

EASTLEIGH BOROUGH COUNCIL

One Horton Heath

Appendix 10.7 Dormouse

1 NON-TECHNICAL SUMMARY

Historic survey results from Ecologica in 2014 and Johns Associates in 2018 found no evidence of dormouse across the Site.

The results of the updated survey conducted in 2020 have confirmed presence of one live dormouse and three dormice nests within the central woodland belt on site during the November survey visit.

2 INTRODUCTION

This report presents the results of hazel dormouse (*Muscardinus avellanarius*) surveys undertaken during 2018 and update surveys conducted in 2020 by Johns Associates in support of the development proposals and planning application for the One Horton Heath project in Eastleigh, Hampshire.

The focus of the survey effort takes into account historical surveys, habitat suitability and information typically required by Natural England for potential licensing purposes (see www.gov.uk).

The aim of the surveys was to update the historic baseline and re-confirm the presence or likely absence of dormouse which may be present within suitable habitats associated with the Site; to identify possible constraints to development and habitat enhancement opportunities that could be delivered through the development proposals.

3 METHODOLOGY

Information provided by the Hampshire Biodiversity Information Centre and from previous surveys conducted by Ecologica Associates Ltd in 2014 and 2015 was reviewed for previous records of hazel dormouse from the Site.

3.1 HABITAT SUITABILITY

Hedgerow and woodland habitats within and adjacent to the Site boundary were assessed for their suitability to support dormouse, according to guidance set out on <https://www.gov.uk/guidance/hazel-or-common-dormice-surveys-and-mitigation-for-development-projects> (Natural England, 2015) and contained in the Dormouse Conservation Handbook (Bright, 2006), Forestry Commission guidance (Forestry Commission, 2007) and other relevant sources (Chanin, 2012). Based on these resources, the criteria set out in Table 1 were used to assess habitat suitability. The output from the habitat suitability assessment was used to inform placement of the nest tubes for subsequent survey.

Table 1 Categorisation of habitats for dormouse: promoting and limiting factors

Effect	Key habitat features affecting the suitability of habitat for dormouse
Promoting	Woodland at least 2ha up to 20ha as a minimum size to support a viable population. Adjacent to ancient woodland or Plantation on Ancient Woodland Sites (PAWS) (including conifer), scrub or early successional stage woodland, including conifer. Species rich shrub layer such as in native deciduous/mixed woodland, species-rich hedgerow, scrub and heathland where considerable gorse and scattered/dense scrub. A variety of fruiting and flowering species of known value to dormice providing a good foraging resource. Natural features such as crevices within trees offering opportunity for summer nest sites and features such as coppice stools, logs, banks and tree root cavities, brushwood, leaf litter and moss offering potential hibernation sites. Good lateral structure and cover to enable commuting and foraging. Canopy connections across tracks or other connections such as hedgerows to other nearby suitable habitat. Good connectivity to adjacent tracts of suitable habitat. Wide age ranges of trees (applies to woodland sites).
Limiting	Small (<2ha) isolated wood or adjacent only to an old conifer plantation Densely shaded with little or no understorey Poor range of food sources Few potential nesting sites/hibernation sites Poor cover and a lack of habitat structure Poor connectivity to adjacent habitat Seasonally waterlogged ground Little or no shrub understorey
Negligible	Very small and/or isolated patches of unsuitable habitat. Isolated from adjacent suitable habitat/presence of significant barriers to movement such as buildings/extensive hard standing and short grassland (or equivalent) Lack of suitable food sources and lack of cover Seasonally waterlogged ground (unsuitable for hibernation sites)

3.2 NEST TUBE SURVEYS

Dormouse nest tube surveys were undertaken in areas of the Site that were identified as providing potentially suitable dormouse habitat. Surveys were undertaken in accordance with standard methodology based on guidance set out in Table 1. Standard methodology involves installing a minimum of 50 nest tubes per survey area at 15-20m intervals in suitable habitat. The nest tubes are then checked regularly for dormouse nests, the animals themselves and other evidence of dormouse such as chewed hazel nuts and shredded honeysuckle bark, throughout the active season.

Standard guidelines (Bright, 2006) assign a value to each month in terms of the probability of recording dormouse or evidence of them in nest tubes (where at least 50 tubes are installed at 20m intervals). In order to confirm that sufficient survey effort has been employed and be confident that no significant dormouse

population is present, the score must be equal to or above 20 in order for confidence to be placed in the determination of presence or likely absence. If 100 tubes were used at 20m intervals then the probability score can be doubled. The score is calculated by summing the value of each month that the nest tube or box is in place. Table 2 indicates the value assigned to each month that a nest tube is deployed.

Table 2 Index of probability of recording dormouse in nest tubes

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

In 2018 a total of 250 dormouse tubes were installed within suitable habitat, (predominantly hedgerows and woodland edge), within the Site (see Figure 1). The nest tubes were installed in July across all potentially suitable habitat associated with the boundary of the development proposals.

Survey visits were undertaken between August and November 2018. Tubes were checked by suitably experienced ecologist, Kerry White, who holds a NE dormouse survey licence (2017-31324-CLS-CLS). The total score for the survey was therefore 80.

An update survey was carried out in 2020, a total of 155 dormouse tubes were installed in August within suitable habitat, (predominantly hedgerows and pockets of woodland), within the Site or immediately adjacent to the Site (Figure 2).

Survey visits were undertaken between 22nd September and 6th November 2020. Tubes were checked by a suitably experienced ecologist, Kerry White, who holds a Natural England dormouse survey licence. The total score for the survey was 48.

3.3 OTHER SIGNS

During each nest tube survey, a search in the immediate vicinity of each of the tubes was undertaken for further evidence indicating the potential of dormouse. This included the presence of breeding/hibernation nests, gnawed fruit stones, stripped honeysuckle bark, flowers with the stamens removed, blackberries with feeding signs and ash keys with wings removed.

3.4 LIMITATIONS AND CONSTRAINTS

Although there are no historic records of dormouse in Quobleigh wood and no evidence was found of this species in Quobleigh woodland in either the 2018 and 2020 surveys the habitat remains highly suitable for this species. Given the very high suitability of this habitat for this species and the likely abundance of natural alternative nesting features compared to the artificial nest tubes used to survey for this species, this is considered as a constraint on these surveys causing the survey method to be less effective.

Therefore, Quobleigh woods is considered as dormouse habitat despite the lack of survey evidence as it is considered to have good connectivity into the north of the Site via the western riparian woodland corridor.

4 RESULTS

4.1 DESK STUDY

Data was provided by Hampshire Biodiversity Information Centre. The desk study identified one record of Hazel Dormouse from 2011 located 1.6km east of the Site boundary. This record was identified as hazel nut evidence inferring species presence.

4.2 PREVIOUS SURVEY RESULTS

Surveys conducted by Ecologica in 2014 did not find any evidence of dormouse using the Site indicating a likely absence of a dormouse population. Ecologica scoped dormouse out of the subsequent impact assessment process.

4.3 HABITAT SUITABILITY

Arboreal habitat potentially suitable for hazel dormouse at Horton Heath are the ancient woodland blocks to the north and south of the site and the network of hedgerows that border and traverse the Site.

The remaining woodlands have been dissected into smaller copses and left as fragmented blocks of suitable habitat with connectivity being restricted by the railway to the south and urban development to the north. The network of hedgerows across the site have undergone regular management resulting in species poor hedges that provide little in the way of important food or dispersal corridors between these woodlands.

Habitat suitability would indicate potential dormouse presence within the woodlands but likely to be only a small population due to the habitat isolation and the limited connectivity for the exchange of animals between local populations.

4.4 NEST TUBE SURVEYS

The results of the 2018 nest tube surveys are summarised in Table 3 and the update nest tube survey results from 2020 are shown in Table 4. During the November survey three dormouse nests were present in tubes deployed along the woodland belt that borders the stream corridor north of Chalcroft Solar Park. One active dormouse was observed leaving a nest tube where one nest was present (Plate 1). Location of the nests and active dormouse are shown in Figure 3.

Table 3 Summary of Results 2020

Survey visit	Date	Weather conditions	Summary of results
1	29/07/18	Gentle breeze, scattered clouds, 21 degrees	No signs of dormouse
2	26/09/18	Moderate breeze, scattered clouds, 19 degrees	No signs of dormouse
3	07/11/18	Moderate breeze, overcast, heavy rain showers, 13 degrees	No signs of dormouse

Table 4: Summary of Results 2020

Survey visit	Date	Weather conditions	Summary of results
1	22/09/2020	No breeze, clear sky, 19 degrees	No signs of dormouse
2	06/11/20	No breeze, clear sky, 15 degrees	1 x Dormouse observed 3 x Dormouse nests present

Plate 1 Dormouse nest where presence was observed



4.5 OTHER SIGNS

No other signs or evidence of dormouse was recorded during the survey, including nibbled nuts, other feeding signs or natural nests.

5 CONCLUSIONS

Historic survey results from Ecologica in 2014 and Johns Associates in 2018 found no evidence of dormouse across the Site.

The results of the updated survey conducted in 2020 confirmed presence of dormice at Horton Heath along the band of woodland north of Chalcroft solar park running west to east across the Site. This is the only recorded area on site despite considerable survey effort across the site over multiple breeding seasons.

Figure 1: Dormouse Tube Locations 2018



Figure 2: Dormouse Tube Locations 2020

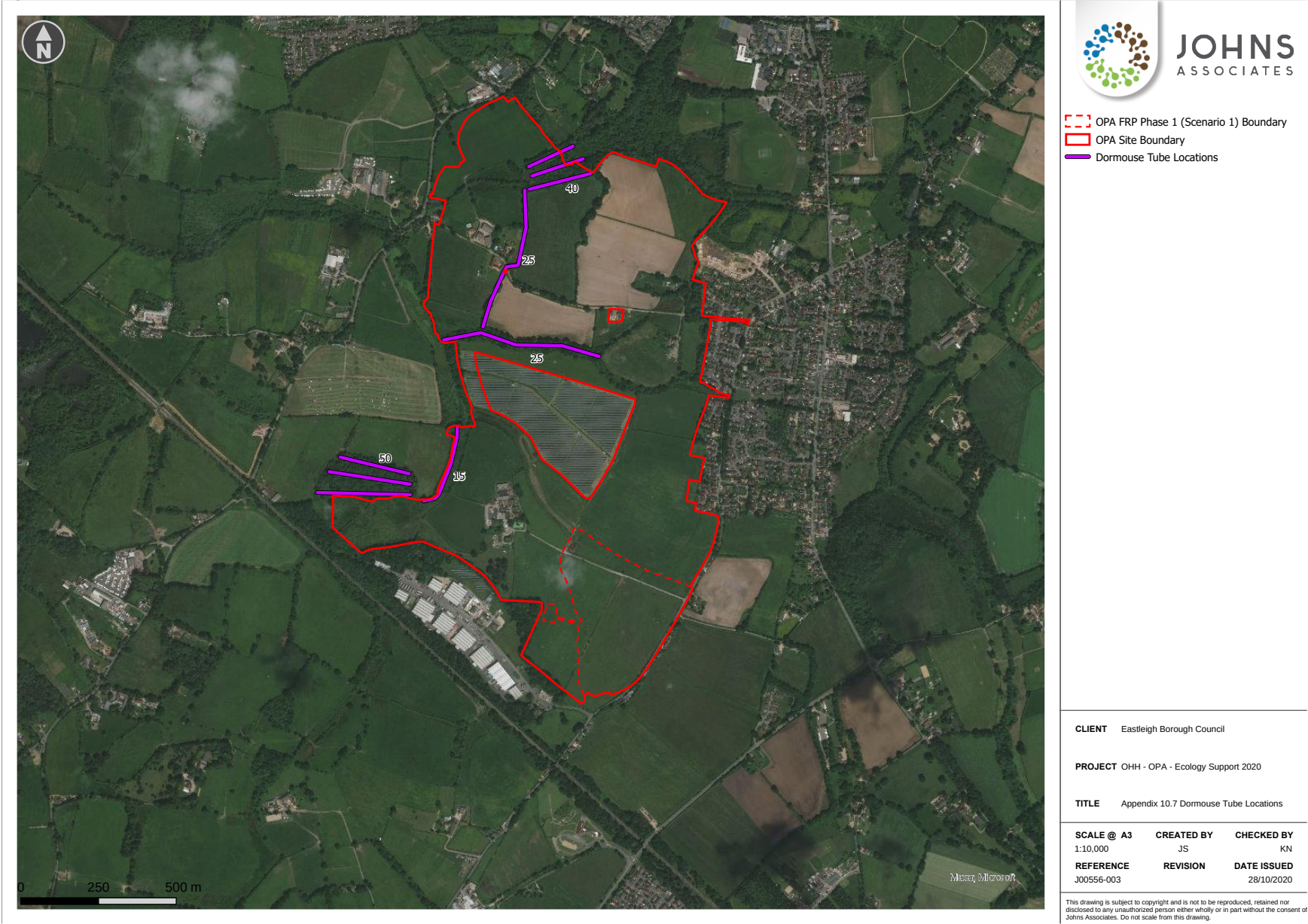


Figure 3: Dormouse Survey Results 2020



6 BIBLIOGRAPHY

- Bright, P. (2006). *The Dormouse Conservation Handbook (2nd ed.)*. Peterborough: English Nature.
- Chanin, P. (2012). *Common dormouse (Muscardinus avellanarius) movements in a landscape fragmented by roads*. Lutra.
- Forestry Commission. (2007). *Interim Guidance Version 2: Guidance on managing woodlands with dormice in England*. Forestry Commission England.

Author: Katherine Newbert BSc (hons) MSc, Consultant Ecologist

Johns Associates Ltd
Suites 1 & 2,
The Old Brewery,
Newtown,
Bradford on Avon,
Wiltshire, BA15 1NF
T: 01225 723652
W: johnsassociates.co.uk

Third party disclaimer

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by Johns Associates at the instruction of, and for use by, our client named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. Johns Associates excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this report. We do not however exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.