

Rush Wall Solar Park

Environmental Statement

Appendix 5.9

Dormouse surveys

Rush Wall Solar Park and breeding lapwing mitigation area

Dormouse Surveys
Rush Wall Solar Park
November 2021

Report no: Dorm-526.1

A report by
Colin Hicks BSc (Hons) MCIEEM, Principal Ecologist

Report details

Site name: Rush Wall Solar Park
Site address: Redwick, Newport
Grid reference: ST 416 853
Report date: 16th November 2021
Report author: Colin Hicks BSc (Hons) MCIEEM
Checked by: Yolande Knight PhD, MRSB

Declaration of compliance

BS 42020:2013

This study has been undertaken in accordance with British Standard 42020:2013 Biodiversity, Code of practice for planning and development.

Code of Professional Conduct

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Validity of survey data and report

The findings of this report are valid for 36 months from the date of survey. If work has not commenced within this period, an updated survey by a suitably qualified ecologist will be required.

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1. Introduction

Western Ecology has been commissioned to complete a Dormouse survey of land for the proposed Rush Wall Solar Park near Redwick.

1.1. Survey aims

This survey is in response to comments received from Natural Resources Wales (NRW) on 08/01/2021 which stated:

Dormice surveys are required, or the development is progressed assuming the presence of dormice on site. If dormice are found to be present in habitat which may be affected by the proposals, or the development is progressed assuming the presence of dormice on site, a Dormouse Conservation Strategy is required appropriately cross referenced in the LEMP. The Dormouse Conservation Strategy should include:

- *A plan showing habitat to be lost, created, and retained, which should identify the extent and location on appropriate scale;*
- *Details of protective measures to be taken to minimise the impacts;*
- *Details of timing, phasing and duration of construction activities and conservation measures;*
- *Timetable for implementation;*
- *Details of initial aftercare and long-term maintenance of new and retained habitats;*
- *Ecological Compliance Audit, including key performance indicators;*
- *Persons responsible for implementing the works;*
- *Details of measures to prevent or reduce incidental capture or killing;*
- *A commitment to long term habitat and species management and monitoring proposals, including outline prescriptions and details of how the operations will be funded.*

As part of the consultation process, it has been agreed that 50% of shaded or dry ditches at the site will be restored which will require removal of over-growing native shrubs associated with field boundaries. On this basis, development of mitigation based on assumed presence would be difficult and Dormouse surveys have been completed.

The aim of the survey is to determine presence or potential absence of Dormice on the Site, allowing assessment of the potential impacts of any proposals for the Site, and identify any constraints that may be applicable to its development in the future. Therefore, any further surveys and mitigation proposed within this report, will be in relation to pre-construction works, i.e. clearance works.

Where impacts are considered significant¹, mitigation will be proposed based on the mitigation hierarchy suggested in Paragraph 118 of the National Planning Policy Framework and detailed in Paragraph: 018 Reference ID: 8-018-20140306 of National Planning Practice Guidance.

¹ For the purposes of this report, a practical approach has been taken to define the term 'significant'. If an effect is sufficiently important to be given weight in the planning process, or to warrant the imposition of a planning condition, it is likely to be 'significant' in the context of the level under consideration (BSI, 2013).

1.3. Survey constraints

All surveys were completed at an optimal time of year to detect the presence or potential absence of Dormice.

1.4. Legislation and policy guidance

The following international and national conservation legislation is relevant to Dormice and their habitat:

- The Conservation (Natural Habitats, &c.) Regulations, 2011;
- The Wildlife and Countryside Act, 1981 (as amended);
- Section 7 of the Environment (Wales) Act 2016 as being of principal importance for the purposes of conserving biodiversity.
- The Hedgerow Regulations 1997.

2. Survey methodology

2.1. Desktop survey

The desktop survey collated existing biological records for Dormice from adjacent areas. This comprises an important part of the assessment process, providing information on ecological issues that may not be apparent during the site survey.

Consultees for the data search included:

- South East Wales Biodiversity Records Centre - records of Dormice within 2km of the centre of the site.

2.2. Dormouse nesting tube survey locations

The Dormouse survey was undertaken following best practice guidance for surveying dormice using nest tubes, as set out within *The Dormouse Conservation Handbook* (Bright, *et al*, 2006).

Fifty Dormice nest-tubes were installed on 23rd April 2021 with a further 100 tubes installed on 4th and 5th May 2021. Tube locations are shown in Map 1.

Tubes were placed within the hedgerows, between 1 – 2.5 meters in height, with the entrance to the tube facing inwards towards the centre of the hedgerow. Tubes were also placed on near-horizontal branches of woody scrub, and trees within the broad-leaved woodland areas. Each tube was numerically referenced (the number written on the backend of each tube) with a permanent marker.

Nest-tubes are not adequate for dormice to breed in, as there is limited space to raise young. They are only suitable for short-term nesting, and use as a survey method to identify presence or potential absence.

2.3. Sampling methodology

Nest-tubes were placed in the hedgerows and inspected for the presence of dormice or dormouse nesting material by a licensed dormouse ecologist, for the duration of June to November 2021. All nest-tubes will be inspected and recorded on dormouse survey sheets. There is an established scoring system to determine the thoroughness of any nest-tube survey (see Table 1). All the monthly scores for the period over which the tubes are deployed, are added together. Potential absence should not be based on a search effort score of less than 20 (Chanin & Woods, 2003). This is the index of probability of finding dormice nesting material in nest-tubes in any one month.

However, when Dormice are proven present, survey effort can stop.

Table 1. Nest-tube scoring system (The Dormouse Conservation Handbook, 2nd Ed.)

Month	Index of probability (based on 150 tubes)
May	12
June	6
July	6
August	15
September	21
October	6
Total	66

3. Results

3.1. Desktop survey

The biological record search returned no records for Dormouse within 2km of the Site. However, surveys associated with the M4 development recorded a single dormouse nest in 2015 to the south of Tata Steelworks approximately 1.1km to the west of the proposed development.

3.2. Dormouse tube survey

The tubes were checked for dormouse nests and dormice during Site visits (see Table 2). The surveys were conducted following best practice guidance, for surveying dormice using nest tubes as set out within *The Dormouse Conservation Handbook* (Bright, *et al*, 2006).

Table 2. Dormouse survey results

Date	Comments
17 th and 21 st June 2021	No evidence of dormice
20 th and 21 st July 2021	No evidence of dormice
31 st July and 1 st August 2021	No evidence of dormice
4 th and 5 th September 2021	No evidence of dormice
2 nd and 3 rd November 2021	No evidence of dormice

3.3. Summary of survey results

No evidence of Dormouse was found during the survey. An index of probability of score of 66 was achieved and the active season was included in the survey. A score of 20 is required to allow confidence in an assessment that Dormice are likely absent.

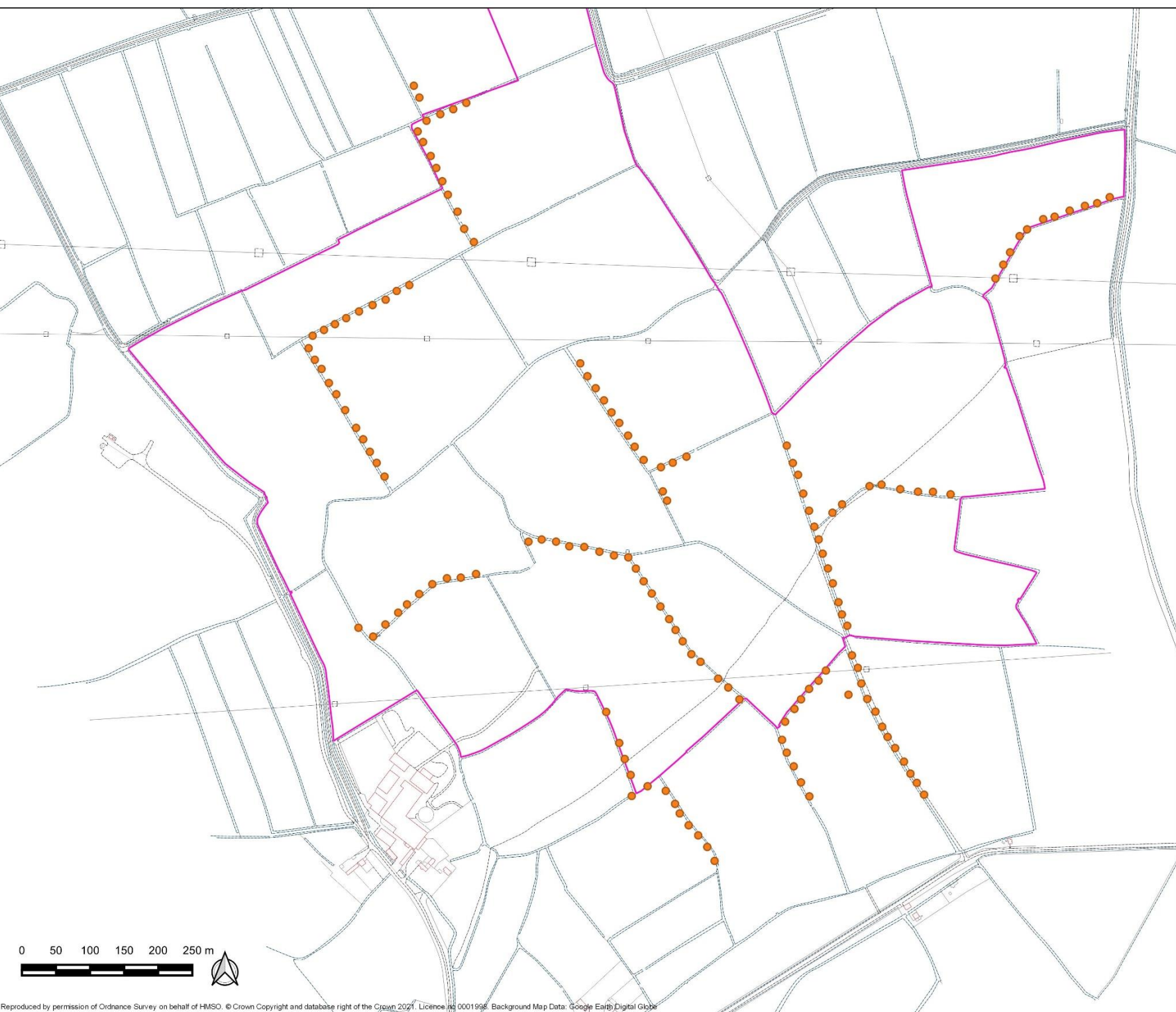
It is likely that Dormice are absent from this site.

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Legend

- Approximate development area
- Dormouse tube locations



Title: Map 1. Location of Dormouse tubes

Project: Rush Wall Solar Park

Checked by: CDH Version: 03
Date: 22/07/2021

4. Evaluation of the site for Dormouse

It is likely that Dormice are absent from this site.

The proposed development and associated ditch management are unlikely to have an adverse effect on Dormice.

5. Recommendations

Dormice are likely to be absent from the Site. Neither a European Protected Species Mitigation Licence nor method statement will be required for the proposed development.

References

British Standard 42020: 2013. Biodiversity – Code of practice for planning and development. British Standards Institution, London.

Bright, P, *et al.* 2006. The Dormouse Conservation Handbook (2nd Edition).

Chanin, P. & Woods, M. 2003. Surveying dormice using nest tubes. Results and experiences from the South West Dormouse Project. English Nature Research Report No. 524.

Chartered Institute of Ecology and Environmental Management. (CIEEM) 2013. Competencies for Species Survey: Hazel Dormouse. CIEEM, Winchester. Conservation of Habitats and Species Regulations 2010 (as amended). London: HMSO.

Natural Environment and Rural Communities (NERC) Act 2006. London: HMSO.
Wildlife and Countryside Act 1981 (as amended). London: HMSO.

Dormouse Surveys
Rush Wall Solar Park – breeding lapwing mitigation area
September 2021

Report no: DormLap-526.1

A report by
Colin Hicks BSc (Hons) MCIEEM, Principal Ecologist

Report details

Site name: Rush Wall Solar Park – breeding lapwing mitigation area
Site address: Redwick, Newport
Grid reference: ST 417 865
Report date: 16th November 2021
Report author: Colin Hicks BSc (Hons) MCIEEM
Checked by: Yolande Knight PhD, MRSB

Declaration of compliance

BS 42020:2013

This study has been undertaken in accordance with British Standard 42020:2013 Biodiversity, Code of practice for planning and development.

Code of Professional Conduct

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Validity of survey data and report

The findings of this report are valid for 36 months from the date of survey. If work has not commenced within this period, an updated survey by a suitably qualified ecologist will be required.

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1. Introduction

Western Ecology has been commissioned to complete a Dormouse survey of land for breeding lapwing mitigation for a proposed Rush Wall Solar Park near Redwick.

1.1. Survey aims

This survey is in response to comments received from Natural Resources Wales (NRW) on 08/01/2021 which stated:

Dormice surveys are required, or the development is progressed assuming the presence of dormice on site. If dormice are found to be present in habitat which may be affected by the proposals, or the development is progressed assuming the presence of dormice on site, a Dormouse Conservation Strategy is required appropriately cross referenced in the LEMP. The Dormouse Conservation Strategy should include:

- *A plan showing habitat to be lost, created, and retained, which should identify the extent and location on appropriate scale;*
- *Details of protective measures to be taken to minimise the impacts;*
- *Details of timing, phasing and duration of construction activities and conservation measures;*
- *Timetable for implementation;*
- *Details of initial aftercare and long-term maintenance of new and retained habitats;*
- *Ecological Compliance Audit, including key performance indicators;*
- *Persons responsible for implementing the works;*
- *Details of measures to prevent or reduce incidental capture or killing;*
- *A commitment to long term habitat and species management and monitoring proposals, including outline prescriptions and details of how the operations will be funded.*

As part of site management, it has proposed that 1400m² of scrub associated with the site will be removed to open up the landscape for these birds.

The aim of the survey is to determine presence or potential absence of Dormice on the Site, allowing assessment of the potential impacts of any proposals for the Site, and identify any constraints that may be applicable to its development in the future. Therefore, any further surveys and mitigation proposed within this report, will be in relation to pre-construction works, i.e. clearance works.

Where impacts are considered significant², mitigation will be proposed based on the mitigation hierarchy suggested in Paragraph 118 of the National Planning Policy Framework and detailed in Paragraph: 018 Reference ID: 8-018-20140306 of National Planning Practice Guidance.

² For the purposes of this report, a practical approach has been taken to define the term 'significant'. If an effect is sufficiently important to be given weight in the planning process, or to warrant the imposition of a planning condition, it is likely to be 'significant' in the context of the level under consideration (BSI, 2013).

1.3. Survey constraints

Tube placement reflects changes in the lapwing mitigation area which was originally proposed for an area to the west of the final breeding lapwing mitigation area. However, these tubes were left in place as there was insufficient suitable habitat within the mitigation area, whilst connectivity for dormice across the deployment was good through scrubby woodland, tall hedgerows and bramble scrub.

All surveys were completed at an optimal time of year to detect the presence or potential absence of Dormice.

1.4. Legislation and policy guidance

The following international and national conservation legislation is relevant to Dormice and their habitat:

- The Conservation (Natural Habitats, &c.) Regulations, 2011;
- The Wildlife and Countryside Act, 1981 (as amended);
- Section 7 of the Environment (Wales) Act 2016 as being of principal importance for the purposes of conserving biodiversity.
- The Hedgerow Regulations 1997.

2. Survey methodology

2.1. Desktop survey

The desktop survey collated existing biological records for Dormice from adjacent areas. This comprises an important part of the assessment process, providing information on ecological issues that may not be apparent during the site survey.

Consultees for the data search included:

- South East Wales Biodiversity Records Centre - records of Dormice within 2km of the centre of the site.

2.2. Dormouse nesting tube survey locations

The Dormouse survey was undertaken following best practice guidance for surveying dormice using nest tubes, as set out within *The Dormouse Conservation Handbook* (Bright, *et al*, 2006).

42 Dormice nest-tubes were installed on 17th May 2021 with a further 43 tubes installed on 3rd June 2021. Tube locations are shown in Map 1.

Tubes were placed within the hedgerows, between 1 – 2.5 meters in height, with the entrance to the tube facing inwards towards the centre of the hedgerow. Tubes were also placed on near-horizontal branches of woody scrub, and trees within the broad-leaved woodland areas. These were placed between 1 – 2.5 meters where possible, and with the entrance to the tube facing the tree trunk. Each tube was numerically referenced (the number written on the backend of each tube) with a permanent marker.

Nest-tubes are not adequate for dormice to breed in, as there is limited space to raise young. They are only suitable for short-term nesting, and use as a survey method to identify presence or potential absence.

2.3. Sampling methodology

Nest-tubes were placed in the hedgerows and inspected for the presence of dormice or dormouse nesting material by a licensed dormouse ecologist, for the duration of July to November 2021. All nest-tubes will be inspected and recorded on dormouse survey sheets. There is an established scoring system to determine the thoroughness of any nest-tube survey (see Table 1). All the monthly scores for the period over which the tubes are deployed, are added together. Potential absence should not be based on a search effort score of less than 20 (Chanin & Woods, 2003). This is the index of probability of finding dormice nesting material in nest-tubes in any one month.

However, when Dormice are proven present, survey effort can stop.

Table 1. Nest-tube scoring system (The Dormouse Conservation Handbook, 2nd Ed.)

Month	Index of probability (based on 73 tubes)
June	3
July	3
August	7
September	10
October	3
Total	26

3. Results

3.1. Desktop survey

The biological record search returned no records for Dormouse within 2km of the Site. However, surveys associated with the M4 development recorded a single dormouse nest in 2015 to the south of Tata Steelworks approximately 2km to the west of the mitigation area.

3.2. Dormouse tube survey

The tubes were checked for dormouse nests and dormice during Site visits (see Table 2). The surveys were conducted following best practice guidance, for surveying dormice using nest tubes as set out within *The Dormouse Conservation Handbook* (Bright, *et al*, 2006).

Table 2. Interim Dormouse survey results

Date	Comments
14 th July 2021	No evidence of dormice
25 th August 2021	No evidence of dormice
6 th September 2021	No evidence of dormice
4 th November 2021	No evidence of dormice


3.2. Summary of survey results

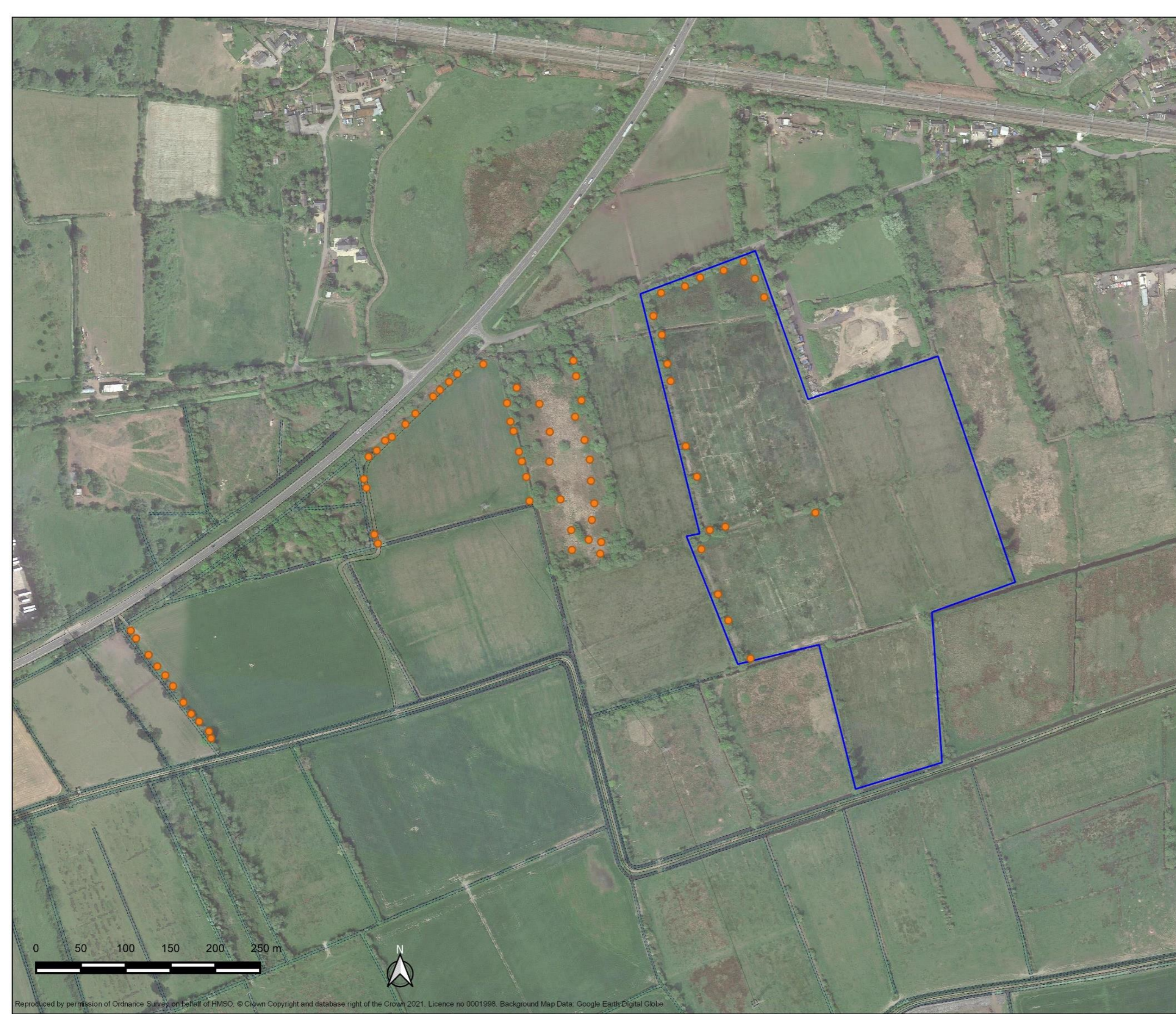
No evidence of Dormouse was found during the survey. An index of probability of score of 26 was achieved and the active season was included in the survey. A score of 20 is required to allow confidence in an assessment that Dormice are likely absent.

It is likely that Dormice are absent from this site.

Legend

 Lapwing mitigation areas

 Dormouse survey tube



Title: Map 1. Location of Dormouse tubes

Project: Rush Wall Solar Park -
Breeding lapwing mitigation area

Checked by: CDH Version: 03
Date: 16/11/2021

4. Evaluation of the site for Dormouse

It is likely that Dormice are absent from this site.

The proposed development and associated ditch management are unlikely to have an adverse effect on Dormice.

5. Recommendations

Dormice are likely to be absent from the Site. Neither a European Protected Species Mitigation Licence nor method statement will be required for the proposed development.

References

British Standard 42020: 2013. Biodiversity – Code of practice for planning and development. British Standards Institution, London.

Bright, P, *et al.* 2006. The Dormouse Conservation Handbook (2nd Edition).

Chanin, P. & Woods, M. 2003. Surveying dormice using nest tubes. Results and experiences from the South West Dormouse Project. English Nature Research Report No. 524.

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