


# South Brooks Solar Farm

## Preliminary Environmental Information

### Volume 2: Appendix 5.1: Biodiversity Survey Methodology

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# 1 Biodiversity Baseline Survey Methodologies

## 1.1 Purpose of this Document

- 1.1.1 This appendix sets out the methodologies for the baseline surveys undertaken (and will be undertaken going forward) to inform the Ecological Impact Assessment for South Brooks Solar Farm (the Project). This document is intended to be supplementary technical information to Chapter 5 of the Preliminary Environmental Information Volume Two report.

## 1.2 Survey Design

- 1.2.1 A suite of ecology surveys have been, or will be, undertaken to inform the final Ecological Impact Assessment associated with South Brooks. Specific survey areas for these surveys are the Site boundary unless otherwise specified. Survey areas may be larger than the Site boundary, to account for potential buffer zones or overlapping habitats but are not reduced within the Site boundary. It should be noted that survey design and scope have been specifically tailored to the Project in accordance with best practice guidelines and the scope retains flexibility to react to design evolution.

## 1.3 Ecology baseline surveys undertaken

### Extended UK Habitat Classification Survey

- 1.3.1 A UK Habitat (UKHab) Classification Survey was undertaken at the Site between July 2024 and August 2025. This survey followed the standard methodology for mapping habitats in-line with UKHab Classification Version 2.0, allowing habitat information gathered in the field to be input to the Statutory Biodiversity Metric, which will underpin the biodiversity net gain (BNG) assessment. This method was extended to include identifying and mapping any legally controlled species, or potential the Project has for protected or otherwise notable (in a legal and planning context) species, based on habitats found and the regional context (Extended habitat survey). This information was used as a basis for determining the need for further species-specific elements of the field survey programme.

### Habitat condition assessment

- 1.3.2 Habitat condition assessments were undertaken concurrently with the UKHab survey to assign habitat parcels a condition assessment in-line with the latest published guidance. This information will be used to underpin the BNG assessment for the Site.

### Breeding bird surveys

- 1.3.3 A breeding bird survey and territory mapping exercise following an amended version of the British Trust for Ornithology's (BTO) common bird census (CBC) methodology (Gilbert et al., 1998) was undertaken across South Brooks A, B, C, D and E, with six visits. These were completed between April and July 2025. The location of each bird detected (visually and / or aurally) was mapped using the standard two-character BTO codes, and bird activity was recorded using standard behaviour codes. Where surveys have identified potential important receptors such as Schedule 1 listed breeding birds, further consideration will be given to additional measures to reduce impacts.

### Non-breeding bird survey

1.3.4 Non-breeding bird surveys began in November 2023 and will continue through to March 2027. However, only a partial season was surveyed in November 2023, a full season surveying was completed during 2024-2025 and 2025-2026, with plans for a full season of surveys to also be completed between March 2026-2027. An ornithologist will undertake two surveys per month. Surveys covered the Site boundary plus a 500m buffer. These surveys are primarily focused on recording any notable species defined as:

- Waterfowl, including wildfowl and waders, Schedule 1 of the Wildlife and Countryside Act 1981 (as amended);
- Species listed on Annex 1 of the Birds Directive, Species of Principal Importance (SPI) in England, following Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC);
- Birds of Conservation Concern (BoCC) red list species (Stanbury et al., 2021); and
- Flocks of 20 + birds of all other species (for example winter thrushes, gulls and corvids).

1.3.5 Surveys will also identify species associated with the nearby Special Protection Area (SPA) and Ramsar designations such as Dungeness (SAC, NNR), Dungeness, Romney Marsh and Rye Bay (Ramsar, SPA, SSSI), including notified features, and waders and wildfowl considered as part of the overall non-breeding assemblage that may utilise the Site (mainly arable fields) for foraging, loafing or roosting. These surveys aim to identify if there is any land within the Site boundary that is frequently utilised by notified features and if it therefore constitutes Functionally Linked Land (FLL). In addition, other target species of interest such as flocks of wintering thrushes or aggregations of gulls are also being recorded. The method follows the non-breeding walkover survey method as described by the Bird Survey & Assessment Steering Group. It uses transects and the scanning of habitats to record the type, number and behaviour of birds seen using the survey area. As well as an amended version of the Winter Farmland Bird Survey (Atkinson et al., 2006) has been adopted for all area of terrestrial habitat that were subject to survey.

### Bat activity survey

1.3.6 Bat surveys were devised generally following the Bat Conservation Trust's '*Bat Surveys for Professional Ecologists Good Practice Guidelines*'. Prior to surveys beginning, a licensed bat surveyor determined that the Site comprised habitats that were generally of low suitability for bats, based on habitats present – though it is noted that due to the location of the Site, there is potential for the migratory species *Nathusius' pipistrelle* to be present when leaving or arriving in the UK. Following the assessment of potential, four transects were devised to sample bat activity across the area to provide an understanding of the bats present and general levels of activity. A full survey of every field across the Site boundary was not considered necessary, especially considering the development of early design principles that seek to retain, enhance and create habitats that are used most frequently by bats (e.g. linear features). The transects were subject to bat activity surveys in spring, summer and autumn; with the autumn survey timed to coincide with *Nathusius' pipistrelle* migration. On each transect, two static bat detectors were also installed and left to record for a period of five nights per season. In addition, a preliminary ground level roost assessment of trees and buildings within and close to the Site boundary was undertaken.

### Invertebrate scoping survey

- 1.3.7 A terrestrial invertebrate scoping survey was conducted in July 2025 to assess the potential of the Site to support potentially important populations or species of terrestrial invertebrates by a recognised invertebrate ecologist. Further surveys will be conducted in summer 2026 if areas of potential importance to invertebrates have the potential to be impacted by the Project. Aquatic invertebrate surveys will be scoped proportionately in relation to ditch crossings, with samples to be taken at all potential watercourse crossings. Where works within the riparian zone have the potential to impact aquatic invertebrates, surveys will be undertaken to assess potential.

### Badger survey

- 1.3.8 A Badger survey was undertaken concurrently with the extended habitat survey. Surveyors, independently of habitat recording tasks, searched for signs of badger activity including setts, feeding signs, latrines and footprints in line with Scottish Badgers (2018) 'Surveying for Badgers: Good Practice Guidelines' version 1. The exception to this was that the badger survey was undertaken across spring and summer due to the large scale of the Site boundary. However, this is considered acceptable due to the open nature of the landscape not obscuring potential sett locations or signs located within dense areas of vegetation even during the summer months.

### Riparian mammals

- 1.3.9 Riparian mammals were surveyed along the watercourses within the Site boundary and around the waterbodies present. The surveys were undertaken concurrently with the extended habitat survey and searched for the signs of activity that are described for water vole in the "Water Vole Mitigation Handbook" and for otter in "Monitoring the Otter" (Chanin, 2003). Areas up to 250m away from water, where suitable habitat exists, were also investigated for potential to support otter natal holts. Mink traps were observed within some of the surveyed area.

## 1.4 Ecology Baseline Surveys to be undertaken

### River Condition Assessment

- 1.4.1 A river condition assessment (RCA) will be undertaken by a certified surveyor covering all watercourses within the Site boundary. The RCA will include a Modular River Survey (MoRPh survey) categorising and assessing the condition of watercourses appropriately. The results of the RCA will be included within the BNG assessment for the Site.

### Great crested newts

- 1.4.2 Great crested newt (GCN) surveys will be scoped following further design evolution to ensure any waterbodies within 250m of suitable GCN habitat that will potentially be impacted are suitably assessed during the 2026 survey season. Slow-flowing watercourses with the potential to support GCN will also be subject to survey. Surveys will include a Habitat Suitability Index (HSI) (Oldham et al. 2000) and sampling for environmental DNA (eDNA). The eDNA samples will be collected using testing kits that will be provided and screened by SureScreen, a Natural England approved supplier following the method developed by Biggs et al. (2014) and additional instructions provided with the sampling kits.

### Macrophyte and aquatic invertebrates survey

- 1.4.3 A macrophyte and aquatic invertebrates survey will be conducted in 2026 if watercourses or ditch-systems with the potential to support notified features listed on the nearby SSSI designations are to be impacted by the Project. Surveys of ditch crossings – aquatic macroinvertebrate and macrophytes survey will be following 'A manual for the survey and evaluation of the aquatic plant and invertebrate assemblages of grazing marsh ditch systems 'methodology. Samples are to be bank-side sorted as stated within the methodologies to avoid taking entire sample contents to lab. This will allow for the safe recording, and returning to watercourse of, medicinal leech if found. These surveys are to be double manned by specialist Entomologist and Botanist.

### Fish habitat survey

- 1.4.4 A fish habitat survey will be conducted in 2026, covering all watercourses within the Site where potential impacts to fish may occur. The initial scope of the fish habitat survey is to assess watercourse characteristics including habitat type, connectivity of watercourses and suitability to support migratory fish. Should habitats with the potential to support migratory species be identified, further fish sampling surveys may be required to assess population. These will include electrofishing surveys of the ditch crossings and will be carried out by three specialist Fish Ecologists trained for using electrofishing equipment. This will include the recording of relevant fish attributes, e.g length, life stage, and condition, following Beaumont (2016) and Environment Agency (2019).

### Reptiles

- 1.4.5 It is noted that common reptiles may be present within some small portions of the Site boundary, within arable verges and grassland areas, with observations and target notes provided for common lizard and slow worm. However, due to the baseline habitats, no survey for this group has been specified as solar development can be undertaken sympathetically to reptiles to ensure legislative compliance and provide long term benefits in terms of better habitat quality given the current arable condition of the Site. Any development / construction activities within habitats that have potentially suitable reptile habitat will be in-line with best practice to avoid potential impacts.

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