous woodland containing hazel coppice, which is considered highly suitable for hazel dormice. The area also supports birch, oak, sweet chestnut, ash and sycamore. In addition, aerial imagery shows that the woodland within Elm Corner Woods SNCI is connected via a tree belt to woodland along the Stratford Brook, which connects to areas of deciduous woodland located to the south. These habitats may be suitable for hazel dormice, potentially providing a continuous corridor for the movement and dispersal of this species within the local area.
- 7.1.5.4 The Phase 1 habitat survey undertaken at Heyswood Girl Guide Camp identified an area of woodland formed of horse chestnut, sweet chestnut, hornbeam, yew, sycamore, beech. The woodland predominantly consists of trees with little understorey. The understorey is relatively sparse consisting of nettles with limited holly, hawthorn and elder. Although no hazel is present within this woodland, the tree and scrub species present provide some suitable foraging habitats for dormice. Furthermore, the lack of dense shrub layer provides a less valuable habitat for dormice when compared to an open tree canopy over well-lit dense shrubs, however, these habitats can support dormice².

Hazel dormouse nest tube surveys

7.1.5.5 Hazel dormouse tube surveys were carried out across the 2016, 2017 and 2018 survey seasons in a total of six locations (see Figure 7.18). The results of these surveys are summarised below in

Table 7.1.3: Hazel dormouse tube survey results

Nest tube location	Evidence of hazel dormouse activity	Month (s) evidence was recorded
South-east quadrant (58 tubes)	None	N/A
South-west quadrant (60 tubes)	None	N/A
North-west quadrant (60 tubes)	None	N/A
North-east quadrant (63 tubes)	None	N/A
Elm Corner Woods SNCI (60 tubes)	None	N/A
Heyswood Girl Guide Camp (52 tubes)	None	N/A

7.1.5.6 No evidence of hazel dormouse presence was recorded in any of the survey areas. Wood mice were recorded with the south-west and north-west quadrant, and the Elm Corner Woods SNCI.

Hazel nut searches

7.1.5.7 During the hazel nut survey of the woodland within the Elm Corner Woods SNCI, five 10 x 10 m areas were searched for a period of 20 minutes each for evidence of hazel nuts gnawed by hazel dormice. Following analysis of all hazel nuts collected, none were found to exhibit the classic gnaw marks that are left by the hazel dormouse.

7.1.6 Discussion

7.1.6.1 Hazel dormouse nest tube surveys were conducted from July until November 2016 and from March until May 2017 in the four quadrants located around the M25 junction 10; north-east, north-west, south-east and south-west. At each location, approximately 60 tubes were deployed for the entire survey period. The cumulative index score based on 60 tubes per quadrant on for search effort during these surveys is 27.6 for each of the four quadrants (see Table 7.1.2). No evidence of hazel dormice was observed during these surveys.

7.1.6.2 During the hazel nut search in suitable woodland within the Elm Corner Woods SNCI, no hazel nuts were found that displayed the classic gnaw marks of the hazel dormouse. The methodology followed provides 90% certainty that dormice are not present; this is still not proof of absence from the site^{2,4}. To confirm presence/likely absence of hazel dormice⁵ in this area, nest tube surveys were also conducted from April until October 2018 at the Elm Corner Woods SNCI and Heyswood Girl Guide Camp. At the Elm Corner Woods SNCI a total of 60 tubes were deployed for the survey period giving a cumulative index score for this survey area of 28.8. At Heyswood Girl Guide Camp a total of 52 tubes were deployed for the survey period giving a cumulative index score for this survey area of 24. No evidence of hazel dormice was observed during these surveys.

Based on the index scores and absence of evidence of hazel dormice recorded during the surveys, hazel dormice are considered to be likely absent from the Site.

⁴ Natural England (2015). *Hazel or common dormice: surveys and mitigation for development projects*. [Accessed 01/02/2018.] <https://www.gov.uk/guidance/hazel-or-common-dormice-surveys-and-mitigation-for-development-projects>

⁵ DMRB Volume 10, Section 4, Part 5 HA 97/01

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