



HELIOS RENEWABLE
ENERGY
PROJECT

Preliminary Environmental Information Report

Volume 3: Technical Appendices

Appendix 8.4: Badger Report
(abridged version)

Helios Renewable Energy Project

on behalf of Enso Green Holdings D Limited

Technical Appendix 8.4: Confidential Badger Report (abridged version)



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Available on request

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1 INTRODUCTION

- 1.1.1 Avian Ecology Ltd. was commissioned to undertake ecological surveys in relation to the proposed development of a renewable energy generating project, consisting of ground-mounted solar photovoltaic ('PV') arrays, together with on-site energy storage, associated infrastructure and grid connection (the 'Proposed Development'). The Proposed Development is located on land to the south-west of the village of Camblesforth and to the north of the village of Hirst Courtney in North Yorkshire (the 'Site').
- 1.1.2 This abridged version of a confidential Report details badger *Meles meles* related results of both multiple habitat and field surveys undertaken on-Site by Avian Ecology Ltd. Between 2022 and 2023, during which evidence of badger activity was recorded throughout the survey area.
- 1.1.3 The objectives of this abridged version of a confidential Report are to provide information regarding the potential presence of badgers, both within and immediately surrounding the Site, provide an assessment of any potential effects the Proposed Development may have on these populations of badgers and recommend any further actions (if required).
- 1.1.4 This report subsequently provides detailed survey methodology and results and should be read with reference to the Biodiversity Chapter 8 of the Preliminary Environmental Information Report (PEIR) and the corresponding chapter within the Environmental Statement (ES) in support of the application for development consent.

1.2 Site Overview

- 1.2.1 The Site as illustrated by the red-line boundary, shown on **Figure 1**, predominantly comprises arable fields marked by a series of wet and dry ditches, species-poor hedgerows, roads, woodlands, and trees. In the wider context, the Site is surrounded by further extensive areas of farmland and areas of woodland.

2 METHODOLOGY

2.1 Field Surveys

- 2.1.1 A walkover survey was carried out on 1st to 3rd March 2022 by suitably experienced ecologists competent in the identification of field signs of badgers and survey methodologies. This walkover included a search for evidence of badger activity throughout the Site.
- 2.1.2 Subsequent extended habitat surveys of the Site were undertaken between 3rd and 5th May, 30th and 31st May, and 14th July 2022, whilst an additional extended habitat survey of the proposed underground cabling corridor to the grid connection was undertaken on 18th January 2023. These surveys also included a search for any signs of badger activity on-Site and were completed by suitably competent and experienced ecologists.
- 2.1.3 In addition, further evidence of badger presence was recorded during other multiple species-specific ecological surveys, between 2021 and 2023.
- 2.1.4 Evidence searched for included badger setts as well as other signs of activity such as paths, latrines, footprints or signs of foraging. Methodologies used and any setts recorded were classified according to the published criteria (Harris, Cresswell & Jefferies; 1989¹, Badgerland; 2003², & Andrews, 2014³).
- 2.1.5 As recommended by English Nature's *Badgers and Development* (2002)⁴ and *The Classification of badger setts in the UK: A Review and Guidance for Surveyors* (2014)⁵, the survey comprised the Proposed Development and where possible a buffer of at least 30m of suitable badger habitat was observed beyond the Site boundary to identify evidence of badger activity.
- 2.1.6 The classification of sett entrances as active, partially used, or disused, follows Harris, Cresswell & Jefferies (1989). Active sett entrances are clear of any debris or vegetation, and will have some of the following features, well-worn paths, spoil mounds, footprints, fresh bedding outside the entrance and/or footprints leading in. Partially used entrances are considered to not show signs of current use (e.g., have vegetation growing across the entrance), but could easily be reused if required. Disused sett entrances are partially or completely blocked, with substantial excavation required to allow reoccupation.
- 2.1.7 Main setts are considered to be the most important sett within the territory of a badger group or clan and are where breeding takes place. They tend to be large, with five or more entrances and large spoil heaps and to be used throughout the year. Annexe setts also have many well used entrances and tend to be 50 to 150m from the main sett, connected by well-worn paths, but may not be used all year round. Subsidiary setts are not usually connected to the main sett by obvious paths and may have any number of entrances. Outlier setts tend to have only one or two holes and are used occasionally. There may be no obvious path to an outlier sett.

¹ Harris, S., Cresswell, P. & Jefferies, D. (1989). *Surveying Badgers*, London, UK.

² Badgerland. (2003). *Finding Evidence of Badgers*. Hebden Bridge.

³ Andrews, R. (2014). *The Classification of badger setts in the UK: A Review and Guidance for Surveyors*. CIEEM, London.

⁴ Natural England (2011), *Badgers and Development. A Guide to Best Practice and Licensing*

3 BASELINE

3.1 Survey Results

- 3.1.1 During surveys, a total of 15 badger setts and three potential badger setts were identified: of these setts, six are located within the Site, whilst twelve were found adjacent (i.e., within 30m of the Site boundary). Details of each sett are summarised below in **Table 3.1**.
- 3.1.2 Also, numerous indicative field signs of badger (e.g., footprints, trails and latrines) were noted throughout the Site during surveys, indicating regular usage by the species.
- 3.1.3 The location of the badger setts (or potential badger setts) recorded during surveys are provided in **Figures 1-4**, whilst survey photographs are provided in **Annex 1**.

Table 3.1 Badger Setts

Sett	Description	Photo Ref.
S1	An active outlier badger sett recorded along a ditch inside the Site. Consists of four holes on the northern bankside; entrance tunnels orientated north towards the Site.	P1
S2	Main sett in woodland close to the Site boundary. Three active entrances, one with a latrine nearby, with recent dung. A number of unused entrances filled with leaves, also numerous rabbit burrows and droppings. May be further active entrances not recorded.	-
S3	Single holed sett; potentially active, found in close association with S2 but within the Site; entrance located in a steep bank above a culverted section of ditch, with entrance orientated southwest into the Site.	-
S4	Main sett located in birch woodland outside the Site boundary; over 10 active entrances throughout wood; also much rabbit activity observed in association.	P2
S5	Active main sett on edge of woodland consisting of at least seven active entrances. Five entrance holes are located on the Site boundary and in neighbouring woodland, whilst two entrance holes are located within the Site approximately 1-2m from the woodland edge. Sett entrances within the Site are orientated east towards the Site boundary and woodland. Most entrance holes at the Site boundary are orientated east (off-Site) into adjacent woodland, although some are orientated towards the Site. Large spoil heaps and fresh latrines found in association.	P3
S6	Sett located on south side of ditch within the Site; two entrances, although only one appears to be actively used; fresh spoil and bedding found in association. Possibly three-four additional sett entrances in dense hedge adjacent.	P4
S7	Outlier badger sett; two active entrance holes observed, located just outside of the Site on the north side of a ditch; tunnel orientated north away from Site. Many rabbit holes in area so possibly used by rabbits.	P5
S8	Active badger sett found in association with woodland edge habitat; single active entrance hole observed, located on south side of ditch just outside of the Site. Tunnel heads south away from the Site. Recent footprints also observed.	P6
S9	Outlier sett; single entrance hole observed (potentially active), located on the south side of the ditch just outside the Site. Tunnel orientated south away from Site.	P7
S10	Large active main sett. Located within woodland adjacent to Site. Tunnels mostly head east away from the Site. Closest is approximately 2m from the arable field boundary. Ten entrance holes noted, likely more present throughout associated woodland.	P8

Sett	Description	Photo Ref.
S11	Sett with one likely active entrance, three unused / leaf filled. Located in woodland edge just outside the Site, active tunnel orientated south towards the Site; additional entrances head southwest and north.	P9
S12	Active badger sett located just outside the Site, featuring two entrances (one located within ditch, and one within associated woodland); both holes are spatially separated from the Site by a ditch with both hole entrances orientated south away from the Site. Fresh earth suggests recently excavated.	P10
S13	Active sett; five to six entrances observed on east side of ditch within woodland habitat, located outside the Site boundary; entrance tunnels oriented east away from the Site.	P11
S14	Inactive badger sett; single entrance filled with leaf litter located within woodland habitat, outside of Site boundary. Located in the centre of the woodland, which is approximately 30m from the Site boundary in both northern and southern directions.	-
S15	Inactive badger sett infilled with leaves; single entrance observed orientated south towards the Site. Located outside the Site in adjacent woodland and separated from the ditch by a wet ditch.	P12
PS1	Potential badger sett; located within woodland just outside the Site on south bank of ditch; inaccessible, although fresh earth observed from north side of the ditch. Adjacent to rabbit burrows, but also found relatively close to outlier sett (S8). Tunnel direction likely heads south away from the Site and towards the woodland centre.	P13
PS2	Potential badger sett; located within dry section of ditch located on the Site boundary in association with a badger latrine; fresh bedding also observed in association with a field drain.	P14
PS3	Potentially active outlier sett located within the Site; two narrow entrances observed on southern side of hedgerow 2m apart; entrance tunnels leading towards hedgerow, orientated north. Rabbit burrows also observed in close association.	P15

4 DISCUSSION AND RECOMMENDATIONS

4.1 Discussion

- 4.1.1 The badger survey identified 15 badger setts and three potential badger setts within and immediately surrounding the Site (within 30m of the Site). Evidence recorded during the survey suggests that it is likely that badgers utilise field boundary features (hedgerows, ditches, and woodland belts) for commuting and foraging purposes in the wider area and as a route to connect to other badger setts likely to be present in the wider countryside.
- 4.1.2 Furthermore, a total of 26 recent badger records were also returned by NEYEDC from within a 2km radius of the Site, indicating an active presence in the local landscape surrounding the Site.
- 4.1.3 Natural England has issued general guidance⁵ on the types of activities considered to have potential to disturb badgers, which it considers may require a licence depending on proximity to sett entrances. For example:
- Using heavy machinery (generally tracked vehicles) within 30 metres of an active sett entrance;
 - Using lighter machinery (generally wheeled vehicles) within 20 metres of a sett entrance; and
 - Light work such as hand digging or scrub clearance within 10 metres of a sett entrance.
- 4.1.4 Some activities, such as pile driving, may require a licence even where works are to occur at a distance greater than 30 metres from an active sett entrance.
- 4.1.5 Works which would otherwise cause an offence under current legislation may in some cases be permitted under licence from the relevant statutory authority, which in this case is Natural England. Licences to interfere with a badger sett are usually only issued between July and November inclusive. Licensed works usually involve either sett exclusion (i.e., closure of a sett using mesh and one-way gates), or sett disturbance.
- 4.1.6 Natural England has issued guidance⁶ on what may constitute disturbance, which acknowledges that badgers '*appear able to withstand significant amounts of noise and activity near to their setts without apparently being disturbed*'. It also states that low to moderate levels of disturbance do not require a licence, nor do activities that would result in a level of disturbance no greater than the badger would normally tolerate.

4.2 Mitigation / Avoidance Measures

- 4.2.1 The layout of the Proposed Development has been designed to avoid impact to habitats potentially used by badgers for sett creation, foraging and commuting such as hedgerows and woodland parcels. These habitats will be retained and protected, additionally, solar panels will be raised off the ground and allow the free movement of badgers.
- 4.2.2 Perimeter fencing (and solar compartment fencing) located around the Site will have sufficient gaps and/or mammal gates positioned at several suitable locations along the base of fences in order to allow badgers to continue to use the habitats within and around the Site for foraging and commuting purposes during the operational phase of the Proposed Development. Gaps/gates will be positioned at the base of fence lines, along natural linear features such as hedgerows and woodland belts located on-Site, as these features are most likely to be relied upon by local badger populations.

⁵ Available at: https://www.badgerland.co.uk/help/en_badgers_development.pdf (accessed 22nd February 2023)

⁶ Natural England. (2009). *Protection of Badger Act 1992 (as amended); Interpretation of 'Disturbance' in relation to badgers occupying a sett.*

- 4.2.3 The Proposed Development will include habitat enhancements which will benefit multiple species including badgers, these will include the sowing and management of grassland within the Site, and new hedgerow planting which is considered to provide badgers with additional foraging resources, shelter and dispersal routes within a secure and relatively undisturbed environment. It is considered that there will be no significant impacts upon badger populations within and surrounding the Site during the construction, operational, and decommissioning phases of the Proposed Development.
- 4.2.4 Badger activity at an established sett can show seasonal patterns of use and badgers can quickly establish new setts, or re-use setts previously thought to be inactive. Considering the highly mobile nature of badgers and the seasonality of their activity, a pre-construction badger survey will be undertaken prior to the commencement of the development/site clearance and decommissioning works to determine the levels of badger activity at the identified setts, and to check for any newly constructed setts in and surrounding the Site. The results of the pre-commencement badger surveys will then be used to inform recommendations for mitigation which may involve one or both of the following options:
- If baseline conditions have altered and significant disturbance to badgers or their setts is considered likely during the proposed works, one or both of the following options will be incorporated:
 - The development design will be further amended to avoid works which may impacts on the sett/s; and/or
 - A disturbance licence will be obtained from Natural England before construction commences.
- 4.2.5 In-line with current the National Planning Policy Framework⁷ and the Overarching National Policy Statement for Energy (EN-1)⁸, Natural England would likely request that the mitigation hierarchy⁹ is applied and that all possible alternatives to avoid impacts to badger setts have been pursued and considered before awarding a mitigation licence for sett closure or sett disturbance.









⁷ Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf (accessed 22nd February 2023)

⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf

⁹ British Standards. (2013). *BS 42020:2013 Biodiversity. Code of practice for planning and development*

Annex 1

Photograph Panel

Photograph	Description	Photograph	Description
	<p>Photograph 1: Sett 1.</p>		<p>Photograph 2: Sett 4.</p>
	<p>Photograph 3: Sett S5.</p>		<p>Photograph 4: Sett S6.</p>
	<p>Photograph 5: Sett S7.</p>		<p>Photograph 6: Sett S8.</p>
	<p>Photograph 7: Sett S9.</p>		<p>Photograph 8: Sett S10.</p>



Photograph 9:
Sett S11.



Photograph 10:
Sett S12.



Photograph 11:
Sett S13.



Photograph 12:
Sett S15.



Photograph 13:
Potential Sett
SP1.



Photograph 14:
Potential Sett
PS2.



Photograph 15:
Potential Sett
PS3.