

MODEL FARM - PRECAUTIONARY DORMOUSE STRATEGY



ECO00138
Model Farm - Precautionary
Dormouse Strategy
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10 October 2019

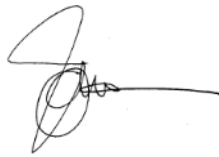
REPORT

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
Draft	Precautionary Dormouse Strategy	Kate Davies	Tim Oliver	Tim Oliver	15/10/19

Approval for issue

Tim Oliver



15 October 2019

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1 INTRODUCTION

- 1.1.1 RPS was commissioned by Legal & General (Strategic Land) to prepare a precautionary dormouse strategy for the proposed 45ha business park on land at Port Road, Rhoose.
- 1.1.2 The 45ha application site consists of an outline planning application for a proposed Business Park on land at Port Road, Rhoose, adjacent to Cardiff Airport. The application proposes approximately 1.7 million sq ft Class B1, B2 and B8 floorspace, car parking, with associated green infrastructure landscaping, drainage infrastructure and biodiversity enhancement.
- 1.1.3 To determine the presence / likely absence of dormouse within the proposed development site, a dormouse nest tube survey was undertaken throughout October 2018 – November 2018 and April 2019 – September 2019. The survey covered all suitable within the land ownership.
- 1.1.4 No evidence of dormice was found during the survey of suitable habitats in the application site and in the wider landholding.
- 1.1.5 A hazelnut search survey was additionally undertaken during the 2019 dormouse survey to search for hazelnuts with dormouse feeding signs. Only a small number of hazelnuts were found, none of which had dormouse feeding signs.

1.2 Site Context

- 1.2.1 The application site comprises a series of agriculturally improved pasture and arable fields intersected by dense hedgerows, as well as the northern section of a block of ancient woodland.
- 1.2.2 In addition to the site application area the client also holds further adjacent land within its ownership making a landholding of 109ha. The complete ownership area supports pasture and arable farmland fields intersected by hedgerows as well as three woodland blocks which are designated as SINCs for supporting ancient woodland. Bullhouse brook flows southwards through the eastern section of the site, while Whitelands brook forms the southern boundary of the landholding. Beyond Whitelands brook to the south is Porthkerry Viaduct and Country Park.

1.3 Status of Local Dormouse Population

- 1.3.1 The semi-natural woodland blocks are the key potential habitat for dormice with the hedgerows providing a supplementary resource providing additional foraging resources and cover. The Dormouse Conservation Handbook provides a guide for average spring density of animals per hectare based on habitat type. Diverse deciduous woodland can support between 4 – 10 individuals (pre-breeding) per hectare while hedgerows can support 1.3 adults per hectare. The known range within which dormouse typically travel from a nest is 70m.

1.4 Scope of strategy

- 1.4.1 The 2018 and 2019 survey indicates that dormice are currently absent from habitats within and adjoining the proposed development. However the desk study included one record of dormice from a location approximately 1.35km to the east of the application site. The record was from a hedgerow approximately 200m north of Mill Wood SINC which supports semi-natural ancient woodland. Although a considerable distance from the site, there are extensive connected blocks of semi-natural woodland within Porthkerry Country Park woodland which have connection to the on-site hedgerows and woodland.
- 1.4.2 Given the good connectivity between the on-site habitat and location of the dormouse record, and the potential for dormice to colonise woodland and hedgerows within the landholding in the future a Precautionary Dormouse Strategy has been prepared.
- 1.4.3 Dormice receive full protection under The Conservation of Habitats and Species Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended) and are listed in Section 7 of the Environment (Wales) Act (2016) as Species of Principal Importance in Wales.

- 1.4.4 The strategy comprises the retention and protection of key dormouse habitat, new woodland and shrub planting which have been incorporated into the masterplan for the development and a sensitive clearance methodology which will be followed during all phases of construction.

2 PRECAUTIONARY APPROACH – SCHEME DESIGN

2.1 Overview

- 2.1.1 The single area of semi-natural woodland that falls partly within the application site will be retained and protected as shown on the illustrative masterplan. This woodland, falling partly within the application site, will have increased connectivity to northern boundary through the creation of a corridor of additional native tree planting and the wooded eastern boundary will be enhanced through additional native planting.
- 2.1.2 All the other areas of semi-natural woodland adjoining and adjacent to the application site will be protected.
- 2.1.3 Where possible, hedgerows are being retained and protected within the masterplan layout including the boundary hedgerows, with hedgerow loss is largely limited to field boundaries in the centre of the application site. There will be a change in the context of the retained hedgerows within the development which is likely to reduce their potential value for dormouse.
- 2.1.4 As such, the masterplan incorporates areas of new scrub/hedgerows in key locations which will maintain connectivity within the green infrastructure and provide a buffer between the key woodland habitats and the development.
- 2.1.5 Blocks of native new tree and shrub planting to the south of the application site will be located between existing woodland, increasing the extent of continuous wooded habitat and creating strong links between the long established semi-natural woodland. The planting mixes will comprise species that are native to the local area including hazel. Locally native shrub species that will contribute to the total food resource that would be available to dormice but which are not currently well represented will be included in the species mix.
- 2.1.6 In advance and during of each phase of hedgerow loss, precautionary dormouse species protection measures will be implemented under ecological supervision as part of the best practice approach.
- 2.1.7 Future use of the retained and enhanced habitats by dormice will be subject to periodic presence/absence monitoring (5 year intervals) to assess colonisation of the green infrastructure and woodland blocks on the southern side of the development.

2.2 Habitat Protection

- 2.2.1 Habitat will be retained where possible throughout the development and a stand off will be incorporated into the detailed design, established during enabling works and maintained until the completion of the relevant phase of development.
- 2.2.2 The stand off will function as a habitat buffer in order to protect woodland and its potential value for fauna. The boundary of the stand off will be demarked with Heras fencing, or equivalent, and there will no contractor access or storage of materials within the buffer. This will be a minimum 15m buffer from ancient semi-natural woodland and a minimum of 10m buffer from the wooded eastern boundary corridor along Whitelands Brook.
- 2.2.3 Each area of development will require a sensitive lighting design to avoid light spill onto the woodland edge. Detailed design of development units will also consider shading effects on hedgerows and woodland. The buffers will assist in preventing indirect impacts from artificial lighting and shade from buildings.

2.3 Habitat Creation

New Woodland / Scrub Planting

- 2.3.1 New planting will be undertaken in advance of removal of potential dormouse habitat, with additional planting to be undertaken during years three and five post construction. This will result in further extents of woodland and scrub habitats ensuring that there is increased connectivity between the retained areas of woodland and providing a long-term buffer between the habitat and development.
- 2.3.2 Species within the areas of scrub will include hawthorn, blackthorn, hazel, bramble and honeysuckle which will provide foraging resources. The woodland areas will support further hazel and thorn species in addition to other native tree species such as oak and ash.
- 2.3.3 The retained and created habitats will be subject to ongoing low intervention management to promote and maintain their potential value for dormice (as well as wider biodiversity) in the long term.

Dormouse Nest Boxes

- 2.3.4 Fifteen dormouse nest boxes will be installed across the woodland and scrub areas bordering the south of the application site. The nest boxes will supplement existing features to provide places of cover and shelter suitable for dormice to shelter and with the capability of being used for nesting and breeding.
- 2.3.5 The nest boxes would be placed within the retained woodland and in the eastern boundary woodland.

2.4 Habitat Connectivity

- 2.4.1 Within the site, the retention and protection of woodland blocks with substantial buffer zones (10-15m in width) will ensure that the potential value of woodlands would not be adversely affected and that there will be no fragmentation of connectivity between woodland blocks.
- 2.4.2 The highest quality potential dormouse habitat lies outside the application site and comprises extensive semi-natural woodland, which is partly located within the same land ownership to the south within further connections to Cliff Wood and Mill Wood to the east in Porthkerry Country Park. Hedgerows within the site adjoin similar habitat to the east which additionally connects to Mill Wood.
- 2.4.3 Woodland habitat creation within the wider landholding, to the south of the application site, will directly increase connectivity between the mature woodland blocks as well as increasing the total extent habitat that will be available to dormice in the future.
- 2.4.4 To the north, the site adjoins Porth Road beyond which is an extensive hedgerow network. Connectivity north-south through the site will be maintained through the retention and protection of both the western woodland block and the eastern boundary.
- 2.4.5 Other hedgerows running north-south through the centre of the site will be removed, at least in part, and will have built development on both sides limiting their future suitability as dormouse habitat.
- 2.4.6 The inclusion of new habitat planting within the site will be aligned to the mature hedgerows on the northern side of Porth Road and will provide additional north-south wildlife corridors within the site. This helps to incorporate connectivity into the development for many species of wildlife although the busy Porth Road will be at least a partial barrier to the movement of dormice.
- 2.4.7 The landholding adjoins farmland bounded by hedgerows to the east. Connectivity to this habitat will be maintained through the retention and protection of the eastern site boundary.

- 2.4.8 Habitat to the west of the landholding Porthkerry road divides the site from Cardiff Airport airfield which has negligible value for dormouse.

2.5 Species Protection

Sensitive Habitat Clearance

- 2.5.1 The development will take place over a number of phases and, while considered absent from the site at present, there is potential for dormouse to colonise the area from the surrounding landscape. Should dormouse colonise the site in the future prior to the completion of the phases of the development, the potential for impacts would be restricted to works affecting hedgerows or in close proximity to woodland.
- 2.5.2 Species protection measures would therefore be employed on a precautionary basis. The removal of hedgerows would be timed to occur when dormouse would not be active in the canopy. In contrast to the woodland, the hedgerows provide little shelter for hibernation and the likelihood of hibernating dormice to be present is very low.
- 2.5.3 Following a precautionary approach the hedgerow shrubs will be cut to close to 30cm above ground level over winter (between November and February) using hand-tools at a time of year when birds will not be nesting.
- 2.5.4 Cut vegetation will be removed from site and not left within the application boundary, with the exception of materials used for enhancement features. Newly cut vegetation will be removed immediately as stacking this on site would potentially create suitable hibernacula for hibernating species.
- 2.5.5 All ground beneath the hedgerows and the root systems will remain undisturbed until the end of hibernation; around the start of April (depending on weather) at which time dormice will be active. Hibernation features such as log piles, fallen trees and brash piles will be dismantled by hand during the dormouse active period (April-October) by a suitably qualified ecologist and licence holder.
- 2.5.6 In the event that a dormouse population is recorded within the site, works would cease until a European Protected Species dormouse mitigation licence was obtained from Natural Resources Wales. The site design and habitat creation proposals presented in this strategy would support the license application.

2.6 Monitoring of Habitat Enhancement

- 2.6.1 Monitoring surveys should be undertaken to assess the status of dormouse in the retained woodlands adjoining the site and would involve one or more of the following methods.
- Nest box monitoring checks
 - Hazelnut searches
 - Nest tube and/or footprint tunnel survey
- 2.6.2 Undertaking monitoring at five-year intervals from the initial phase of the development will look for evidence of dormice utilising the woodland blocks and the new planting including bramble thickets which will provide dense cover in which nests can be built in positions that are protected from predators.
- 2.6.3 The use of off-site woodland adjoining the site by dormice would demonstrate maintenance or enhancement of the baseline conditions.

3 SUMMARY AND RECOMMENDATIONS

- 3.1.1 The 2019 dormouse nest tube and hazelnut search surveys concluded that dormouse are very likely to be absent from the hedgerows within the site. Given the extent of woodland habitat and past record of a dormouse nest in the wider area, a precautionary approach will be adopted to provide habitat enhancements that will increase the potential value of the land to south of the development.
- 3.1.2 In addition, precautionary measures will be undertaken during each phase of hedgerow removal to protect any individual dormouse that have moved into the site from harm during the enabling works for each phase of development.
- 3.1.3 The precautionary approach includes the following methods to maintain and enhance dormouse habitat within the site:
- Retention of all woodland habitat and where possible hedgerows
 - Protection of retained woodland and hedgerow habitat through the use of buffers and the use of directional lighting in adjoining areas
 - Creation of additional areas of habitat, using native species which will provide additional foraging resources
 - All retained and newly created habitats would be subject to low intensive management to maintain their biodiversity value and promote their likelihood of being used by dormice.
 - Provision of dormouse nest boxes within retained woodland
 - Maintained connectivity of habitat within the site and surrounding landscape
- 3.1.4 The retained and new habitats will protect the core woodland habitat and provide increased opportunities for foraging with the proposals providing a greater abundance and diversity of food resources available for dormice and other species. The new woodland/scrub habitats will create stronger links between blocks of ancient woodland immediately to the south of the site while nest boxes will supplement the existing stands of dense scrub in woodland and densely structured hedgerows providing additional potential nest sites and increasing the likelihood of a breeding population within the landholding.

REFERENCES

Bright *et al.* 2006. *The Dormouse Conservation Handbook (2nd edition)*. English Nature, Peterborough