

M5 Junction 10 Improvements Scheme

Environmental Statement Appendix 7.4 Dormouse survey TR010063 – APP 6.15

Regulation 5 (2) (a)

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

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M5 Junction 10 Improvements Scheme Development Consent Order 202[x]

6.15 Environmental Statement:

Appendix 7.4 Dormouse survey

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1. Introduction

1.1. Terms of Reference

- 1.1.1. Atkins, member of the SNC Lavalin group, was commissioned by Gloucestershire County Council (GCC) to undertake hazel dormouse (*Muscardinus avellanarius*) surveys to inform the Environmental Statement (ES) for the M5 Junction 10 Improvements Scheme (hereafter referred to as ‘the Scheme’).
- 1.1.2. The purpose of the hazel dormouse surveys was to determine whether hazel dormice are present within the Scheme area; provide recommendations to enable compliance with legislation and policy; and, if necessary, identify the need for avoidance, mitigation, compensation or enhancement measures.
- 1.1.3. This Technical Appendix summarises the results of the hazel dormouse surveys, including the methods used, and provides an evaluation of the nature conservation value of hazel dormice within the survey area.
- 1.1.4. This report provides factual information to support the ES, which will accompany the planning application for the Scheme.

1.2. Legislation

- 1.2.1. Relevant legislation in relation to hazel dormouse is provided in Table 1-1 below.

Table 1-1 - Summary of relevant legislation

Legislation	Offences	Licensing procedures and guidance
Conservation of Habitats and Species Regulations 2017 (as amended) Reg 43	Deliberately ¹ capture, injure or kill a hazel dormouse; deliberate disturbance ² of a hazel dormouse; or damage or destroy a breeding site or resting place used by a hazel dormouse.	A Natural England licence in respect of development is required. Guidance documents: Natural England Standing Advice for hazel dormice 2022 ³ Dormouse Conservation Handbook ⁴
Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb ⁵ a hazel dormouse in such a place.	A Natural England licence is required for survey and conservation work in England.

¹ Deliberate capture or killing is taken to include “accepting the possibility” of such capture or killing.

² Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.

³ <https://www.gov.uk/guidance/hazel-dormice-advice-for-making-planning-decisions>

⁴ Bright, P.W., Morris, P.A. & Mitchell-Jones, A.J. (2006). *The Dormouse Conservation Handbook* (2nd Edition). English Nature, Peterborough.

⁵ Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2017 (as amended) remain an offence under the Wildlife and Countryside Act 1981 (as amended) although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

2. Methodology

- 2.1.1. Unless otherwise stated, the term ‘Scheme Boundary’ refers to the Order limits, excluding areas of the Order limits that extend approximately 2 km north and 2 km south of the Scheme alignment, along the M5. In these locations, the Scheme Boundary is the Scheme alignment. The Order limits and the Scheme alignment are shown on Figure 7-4A in Appendix A.
- 2.1.2. Within the areas of the Order limits that extend north and south of the Scheme alignment, the only works proposed are the installation of signs in discrete locations, which will require vegetation clearance of up to approximately 20 m² plus some minor trimming back of vegetation up to a distance of 180 m in front of the sign to ensure visibility. These signage locations can be micro sited to avoid/minimise ecological impacts. These small-scale works are consistent with routine highway maintenance works. The results of desk study and field surveys here would not have any bearing on the impact assessment for the Scheme, and these areas have been excluded from assessments to inform the ES. Pre-construction surveys of the discrete signage locations and working with the contractor to micro site locations where appropriate to avoid or minimise ecological impacts is the approach that will be taken, and is considered to be proportionate.

2.2. Desk Study

- 2.2.1. The Multi-Agency Geographic Information for the Countryside (MAGIC) website⁶ was reviewed to identify statutory designated nature conservation sites within 2 km of the Scheme Boundary citing hazel dormouse as a reason for designation. Desk study records of non-statutory designated sites for nature conservation within 1 km of the Scheme Boundary were requested from Gloucestershire Centre for Environmental Records (GCER) in September 2019 and again in April 2021 and July 2022, to identify those citing hazel dormouse as a reason for designation.
- 2.2.2. The MAGIC website was reviewed to identify granted European Protected Species (EPS) licences for hazel dormouse⁷ within 1 km of the Scheme Boundary. GCER also provided recent records⁸ of hazel dormouse from within 1 km of the Scheme Boundary.
- 2.2.3. Ordnance Survey (OS) mapping and aerial imagery provided on the MAGIC website was also reviewed to identify potentially suitable habitats for dormice within 250 m of the Scheme Boundary, as well as blocks of woodland in the wider landscape, in particular those areas that showed connectivity (i.e. via hedgerows) to the Scheme.

2.3. Field Survey

- 2.3.1. All hazel dormouse surveys detailed below have been undertaken in accordance with good practice guidance⁹ and the Chartered Institute of Ecology and Environmental Management (CIEEM) competencies for undertaking hazel dormouse surveys¹⁰.
- 2.3.2. CIEEM guidance on ecological survey during the Covid-19 outbreak¹¹ and advice from the Peoples Trust for Endangered Species (PTES)¹² were also considered in the planning and undertaking of hazel dormouse survey work.

⁶ <https://magic.defra.gov.uk/MagicMap.aspx> [Accessed July 2022]

⁷ Licences granted by Natural England to permit activities that might otherwise cause a breach of the Conservation of Habitats and Species Regulations 2018, with respect to species protected by that legislation.

⁸ Records of observations within the last 10 years.

⁹ Bright, P.W., Morris, P.A. & Mitchell-Jones, A.J. (2006). *The Dormouse Conservation Handbook* (2nd Edition). English Nature, Peterborough and Bullion, S. & Looser, A. (2019). *Guidance for using Hazel Dormouse Footprint Tunnels*. Suffolk Wildlife Trust.

¹⁰ CIEEM (2013). *Competencies for Species Survey: Hazel Dormouse*.

¹¹ CIEEM (February 2021). *Guidance on Ecological Survey and Assessment in the UK During the Covid-19 Outbreak* (version 4)

¹² https://ptes.org/wp-content/uploads/2020/07/SARS-CoV-2-DRA-for-dormice_Abbv.6.pdf

Survey Area

- 2.3.3. The survey area for hazel dormouse surveys included suitable habitat comprising woody vegetation (i.e. woodland, hedgerow and scrub) up to 250 m from the Scheme Boundary. The hazel dormouse survey area comprises nine distinct areas within this 250 m zone, as shown on Figure 7-4A in Appendix A.

Habitat Assessment

- 2.3.4. An initial hazel dormouse habitat suitability assessment was undertaken during the terrestrial ecology walkover surveys undertaken on 16, 17, 20, 22 and 23 May 2019, and 23, 26 and 27 September 2019. This included an assessment of habitat type, structure (for nest building, foraging and dispersal), species composition (availability of food sources) and connectivity with other areas of suitable habitat outside of the survey area. The habitat suitability assessment was aided by the results of the desk study to determine areas that had potential to support hazel dormice.

Presence / Likely Absence Survey

Nest Tube Survey

- 2.3.5. A hazel dormouse survey was carried out using nest tubes between May and November 2019. Due to access restrictions earlier in the survey period, some nest tubes (those within survey areas 3 and 7) were installed later on in the season, in June, July and August 2019 (see the Limitations in Section 2.4 for further information).
- 2.3.6. Due to changes in the Scheme extent, further hazel dormouse nest tube surveys were undertaken between May and November 2021 within survey areas 8 and 9. These areas are located to the south and north of the A4019 corridor respectively, extending from the existing M5 Junction 10 to the Gallagher Retail Park.
- 2.3.7. A total of 886 artificial nest tubes were placed in nine distinct survey areas containing suitable habitat (i.e. woodland, hedgerow and scrub, with individual hedgerows, blocks of woodland or areas of scrub termed 'habitat feature') as shown on Figure 7-4A in Appendix A. Nest tubes were spaced between 15 m and 20 m as far as possible. Where gaps in vegetation were present, tubes were placed closer or further apart, as necessary. Nest tubes were fastened below horizontal tree/scrub branches (including within bramble).
- 2.3.8. The nest tubes were set out in each habitat feature as permitted access became available between May and August 2019, and in March 2021. In general, nest tubes were set out within each survey area during the same month. However, within survey areas 4 and 6, nest tubes were installed within specific habitat features later in the survey season, as access became available (see the Limitations in section 2.4 for further information). The months nest tubes were deployed are shown in Table 2-2 below.
- 2.3.9. Nest tubes were checked every two months up to and including November 2019/2021. Survey checks were carried out by a surveyor with a hazel dormouse survey licence. Table 2-1 provides a summary of survey areas and habitat features where nest tubes were installed throughout the survey period.

Table 2-1 - Summary of hazel dormouse survey areas

Survey area	Habitat feature number (number of nest tubes in each habitat feature)	Total number of nest tubes
1	Habitat feature 7 (18) Habitat feature 8 (55) Habitat feature 9 (21) Habitat feature 10 (18) Habitat feature 11 (20)	132
2	Habitat feature 1 (22) Habitat feature 2 (26) Habitat feature 3 (3) Habitat feature 4 (30) Habitat feature 5 (23) Habitat feature 6 (42)	146
3	Habitat feature 27 (27) Habitat feature 28 (7) Habitat feature 29 (17) Habitat feature 30 (10) Habitat feature 31 (7)	68
4	Habitat feature 12 (24) Habitat feature 13 (17) Habitat feature 14 (11) Habitat feature 22 (41)	93
5	Habitat feature (16) Habitat feature (36) Habitat feature 20 (8) Habitat feature 21 (8)	68
6	Habitat feature 15 (36) Habitat feature 16 (20) Habitat feature 17 (11) Habitat feature 32 (6) Habitat feature 33 (6) Habitat feature 34 (13) Habitat feature 35 (17)	109
7	Habitat feature 23 (5) Habitat feature 24 (6) Habitat feature 25 (6) Habitat feature 26 (33)	50
8	Habitat feature 36 (25) Habitat feature 38 (15) Habitat feature 41 (20)	60

Survey area	Habitat feature number (number of nest tubes in each habitat feature)	Total number of nest tubes
9	Habitat feature 37 (46) Habitat feature 39 (39) Habitat feature 40 (75)	160

- 2.3.10. Using 50 tubes as a standard for surveying, a combined Index of Probability score can be calculated to judge presence/likely absence of hazel dormice in each survey area. The Index of Probability score is based on the likelihood of a tube being occupied in any specific month and is highest in May, August and September when nest tubes are most frequently occupied. The combined score is calculated by adding together the Index of Probability score for each full month the survey tubes are present and is increased or decreased depending on the number of nest tubes deployed¹³. Table 2-2 below shows the index of probability for score for each survey area within the Scheme.

¹³ Bright, P.W., Morris, P.A. & Mitchell-Jones, A.J. (2006). *The Dormouse Conservation Handbook* (2nd Edition). English Nature, Peterborough.

Table 2-2 - Index of probability scores

Month (index of probability)	Survey area 1	Survey area 2	Survey area 3	Survey area 4	Survey area 5	Survey area 6	Survey area 7	Survey area 8	Survey area 9
March (0)	0	0	0	0	0	0	0	Nest tubes deployed	Nest tubes deployed
April (1)	0	0	0	0	0	0	0	1	1
May (4)	Nest tubes deployed	Nest tubes deployed	0	Nest tubes deployed in Habitat Features 12, 13 and 14	Nest tubes deployed	Nest tubes deployed in Habitat Features 15, 16 and 17	0	4	4
June (2)	2	2	0	2 Additional nest tubes deployed in Habitat Feature 22	2	2	0	2	2
July (2)	2	2	Nest tubes deployed	2	2	2	Nest tubes deployed	2	2
August (5)	5	5	5	5	5	5 Additional nest tubes deployed in Habitat Features 32, 33, 34 and 35	5	5	5
September (7)	7	7	7	7	7	7	7	7	7

Month (index of probability)	Survey area 1	Survey area 2	Survey area 3	Survey area 4	Survey area 5	Survey area 6	Survey area 7	Survey area 8	Survey area 9
October (2)	2	2	2	2	2	2	2	2	2
November (2)	2	2	2	2	2	2	2	2	2
TOTAL	20	20	16	20	20	20	16	25	25

- 2.3.11. A combined Index of Probability score of 20 or above must be achieved to be able to conclude likely absence of hazel dormice in any particular survey area. A combined score of at least 20 has been achieved in five of the nine areas surveyed: survey areas 1, 2, 4, 5 and 6. Due to access constraints earlier in the survey period, a total score of at least 20 was not achieved for survey areas 3 and 7 (see the Limitations in section 2.4 for further information).

Footprint Tunnel Survey

- 2.3.12. In order to update the 2019 survey data, dormouse surveys were undertaken in 2022 between May and September within the most suitable habitat within the 2019 dormouse survey area. Surveys comprised dormouse footprint tunnel surveys undertaken in accordance with current guidance¹⁴.
- 2.3.13. A total of 149 footprint tunnels were placed in three distinct areas (within survey areas 2, 3 and 5) containing suitable habitat (i.e. woodland, hedgerow and scrub), as shown on Figure 7-4A in Appendix A. Approximately 50 tunnels were deployed in each of the three survey areas and surveyed over a three-month period (6 checks during this period) to give a 95% chance of detecting dormice¹⁴. Footprint tunnels were spaced between 15 m and 20 m as far as possible. Where gaps in vegetation were present, tunnels were placed closer or further apart, as necessary. Footprint tunnels were fastened below horizontal tree/scrub branches (including within bramble).
- 2.3.14. Some footprint tunnels (116 – 149 within survey area 3) were installed two weeks later, during the second check in June (see the Limitations in Section 2.4 for further information).
- 2.3.15. Footprint tunnels were checked and re-inked every two weeks from the end of May to the end of August 2022. Footprint tunnels 116 – 149 in survey area 3 were also checked every two weeks and collected two weeks later to ensure they were deployed for the full 3 months.
- 2.3.16. This type of survey technique was chosen as the presence / likely absence of dormice can be determined within a shorter timeframe than nest tube surveys and this technique has demonstrated a higher detection rate when compared with nest tubes¹⁴. Table 2-3 provides a summary of survey areas and habitat features where footprint tunnels were installed throughout the survey period.

Table 2-3 - Summary of hazel dormouse survey areas

Survey area	Habitat feature number	Number of footprint tunnels
3	27 and 28	49
5	21	50
2	4 and 6	50

Population Density Estimate

- 2.3.17. The size of the hazel dormouse population has been estimated based on the population densities discussed in the Dormouse Conservation Handbook¹⁵. This is included in Section 4 of this report.

¹⁴ Bullion, S. & Looser, A. (2019). *Guidance for using Hazel Dormouse Footprint Tunnels*. Suffolk Wildlife Trust.

¹⁵ Bright, P.W., Morris, P.A. & Mitchell-Jones, A.J. (2006). *The Dormouse Conservation Handbook* (2nd Edition). English Nature, Peterborough.

2.4. Assessment

- 2.4.1. The hazel dormouse population has been valued in a geographical context following the framework provided in LA 108¹⁶. The evaluation is based on the information gathered from the desk study and field surveys, using a combination of professional judgement and accepted criteria¹⁷ (e.g., diversity, rarity, and naturalness).

2.5. Limitations

- 2.5.1. GCER does not hold exhaustive records of all the species that occur within a given area. Therefore, the absence (or limited numbers) of records for hazel dormice does not demonstrate that the species is absent from any particular area. This limitation has been addressed by carrying out targeted presence / likely absence surveys for hazel dormice.
- 2.5.2. Access was not permitted to the entire dormouse survey area (i.e. all land up to 250 m from the Scheme). However, this is not considered to be a significant limitation to the results or assessment, as sufficient coverage has been achieved by the nine survey areas, as shown on Figure 7-4A in Appendix A.
- 2.5.3. The nest tubes were set out in each habitat feature as permitted access became available between May and August 2019, and in March 2021. In general, nest tubes were set out within each survey area during the same month. However, within survey areas 4 and 6, nest tubes were installed within some habitat features later in the survey season, as access became available. Within survey area 4, nest tubes were deployed in habitat features 12, 13 and 14 in May 2019, with additional nest tubes deployed in habitat feature 22 in June 2019. Within survey area 6, nest tubes were deployed in habitat features 15, 16 and 17 in May 2019, with additional nest tubes deployed in habitat features 32, 33, 34 and 35 in August 2019. In both survey areas, at least 50 nest tubes were installed during the earlier month (62 and 67 nest tubes respectively) and the Index of Probability score has been calculated using 50 tubes as a standard for surveying from the earlier month. Therefore, this is not considered to be a significant limitation.
- 2.5.4. Due to access restrictions earlier in the survey period in 2019, some nest tubes were installed later on in the season, and this impacted the Index of Probability scores. Based on the Index of Probability scores, a total score of at least 20 was not achieved for survey areas 3 and 7 and, therefore, likely absence of hazel dormice could not be confirmed. Due to design changes, survey area 7 is now outside the hazel dormouse survey area. There will be no impacts to hazel dormice at this location (if they are present) and, therefore, the score obtained in this area is not considered to be a limitation to the impact assessment. Survey area 3 is within the hazel dormouse survey area but the 2022 update dormouse footprint tunnel surveys have confirmed the likely absence of hazel dormice within survey area 3. Therefore, this is no longer a limitation to the assessment.
- 2.5.5. During the hazel dormouse nest tube checks, it was not possible to find all of the tubes, and some were missing the wooden inserts, e.g. during the September 2021 survey 29 tubes either could not be found or were missing the insert (see Appendix B). Given the small number of nest tubes that could not be found as a proportion of the total number of nest tubes deployed, this is not considered to be a significant limitation.
- 2.5.6. During the September 2021 survey, the 15 nest tubes in habitat feature 38 (survey area 8) were not checked because land access was not granted to surveyors. This is not considered to be a significant limitation because the nest tubes remained in place for the entirety of the survey season and were checked during the November 2021 survey.
- 2.5.7. During the 2022 hazel dormouse footprint tunnel checks, two tunnels could not be found on two of the surveys and one was missing the insert from the second survey visit onwards (see Appendix C). Given the small number of footprint tunnels that could not be found as

¹⁶ Highways England (2020). Design Manual for Roads and Bridges. LA 108 Biodiversity (formerly Volume 11, Section 3, Part 4 Ecology and Nature Conservation and IAN 130/10). (March 2020, version 1). Online: https://www.standardsforhighways.co.uk/dmrb/search?discipline=SUSTAINABILITY_AND_ENVIRONMENT.

¹⁷ Set out in Ratcliffe, D.A. (1977). *A Nature Conservation Review*. Cambridge University Press.

a proportion of the total number of footprint tunnels deployed, this is not considered to be a significant limitation.

- 2.5.8. During the first and second July 2022 survey, 10 footprint tunnels in survey area 5 along habitat feature 21 were not checked, as the survey was aborted on health and safety grounds due to livestock becoming too close to surveyors in this land parcel. This is not considered to be a significant limitation because the tunnels were checked during the first and second June 2022 survey and the first and second August survey.

3. Results

3.1. Desk Study

- 3.1.1. There are no designated sites within the search area designated specifically, or in part, for hazel dormice.
- 3.1.2. No granted Natural England hazel dormouse mitigation licences were identified within the desk study area.
- 3.1.3. GCER provided one record of a hazel dormouse nest within the desk study area. The nest was found in a nest tube in a hedgerow to the northwest of Gallagher Retail Park, located approximately 150 m north of the Scheme Boundary and within survey area 9. The nest was found in April 2017, and remained present during checks in May, June, July, August and September 2017. It is likely that this record was identified during surveys undertaken in connection with the Elms Park development; a proposed large, multi-phased development on the outskirts of Cheltenham, just north of the A4019. It is referred to in the report¹⁸ that was submitted in 2017 as part of the outline planning application (reference 16/02000/OUT) for the Elms Park development.
- 3.1.4. Another hazel dormouse nest was identified within the first phase of the Elms Park development (Swindon Farm), located approximately 415 m north of the Scheme, and approximately 800 m east of the above-mentioned record. The nest was found in August 2018¹⁹. Both records are shown on Figure 7-4A in Appendix A.

3.2. Field Survey

Habitat Assessment

- 3.2.1. Based on information adapted from The Dormouse Conservation Handbook²⁰, optimal hazel dormouse habitat is generally considered to comprise extensive stands of woodland, scrub or shrub habitat including a species-rich mix of tree and shrub species, with a range of ages present. Woodlands should have a well-developed understorey enabling hazel dormice to move easily through linked vegetation, ideally with coppiced hazel and/or sweet chestnut. Vegetation should also connect to other areas of suitable habitat in the wider area. The Dormouse Conservation Handbook²⁰ also states that woodlands smaller than 20 hectares are less likely to support hazel dormice than larger sites, unless they are linked to other areas of suitable habitat.
- 3.2.2. Habitats within 250 m of the Scheme Boundary were dominated by large, improved grassland and arable fields, with some smaller species-poor semi-improved grassland fields. These fields were often divided by native hedgerows, which ranged in condition from tightly flailed to tall, unmanaged tree-lines, with the vast majority of the hedgerows being species-poor. Broadleaved and mixed plantation woodlands were present mainly alongside the M5, although there were three copses located away from the motorway. The areas of plantation woodland generally comprised trees of a similar age and lacked a well-developed understorey. One copse of broadleaved semi-natural woodland was present, however, which had a dense, well-developed understorey.
- 3.2.3. Habitats within the wider area comprise further improved grassland and arable fields divided by hedgerows, with small pockets of woodland. There are no extensive blocks of

¹⁸ Persimmon Homes / Bloor Homes (October 2017) *Framework Dormouse and Reptile Mitigation Strategy* [associated with planning application 16/02000/OUT].

¹⁹ Persimmon Homes (May 2020) *Swindon Farm, Cheltenham, Ecological Appraisal*.

²⁰ Bright, P.W., Morris, P.A. & Mitchell-Jones, A.J. (2006). *The Dormouse Conservation Handbook* (2nd Edition). English Nature, Peterborough.

woodland present. The Cheltenham urban area to the east and the M5 are major barriers to dispersal.

- 3.2.4. Sub-optimal hazel dormouse habitat is present in the majority, but not all of the areas surveyed. For example, some areas support a lower species diversity and have less of a developed structure, but others have a better developed understorey and higher species diversity (such habitat feature 17). Overall, the woody habitats within the hazel dormouse survey area are considered to provide sub-optimal habitat for hazel dormouse.

Presence / Likely Absence Survey

- 3.2.5. During the hazel dormouse surveys carried out using nest tubes in 2019, no evidence of hazel dormice was recorded in any of the areas surveyed (i.e. survey areas 1, 2, 3, 4, 5, 6, and 7).
- 3.2.6. During the hazel dormouse surveys carried out using nest tubes in 2021, no evidence of hazel dormice was recorded in survey area 8, but evidence was recorded in survey area 9. A suspected hazel dormouse summer nest was found in a nest tube, which was in a hedgerow along the A4019 in habitat feature 37 (see Figure 7-4A in Appendix A).
- 3.2.7. Full details of the nest tube survey results are provided in Appendix B.
- 3.2.8. No evidence of dormice was found during the dormouse footprint tunnel surveys undertaken in 2022 in survey areas 2, 3, and 5. Full details of the footprint tunnel survey results are provided in Appendix C.

4. Evaluation

- 4.1.1. The desk study and field survey results indicate that hazel dormice are likely absent from survey areas 1, 2, 3, 4, 5, 6, 7 and 8. The 2022 update dormouse footprint tunnel surveys undertaken in survey areas 2, 3, and 5 have recorded no evidence of dormice in these areas, as was the case in 2019.
- 4.1.2. Two desk study records of hazel dormouse nests exist; one recorded in 2017 from within the hazel dormouse survey area, at survey area 9, and the other from 2018 further east, within habitat that is connected to survey area 9. The 2021 nest tube survey record of a hazel dormouse summer nest was in survey area 9 to the east of Uckington. Based on the desk study records and field survey record, the presence of hazel dormice is assumed within the entirety of survey area 9, i.e. north of the A4019.
- 4.1.3. Based on the survey data and absence of desk study records, hazel dormice are likely absent south of the A4019. Although hazel dormice have been known to cross roads and other open areas²¹, and roads less than 12 m wide are generally not considered barriers to hazel dormouse movements²², the A4019 is a busy road varying in width between approximately 30 m and 10 m. Due to its heavy traffic flow and its overall width, it would likely act as a barrier to hazel dormouse dispersal. At the eastern extent of the A4019 within the Scheme, on the southern side of the road, habitats are unsuitable for hazel dormouse, comprising industrial units and residential properties and gardens on the outskirts of the western edge of Cheltenham.
- 4.1.4. Based on the survey data, in which no evidence of dormice has been found in surveys of areas west of the M5, and absence of desk study records, hazel dormice are likely absent to the west of the M5. Although assumed to be present to the east of the M5, at survey area 9 north of the A4019, the motorway would act as a barrier to hazel dormouse dispersal.
- 4.1.5. Dormice live at low densities. In early summer (before breeding) there are typically only three to five (but sometimes up to ten) adults per hectare in deciduous and conifer habitats. The National Dormouse Monitoring Programme (NDMP) suggests an average of between 1.75 and 2.5 adults per hectare pre-breeding (cited in The Dormouse Conservation Handbook²³) and across the country, including sub-optimal habitats, the average population density is approximately 2.2 adults per hectare. Taking into account the largely sub-optimal habitats present, a value of 2.2 adults per hectare is considered an appropriate density for the Scheme.
- 4.1.6. Assuming that hazel dormice are present within survey area 9 only, there is approximately 1.84 ha of suitable hazel dormouse habitat within this area of the Scheme. This gives a total of four (4.05) adult hazel dormice within the Scheme Boundary.
- 4.1.7. The hazel dormouse receives the highest level of protection as an EPS. It is also a Species of Principal Importance for the Conservation of Biodiversity in England, as listed

²¹ Chanin, P. (2012). Why didn't the dormice cross the gaps? *The Dormouse Monitor* 1: 4-5.

²² Chanin, P. & Gubert, L. (2012). Common dormouse (*Muscardinus avellanarius*) movements in a landscape fragmented by roads. *Lutra* 55(1): 3-15.

²³ Bright, P.W., Morris, P.A. & Mitchell-Jones, A.J. (2006). *The Dormouse Conservation Handbook* (2nd Edition). English Nature, Peterborough.

in accordance with Section 41 of the NERC Act (2006) and is identified as a priority species in the Gloucestershire County Council Biodiversity Action Plan²⁴. The hazel dormouse is categorised as rare and vulnerable to extinction in the UK²⁵. The State of Britain's Dormice report in 2019²⁶ highlighted that nationally the population has fallen by a half (51%) since 2000, decreasing on average by 3.8% per year.

- 4.1.8. Given the high level of protection afforded to hazel dormice, their rarity and declining status, as well as consideration of the limited distribution of hazel dormouse within the Scheme, and that the species is present in an area previously thought not to be occupied by hazel dormouse²⁷, the population within the hazel dormouse survey area is considered to be of County nature conservation importance.

²⁴ Gloucestershire Biodiversity Partnership (2000). *Summary of the Biodiversity Action Plan for Gloucestershire*

²⁵ Dormouse Status and Conservation, People's Trust for Endangered Species <https://ptes.org/get-informed/facts-figures/hazel-common-dormouse-muscardinus-avellanarius/> [Accessed: February 2023]

²⁶ Wembridge, D., Al-Fulaij, N. & Langdon, S. (2019). *The State of Britain's Dormice 2019*. People's Trust for Endangered Species.

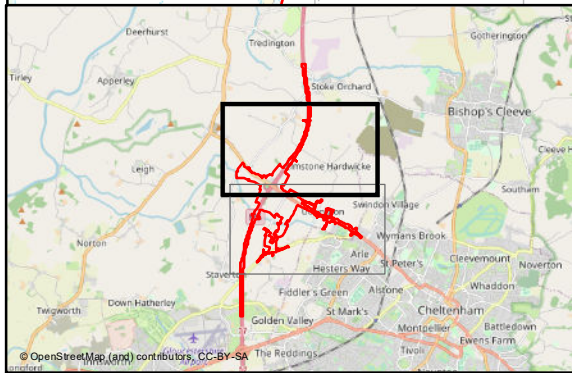
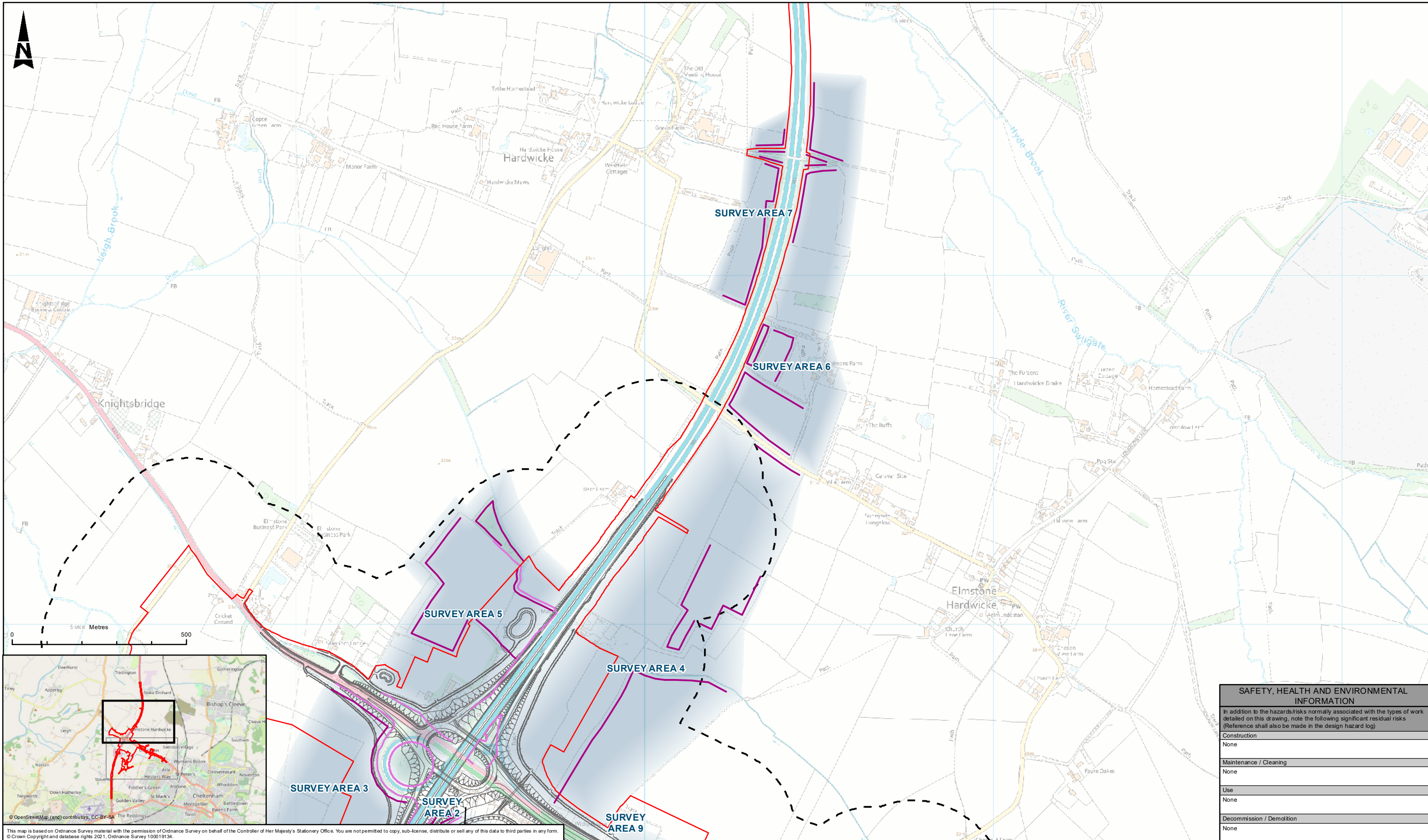
²⁷ A report produced for a separate planning application (the Elms Park development, north of the A4019) states 'Anecdotally dormice had not been recorded locally in recent history and this had also been confirmed by Gloucestershire Wildlife Trust who generally considered the species to be absent from this area of the Severn Valley.' Reference: Persimmon Homes/Bloor Homes (October 2017) Framework Dormouse and Reptile Mitigation Strategy [associated with planning application 16/02000/OUT].

Appendices



Appendix A. Schedule of figures included in this application document

Figure reference	Document title	Sheet	Document number	Revision
7-4A	Dormouse survey areas and results	1 of 2	GCCM5J10-ATK-EBD-ZZ-GS-GI-000014	0
7-4A	Dormouse survey areas and results	2 of 2	GCCM5J10-ATK-EBD-ZZ-GS-GI-000014	0



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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made in the design hazard log)	
Construction	None
Maintenance / Cleaning	None
Use	None
Decommission / Demolition	None

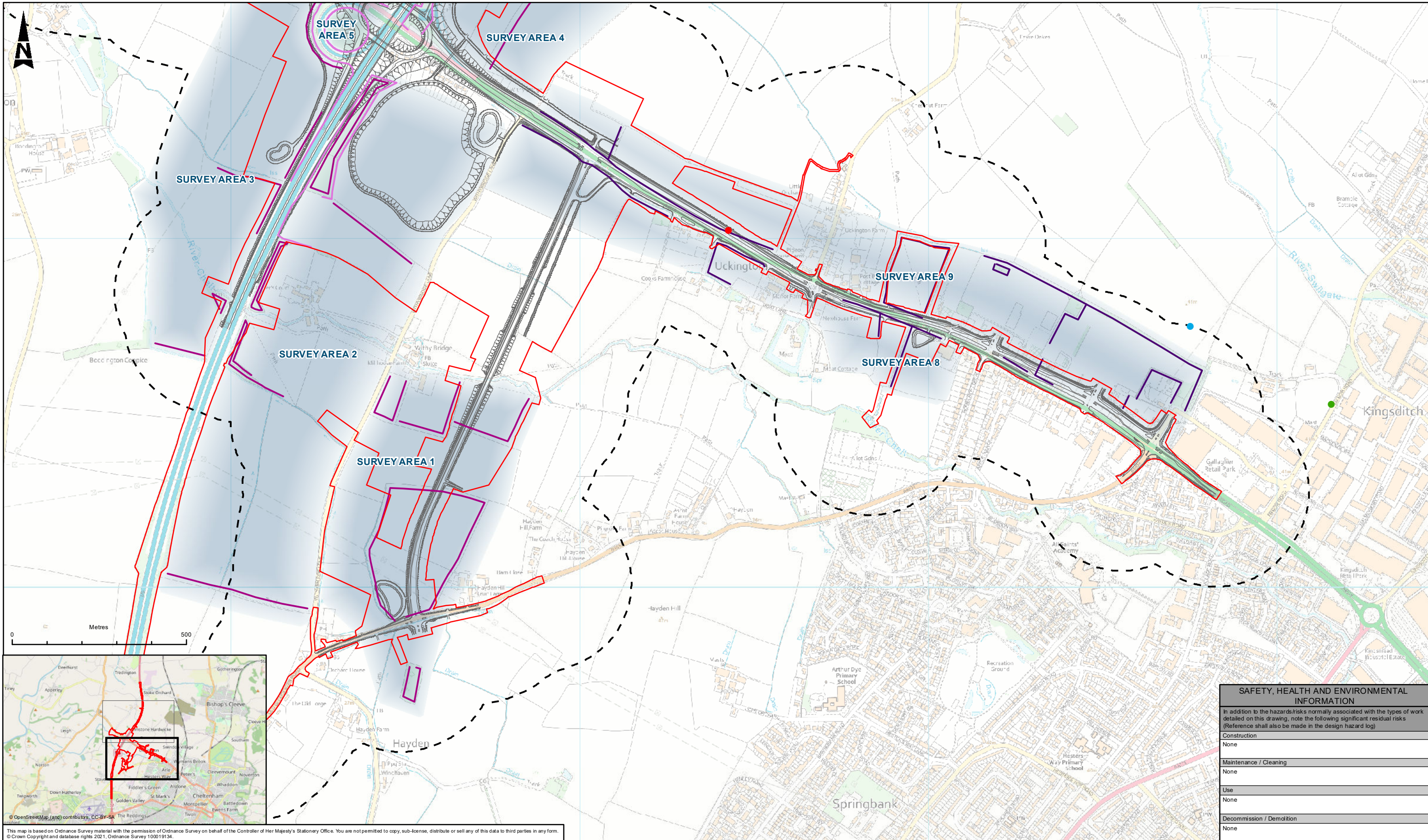
LEGEND	
	ORDER LIMITS
	SCHEME ALIGNMENT
	250M STUDY AREA
	SURVEY AREAS
DORMOUSE TUBE LOCATIONS	
	HABITAT FEATURES (HF) - SURVEY YEAR 2019 (DORMOUSE NEST TUBES)
	HABITAT FEATURES (HF) - SURVEY YEAR 2021 (DORMOUSE NEST TUBES)
	HABITAT FEATURES (HF) - SURVEY YEAR 2022 (DORMOUSE FOOTPRINT TUNNELS)
	DESK STUDY RECORDS 2017
	DESK STUDY RECORDS 2018
	POTENTIAL DORMOUSE NEST (2021)

Description						
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
PUBLISHED						

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 COUNTY COUNCIL

Project Title		M5 Junction 10 Improvements Scheme	
Drawing Title		FIGURE 7-4A DORMOUSE SURVEY AREAS AND RESULTS	
Drawing Number		GCCM5J10 - ATK - EBD ZZ - GS - GI - 000014	
Original Size: A3	Scale: 1:10,000	Project Ref: 5214106	Sheet: 1 of 2 Rev: P02



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LEGEND

- ORDER LIMITS
- SCHEME ALIGNMENT
- 250M STUDY AREA
- SURVEY AREAS

DORMOUSE TUBE LOCATIONS

- HABITAT FEATURES (HF) - SURVEY YEAR 2019 (DORMOUSE NEST TUBES)
- HABITAT FEATURES (HF) - SURVEY YEAR 2021 (DORMOUSE NEST TUBES)
- HABITAT FEATURES (HF) - SURVEY YEAR 2022 (DORMOUSE FOOTPRINT TUNNELS)

- DESK STUDY RECORDS 2017
- DESK STUDY RECORDS 2018
- POTENTIAL DORMOUSE NEST (2021)

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made in the design hazard log)	
Construction	None
Maintenance / Cleaning	None
Use	None
Decommission / Demolition	None

Description		Drawing Suitability	Status	Project Title		
PUBLISHED		PUBLISHED	A1	M5 Junction 10 Improvements Scheme		
Description				Drawing Title		
Member of the SNC-Lavalin Group		5th Floor, Block 5 Bearland Gloucester GL1 2TH Tel: 08000 514 514 www.atkinsglobal.com		FIGURE 7-4A DORMOUSE SURVEY AREAS AND RESULTS		
Description		Copyright © Atkins Limited (2023)		Drawing Number		
Client				Project: GCCM5J10 - ATK - EBD Originator: ZZ - GS - GI - 000014 Volume:		
Description		PUBLISHED		Location: 2 of 2 Scale: 1:10,000 Project Ref: 5214106 Sheet: 2 of 2 Rev: P02		
Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
A1	R02	EM	LH	CC	LJ	12/09/23

Appendix B. Detailed nest tube survey results

Survey Area 1 (nest tubes deployed in May 2019; X = empty, N/A = not checked)

Tube number	18 th July 2019	26 th September 2019	23 rd October 2019	20 th November 2019
265	X	Three wood mice	N/A	X
266	X	X	N/A	X
267	Mouse nest - green leaves, shredded grass - some structure	Wood mouse nest	N/A	Wood mouse nest
268	X	X	N/A	Wood mouse nest
269	X	Wood mouse nest	N/A	Wood mouse nest
270	X	Wood mouse	N/A	Wood mouse nest
271	X	Wood mouse nest	N/A	X
272	X	X	N/A	X
273	X	Shredded material	N/A	Wood mouse nest
274	X	X	N/A	Food cache
275	X	X	N/A	Wood mouse nest
276	X	Two wood mice	N/A	X
277	X	Two wood mice	N/A	Wood mouse nest
278	X	X	N/A	Wood mouse nest
279	X	X	N/A	X
280	X	X	N/A	X
281	X	Shredded material	N/A	X
282	X	X	X	X
283	X	X	X	Wood mouse nest
284	X	x	N/A	X
285	X	X	N/A	X
286	X	Wood mouse	N/A	X
287	X	X	N/A	Wood mouse nest

288	X	X	N/A	X
289	X	X	N/A	X
290	X	X	N/A	Wood mouse nest
291	X	Wood mouse	N/A	Wood mouse nest
292	X	X	N/A	Wood mouse nest
293	Mouse nest - green leaves, shredded bark, some structure	X	N/A	X
294	Mouse nest - green leaves, shredded bark, some structure	X	N/A	Wood mouse nest
295	Mouse nest - green leaves, shredded bark, some structure	Wood mouse nest	N/A	Wood mouse nest
296	X	X	N/A	X
297	X	X	N/A	X
298	X	Wood mouse	N/A	Wood mouse nest
299	X	X	N/A	Wood mouse nest
300	X	X	N/A	X
301	X	X	N/A	Wood mouse nest
302	X	x	N/A	X
303	X	X	N/A	X
304	X	X	N/A	X
305	X	X	N/A	Wood mouse nest
306	X	X	N/A	X
307	X	X	N/A	Wood mouse nest
308	X	Wood mouse nest	N/A	X
309	X	X	N/A	X
310	X	X	N/A	X
312	X	X	N/A	X
313	X	X	N/A	X
314	Unoccupied bird nest	Old bird nest	N/A	X

315	X	X	N/A	X
316	X	X	N/A	X
317	X	X	N/A	X
318	X	X	N/A	X
319	X	X	N/A	X
320	X	X	N/A	X
321	X	X	N/A	X
322	X	X	N/A	x
323	N/A	X	X	x
324	N/A	X	Wood mouse nest	X
325	N/A	X	Wood mouse nest	Wood mouse nest
326	N/A	X	X	X
327	N/A	X	X	Wood mouse nest
328	N/A	X	Wood mouse nest	X
329	N/A	X	X	X
330	N/A	X	X	X
331	N/A	X	Wood mouse food cache	X
332	N/A	X	X	X
333	N/A	X	Two wood mice	X
334	N/A	X	X	X
335	N/A	X	X	X
336	N/A	X	Wood mouse nest	X
337	N/A	X	X	X
338	N/A	X	X	X
339	N/A	X	X	X
340	N/A	X	X	X
341	X	Wood mouse	N/A	Wood mouse nest
342	X	Wood mouse nest	N/A	X
343	X	X	N/A	X
344	X	X	N/A	Food cache
345	X	Wood mouse nest	N/A	Wood mouse nest
346	X	X	N/A	X

347	X	X	N/A	X
348	X	X	N/A	X
349	X	Wood mouse nest	N/A	X
350	X	X	N/A	X
351	X	Wood mouse nest	N/A	X
352	X	X	N/A	X
353	X	X	N/A	X
354	X	X	N/A	X
355	X	X	N/A	X
356	X	X	N/A	Wood mouse
357	X	X	N/A	X
358	X	X	N/A	X
359	X	X	N/A	X
360	X	X	N/A	x
361	X	X	N/A	Wood mouse nest
362	X	Wood mouse nest	N/A	X
362	X	X	N/A	X
363	X	X	N/A	X
364	X	X	N/A	X
365	X	X	N/A	X
366	X	X	N/A	X
367	X	X	N/A	X
368	X	X	N/A	X
369	X	X	N/A	X
370	X	X	N/A	X
371	X	X	N/A	X
372	X	Wood mouse nest	N/A	X
373	X	X	N/A	X
374	X	X	N/A	X
375	X	X	N/A	X
376	X	X	N/A	X
377	X	Wood mouse nest	N/A	X
378	X	X	N/A	X
379	X	Wood mouse nest	N/A	X
380	X	X	N/A	X
381	X	X	N/A	X
382	X	X	N/A	X

383	X	X	N/A	X
384	X	X	N/A	X
385	Scattered brown and green leaves - no structure	X	N/A	X
386	X	X	N/A	Three wood mice
387	X	X	N/A	X
388	X	X	N/A	Two wood mice
389	X	X	N/A	X
390	X	X	N/A	X
391	X	X	N/A	X
392	X	X	N/A	X
393	X	X	N/A	X
394	X	X	N/A	X

Survey Area 2 (nest tubes deployed in May 2019; X = empty)

Tube number	31 st July 2019	25 th September 2019	20 th November 2019
1	X	X	x
2	X	X	X
3	X	X	X
4	X	X	X
5	Scattered brown leaves	X	X
6	X	X	X
7	X	X	X
8	X	X	X
9	X	X	X
10	X	X	X
11	X	X	X
12	X	X	X
13	X	X	X
14	X	X	X
15	Green leaves (no structure)	X	X
16	Wood mouse	X	X
17	Wood mouse	X	X
18	X	2 wood mice	X
19	Wood mouse	X	X
20	Wood mouse	X	X
21	X	X	Pygmy shrew
22	x	Pygmy shrew	X
23	X	X	X
24	X	X	X
25	X	X	X
26	X	X	X
27	X	X	X
28	X	X	X
29	X	X	X
30	X	X	X
31	X	X	X
32	X	X	X
33	X	X	X
34	X	X	X
35	X	X	X

Tube number	31 st July 2019	25 th September 2019	20 th November 2019
36	X	X	X
37	X	X	X
38	X	X	X
39	X	X	X
40	X	X	X
41	X	X	X
42	X	X	X
43	X	X	X
44	X	X	X
45	X	X	X
46	X	X	X
47	X	X	X
48	X	X	X
49	X	Shredded bark	Could not find
50	X	X	X
51	X	X	X
52	x	X	X
53	X	X	X
54	X	X	X
55	X	X	X
56	X	X	X
57	X	X	X
58	X	X	X
59	X	X	X
60	X	X	X
61	X	X	X
62	X	X	X
63	X	X	X
64	X	X	X
65	X	X	X
66	X	X	X
67	X	X	X
68	X	X	X
69	X	X	X
70	X	X	X
71	X	x	x
72	X	X	X

Tube number	31 st July 2019	25 th September 2019	20 th November 2019
73	X	X	X
74	X	X	X
75	X	X	X
76	X	X	X
77	X	X	X
78	X	X	X
79	X	X	X
80	X	X	X
81	Bird droppings	X	X
82	X	X	X
83	X	X	X
84	X	X	X
85	Bird droppings	X	X
86	X	X	X
87	X	X	X
88	X	X	X
89	X	X	X
90	X	X	X
91	Could not find	X	X
92	X	X	X
93	Could not find	X	X
94	X	X	X
95	X	X	X
96	Two wood mice	X	X
97	X	X	X
98	X	X	X
99	Scattered green leaves	X	Wood mouse nest
100	X	X	X
101	Scattered green leaves	X	X
102	Scattered green leaves	Wood mouse nest	Wood mouse nest
103	X	X	X
104	X	Shredded bark	Food cache
105	Wood mouse	X	X
106	X	Wood mouse nest	Wood mouse nest
107	Wood mouse	X	X

Tube number	31 st July 2019	25 th September 2019	20 th November 2019
108	X	X	X
109	Wood mouse	X	X
110	X	X	X
111	Wood mouse	X	Wood mouse nest
112	Wood mouse	X	X
113	X	Wood mouse	Wood mouse nest
114	X	X	X
115	Shredded bark and green leaved - limited structure	X	X
116	X	X	X
117	X	X	X
118	X	X	X
119	X	X	X
120	X	X	X
121	X	X	X
122	X	X	X
123	X	X	
124	X	X	Wood mouse nest
125	X	X	X
126	X	X	X
127	X	X	X
128	X	X	X
129	X	X	
130	X	X	Wood mouse nest
131	X	X	X
132	X	X	X
133	X	X	X
134	X	X	X
135	X	X	X
136	X	X	X
137	X	X	X
138	X	X	X
139	X	X	X
140	X	X	X
141	X	X	
142	X	X	Wood mouse nest
143	X	X	Wood mouse nest

Tube number	31 st July 2019	25 th September 2019	20 th November 2019
144	X	X	X
145	X	X	X
146	X	X	X

Survey Area 3 (nest tubes deployed in July 2019; X = empty)

Tube number	19 th August 2019	23 rd September 2019	20 th November 2019
555	X	X	X
556	X	X	X
557	X	X	X
558	X	X	X
559	X	X	X
560	X	X	Wood mouse nest
561	X	X	X
562	X	X	X
563	X	X	X
564	X	X	X
565	X	X	X
566	X	X	X
567	X	X	X
568	X	X	X
569	X	X	X
570	X	X	X
571	X	X	X
572	X	X	X
573	X	X	X
574	X	X	X
575	X	X	X
576	X	X	X
577	X	X	X
578	X	X	X
579	X	X	X
580	X	X	X
581	X	X	X
582	X	X	X
583	X	X	X
584	X	X	X
585	X	X	Wood mouse nest
586	X	Wood mouse	X
587	Wood mouse	X	X
588	Wood mouse	Needs replacing	X
589	X	X	X
590	X	X	X

Tube number	19 th August 2019	23 rd September 2019	20 th November 2019
591	X	X	Wood mouse nest
592	X	X	X
593	X	X	X
594	Shredded bark	X	Wood mouse nest
595	X	Wood mouse nest	X
596	X	X	Wood mouse nest
597	X	X	X
598	X	X	X
599	X	X	X
600	X	X	X
601	X	X	X
602	X	X	X
603	Wood mouse	X	Wood mouse nest
604	X	X	X
605	Shredded bark	X	Food cache
606	X	x	X
607	X	X	X
608	X	X	X
609	Wood mouse	X	X
610	X	Two wood mice	Wood mouse nest
611	X	X	Wood mouse nest
612	X	X	X
613	X	X	X
614	X	X	X
615	X	X	X
616	X	X	Wood mouse nest
617	X	X	X
618	X	X	Dead wood mouse in nest
619	Green leaves, some structure	X	Wood mouse nest
620	X	X	Food cache
621	Green leaves, some structure	X	Food cache
622	X	X	Food cache

Survey Area 4 (nest tubes deployed in May 2019; X = empty, N/A = not checked)

Tube number	18 th /24 th July 2019	19 th August 2019	25 th September	19 th /21 st November
146	Scattered green leaves	N/A	Wood mouse	Wood mouse nest
147	X	N/A	X	Wood mouse nest with food cache
148	X	N/A	X	X
149	X	N/A	X	X
150	X	N/A	X	X
151	X	N/A	X	X
152	X	N/A	X	Wood mouse nest
153	Scattered green leaves	N/A	X	X
154	X	N/A	X	x
155	Scattered green leaves	N/A	X	Wood mouse nest
156	Scattered green leaves	N/A	X	Wood mouse nest
225	X	X	X	X
226	X	X	X	X
227	X	X	Tube damaged	Tube damaged
228	X	X	X	X
229	Food cache	X	Tube damaged	Tube damaged
230	X	X	X	X
231	X	X	X	Wood mouse nest
232	X	X	X	X
233	X	X	Tube damaged	Tube damaged
234	X	X	X	X
235	X	X	X	Wood mouse nest
236	X	X	X	X
237	X	X	X	Wood mouse nest
238	X	X	X	X
239	X	X	X	X
240	X	X	X	X
241	X	X	Wood mouse nest	X

Tube number	18 th /24 th July 2019	19 th August 2019	25 th September	19 th /21 st November
242	X	X	X	X
243	X	X	X	X
244	X	X	Tube damaged	Tube damaged
245	X	X	X	X
246	X	X	Tube damaged	Tube damaged
247	X	X	X	X
248	X	X	X	X
249	X	X	X	X
250	X	X	X	X
251	X	X	X	X
252	X	X	X	X
253	X	X	X	X
254	X	X	X	X
255	X	X	X	X
256	X	X	X	X
257	X	X	X	X
258	X	X	X	X
259	X	X	X	X
260	X	X	X	X
261	X	X	X	X
262	X	X	X	X
263	X	X	X	X
264	X	X	X	X
461	X	N/A	X	Wood mouse nest
462	X	N/A	X	X
463	X	N/A	X	X
464	X	N/A	X	X
465	X	N/A	X	X
466	X	N/A	X	X
467	X	N/A	X	X
468	X	N/A	X	X
469	X	N/A	X	X
470	X	N/A	Two wood mice	Wood mouse
471	X	N/A	X	X
472	X	N/A	X	X
473	X	N/A	X	X

Tube number	18 th /24 th July 2019	19 th August 2019	25 th September	19 th /21 st November
474	X	N/A	X	X
475	X	N/A	X	X
476	X	N/A	X	Wood mouse nest
477	X	N/A	X	X
478	X	N/A	X	X
479	X	N/A	Wood mouse	Wood mouse nest
480	X	N/A	X	X
481	X	N/A	X	X
482	X	N/A	X	Wood mouse nest
483	X	N/A	X	X
484	X	N/A	X	X
485	X	N/A	X	X
486	X	N/A	X	X
487	X	N/A	X	X
488	X	N/A	X	X
489	X	N/A	X	X
490	Wood mouse nest	N/A	X	X
491	X	N/A	X	Wood mouse
492	X	N/A	X	X
493	X	N/A	X	X
494	X	N/A	X	Wood mouse nest
495	X	N/A	X	X
496	X	N/A	X	X
497	X	N/A	X	X
498	X	N/A	X	X
499	Could not find	N/A	Could not find	X
500	X	N/A	X	Wood mouse
501	X	X	X	X

Survey Area 5 (nest tubes deployed in May 2019; X = empty)

Tube number	22 nd July 2019	25 th September 2019	21 st November 2019
157	X	X	X
158	X	X	X
159	X	X	X
160	X	X	X
161	X	X	X
162	X	X	X
163	X	X	X
164	X	X	X
165	X	X	X
166	X	X	X
167	X	X	X
168	X	X	X
169	X	X	X
170	X	X	X
171	X	X	X
172	X	X	X
173	X	X	Wood mouse nest
174	X	X	X
175	X	X	X
176	X	X	X
177	Needs replacing	Wood mouse nest	X
178	X	X	X
179	X	X	X
180	X	X	X
181	X	X	X
182	X	X	X
183	X	X	X
184	X	X	X
185	X	Pygmy shrew	X
186	X	X	X
187	X	X	X
188	X	X	X
189	Needs replacing	X	X
190	X	X	X
191	X	X	X
192	X	Wood mouse nest	X

Tube number	22 nd July 2019	25 th September 2019	21 st November 2019
193	X	X	X
194	X	X	X
195	X	X	Could not find
196	X	X	X
197	X	X	X
198	X	X	X
199	X	X	X
200	X	X	X
201	X	X	X
202	X	Wood mouse nest	X
203	X	X	X
204	X	X	X
205	X	X	X
206	X	X	X
207	X	X	X
208	X	X	X
209	X	X	X
210	X	Wood mouse nest	X
211	Needs replacing	X	X
212	X	X	X
213	Needs replacing	Wood mouse nest	X
214	X	X	X
215	X	X	X
216	X	X	X
217	X	X	X
218	X	X	X
219	X	X	X
220	X	X	X
221	X	X	X
222	X	X	X
223	X	X	X
224	X	X	X

Survey Area 6 (nest tubes 395 - 460 deployed in May 2019, nest tubes 623 - 664 deployed in August 2019; X = empty, N/A = not checked)

Tube number	18 th July 2019	23 rd /25 th September 2019	23 rd October 2019	19 th /21 st November 2019
395	X	X	N/A	X
396	X	Shredded bark	N/A	X
397	X	X	N/A	X
398	X	X	N/A	X
399	X	X	N/A	Wood mouse nest
400	X	X	N/A	X
401	X	X	N/A	X
402	X	X	N/A	X
403	X	X	N/A	X
404	X	Two wood mice	N/A	Wood mouse nest
405	X	Wood mouse	N/A	Wood mouse nest
406	X	X	N/A	X
407	X	Two wood mice	N/A	Wood mouse nest
408	X	Wood mouse nest	N/A	X
409	X	X	N/A	X
410	X	X	N/A	X
411	X	Two wood mice	N/A	X
412	X	X	N/A	X
413	X	X	N/A	Wood mouse nest
414	X	X	N/A	X
415	X	X	N/A	X
416	X	X	N/A	X
417	X	Wood mouse	N/A	X
418	X	X	N/A	X
419	X	X	N/A	X
420	X	X	N/A	X
421	X	X	N/A	Wood mouse nest
422	X	X	N/A	X
423	X	X	N/A	X
424	X	Wood mouse nest	N/A	X
425	X	X	N/A	X
426	X	X	N/A	X
427	X	X	N/A	X
428	X	X	N/A	X
429	X	X	N/A	X

Tube number	18 th July 2019	23 rd /25 th September 2019	23 rd October 2019	19 th /21 st November 2019
430	X	X	N/A	Wood mouse nest
431	X	X	N/A	Wood mouse nest
432	X	X	N/A	Wood mouse
433	X	X	N/A	X
434	X	X	N/A	Two wood mice
435	X	X	N/A	Wood mouse
436	X	X	N/A	X
437	Wood mouse nest	Wood mouse nest	N/A	X
438	X	X	N/A	X
439	Scattered green leaves	Wood mouse nest	N/A	X
440	X	X	N/A	X
441	X	X	N/A	X
442	X	X	N/A	X
443	X	X	N/A	X
444	X	X	N/A	X
445	X	X	N/A	X
446	X	X	N/A	X
447	X	X	N/A	X
448	Wood mouse	Wood mouse nest	N/A	X
449	X	X	N/A	X
450	X	X	N/A	X
451	X	X	N/A	X
452	X	X	N/A	Wood mouse nest
453	X	X	N/A	Wood mouse nest
454	X	X	N/A	X
455	X	X	N/A	X
456	X	X	N/A	X
457	X	X	N/A	X
458	X	X	N/A	X
459	X	X	N/A	X
460	Rodent skull	X	N/A	X
623	N/A	X	X	X
624	N/A	X	X	X
625	N/A	X	X	X
626	N/A	X	Wood mouse nest	X

Tube number	18 th July 2019	23 rd /25 th September 2019	23 rd October 2019	19 th /21 st November 2019
627	N/A	X	X	X
628	N/A	X	Wood mouse nest	X
629	N/A	X	X	X
630	N/A	X	Wood mouse food cache	X
631	N/A	X	Wood mouse food cache	X
632	N/A	X	X	X
633	N/A	X	Wood mouse food cache	X
634	N/A	X	X	X
635	N/A	X	Wood mouse nest	X
636	N/A	X	X	X
637	N/A	X	X	X
638	N/A	X	X	X
639	N/A	X	X	X
640	N/A	X	X	X
641	N/A	X	X	X
642	N/A	X	Wood mouse food cache	X
643	N/A	X	X	X
644	N/A	X	X	X
645	N/A	Wood mouse nest	Wood mouse nest	X
646	N/A	Wood mouse nest	X	X
647	N/A	X	X	X
648	N/A	X	X	X
649	N/A	X	X	X
650	N/A	X	X	X
651	N/A	X	X	X
652	N/A	X	X	X
653	N/A	X	X	X
654	N/A	X	X	X
655	N/A	X	Wood mouse nest	X
656	N/A	X	X	X
657	N/A	X	X	X

Tube number	18 th July 2019	23 rd /25 th September 2019	23 rd October 2019	19 th /21 st November 2019
658	N/A	X	X	X
659	N/A	X	X	X
660	N/A	X	X	X
661	N/A	X	Wood mouse food cache	X
662	N/A	X	X	X
663	N/A	X	X	X
664	N/A	X	Wood mouse	X

Survey Area 7 (nest tubes deployed in July 2019; X empty, N/A = not checked)

Tube number	20 th August 2019	23 rd September 2019	19 th November 2019
502	X	X	X
503	X	X	X
504	X	X	X
505	X	X	X
506	X	X	X
507	X	X	X
508	X	X	X
509	Small mammal droppings	X	X
510	X	X	X
511	X	X	X
512	X	X	X
513	X	X	X
514	X	X	X
515	X	X	Wood mouse nest
516	X	X	X
517	X	X	X
518	X	X	X
519	Food cache and small mammal droppings	Dead wood mouse	X
520	N/A	X	X
521	Wood mouse nest	X	X
522	N/A	X	Wood mouse nest
523	N/A	Food cache	X
524	N/A	X	X
525	N/A	X	Wood mouse nest
526	N/A	X	X
527	N/A	X	X
528	N/A	X	X
529	N/A	X	X
530	N/A	X	X
531	N/A	Wood mouse	X
532	N/A	X	X
533	N/A	X	X
534	N/A	X	X
535	N/A	X	X
536	N/A	X	X

Tube number	20 th August 2019	23 rd September 2019	19 th November 2019
537	N/A	X	X
538	N/A	X	Wood mouse nest
539	N/A	X	Wood mouse nest
540	N/A	X	X
541	N/A	X	X
542	N/A	X	X
543	N/A	X	X
544	N/A	X	X
545	N/A	X	X
546	N/A	X	Wood mouse nest
547	N/A	Wood mouse	Wood mouse nest
548	N/A	Food cache	X
549	N/A	X	Wood mouse nest
550	N/A	X	X
551	N/A	Wood mouse nest	Wood mouse nest

Survey Area 8 (nest tubes deployed in April 2021; X = empty)

Tube number	17 th May 2021	19 th July 2021	20 th September 2021	1 st November 2021
1	X	X	X	X
2	X	X	X	X
3	X	X	X	X
4	X	X	Wood mouse nest	X
5	X	X	X	X
6	X	X	X	X
7	X	X	X	X
8	X	X	X	X
9	X	X	X	X
10	X	X	X	X
11	X	X	X	X
12	X	X	Two wood mice	X
13	X	X	X	X
14	X	X	Could not find	Could not find
15	X	X	X	X
16	X	X	X	X
17	X	Could not find	X	X
18	X	X	X	X
19	X	X	X	X
20	X	X	X	Wood mouse nest
21	X	X	X	X
22	X	Could not find	X	X
23	X	Could not find	X	X
24	X	X	Five wood mice	Five wood mice
25	X	X	Wood mouse nest	Wood mouse nest
72	X	X	No access	X
73	X	X	No access	One wood mouse
74	X	X	No access	X
75	X	X	No access	X
76	X	X	No access	X
77	X	X	No access	X
78	X	X	No access	X
79	X	X	No access	X

Tube number	17 th May 2021	19 th July 2021	20 th September 2021	1 st November 2021
80	X	X	No access	X
81	X	X	No access	X
82	X	X	No access	X
83	X	X	No access	X
84	X	X	No access	X
85	X	X	No access	X
86	X	X	No access	X
201	X	X	X	X
202	X	X	X	X
203	X	X	X	X
204	X	X	Missing insert	X
205	X	X	X	X
206	X	X	X	X
207	X	X	X	X
208	X	X	X	X
209	X	X	X	X
210	X	X	X	X
211	X	X	X	X
212	X	X	On ground, missing insert	Could not find
213	X	X	Missing insert	X
214	X	X	X	X
215	X	X	X	X
216	X	Could not find	X	X
217	X	X	X	X
218	X	X	X	Wood mouse nest
219	X	X	X	X
220	X	X	X	Could not find

Survey Area 9 (nest tubes deployed in April 2021; X = no evidence of use by hazel dormouse)

Tube number	17 th May 2021	19 th July 2021	20 th September 2021	1 st November 2021
26	X	X	X	X
27	X	X	X	X
28	X	X	X	X
29	X	X	X	X
30	X	X	X	X
31	X	X	X	X
32	X	X	Could not find	X
33	X	X	X	X
34	X	X	X	X
35	X	X	X	X
36	X	X	X	X
37	X	X	X	X
38	X	X	X	X
39	X	X	X	X
40	X	X	X	X
41	X	Could not find	X	X
42	X	X	X	X
43	X	X	X	X
44	X	X	Wood mouse nest	Wood mouse nest
45	X	X	X	Wood mouse nest
46	X	X	X	X
47	X	X	X	X
48	X	Could not find	Could not find	X
49	X	X	Wood mouse nest	X
50	X	X	X	X
51	X	X	X	Could not find
52	X	Could not find	X	X
53	X	Could not find	X	X
54	X	X	X	X
55	X	X	Could not find	X
56	X	X	X	X
57	X	X	X	X
58	X	X	Wood mouse	X
59	X	X	Could not find	Could not find

Tube number	17 th May 2021	19 th July 2021	20 th September 2021	1 st November 2021
60	X	X	Could not find	Could not find
61	X	X	Could not find	Could not find
62	X	X	X	Could not find
63	X	X	X	Could not find
64	X	X	X	X
65	X	X	X	X
66	X	X	X	X
67	X	X	X	X
68	X	X	Wood mouse nest	Could not find
69	X	X	X	Hazel dormouse summer nest
70	X	X	X	X
71	X	X	X	X
87	X	X	Could not find	X
88	X	X	Missing insert	X
89	X	X	Missing insert	Could not find
90	X	X	X	X
91	X	X	Could not find	X
92	X	X	Could not find	X
93	X	X	Dead wood mouse	Dead wood mouse
94	X	X	Wood mouse nest	X
95	X	X	X	X
96	X	X	Could not find	X
97	X	X	Wood mouse nest	X
98	X	X	X	X
99	X	X	X	X
100	X	X	Wood mouse nest	X
101	X	X	X	Missing insert
102	X	X	X	Wood mouse nest
103	X	X	X	Missing insert
104	X	X	X	Could not find
105	X	X	X	X
106	X	X	X	X

Tube number	17 th May 2021	19 th July 2021	20 th September 2021	1 st November 2021
107	X	X	X	X
108	X	X	X	Missing insert
109	X	X	Missing insert	Could not find
110	X	X	X	X
111	X	X	X	X
112	X	X	Wood mouse nest	X
113	X	X	X	X
114	X	X	X	X
115	X	X	X	X
116	X	X	X	X
117	X	X	X	X
118	X	X	Missing insert	Missing insert
119	X	X	X	X
120	X	X	X	Missing insert
121	X	X	X	Could not find
122	X	Could not find	X	Missing insert
123	X	X	Missing insert	Missing insert
124	X	X	Missing insert	X
125	X	X	Missing insert	X
126	X	X	X	X
127	X	X	X	X
128	X	X	X	X
129	X	X	X	X
130	X	X	X	X
131	X	X	X	X
132	X	X	X	X
133	X	X	X	X
134	X	X	One wood mouse	Wood mouse nest
135	X	Could not find	X	X
136	X	X	X	X
137	X	X	X	X
138	X	X	X	X
139	X	X	X	X
140	X	X	X	X
141	X	X	X	X

Tube number	17 th May 2021	19 th July 2021	20 th September 2021	1 st November 2021
142	X	X	Could not find	Could not find
143	X	X	Could not find	Wood mouse nest
144	X	X	Could not find	Could not find
145	X	X	Could not find	X
146	X	X	X	Wood mouse nest
147	X	Could not find	X	X
148	X	X	X	X
149	X	X	X	X
150	X	X	X	X
151	X	X	X	X
152	X	X	X	X
153	X	X	X	X
154	X	X	Wood mouse nest	X
155	X	X	X	X
156	X	X	Wood mouse nest	X
157	X	X	Could not find	Wood mouse nest
158	X	X	X	X
159	X	X	Could not find	X
160	X	X	X	X
161	X	X	Could not find	X
162	X	Could not find	X	X
163	X	X	Could not find	Could not find
164	X	X	Could not find	Could not find
165	X	X	X	Could not find
166	X	X	X	Two wood mice
167	X	Could not find	X	X
168	X	X	X	Could not find
169	X	X	X	X
170	X	X	X	Two wood mice
171	X	X	X	X
172	X	Could not find	One wood mouse	X
173	X	Could not find	X	X

Tube number	17 th May 2021	19 th July 2021	20 th September 2021	1 st November 2021
174	X	X	X	X
175	X	X	X	X
176	X	X	Wood mouse nest	Food cache
177	X	X	X	Wood mouse nest
178	X	X	X	Wood mouse nest
179	X	X	X	X
180	X	Could not find	X	X
181	X	X	X	X
182	X	Could not find	X	X
183	X	X	X	X
184	X	X	X	X
185	X	X	X	Wood mouse nest
186	X	X	X	X
187	X	X	X	X
188	X	X	X	X
189	X	X	Could not find	X
190	X	Could not find	X	X
191	X	Could not find	X	X
192	X	X	X	One wood mouse
193	X	X	X	X
194	X	X	X	Four wood mice
195	X	X	X	X
196	X	X	X	X
197	X	X	X	X
198	X	X	X	X
190	X	X	X	X
200	X	X	X	X

Appendix C. Detailed footprint tunnel survey results

Survey Area 2 (footprint tunnels deployed in May 2022; X = no footprints)

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
51	X	X	X	X	X	X	N/A - collected
52	X	X	X	X	X	X	N/A - collected
53	X	X	X	X	X	X	N/A - collected
54	X	X	X	X	X	X	N/A - collected
55	X	X	X	X	X	X	N/A - collected
56	X	X	X	X	X	X	N/A - collected
57	X	X	X	X	X	X	N/A - collected
58	X	X	X	Apodemus sp. footprints	X	X	N/A - collected
59	X	X	X	X	X	X	N/A - collected
60	X	X	X	X	X	X	N/A - collected
61	X	X	X	X	X	X	N/A - collected
62	X	X	X	X	X	X	N/A - collected
63	X	X	X	X	X	X	N/A - collected
64	X	X	X	X	Apodemus sp. footprints	Apodemus sp. footprints	N/A - collected
65	X	X	X	Apodemus sp. footprints	X	Apodemus sp. footprints	N/A - collected
66	X	X	X	X	Apodemus sp. footprints	Apodemus sp. footprints	N/A - collected

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
67	X	X	X	X	Apodemus sp. footprints	Apodemus sp. footprints	N/A - collected
68	X	X	X	X	Apodemus sp. footprints	X	N/A - collected
69	X	X	X	X	X	X	N/A - collected
70	X	X	X	X	X	X	N/A - collected
71	X	X	X	X	X	X	N/A - collected
72	X	Apodemus sp. footprints	X	X	X	X	N/A - collected
73	X	Apodemus sp. footprints	X	X	Apodemus sp. Footprints	Apodemus sp. footprints	N/A - collected
74	X	X	X	X	X	X	N/A - collected
75	X	X	X	X	X	X	N/A - collected
76	X	X	X	X	X	Apodemus sp. footprints	N/A - collected
77	X	X	X	X	X	X	N/A - collected
78	X	X	X	X	X	X	N/A - collected
79	X	X	X	X	X	X	N/A - collected
80	X	X	X	X	Apodemus sp. Footprints	X	N/A - collected
81	X	X	X	X	Apodemus sp. Footprints	X	N/A - collected
82	X	X	X	X	X	X	N/A - collected
83	X	X	X	X	X	X	N/A - collected
84	X	X	X	X	X	X	N/A - collected

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
85	X	X	X	X	X	X	N/A - collected
86	X	X	X	X	X	X	N/A - collected
87	X	X	X	X	X		N/A - collected
88	X	X	Apodemus sp. footprints	X	X	Apodemus sp. footprints	N/A - collected
89	X	X	X	X	X	X	N/A - collected
90	X	X	X	X	X	X	N/A - collected
91	X	X	X	X	X	X	N/A - collected
92	X	X	X	X	X	X	N/A - collected
93	X	X	X	X	X	X	N/A - collected
94	X	X	X	X	X	Apodemus sp. footprints	N/A - collected
95	X	X	X	X	X	X	N/A - collected
96	X	X	X	X	X	X	N/A - collected
97	X	X	X	X	X	X	N/A - collected
98	X	X	X	X	X	X	N/A - collected
99	X	X	X	X	Apodemus sp. footprints	Apodemus sp. footprints	N/A - collected
100	X	X	X	X	X	X	N/A - collected

Survey Area 3 (footprint tunnels deployed in May and June 2022; X = no footprints)

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
101	X	X	X	X	X	X	N/A - collected
102	X	X	X	X	X	X	N/A - collected
103	X	X	X	X	X	X	N/A - collected
104	X	X	X	X	X	Apodemus sp. footprints	N/A - collected
105	X	X	X	X	X	X	N/A - collected
106	X	X	X	X	X	X	N/A - collected
107	X	X	X	X	X	X	N/A - collected
108	X	X	X	X	X	X	N/A - collected
109	X	X	X	X	X	X	N/A - collected
110	X	X	X	X	X	X	N/A - collected
111	X	X	X	X	X	X	N/A - collected
112	X	X	X	X	X	X	N/A - collected
113	X	X	X	X	X	Apodemus sp. footprints	N/A - collected
114	X	X	X	X	X	X	N/A - collected
115	X	X	X	X	X	X	N/A - collected
116	N/A – Deployed on this date	X	X	Apodemus sp. footprints	X	X	Apodemus sp. footprints
117	N/A – Deployed on this date	X	X	X	X	X	Apodemus sp. footprints
118	N/A – Deployed on this date	X	Apodemus sp. footprints	X	X	X	X

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
119	N/A – Deployed on this date	X	Apodemus sp. footprints	X	Apodemus sp. footprints	X	Apodemus sp. footprints
120	N/A – Deployed on this date	X	X	Apodemus sp. footprints	X	X	Apodemus sp. footprints
121	N/A – Deployed on this date	X	Apodemus sp. footprints	X	X	Apodemus sp. footprints	Apodemus sp. footprints
122	N/A – Deployed on this date	X	X	X	X	X	X
123	N/A – Deployed on this date	X	X	X	X	X	X
124	N/A – Deployed on this date	X	X	X	X	X	X
125	N/A – Deployed on this date	X	X	X	X	X	X
126	N/A – Deployed on this date	X	X	X	X	X	X
127	N/A – Deployed on this date	X	X	X	X	X	Apodemus sp. footprints
128	N/A – Deployed on this date	X	X	X	X	X	Apodemus sp. footprints
129	N/A – Deployed on this date	X	X	X	X	X	Apodemus sp. footprints
130	N/A – Deployed on this date	X	X	X	X	X	Apodemus sp. footprints

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
131	N/A – Deployed on this date	X	X	X	X	Apodemus sp. footprints	Apodemus sp. footprints
132	N/A – Deployed on this date	X	X	X	X	X	Apodemus sp. footprints
133	N/A – Deployed on this date	X	X	X	X	Apodemus sp. footprints	Apodemus sp. footprints
134	N/A – Deployed on this date	X	X	X	X	X	X
135	N/A – Deployed on this date	X	X	X	X	X	X
136	N/A – Deployed on this date	X	X	X	X	X	Apodemus sp. footprints
137	N/A – Deployed on this date	X	X	X	X	X	X
138	N/A – Deployed on this date	X	X	X	X	X	Apodemus sp. footprints
139	N/A – Deployed on this date	X	X	X	X	X	X
140	N/A – Deployed on this date	X	X	X	X	X	X
141	N/A – Deployed on this date	X	Apodemus sp. footprints	X	X	X	Apodemus sp. footprints
142	N/A – Deployed on this date	X	X	X	X	Apodemus sp. footprints	Apodemus sp. footprints

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
143	N/A – Deployed on this date	X	Apodemus sp. footprints	X	X	X	X
144	N/A – Deployed on this date	X	X	X	X	Apodemus sp. footprints	Apodemus sp. footprints
145	N/A – Deployed on this date	X	X	X	X	Apodemus sp. footprints	X
146	N/A – Deployed on this date	X	X	X	X	X	Apodemus sp. footprints
147	N/A – Deployed on this date	X	X	X	X	Apodemus sp. footprints	X
148	N/A – Deployed on this date	X	X	Apodemus sp. footprints	X	X	Apodemus sp. footprints
149	N/A – Deployed on this date	X	X	X	X	X	X

Survey Area 5 (footprint tunnels deployed in May 2022; X = no footprints)

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
1	X	X	X	X	X	X	N/A - collected
2	X	X	X	X	X	X	N/A - collected
3	X	X	X	X	X	Apodemus sp. footprints	N/A - collected
4	X	X	X	X	X	X	N/A - collected
5	X	X	X	X	X	X	N/A - collected
6	X	X	X	X	X	X	N/A - collected
7	X	X	X	X	X	X	N/A - collected
8	X	X	X	Apodemus sp. footprints	X	Apodemus sp. footprints	N/A - collected
9	X	X	X	Apodemus sp. footprints	X	X	N/A - collected
10	X	X	X	X	X	X	N/A - collected
11	Apodemus sp. footprints	X	X	X	X	X	N/A - collected
12	X	X	X	X	X	X	N/A - collected
13	X	X	X	X	X	X	N/A - collected
14	X	X	X	X	X	X	N/A - collected
15	X	X	Apodemus sp. footprints	X	X	X	N/A - collected
16	X	X	X	X	X	X	N/A - collected
17	X	X	X	X	X	X	N/A - collected
18	X	X	X	X	X	X	N/A - collected
19	X	X	X	X	X	X	N/A - collected

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
20	X	X	X	X	X	X	N/A - collected
21	X	X	Apodemus sp. footprints	X	X	X	N/A - collected
22	X	X	X	Apodemus sp. Footprints	X	X	N/A - collected
23	X	C	X	X	X	Apodemus sp. footprints	N/A - collected
24	X	X	Apodemus sp. footprints	X	X	X	N/A - collected
25	X	X	X	X	X	X	N/A - collected
26	X	X	X	X	X	X	N/A - collected
27	X	X	X	X	X	X	N/A - collected
28	X	X	X	X	X	X	N/A - collected
29	X	X	X	X	X	X	N/A - collected
30	X	X	X	Apodemus sp. footprints	X	X	N/A - collected
31	X	X	X	X	X	X	N/A - collected
32	X	X	X	Apodemus sp. footprints	Apodemus sp. footprints	X	N/A - collected
33	X	X	Apodemus sp. footprints	X	Apodemus sp. footprints	X	N/A - collected
34	X	X	X	X	Apodemus sp. footprints	X	N/A - collected
35	Apodemus sp. footprints	X	X	Apodemus sp. footprints	X	X	N/A - collected
36	X	X	Could not find	X	Apodemus sp. footprints	X	N/A - collected

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
37	X	X	X	Apodemus sp. footprints	X	X	N/A - collected
38	X	X	X	Apodemus sp. footprints	X	X	N/A - collected
39	X	X	X	X	X	X	N/A - collected
40	X	X	X	X	X	X	N/A - collected
41	X	X	Survey aborted due to cattle in field	X	X	X	N/A - collected
42	X	X	Survey aborted due to cattle in field	X	X	Could not find	Could not find
43	X	X	Survey aborted due to cattle in field	X	X	X	N/A - collected
44	X	X	Survey aborted due to cattle in field	Survey aborted due to cattle in field	X	X	N/A - collected
45	X	Could not find	Survey aborted due to cattle in field	Survey aborted due to cattle in field	X	Could not find	Could not find
46	X	X	Survey aborted due to cattle in field	Survey aborted due to cattle in field	X	X	N/A - collected
47	X	X	Survey aborted due to cattle in field	Survey aborted due to cattle in field	X	X	N/A - collected

Tunnel number	7 th & 8 th June 2022	21 st & 22 nd June 2022	5 th & 6 th July 2022	20 th & 22 nd July 2022	2 nd & 3 rd August 2022	17 th & 18 th August 2022	1 st September 2022
48	X	X	Survey aborted due to cattle in field	Survey aborted due to cattle in field	X	X	N/A - collected
49	X	X	Survey aborted due to cattle in field	Survey aborted due to cattle in field	X	X	N/A - collected
50	X	Wooden insert missing	Wooden insert missing	Wooden insert missing	Wooden insert missing	Wooden insert missing	N/A - collected

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