

**Tillbridge Solar Project
EN010142**

**Volume 6
Environmental Statement**
Appendix 9-11: Baseline Report for Badger Part 1 of 2
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1. Introduction

1.1 Background

- 1.1.1 This report forms a technical appendix to the Environmental Statement (ES) [EN010142/APP/6.1], specifically to accompany **Chapter 9: Ecology and Nature Conservation** of the ES [EN010142/APP/6.1]. The report provides information on the presence and distribution of Badger *Meles meles* relevant to the Tillbridge Solar project, hereafter referred to as the Scheme, including the results of surveys undertaken within the Order limits.
- 1.1.2 Owing to the confidentiality surrounding reporting of locations of Badger, the survey results, evaluation and conclusions have been redacted from this report and are included as a confidential annex (**Annex A**). This separate annex will be provided to the Examining Authority and key stakeholders. Should any other parties wish to access **Annex A** then they should contact the Planning Inspectorate.

1.2 Site Description

- 1.2.1 The Scheme is located approximately 5 kilometres (km) to the east of Gainsborough, Lincolnshire and approximately 13km to the north of Lincoln. The Scheme comprises two distinct parcels, which are:
- 'the Principal Site', which is the location where ground mounted solar PV panels, electrical sub-stations, and Battery Energy Storage System (BESS) will be installed; and
 - 'the Cable Route Corridor', which will comprise the underground electrical infrastructure required to connect the Principal Site to National Grid Cottam Substation.
- 1.2.2 The Principal Site is located within the administrative district of West Lindsey. The Cable Route Corridor tracks south of the Principal Site, to the east of Willingham by Stow before tracking west towards the River Trent and to the south of Gate Burton. The Cable Route Corridor crosses into Nottinghamshire (within the administrative district of Bassetlaw) before connecting to the Cottam Power Station.
- 1.2.3 This report is based on the administrative county of Lincolnshire whilst recognising that key aspects of biodiversity are coordinated and managed within the geography of Greater Lincolnshire, for example the Nature Strategy for the Greater Lincolnshire Nature Partnership.
- 1.2.4 The Order limits covers an area of approximately 1,670 hectares (ha) and is dominated by arable fields (minimum 80% of the Order limits). There are numerous mature trees and hedges within the Order limits, with woodlands and small wooded copses. It is surrounded by mainly arable and improved grassland livestock fields.
- 1.2.5 The location of the Scheme is presented in **Figure 9-11-1**, included in **Annex A** of this survey report.

1.3 Aims and Objectives

1.3.1 The aim of this report is to determine the presence or absence of Badger within the Survey Area (see **Section 3.1**).

1.3.2 The objectives, therefore, are to:

- a. review existing ecological data to identify any records of Badger within the Study Area; and
- b. identify the presence of Badger and Badger setts within the Order limits.

1.3.3 Combined, this is being used to:

- a. determine the nature conservation value of the Order limits for Badger; and
- b. the potential impacts of the Scheme on Badger and Badger setts and any required mitigation.

2. Relevant Legislation, Policy and Guidance

2.1 Legislation

- 2.1.1 Badgers and their setts¹, are protected under various legislation, drawn together under the Protection of Badgers Act 1992 (Ref 1), which protects Badgers from deliberate harm and injury. Restrictions under this Act, which apply to development, make it an offence to:
- a. wilfully kill, injure, possess or cruelly ill-treat a Badger, or attempt to do so;
 - b. interfere with a sett by damaging or destroying it;
 - c. obstruct access to, or an entrance of, a sett; and
 - d. disturb a Badger when it is occupying a sett.
- 2.1.2 This legislation prevents development on a site occupied by Badgers without any mitigation being agreed and undertaken prior to development commencing. If potential impacts are perceived on Badger setts, such as disturbance or loss, then a licence to close a sett would be required from Natural England. It would also be necessary to undertake appropriate mitigation that comprises construction of artificial sett(s).
- 2.1.3 The Protection of Badgers Act, 1992, was introduced to combat the cruel ill-treatment and persecution to which Badgers are sometimes subjected. This report identifies the location of a number of Badger setts and therefore to safeguard these animals, the report should be treated as confidential and not released into the public domain.

2.2 Licencing requirements

- 2.2.1 Licences to permit otherwise prohibited actions under the Protection of Badgers Act (Ref 1) may be granted by Natural England in order to close down setts, or parts of setts, prior to development or to permit activities close to a Badger sett that might result in disturbance. A licence will be required if a sett is likely to be damaged or destroyed in the course of development or if the Badger(s) occupying the sett will be disturbed.
- 2.2.2 Whilst a licence can be applied for at any time of year, any closure of a Badger sett must be undertaken between 1st July and 30th November and can only be undertaken under a licence issued by Natural England, prior to the onset of works.
- 2.2.3 Any licence application must include a method statement that clearly describes how the proposed development work will interfere with the Badger sett and also demonstrates how any mitigation work will be carried.
- 2.2.4 All licence applications must contain the following information:

¹ A sett is a Badger's home (den), comprising a network of underground tunnels and entrance holes

- a. the likely status of the setts (whether main, subsidiary, annexe or outliers) and whether they are active or not. The number of entrance holes at each sett should be provided.
- b. indicate and specify which setts are to be disturbed, damaged, destroyed or obstructed. Specify any setts that will be re-opened at the end of the works.
- c. show the location of any mitigation work e.g. artificial setts, new foraging habitat, water sources etc.
- d. a detailed schedule for all proposed sett interference, stating how and when each Badger sett will be affected and indicating the type of machinery or tools to be used and the distance from the sett(s). Explain the rationale for the necessary Badger interference. The dates of any proposed mitigation work must also be included (if applicable).
- e. maintenance and monitoring procedures should also be clearly defined to ensure that Badgers do not regain access to excluded setts before and during site clearance and sett destruction.
- f. the mechanisms for monitoring whether the proposed development work has ensured that all licence conditions are met.

2.3 Local Biodiversity Action Plan

- 2.3.1 The Scheme is located within the counties of Lincolnshire and Nottinghamshire. Formerly, the Lincolnshire Biodiversity Action Plan (3rd edition) (Lincolnshire BAP) (Ref 2) provided context to inform identification of threatened or uncommon species of local relevance, alongside priorities for conservation and enhancement targeted at a local level in Lincolnshire. However, under the Environment Act 2021 (Ref 3), these are being replaced by Local Nature Recovery Strategies (LNRs), which are a system of spatial strategies for nature which will support delivery of biodiversity net gain (BNG) and provide more focussed action for nature recovery. Whilst this is still being developed for Lincolnshire and with no specific habitat or species plans currently in place, this report references the Lincolnshire BAP, however, Badger is not listed as a priority species.
- 2.3.2 The Nottinghamshire Biodiversity Action Plan (Nottinghamshire BAP) (Ref 4) continues to provide context to inform identification of threatened or uncommon species of local relevance and identifies priorities for conservation and enhancement. It is a mechanism for enabling national targets at a local level, however it confers no particular legislative or policy protection to the species identified, although in some cases this is provided through related legislation and local planning policy. Regardless, Badger is not listed as a priority species on the Nottinghamshire Biodiversity Action Plan (Ref 4).

3. Methods

3.1 Characterising the baseline

3.1.1 Within this report, the following terminology is used when referring to the geographic areas within which assessments were made:

- a. Study Area – the area within the Order limits and a 2km radius around the Order limits which was subject to collection of background information e.g., desk study records for Badger to supplement the findings of the survey work;
- b. Zone of Influence (Zol) – the area over which Badger may be affected by the Scheme which, using professional judgement, is likely to be no greater than 50m from the Order limits. Through review of likely impacts of the Scheme and results of the desk study, the scope of field surveys was then defined; and
- c. Survey Area – this is the area within which survey work was undertaken (the Order limits and up to 50m from the edge of the Order limits).

3.2 Desk Study

3.2.1 A desk study was undertaken in July 2022 through the Greater Lincolnshire Nature Partnership (GLNP) and the Nottinghamshire Biological and Geological Record Centre (NBGRC) to obtain records of Badger within the preceding ten years and within a 2km radius of the Order limits.

3.2.2 Only records up to ten years old from the request date were considered within the assessment, as any records older than ten years are unlikely to be still representative of Badger presence in the local area.

3.3 Collaborative Dataset

3.3.1 As set out in **Chapter 3: Scheme Description** of the ES [EN010142/APP/6.1], the Scheme has worked collaboratively with Gate Burton Energy Park, Cottam Solar Project and West Burton Solar Project to minimise environmental impacts along the Cable Route Corridor by using a shared route, where practicable. As a result, a wealth of ecological information has been collected along this corridor. To minimise disturbance to wildlife and landowners, through repeated access by multiple schemes, where relevant, the Applicant has collaborated with the other proposed developments to 'share' data. Where this has been the case, it is clearly described in this report. In addition, the Applicant has undertaken surveys to ground truth these datasets, where relevant.

3.3.2 Wider ecological survey data for these schemes was reviewed as part of the desk study and informed the assessment of Badger presence in the wider landscape (Gate Burton Energy Park (Ref 5), Cottam Solar Project (Ref 6) and West Burton Solar Project (Ref 7)).

3.4 Field Survey

Survey Area

- 3.4.1 The area surveyed for Badger (the Survey Area) included all habitat within the Order limits (see **Figure 9-11-1** within **Annex A**).
- 3.4.2 Where suitable habitat likely to support Badger setts was identified outside of the Order limits (such as woodland and scrub) and where there was access to such areas or, where areas outside of the Order limits were viewable from within the Order limits, the Survey Area was extended out to 50m beyond the Order limits. Any evidence of Badger, including Badger setts, that were found during the course of other ecological surveys, both within and outside of this Survey Area, were also recorded.

Badger Activity

- 3.4.3 The survey was based on standard survey methodology for surveying Badger, as described in the Mammal Society publication: Surveying Badgers (Ref 8); and with reference to Surveying for Badgers: Good Practice Guidelines, Version 1 (Ref 9).
- 3.4.4 Furthermore, any evidence of Badger activity that was noted whilst undertaking other Ecology surveys of the Survey Area was also recorded.
- 3.4.5 The Survey Area was searched for all signs of Badger activity. These included:
- a. setts;
 - b. pathways in vegetation;
 - c. footprints;
 - d. hairs;
 - e. latrines/dung pits; and
 - f. snuffle holes/signs of foraging activity.
- 3.4.6 Any holes considered to be a Badger sett were categorised using sett classification criteria (Ref 10) and identified setts were classified using the following criteria:
- a. **Main sett:** These are large setts with a number of active holes and conspicuous spoil heaps around the sett. There will be well used paths to and from sett entrances and they are usually in continuous use. A main sett is most likely to be where cubs are born and there is only one main sett per Badger clan.
 - b. **Annexe sett:** These setts are often close to main setts and are linked to main setts through well-worn paths in vegetation. There are usually several entrance holes to an annexe sett, but these may not be in use all the time.

- c. **Subsidiary sett:** These are smaller setts and usually comprise three to five entrance holes, often >50 metres from a main sett, with usually no connectivity to other setts.
 - d. **Outlier sett:** There are usually one to three holes in an outlier sett, with small spoil heaps outside the hole. They are often used sporadically and have no connectivity with other setts. When not in use by Badger, they may be taken over by other ground-dwelling mammals.
- 3.4.7 Once a sett was identified, entrance holes were classified further as being one of the following:
- a. **Well-used:** The entrance hole is clear of debris and vegetation and is in regular use. It may not have been recently excavated;
 - b. **Partially used:** A hole not in regular use, with minimal clearance when in use. Debris, including leaves and moss may be present in the entrance hole; or
 - c. **Disused:** Holes have obviously not been in use and are partially or completely blocked. They cannot be used without considerable clearance. Where a hole has not been used in some time, the hole may be just visible as a depression in the ground and former spoil heap.
- 3.4.8 Additionally, a subjective assessment of the habitat quality within the survey area was used to determine 'foraging potential' for Badgers. This assessment was based on the number of available food sources and included:
- a. **'Good' foraging potential:** where habitat was considered to provide Badgers with a variety of foraging opportunity throughout the year;
 - b. **'Moderate' foraging potential:** where foraging opportunities are seasonal and limited; and
 - c. **'Poor' foraging potential:** areas with no food value for Badger.

3.5 Biodiversity Importance

- 3.5.1 An essential prerequisite step to allow ecological impact assessment of the Scheme was an evaluation of the relative biodiversity importance of the Survey Area for Badger. This is necessary to set the terms of reference for the subsequent ecological impact assessment.
- 3.5.2 The method of evaluation that was utilised has been developed with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines (Ref 11). This gives guidance on scoping and carrying out environmental assessments and places appraisal in the context of relevant policies and at a geographical scale at which feature matters (i.e. international, national, regional, county, district, local or site). Data received through desk study and field-based surveys were used to identify the importance of Badger populations. Relevant published national and local guidance and criteria can be used, where available, to inform the assessment of biodiversity importance and to assist consistency in evaluation. Current population and conservation status for Badger has been taken from '*A Review of the Population and Conservation Status of British*

Mammals' (Ref 12) and with reference, in Lincolnshire, to the '*Atlas of the terrestrial and semi-aquatic mammals of Lincolnshire*' (Ref 13).

3.6 Assumptions and Limitations

Desk Study

- 3.6.1 The aim of the desk study was to help characterise the baseline context of the Scheme and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of the desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for Badger does not necessarily mean that Badger do not occur in the study area. Likewise, the presence of records for Badger does not automatically mean that these still occurred within the area of interest or were relevant in the context of the Scheme.

Field Survey

- 3.6.2 Sufficient information was gathered during the assessment to provide a representative evaluation of Badger present within the Order limits and inform the assessment presented in **Chapter 9: Ecology and Nature Conservation** of the ES [EN010142/APP/6.1].

4. Results and Evaluation

- 4.1.1 The results of the Badger survey (including survey dates) are presented in confidential **Annex A**, which will be provided separately to key stakeholders.

5. References

- Ref 1 His Majesty's Stationary Office (HMSO) (1992). Protection of Badgers Act 1992. HMSO, London
- Ref 2 Lincolnshire Biodiversity Action Plan. (2012-2020) 3rd edition.
- Ref 3 HMSO (2021). The Environment Act 2021. Available at:
<https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>
- Ref 4 Nottinghamshire Biodiversity Action Group (2008) Local Biodiversity Action Plan.
- Ref 5 PINS website: Gate Burton Energy Park
<https://infrastructure.planninginspectorate.gov.uk/projects/east-midlands/gate-burton-energy-park/>
- Ref 6 PINS website: Cottam Solar Project
<https://infrastructure.planninginspectorate.gov.uk/projects/east-midlands/cottam-solar-project/>
- Ref 7 PINS website: West Burton Solar Project
<https://infrastructure.planninginspectorate.gov.uk/projects/east-midlands/west-burton-solar-project/>
- Ref 8 Harris, S., Cresswell, P. and Jefferies, D. (1989) Surveying Badgers, Mammal Society.
- Ref 9 Scottish Badgers. (2018). Surveying for Badgers: Good Practice Guidelines. Version 1.
- Ref 10 Cresswell, P., Harris, S. and Jefferies, D.J., 1990. The history, distribution, status and habitat requirements of the badger in Britain. Nature Conservancy Council, Peterborough.
- Ref 11 Chartered Institute of Ecology and Environmental Management (CIEEM). (2018). Guidelines for Ecological Impact assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Available at:
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- Ref 12 Mathews, F., Kubasiewicz, L.M., Gurnell, J., Harrower, C.A., McDonald, R.A. and Shore, R.F. (2018) A Review of the Population and Conservation Status of British Mammals. A report by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England, Peterborough.
- Ref 13 Manning, C.J. (2016). Atlas of the terrestrial and semi-aquatic mammals of Lincolnshire. Greater Lincolnshire Nature Partnership