

Natural Resources Wales - Cadoxton Flood Alleviation Scheme

Dormouse Survey Report

29th November 2017

Natural Resources Wales

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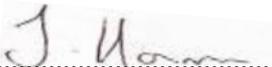
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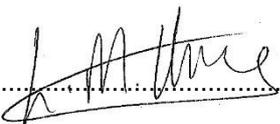
Revision History

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Draft Report version 1.0 /November 2017		Euan Hampton NRW

Contract

This report describes work commissioned by Euan Davies, on behalf of Natural Resources Wales (NRW). Lee Bullingham-Taylor of Four Seasons Ecology and Jonathan Harrison of JBA Consulting carried out this work.

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Purpose

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Contents

1	Introduction	1
2	Legislation.....	2
3	Methodology	3
4	Results	6
5	Conclusion	7
	References.....	8

List of Tables

Table 3-1: Index of probability for judging presence or likely absence	3
Table 4-1 Survey Results	6

1 Introduction

Natural Resources Wales (NRW) has been investigating flood alleviation options to manage flood risk throughout the River Cadoxton catchment, principally in Dinas Powys and Barry Industrial Area. A number of options have been proposed and the construction of a flood storage area upstream of Dinas Powys is currently one of the preferred options.

A Preliminary Ecological Appraisal (PEA) carried out by JBA Consulting in 2016 identified the potential for Hazel Dormouse *Muscardinus avellanarius* to be present within the survey area. The construction of the flood storage area has the potential in impact Dormouse in two ways;

1. impacts to areas of suitable Dormouse habitat directly related to the construction of the impounding embankment and spillway
2. increased flood frequency and depth in areas of suitable Dormouse habitat. The approximate extents of these locations in shown in Figure 3-1 below.

NRW therefore requested that a Dormouse survey was carried out to ascertain the presence/absence of the species in areas likely to be impacted upon. This report details the findings of a survey carried out throughout the 2017 breeding season.

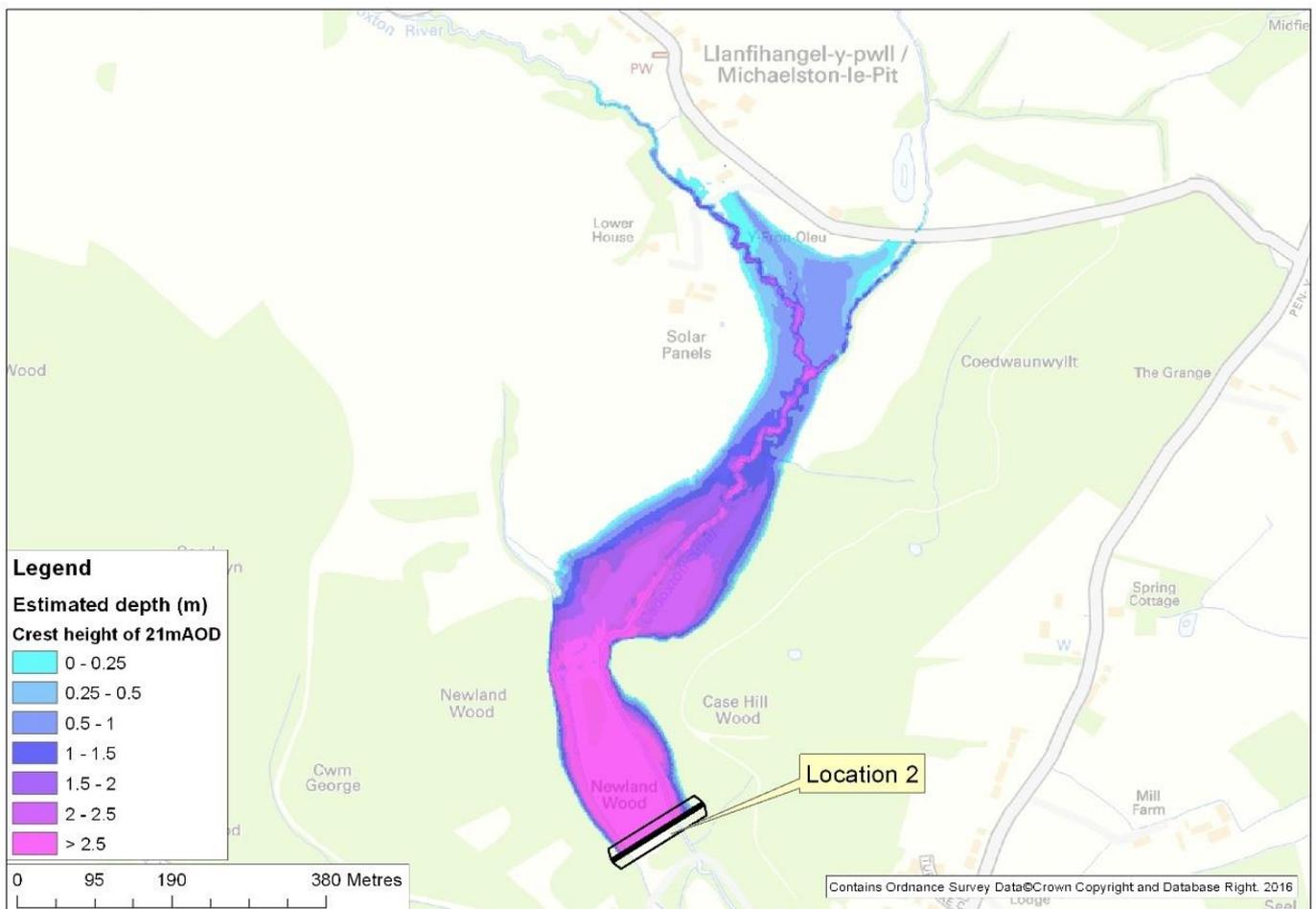


Figure 1-1 Estimated maximum depths of proposed flood storage area

2 Legislation

The Hazel Dormouse is a European Protected Species (EPS), protected under the Conservation of Habitats and Species Regulations 2010 (as amended). This makes it an offence to:

- deliberately capture, injure or kill a Dormouse,
- deliberately disturb a Dormouse,
- damage or destroy a breeding site or resting place of a Dormouse, or
- keep, transport, sell or exchange, or offer for sale or exchange a live or dead Dormouse or any part of a Dormouse.

Dormice receive additional protection under the Wildlife and Countryside Act 1981 (as amended), this makes it an offence to:

- Intentionally kill, injure or take a dormouse,
- Possess or control any live or dead specimen or anything derived from a dormouse,
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a dormouse, or
- Intentionally or recklessly disturb a dormouse while it is occupying a structure or place which it uses for that purpose.

3 Methodology

The survey consisted of the deployment of artificial Dormouse nesting tubes in suitable habitat to confirm their presence or likely absence on the site. This was carried out throughout their breeding season in 2017. Dormouse tubes are thin and lightweight plastic tubes with a wooden insert that provide a place of refuge for nesting individuals in the summer months. Species presence can be confirmed by the occurrence of tightly woven ball-shaped nests, often made from woven grass, Honeysuckle *Lonicera* spp. and fresh green leaves.

According to the Dormouse Conservation Handbook, a minimum of 50 artificial nest tubes in suitable dormouse habitat (spaced 15-20m apart) should be in place around a site and its connecting habitat for the season from the beginning of April until the end of September (Bright *et al.*, 2006). Due to the large area of suitable habitat that could be affected by the proposals at this site 100 tubes were deployed to cover the survey area. Having a greater number of tubes increases the chances of confirming the presence or likely absence of this species on site.

The survey was conducted in accordance with best practice guidelines as set out in the Dormouse Conservation Handbook (Bright *et al.*, 2006). This specifies the index of probability of finding Dormice present in nest tubes in a specific month (with specific scores) throughout the active Dormouse season (Bright *et al.*, 2006). The nest tubes were deployed on 10th April 2017 and three checks were carried out throughout the breeding season, these were carried out on 26th July, 25th August and 18th October. Best practice guidelines suggest that nest tubes are checked for a period long enough to gain a score of at least 20 to confirm likely absence, according to the index of probability listed in Table 3-1 below.

According to these Dormouse Conservation Handbook and associated index of probability, the **survey achieved a score of 23.**

Table 3-1: Index of probability for judging presence or likely absence

Month	Index of probability (based on 50 nest tubes)
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2

Tubes were installed using garden wire to reinforce the structure and to attach it to suitable trees, hedges and scrub habitats. As far as is reasonably practicable, the tubes were installed out of reach and concealed from passing members of the public and associated disturbance.

The tubes were installed in suitable well-connected habitat identified in the PEA (JBA Consulting, 2016) which included species-poor hedgerow, broadleaved woodland and scrub. Figure 3-1 shows the Phase 1 Habitats recorded on site and the area that was included within the Dormouse survey (yellow hatching).

The extent of the survey area surrounded the proposed impounding embankment plus a buffer of approximately 50m, and the area of potential flood storage shown in **Error! Reference source not found.** The survey area also extended downstream of the flood storage area at the request of NRW. Figure 3-2 shows the Dormouse tube locations.

Habitat capable of supporting Dormice include: diverse, mature and native woodland, coppice blocks and log piles. Habitat is enhanced by corridors of hedgerows and woodland which reduce fragmentation of suitable habitat. All such habitat features were recorded during the undertaking of the survey.

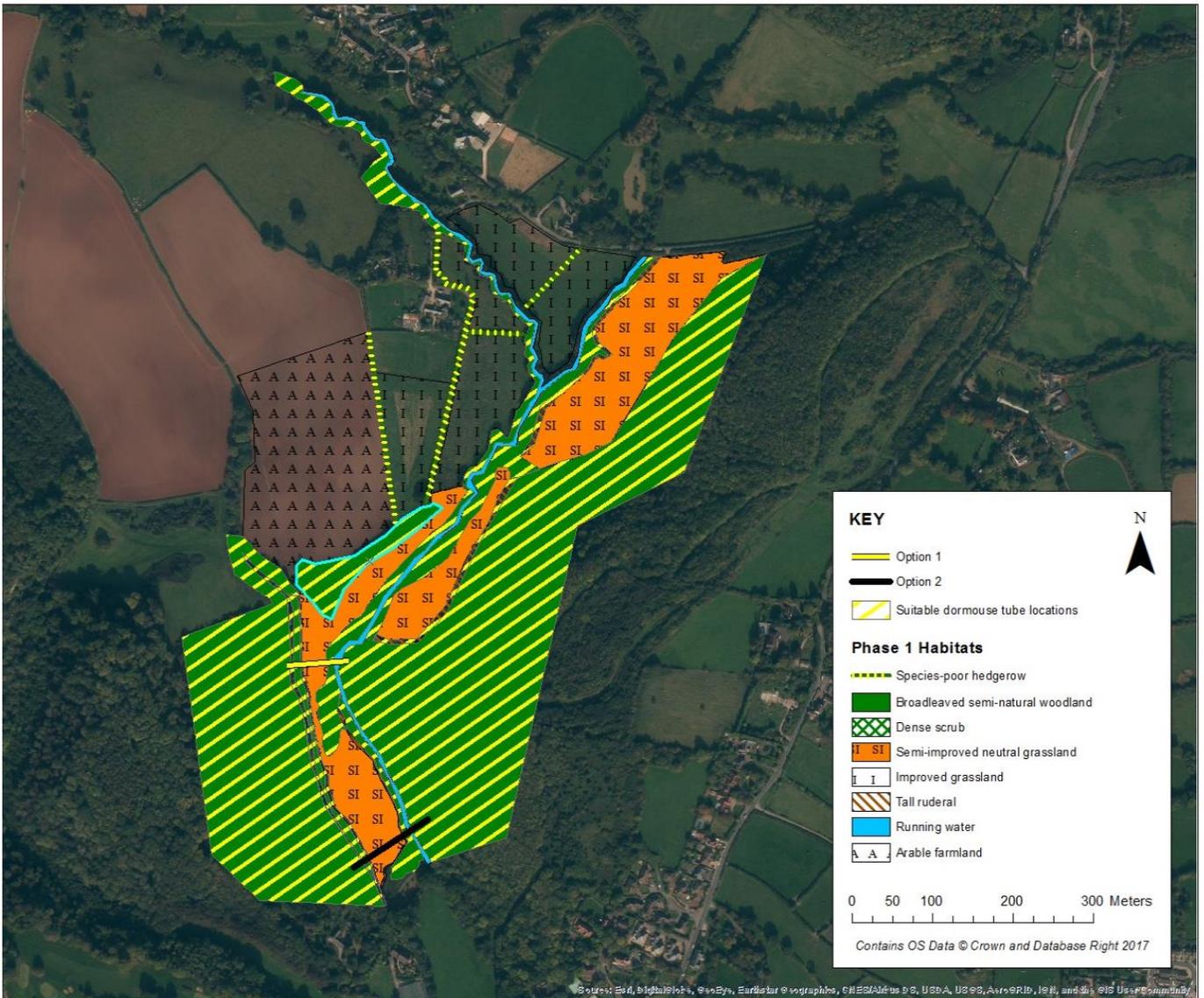


Figure 3-1: Proposed locations for dormouse tubes in the broadleaved woodland, scrub and hedgerows

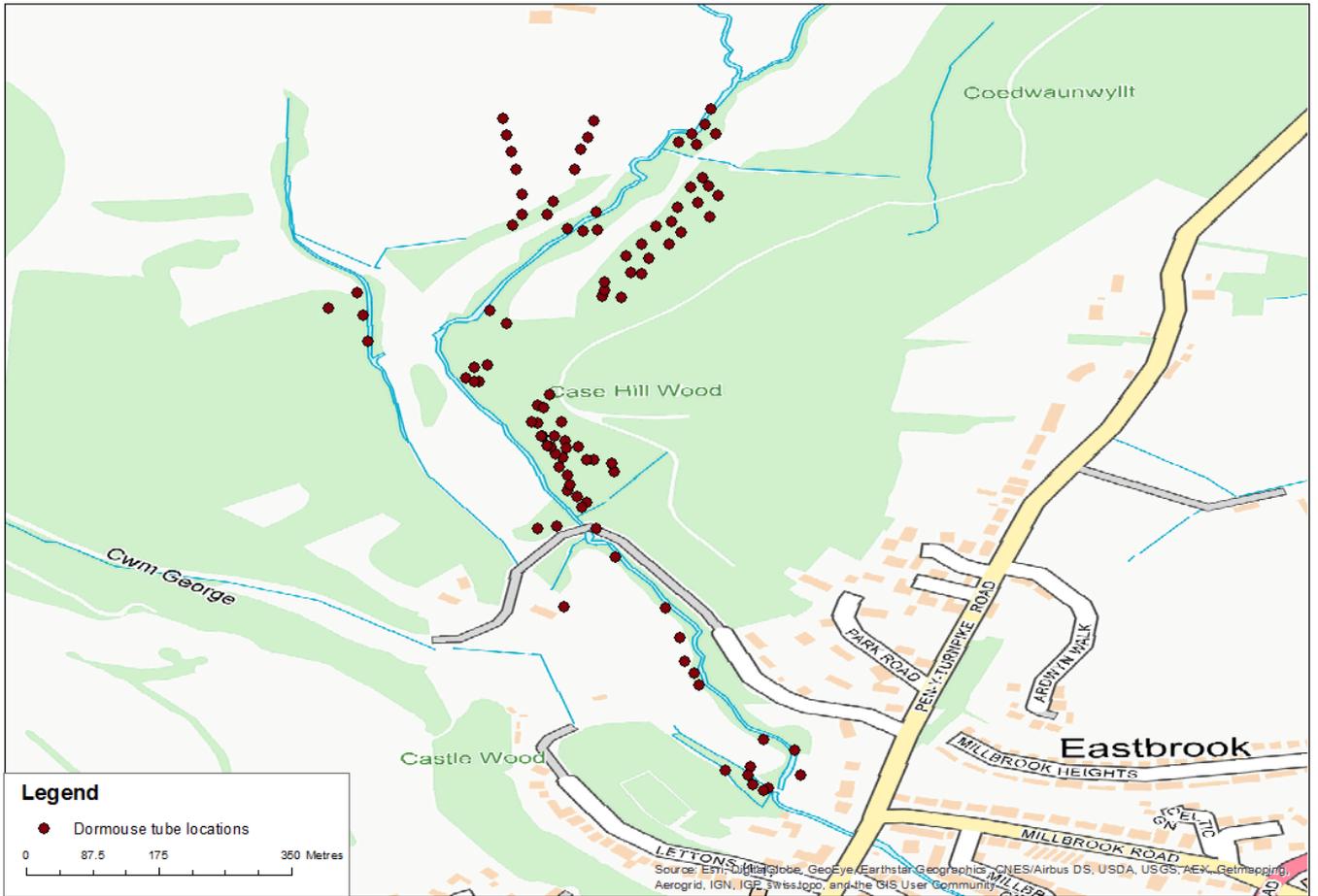


Figure 3-2: Locations of Dormouse tubes surrounding flood storage area

4 Results

No Dormice or signs of Dormice were recorded throughout the survey period, a total of three Wood Mouse *Apodemus sylvaticus* nests were found. Table 4-1 details the findings of the surveys.

Table 4-1 Survey Results

Survey date	Tubes surveyed	Results
26th July	96 (3 lost, 1 damaged and replaced)	No evidence of usage by any species.
25th August	93 (7 inaccessible as access has been refused by landowner)	1 Wood Mouse nest located in the species-poor hedgerow to the north of the site.
18th October	95 (5 lost)	3 Wood Mouse nests all located within the species-poor hedgerow to the north of the site.

5 Conclusion

The results of this survey have demonstrated that Dormouse are not present at this time within the scheme area and it is therefore considered that the scheme will not have an impact upon this species. However, given that work is being carried out by The Woodland Trust to further connect woodland habitats in this area, there is the potential for Dormice to move into the area in the future. Further to this, a number of food source species have been planted and the area is likely to become more favourable to Dormouse in the future. Therefore, if works are not carried out within 18 months of this report it is recommended that further surveys are undertaken.

References

Bright, P., Morris, P., & Mitchell-Jones, T. (2006). The Dormouse Conservation Handbook, 2nd edition, English Nature, Peterborough.

JBA Consulting (2016). Cadoxton Flood Alleviation Scheme: Preliminary Ecological Appraisal. JBA Consulting, Newport.

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