

Cardiff Parkway Developments Ltd

Cardiff Hendre Lakes

2018 Dormouse Survey Report
(Cypress Drive)

Environmental Statement Appendix 7.9

Issue | 28 January 2020

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 252199

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1 Introduction

1.1 Project Background

Ove Arup & Partners Ltd. (Arup) has been commissioned by Cardiff Parkway Developments Ltd (CPDL) to undertake baseline ecological surveys to inform the design and environmental assessment of a proposed new train station and expansion of the business park at St. Mellons, Cardiff. The site is centred on National Grid Reference ST251808. CPDL is proposing to develop a scheme that is an employment-led development including a new railway station and park & ride facility.

The site currently consists of predominantly arable and pastoral farming on the western edge of St. Mellons. The site's field boundaries are formed by hedge and tree lines with reens throughout. There is a lake, recreational grassland and woodland to the west of the site. The wider landscape comprises residential and commercial properties, and broad-leaved woodland to the north and west. To the south the land is bisected by the railway line with further neighbouring agricultural land. To the east there is also agricultural land.

The survey area for this report comprises the verges of Cypress Drive and the junction with the A48, as shown on Figure 1.

An extended Phase 1 Habitat survey was undertaken in January 2017¹ (and updated in July 2019) to identify habitats on site and to assess the potential for legally protected species to be present. Arising from this survey and the associated desk study it was determined that suitable habitat was present for dormouse *Muscardinus avellanarius*; consequently, detailed species-specific surveys were undertaken in 2017.

Dormice were confirmed to be present across the site north of the railway by Arup surveys in 2017². This report provides additional results arising from dormouse surveys undertaken in 2018 to include a further stretch of land to the north of the main site, adjacent to Cypress Drive. The report details survey methodology and results.

1.2 Survey Objectives

The surveys objectives were:

- determine the presence or likely absence, and distribution of dormouse within the study area; and,
- provide sufficient information to inform the assessment of impacts on dormice from the proposed development as part of the Environmental Impact Assessment.

¹ Arup (2017) Cardiff Hendre Lakes | 2017 Extended Phase 1 Habitat Survey Report

² Arup (2018) Cardiff Hendre Lakes | 2017 Dormouse Survey Report

1.3 Legislative and Policy Context

The dormouse is protected as a European Protected Species (EPS), under the Conservation of Habitats and Species Regulations 2017 (as amended), commonly referred to as the Habitats Regulations. Under this legislation it is an offence to:

- deliberately or recklessly kill, injure or capture a dormouse;
- deliberately or recklessly disturb a dormouse such as to affect its ability to breed or its local distribution; or,
- damage, destroy or obstruct access to a breeding site or resting place (e.g. shelter) used by a dormouse.

Dormouse is also fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Legal protection makes it an offence to:

- intentionally kill, injure or take (capture) a dormouse;
- possess or control alive or dead dormouse, or any part of a dormouse; or,
- intentionally or recklessly damage, destroy or obstruct access to any structure or place which dormouse use for shelter or protection, or disturb dormouse while they are using such a place.

The dormouse is identified as a species that are a priority for nature conservation (Priority Species) within the 'UK Post-2010 Biodiversity Framework' Biodiversity Action Plan (UKBAP).

The Environment (Wales) Act 2016 includes a duty on all public authorities to have regard to the conservation of biodiversity in the exercise of their functions. This duty applies to government bodies, local authorities and statutory undertakers. The Act also requires lists to be published of Habitats and Species considered to be of Principal Importance for the Conservation of Biological Diversity. These are referred as Section 7 habitats and species after the sections of the Act which require the publication of lists in each devolved area. Dormice are listed as a Section 7 Species considered of Principal Importance for the Conservation of Biological Diversity.

Local Biodiversity Action Plans (LBAPs) continue to provide a list of habitats and species of conservation significance for their relevant area. Particular attention has been given to the Cardiff LBAP³ and the Species Action Plan for dormouse.

³ Available online at: <https://www.outdoorcardiff.com/wp-content/uploads/Cardiff-LBAP-2008.pdf> [Accessed: 24/12/19].

2 Methodology

2.1 Desk Study

Biological records were obtained from the South East Wales Biodiversity Records Centre (SEWBREC)⁴ on 31st January 2017. These records include information on dormice within the site and up to 2km radius from the centre of the site; data was restricted to the last ten years.

A previous dormouse survey and report produced by Arup in 2017² covering suitable habitat in the main site, either side of the railway to the south of Cypress Drive, was also reviewed.

2.2 Field Survey

To confirm the presence or likely absence of dormice within the site, a nest tube survey was undertaken in accordance with best practice guidance⁵. This comprised placing nest tubes within suitable dormouse habitat across the study area. Nest tubes were constructed of stiff double-walled black plastic sheet, 5x5cm in cross sections and 25cm long. A small plywood tray was placed inside, projecting 5cm beyond the tubes entrance to allow easy access for animals. The opposite end of the tube was sealed with a wooden block mounted on the tray. Each tube was suspended by wire, fixed firmly underneath horizontal limbs of trees/shrubs.

A total of 50 nest tubes were erected on the 27th June and 6th July 2018, within suitable habitat at locations shown in Figure 1. Nest tubes were spaced between 15m and 20m apart, with entrance holes facing the centre of vegetation. Tubes were numbered, and the location recorded by GPS to determine location and facilitate repeatability of surveys.

Nest tubes were inspected every month between July and November 2018 (Table 1). The weather conditions during the survey are denoted in Table 2. The interior of each tube was visually inspected where possible. Where not possible or where vegetation was observed inside the tube, the open end of the tube was blocked with a cloth, the tube carefully removed from the vegetation and placed within a large plastic bag, and the nest tray carefully withdrawn. The contents of the nest tube were documented and photographed.

⁴ <http://www.sewbrec.org.uk/home.page>

⁵ Bright, P., Morris, P. & Mitchell-Jones, T. (2006). The Dormouse Conservation Handbook (second edition). English Nature, Peterborough.

Survey effort was conducted using the recognised index of probability in accordance with guidance⁵, as shown in Table 1. As stated by the guidance, using 50 nest tubes as a standard, and Table 1 as an index of the ‘value’ of different months for surveying, a score can be devised as an indicator of the thoroughness of a survey. Thus, in the case of this survey, 50 tubes left out from July to November scores 18 (the sum of the indices for 5 months).

Table 1: Survey schedule

Month	Visit	Date	Index of Probability per 50 nest tubes (cumulative total)
Jul	3	25th	2(2)
Aug	4	21st	5(7)
Sep	5	12th	7(14)
Oct	6	17th	2(16)
Nov	7	20th	2(18)

Table 2: Survey Weather Conditions

Date	Temp. (°C)	Wind Speed (Beaufort Scale)	Wind Direction	Cloud Cover (%)	Conditions
Visit 1 (July)					
25/07/2018	12	1	SW	15	Sunny
Visit 2 (August)					
21/08/2018	17	2	E	100	Dry
Visit 3 (September)					
12/09/2018	17	1	S	80	Dry
Visit 4 (October)					
17/10/2018	13	1	S	60	Dry
Visit 5 (November)					
20/11/2018	7	1	E	100	Dry

Surveys were undertaken by surveyors experienced in dormouse surveys, who either hold personal survey licences or are accredited agents.

Presence or absence was recorded during every survey at each tube; in addition, any other observations e.g. vandalism to the nest tubes, was also recorded. Field signs or features relevant to the survey were photographed and georeferenced.

2.3 Limitations and Assumptions

According to the index of probability stated in the guidance⁵, assumed absence should not be based on a search effort score of less than 20. The search effort for this survey was 18; this is due to the late commissioning of surveys (July). However, because dormouse presence was confirmed during the surveys the number of visits is not considered to be a limitation.

The findings presented in this study represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys are limited by factors which affect the presence of flora and fauna, factors such as the time of year and natural behaviour of the animals. Nevertheless, these surveys were conducted at the optimal survey periods and using standard methodologies.

It was not possible to undertake a nut search to support the nest tube surveys due to the absence of fruiting hazel. However, the survey effort undertaken for the nest tube survey is considered sufficient to determine the likely presence/absence of dormice within the site following established guidance.

3 Results

3.1 Desk Study

SEWBReC⁴ records show that there were 11 records of dormouse within 2km of the site, with the closest being 880m away. The full desk study results from SEWBReC are provided in the Extended Phase 1 Habitat Survey Report¹.

The previous Arup dormouse survey² recorded 12 tubes out of a total of 127 tubes contained confirmed or probable dormouse nests in 2017. These were located north of the railway.

3.2 Field Survey

Signs of dormouse were encountered on two occasions in tube 3 throughout the 2018 surveys; firstly, a potential nest was found in September, then a confirmed nest was found in October. A live dormouse was encountered on one occasion in tube 21 in October. Therefore, 4% of the nest tubes on site were confirmed as having been occupied by dormice. The location of tube 3 containing the dormouse nests and tube 21 containing the live dormouse are shown in Figure 2, and a summary is provided in Table 3 below.

A wood mouse nest was encountered on one occasion throughout the 2018 surveys, in October. This was in a tube 46 which had been previously empty.

Photographs of the live dormouse, nests and the wood mouse nest are detailed in Photographs 1 to 4.

Table 3: Confirmed dormouse presence

Nest Tube Number	Survey Visit	Notes
3	September	Potential dormouse nest. No animal present.
3	October	Dormouse nest. No animal present.
21	October	Adult female dormouse in torpor. Weight 25.5g. Nest tightly packed and wet.

4 Conclusions

The surveys confirmed the presence of dormice within suitable habitats adjacent to Cypress Drive. Additionally, surveys from 2017 have confirmed that dormouse are present within the main site boundary to the south of Cypress Drive; this includes suitable habitats north of the railway.

It is likely that dormouse use all suitable interconnected habitat including hedgerows, woodland, trees and scrub on the site. A European Protected Species License will be required from Natural Resources Wales prior to any work taking place on the site that may affect dormouse or their habitat.

This report is the result of survey work undertaken between July and November 2018. This report refers, within the limitations stated, to the condition or proposed works of the site at the time of the surveys. Changes in legislation, guidance, best practice, etc. may necessitate a re-assessment/survey. No warranty is given as to the possibility of future changes in the condition of the site.

Figures

Figure 1 Dormouse tube locations

Figure 2 Survey results



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

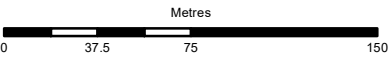
● Dormouse Tube Locations

F3	2020-01-17	AK	SC	RC
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Issue	Date	By	Chkd	Appd
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Client
Cardiff Parkway Developments Ltd

Job Title
Cardiff Parkway

2018 Cypress Drive
Dormouse Tube Locations

Scale at A3
1:3,039

Job No 252199-00	Drawing Status For Issue
Drawing No 001	Issue F3



Legend

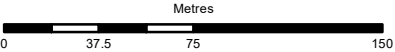
- Empty
- Dormouse
- Wood mouse

F2	2020-01-17	AK	SC	RC
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Issue	Date	By	Chkd	Appd
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Client

Cardiff Parkway Developments Ltd

Job Title

Cardiff Parkway

2018 Cypress Drive
Dormouse Survey Results

Scale at A3
1:3,000

Job No 252199-00	Drawing Status Preliminary
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Drawing No 002	Issue F2
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Photographs

Photograph 1: Dormouse nest tube 3, September



Photograph 2: Dormouse nest tube 3, October



Photograph 3: Adult female dormouse in nest tube 21, October



Photograph 4: Wood mouse nest tube 46, October

