



Fosse Green Energy

Preliminary Environmental Information Report

VOLUME

3

Appendix 8-J: Badger

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1. Introduction

1.1 Background

- 1.1.1 This report forms a technical appendix to the Preliminary Ecological Information (PEI) Report, specifically to accompany **PEI Report Volume 1, Chapter 8: Ecology and Nature Conservation**. The report provides information on the presence and distribution of Badger (*Meles meles*), relevant to the Fosse Green Energy project (hereafter referred to as the Proposed Development), including the results of surveys undertaken within the Site.
- 1.1.2 Further information on the Proposed Development is included within **PEI Report Volume 1, Chapter 3: The Proposed Development**.
- 1.1.3 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 key stakeholders only (i.e. the client and Local Planning Authority).

1.2 Site Description

- 1.2.1 The Proposed Development is located 9km to the south and south west of Lincoln City Centre, Lincolnshire and lies within the administrative district of North Kesteven.
- 1.2.2 The Proposed Development comprises two distinct parcels:
 - a. the Principal Site, which is where ground mounted solar PV panels, electrical sub-stations and BESS will be installed; and
 - b. the Cable Corridor, which comprises the underground electrical infrastructure required to connect the Principal Site to the National Grid.
- 1.2.3 The location of the Proposed Development is centred at Ordnance Survey (OS) Grid Reference SK 90388 62514 and is presented in **PEI Report Volume 2, Figure 1-1**.
- 1.2.4 The Site covers an area of approximately 1,426 hectares (ha) and is dominated by arable fields (approximately 90% of the Site) with smaller areas of improved and semi-improved grassland, hedgerows and woodland.

1.3 Scope of the Report

- 1.3.1 The aim of this report is to determine the presence or likely 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 (see Section 3.1); and

- b. identify the presence of Badger, including Badger setts, within the Site (see Section 3.1).

1.3.3 Combined, this will be used to:

- a. determine the biodiversity importance of the Site for Badger; and
- b. the potential impacts of the Proposed Development on Badger and their setts, along with 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 (Ref. 1), 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 Licensing 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 1 July and 30 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 out.

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

2.2.4 All licence applications must contain the following information:

- 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 Proposed Development is located within the county of Lincolnshire. Formerly, the Lincolnshire Biodiversity Action Plan (BAP) (3rd edition) (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), BAPs are being replaced by Local Nature Recovery Strategies (LNRSs), 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 (Ref. 2); however, Badger is not listed as a priority species.

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:
- Study Area – the area within the Site and a 2km radius which was subject to collection of background information e.g., desk study records for Badger to supplement the findings of the survey work;
 - Zone of Influence (Zoi) – the area over which Badger may be affected by the Proposed Development which, using professional judgement, is likely to be no greater than 50m from the boundary of the Site; and
 - Survey Area – the area within which survey work was undertaken within the Site. Where suitable habitat likely to support Badger setts was identified outside of the Site (such as woodland and scrub) and where there was access to such areas or, where areas outside of the Site were viewable from within the Site, the Survey Area was extended out to 50m beyond the Site.
- 3.1.2 Through review of likely impacts of the Proposed Development and results of the desk study, the scope of field surveys was then defined.

3.2 Desk Study

- 3.2.1 A desk study was undertaken in April 2023 through the Greater Lincolnshire Nature Partnership (GLNP) to obtain records of Badger within a 2 km radius of the Site.
- 3.2.2 Only records up to ten years old from the request data 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 Field Survey

Badger Activity

- 3.3.1 The survey of Badger activity was based on standard survey methods for surveying Badger, as described in the Mammal Society publication: Surveying Badgers (Ref. 4) and with reference to Surveying for Badgers: Good Practice Guidelines, Version 1 (Ref. 5).
- 3.3.2 Any evidence of Badger, including Badger setts, that was found during the course of other ecological surveys, both within and outside of this Survey Area, were recorded.
- 3.3.3 A walkover survey was carried out on 3, 4, 10, 11, 17-19 October, 7-9 November and 13 December 2023 to look for evidence of Badger activity.

3.3.4 The Survey Area was searched for all signs of Badger activity, including:

- a. setts;
- b. pathways in vegetation;
- c. footprints;
- d. hairs;
- e. latrines/dung pits; and
- f. snuffle holes/signs of foraging activity.

3.3.5 Any mammal holes considered to be a Badger sett were categorised using sett classification criteria (Ref. 6) 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.

3.3.6 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.
- 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.

3.3.7 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.

3.4 Biodiversity Importance

- 3.4.1 An essential prerequisite step to allow ecological impact assessment of the Proposed Development 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.
- 3.4.2 The method of evaluation that was utilised has been developed with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines (Ref. 7). 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 a 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 were 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. 8) and with reference to the '*Atlas of the terrestrial and semi-aquatic mammals of Lincolnshire*' (Ref. 9).

3.5 Assumptions and Limitations

Desk Study

- 3.5.1 The aim of the desk study was to help characterise the baseline context of the Proposed Development and provide valuable background information that would not be captured by site surveys 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 this species does not occur in the Study Area. Likewise, the presence of records does not automatically mean that Badger still occurs within the Study Area or is relevant in the context of the Proposed Development.

Field Survey

- 3.5.2 During the field survey, there were increased levels of surface water in a few areas of the Survey Area due to heavy rain. Therefore, these conditions may have limited the evidence of Badger activity in some fields, including covering latrines, footprints and snuffle holes. However, the locations of setts were not concealed and therefore sufficient information was gathered during the assessment to provide a representative evaluation of the population of Badger present within the Survey Area (see Section 1.3).

- 3.5.3 Some areas of the Cable Corridor have not been surveyed due to access restrictions in 2023. Access was obtained in summer 2024 and these areas will be resurveyed for Badger in autumn/winter 2024 when vegetation is lower. The updated results of these surveys will be included with the Environmental Statement (ES) submitted as part of the DCO Application.

4. Results

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

5. References

- Ref. 1 His Majesty's Stationery Office (HMSO). (1981). 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 Harris, S., Cresswell, P. and Jefferies, D. (1989) Surveying Badgers, Mammal Society.
- Ref. 5 Scottish Badgers. (2018). Surveying for Badgers: Good Practice Guidelines. Version 1.
- Ref. 6 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. 7 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: <https://cieem.net/wp-content/uploads/2018/08/ECIA-Guidelines-2018-Terrestrial-Freshwater-Coastal-and-Marine-V1.2-April-22-Compressed.pdf>.
- Ref. 8 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. 9 Manning, C.J. (2016) The atlas of the terrestrial and semi-aquatic mammals of Lincolnshire. Available at: <https://lincsnaturalist.files.wordpress.com/2021/06/mammalatlas.pdf>

Annex A CONFIDENTIAL