



Dupplin Solar

Preliminary Ecological Appraisal Report

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SLR Project No.: 405.065786.00001

5 January 2026

Revision: 03

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
01	25 July 2025	Euan Macrae	Callum Taylor	CT
02	10 October 2025	Euan MacRae	Clare Nisbet	CN
03	5 January 2026	Euan MacRae	Callum Taylor	CT
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Basis of Report

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Appendix A Relevant Legislation and Planning Policy

- A.1.1 Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
- A.1.2 The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2019
- A.1.3 Wildlife and Countryside Act 1981 (as amended)
- A.1.4 Nature Conservation (Scotland) Act 2004 (as amended)
- A.1.5 The Wildlife and Natural Environment (Scotland) Act 2011 (as amended)
- A.1.6 Protection of Badgers Act 1992 (as amended)
- A.1.7 Animals and Wildlife (Penalties, Protections and Powers) (Scotland) Act 2020
- A.2 Relevant Planning Policy
 - A.2.1 National Planning Policy

Appendix B Protected, Notable and Invasive Species Records

Appendix C PEA Survey Target Notes

Appendix D GLTA Survey Results



1.0 Introduction

Trio Dupplin Solar LLP, 'the Applicant', intends to apply for planning permission for the proposed installation of a solar photovoltaic (PV) array and ancillary infrastructure, the 'Proposed Development' near Tibbermore in Perth and Kinross, the 'Site'.

1.1 Site Description

The Site, centred on National Grid Reference (NGR) NO 04530 21766, is located north of the A9 at Dupplin Estate, Tibbermore - approximately 2.7 km west of Perth, within the Perth and Kinross Council (PKC) administrative area. The Site comprises 13 distinct agricultural fields enveloped by mature woodland to the west and east. The total area of the Site is 175 ha, of which approximately 126 ha will comprise solar arrays (refer to **Figure 2.3**).

The existing land use is predominantly arable farmland and distinct field margins (hedge, dykes) managed by the estate. There is one overhead electrical line running north west to south east through the eastern extent of the Site. Scottish Water maintain and operate a water tank immediately south of the Site on the Roman Road at NO 04480 20973.

There are no residential properties on the Site. The closest residences are within the working estate on the south-eastern boundary of the Site (Windyedge Cottage), and on the eastern boundary near Tibbermore Road. A small cluster of dwellings, also associated with the estate, is located approximately 200 m north of the Site along Old Gallows Road. The small village of Tibbermore is located approximately 1.4 km north east of the Site.

1.2 Details of the Proposed Development

The Proposed Development will comprise of a ground-mounted solar photovoltaic (PV) array and associated infrastructure, with a maximum generating capacity of 97.5 Megawatt-peak (MWp) and export capacity of up to 75 MW. The array will comprise PV modules arranged in rows, facing south at an angle of approximately 20°, with a maximum height of 2.67 m above ground level (AGL).

The infrastructure associated with the Proposed Development will include:

- PV module mounting frames;
- string inverters;
- field transformers;
- high voltage (HV) switchgear and control equipment;
- cabling and interconnectors;
- onsite substations and a control building;
- communications container;
- spares containers;
- access tracks;
- security fencing and CCTV; and
- temporary construction compound.



1.3 Purpose of this Report

This report presents the findings of the Preliminary Ecological Appraisal (PEA). The report seeks to:

- establish baseline conditions and determine the importance of ecological features present (or those that could be present), as far as is possible;
- to identify potential ecological constraints to the Proposed Development and make initial recommendations to avoid potentially significant effects on important ecological features, where possible;
- to identify potential requirements for mitigation, where possible, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final scheme design);
- to establish any requirements for more detailed surveys; and
- to identify opportunities for biodiversity enhancements as part of the project.

1.4 Evidence of Technical Competence and Experience

The initial PEA survey and reporting was undertaken by Euan MacRae on 26th March 2025. Euan is an SLR Project Ecologist with 3 years' ecological consultancy experience. During this time, Euan has undertaken baseline data collection for a wide variety of power sector and built environment proposed developments throughout Scotland.

The follow-up protected species surveys of the original development area and survey buffer were undertaken by SLR Ecologists Molly Turner and Nera Cornell on 27th June. Molly is a Senior Ecologist at SLR with 5 years' ecological consultancy experience. Nera is a seasonal SLR ecologist with 1 years' experience.

Baseline survey of an extension to the Proposed Development area and completion of the follow-up protected species surveys was undertaken by SLR Ecologists Kristie Watkin-Bourne and Amy Thompson on 31st July. Kristie is a Senior Ecologist at SLR with 6 years' ecological consultancy experience and a licenced bat surveyor. Amy is also a Senior Ecologist at SLR with 4 years' experience.

The reporting was also undertaken by Anna Redpath, a Graduate Ecologist at SLR with two years ecological consultancy experience. During this time, Anna has contributed to a number of reports for a variety of power sector and built environment proposed developments throughout Scotland.

The reviewing was undertaken by undertaken by Callum Taylor, a Senior Ecologist at SLR with 6 years' ecological consultancy experience. During this time, Callum has completed and reviewed a wide range of reports, including a significant number of PEAs, in varying sectors.

1.5 Relevant Legislation and Policy

Environmental legislation and policy relevant to the Proposed Development has been included in **Appendix A** of this report.



2.0 Methodology

2.1 Baseline Data Collection

2.1.1 Desk Study

A desk study was carried out to identify statutory designated sites within 10km of the Site which are designated for their non-avian nature conservation interest (including Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), National Nature Reserves (NNRs) and statutory designated sites within 20km of the Site which are designated for geese interest (including the above plus Ramsar wetlands and Special Protection Areas (SPAs)).

Any Local Nature Reserves (LNRs), non-statutory ecological sites and ancient woodland within 2km of the Site were also identified.

Protected, notable and invasive species data within 2km of the Site (within the last 15 years) was obtained from the National Biodiversity Network Atlas (NBN). Note that only records available for commercial use have been reported, with the data owner(s) cited or acknowledged as required¹.

Potential ecological constraints have been identified through a desk-based review of relevant online resources, as summarised in Table 2-2-1.

Table 2-2-1 Sources of Existing Ecological Data

Source	Baseline Information Provided
NatureScot Sitelink web-based application ² and the Multi Agency Geographic Information for the Countryside (MAGIC) web-based mapping tool ³	Statutory designated nature conservation sites within 10km (non-avian) and 20km (relating to geese) of the Site boundary.
Spatial Hub online tool ⁴	Non-statutory designated nature conservation sites within 2km of the Site boundary
National Biodiversity Network Atlas ⁵	Records of protected and notable species and non-statutory sites within 2km of the Site boundary
Ancient Woodland Inventory (AWI) of Scotland ⁶	Ancient ⁷ and long-established woodland of plantation origin ⁸ within 2km of the Site boundary.
Aerial imagery (Google Earth ⁹ and Bing Maps ¹⁰)	Habitats and features of nature conservation interest both within and surrounding the Site.

¹ <https://docs.nbnatlas.org/data-licenses/>

² <https://sitelink.nature.scot/map>

³ <https://magic.defra.gov.uk/>

⁴ <https://data.spatialhub.scot/>

⁵ <https://docs.nbnatlas.org/>

⁶ <https://www.data.gov.uk/dataset/c2f57ed9-5601-4864-af5f-a6e73e977f54/ancient-woodland-inventory-scotland>

⁷ Ancient woodland is interpreted as semi-natural woodland that has been continuously wooded since year 1750 to present day.

⁸ Long-established woodland refers to plantation woodland that has been present since year 1750. Many of these sites have developed semi-natural characteristics, and some may be as rich as ancient woodland.

⁹ <https://earth.google.com/web>

¹⁰ <https://www.bing.com/maps/>



Source	Baseline Information Provided
Ordnance Survey 1 st and 2 nd edition mapping	Habitats and features of nature conservation interest both within and surrounding the Site.
Carbon and Peatland 2016 Map of Scotland ¹¹	Distribution of carbon-rich and peat soil across Scotland and associated values (soil class).

2.1.2 Field Survey(s)

The PEA walkover survey of the Site was conducted on the 31 March 2025. The walkover survey included habitat classification of habitats within the Site, and a protected and notable species search within the Site and up to a 200m buffer.

A second visit was made to the Site on the 27 June 2025 to complete survey coverage within the areas of the original development area not accessible during the initial PEA (see Limitations).

A third visit was made to identify the habitat types and conduct a protected and notable species search of the extended development area on 31 July 2025. During this visit, Ground-level Tree Assessment (GLTA) of trees previously identified as having potential to support roosting bats was undertaken.

2.1.2.1 UK Habitat Classification Survey

The survey recorded the habitats occurring within the Site using the UK Habitat Classification (UKHab) methodology¹². The visible dominant flora was recorded, and an indicative condition assessment undertaken for each individual habitat block recorded. In accordance with UKHab methodology, secondary codes were assigned to each habitat to indicate notable features.

2.1.2.2 Protected Mammals

The overall habitat suitability for protected species was appraised across the Site, and up to a 200m buffer where access allowed. Field signs of protected, notable and invasive species including badger, otter, water vole, pine marten and red squirrel were searched for and recorded under standard methodologies^{13,14,15,16}.

2.1.2.3 Daytime Bat Walkover

A Daytime Bat Walkover (DBW) was undertaken across the Site and up to a 200m buffer where access allowed. The DBW observed, assessed, and recorded any habitats suitable for bats to roost, commute, or forage on the Site and the surrounding area using best practice guidance¹⁷ to determine suitability for bats and assess the requirement for further bat surveys. Habitat suitability was assessed as 'None', 'Negligible', 'Low', 'Moderate', or 'High'.

¹¹ <https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/>

¹² <https://www.ukhab.org>

¹³ Scottish Badgers (2018). *Surveying for Badgers Good Practice Guidelines*, Version 01. Available at https://www.scottishbadgers.org.uk/wp-content/uploads/2020/12/Surveying-for-Badgers-Good-Practice-Guidelines_V1-2020-2455979.pdf

¹⁴ Bang, P. & Dahlstrøm, P. (2006). *Animal Tracks and Signs*. Oxford University Press, Oxford.

¹⁵ Chanin P (2003b) *Monitoring the Otter* *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10. English Nature, Peterborough

¹⁶ Dean M., Strachan, R., Gow, D. and Andrews, R. (2016) *The water vole mitigation handbook* (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society London.

¹⁷ Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn) The Bat Conservation Trust, London.



2.1.2.4 Ground-level Tree Assessment

GLTA was undertaken on trees identified as having potential to provide roosting opportunity during the DBW. The GLTA involved a detailed inspection of the trees from the ground to determine the presence of PRFs, and any other evidence of bats, under standard guidance¹⁷. Where possible, features were internally inspected using an endoscope. All potentially suitable trees within 30m of proposed infrastructure, or 20m of proposed fences and access tracks (as agreed) were inspected.

2.1.3 Limitations

2.1.3.1 Desk Study

NBN data was used as a substitute for Local Environmental Recording Centre (LERC) data due to no active LERC providing data coverage for the area of the Proposed Development. Creative Commons with attribution non-commercial (CC-BY-NC) licenced species records have been excluded from this report. Review of the NBN dataset deemed that the exclusion of CC-BY-NC data would not significantly impact the outcomes of this report.

Desk study data is unlikely to be exhaustive, especially in respect of species, and is intended mainly to set a context for the study. It is therefore possible that important habitats or protected species not identified during the data search do in fact occur within the vicinity of the site. Interpretation of maps and aerial photography has been conducted in good faith, using recent imagery, but it has not been possible to verify the accuracy of any statements relating to land use and habitat context outside of the areas visited during the field surveys..

2.1.3.2 Field Survey(s)

Access to the Cultmalundie Woods bordering the Site to the west, and a small unnamed woodland bordering the Site to the south, was not available during the initial PEA. These areas were revisited to complete the protected mammals and DBW survey coverage when access was made available on 27 June 2025.

Following these surveys, an amendment was made to the proposed application boundary to include an additional area comprising four arable fields to the east. This additional area was visited to complete baseline survey coverage on 31 July 2025.

The UKHab survey of the original development area being conducted outside the main botanical season (April-September) means that some botanical species will not have been recorded. This is not considered to be a significant limitation in this case as the Site is unlikely to support protected botanical species or protected habitats due to its arable setting. The UKHab survey of the additional area was conducted during the peak of the botanical season.

3.0 Results

3.1 Desk Study

3.1.1 Statutory Designated Sites

The data search for statutory designated sites of nature conservation interest returned five sites of international importance (SAC, Ramsar), two sites of European importance (SPA) and six sites of national importance (SSSI) within 10km of the Site, extended to 20km for statutory designated sites with geese interest. Details of each are provided in **Table 3-1** and illustrated in **Figure 1**.



Table 3-1 Statutory Designated Sites with Nature Conservation Interest within 10km (Extended to 20km for Sites with Geese Interest)

Site Name	Designation	Relevant Qualifying / Notified Ecological Features	Description	Approximate Distance and Direction from Site Boundary ¹⁸
Dupplin Lakes	SSSI	<ul style="list-style-type: none"> Breeding bird assemblage; and Pink-footed goose (<i>Anser brachyrhynchus</i>), non-breeding 	<p>Dupplin Lakes SSSI lies on the eastern end of the Gask Ridge above Strathearn, 6 kilometres south west of Perth. The site consists of mixed woodland surrounding the lowland lochs of Dupplin Loch and Pitcairnie Loch with a small pool between them.</p> <p>This site is important for pink-footed geese, and breeding birds. The site is of international importance as a roost for pink-footed geese in the winter. It is nationally important for its population of scarce breeding waterfowl, and one of only six sites notified in Perth and Kinross for breeding birds associated with open water.</p> <p>Although not notified for these natural features, the site also holds large populations of wintering duck and has rich botanical interest particularly around Blairbell Wood.</p>	0 km bordering the Site at southwest corner, on opposite side of Roman Road
South Tayside Goose Roosts	Ramsar SPA	<ul style="list-style-type: none"> Greylag goose (<i>Anser anser</i>), non-breeding; Pink-footed goose, non-breeding; Waterfowl assemblage, non-breeding; and Wigeon (<i>Anas penelope</i>), breeding 	The South Tayside Goose Roosts Ramsar and SPA site comprises seven lochs (including Carsebreck and Rhynd Lochs, Drummond Lochs, Dupplin Loch and Pitcairnie Loch), a number of smaller waterbodies and other wetland habitats. The site is internationally important as a roost for greylag geese and pink-footed geese.	0.8 km southwest
River Tay	SAC	<ul style="list-style-type: none"> Atlantic salmon (<i>Salmo salar</i>); Brook lamprey (<i>Lampetra planeri</i>); 	The River Tay supports a high-quality Atlantic salmon population, with rod catch returns showing that the Tay is consistently one of the top three salmon rivers in Scotland. In 1999, the catch was 7230 fish, over 10% of the Scottish total. The Tay drains a very large catchment, and has the greatest flow of all UK rivers. There	1.9 km north

¹⁸ Measured from the nearest point "as the crow flies".



Site Name	Designation	Relevant Qualifying / Notified Ecological Features	Description	Approximate Distance and Direction from Site Boundary ¹⁸
		<ul style="list-style-type: none"> • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels; • Otter (<i>Lutra lutra</i>); • River lamprey (<i>Lampetra fluviatilis</i>); and • Sea lamprey (<i>Petromyzon marinus</i>) 	is considerable ecological variety in the Tay catchment, resulting in the Tay supporting the full range of salmon life-history types found in Scotland, with adult salmon entering the River Tay throughout the year to spawn in different parts of the catchment.	
Methven Moss	SSSI	<ul style="list-style-type: none"> • Raised bog 	Methven Moss lies on the watershed between the River Almond and the River Earn 9km west of Perth and 3km south west of the village of Methven. Lowland raised bogs are rare habitats; there are few examples in Perth and Kinross of which this is one of the largest. Methven Moss forms an important ecological link between the numerous small bog sites of the Central Belt and the scattered, drier sites of the Grampian Plain. Although the site has been damaged by past drainage activity, it retains a significant area of intact surface and continues to support typical bog vegetation and species.	2.4 km northwest
	SAC	<ul style="list-style-type: none"> • Active raised bog; and • Degraded raised bog 		
Methven Woods	SSSI	<ul style="list-style-type: none"> • Invertebrate assemblage; and • Lowland mixed broadleaved woodland 	Methven Woods is an area of mixed deciduous woodland 3km northwest of Perth. The site is important for its lowland mixed broadleaved woodland which consists of stands of oak, ash and alder dominated woodland, and its species-rich invertebrate assemblage.	3.5 km north
Kinnoull Hill	SSSI	<ul style="list-style-type: none"> • Upland oak woodland 	Kinnoull Hill is located immediately to the east of Perth overlooking the River Tay and its estuary to the south. The site is important for its oak and birch woodland, the botanical interest of the cliffs on the south side, and for its geological interest in the former quarry at Corsiehill.	6.3 km east



Site Name	Designation	Relevant Qualifying / Notified Ecological Features	Description	Approximate Distance and Direction from Site Boundary ¹⁸
Pitkeathly Mires	SSSI	<ul style="list-style-type: none"> Basin fen 	Pitkeathly Mires lies just over 4 kilometres south-west of Bridge of Earn on the north side of the Ochil Hills at a height of 250m. The site is of importance for its series of upland basin mires which contains extensive and undisturbed areas of nutrient-poor and intermediate fen, and flush vegetation.	8.0 km southeast
	SAC	<ul style="list-style-type: none"> Slender green feather-moss (<i>Hamatocaulis vernicosus</i>); and Very wet mires often identified by an unstable 'quaking' surface 		
Thistle Brig	SSSI	<ul style="list-style-type: none"> Lowland neutral grassland 	Thistle Brig lies on the west bank of the River Tay mid-way between Luncarty and Stanley, to the east of the A9. The site is notable for being a fragment of species-rich lowland neutral grassland that contains a wide variety of locally rare and scarce plants.	9.7 km northeast
Firth of Tay and Eden Sanctuary	Ramsar	<ul style="list-style-type: none"> Greylag goose, non-breeding; Pink-footed goose, non-breeding 	The Firth of Tay and Eden Estuary Ramsar and SPA is a complex of estuarine and coastal habitats in eastern Scotland from the mouth of the River Earn in the inner Firth of Tay, east to Barry Sands on the Angus coast and St Andrews on the Fife coast. For much of its length, the main channel of the estuary lies close to the southern shore and the most extensive intertidal flats are on the north side, west of Dundee. In Monifieth Bay, to the east of Dundee, the substrate becomes sandier and there are also mussel beds. The south shore consists of steeply shelving mud and shingle. The Inner Tay Estuary is particularly noted for the continuous dense stands of common reed along its northern shore. These reedbeds, inundated during high tides, are amongst the largest in Britain. Eastwards, as conditions become more saline, there are areas of saltmarsh, a relatively scarce habitat in eastern Scotland.	13.7 km east
	SPA			



3.1.2 Non-statutory Designated Sites

There are no non-statutory designated sites of ecological interest within 2 km of the Site.

3.1.3 Other Sites of Nature Conservation Interest

Review of the AWI identified 11 blocks of ancient woodland within 2 km of the Site, as shown on **Figure 2** and detailed in **Table 3-2**:

Table 3-2 Ancient Woodland within 2 km

Wood Name	AWI Wood ID	Area (ha)	Antiquity	Distance and Direction from Site
-	18,026	750.27	Long-Established (of plantation origin)	0 km, west
West Lamberkine Wood	18,524	84.46	Long-Established (of plantation origin)	0 km, east
-	18,414	113.6	Long-Established (of plantation origin)	0.1 km, south
Coldwells Wood	18,526	175.26	Long-Established (of plantation origin)	0.9 km, east
-	18,415	8	Other (on Roy map)	1.2 km, south
-	18,027	3.22	Long-Established (of plantation origin)	1.2 km, west
Patterton Wood	18,417	6.71	Long-Established (of plantation origin)	1.2 km south
Patterton Wood	18,419	13.04	Long-Established (of plantation origin)	1.3 km south
-	18,418	2.77	Long-Established (of plantation origin)	1.6 km south
-	18,416	24.13	Long-Established (of plantation origin)	1.6 km, south
Hill Wood	18,532	4.9	Long-Established (of plantation origin)	2.0 km, west

3.1.4 Protected and Notable Species Records

The NBN data search returned numerous records of protected and notable species occurring within 2 km of the Site within the last 15 years. These records have been included in full in Appendix B. A summary has been included for each group within the Field Survey results below.

3.2 Field Survey

Target notes (TNs) relating to the PEA surveys completed across the Site to date are shown on **Figure 3** and referenced in the text below.

3.2.1 Habitats

Review of the Carbon and Peatland 2016 Map of Scotland indicates that the entirety of the Site occurs on non-peaty soils.

Other neutral grassland (g3c)

A thin strip of other neutral grassland occurred along the western edge of the Site (Photograph 1), between an arable field and plantation woodland. This grassland was comprised of the dominant tufted hair grass *Deschampsia cespitosa* and cock's foot *Dactylis glomerata*, with scattered soft rush *Juncus effusus* (14). This grassland verge was unmanaged (521) but showed evidence of improvement with the occasional cleavers *Galium aparine*, dock *Rumex sp.*, thistles *Cirsium sp.* and white clover *Trifolium repens*. The species diversity was poor at the time of survey with fewer than 5 species regularly occurring per m².

Photograph 1: A strip of other neutral grassland (g3c)



Modified grassland (g4)

The Site's field margins were mostly comprised of thin strips of modified grassland dominated by meadow grasses *Poa sp.* and cock's foot with occasional dock, thistles, nettles *Urtica dioica* and white clover (Photograph 2). The species diversity was poor at the time of survey with fewer than 5 species regularly occurring per m².

Footpaths/tracks (839) were present along the wider field margins.

The Invasive Non-native Species (INNS) (524) Japanese knotweed *Fallopia japonica* was identified growing in a small circular area of grassland within one of the Site's fields (TN 67). Its regrowth was confirmed during the subsequent summer visits.

Photograph 2: A strip of modified grassland (g4)



Arable and horticulture (c1)

Sixteen arable fields comprised the majority of land area within the Site (Photograph 33). Most fields were bare at the time of the initial habitat survey, but those in the east of the Site surveyed during the follow-up summer survey were planted with cereal crops (c1c) (Photograph 44).

Photograph 33: A field of bare, recently ploughed earth (c1)



Photograph 44: Arable field in the east of the Site planted with barley (c1c)



Artificial unvegetated unsealed surface (u1c)

A dirt track (839) of unvegetated, unsealed surface runs north to south from the northern edge to the centre of the Site (Photograph 55).

Photograph 55: Dirt track (u1c)



Built linear features (u1e)

Drystone walls (114) were present along many of the field boundaries (Photograph 66).

Photograph 66: Drystone wall (u1e)



Suburban mosaic of developed and natural surface (u1d)

A small and recently managed (517) area of previously bare ground in the eastern extent of the Site was being partially recolonised by ribwort plantain *Plantago lanceolata*, dock, scentless mayweed *Tripleurospermum inodorum* and ragwort *Jacobaea vulgaris* forming a 50/50 mosaic of natural surface and bare ground (510) (Photograph 7).

Photograph 7: Mosaic of developed and natural surface in the east (u1d)



Other rivers and streams (r2b)

A wet ditch (50) was present along the eastern edge of the Site which had a 2m channel width but only a 0.4m wet width (Photograph 8). The ditch was <0.1m deep with a slow flow and a substrate largely consisting of high organic matter with gravel and pebbles. The banks were steep with excessively cut hawthorn *Crataegus monogyna* providing occasional shading. The bank-tops were predominantly modified grassland, becoming bare ground where the ditch bordered the Site's northern field. The ditch appeared to be regularly dredged with mostly bare, uniform banks.

A second ditch (50) in the western side of the Site was partially wet where it emerged from the Cultmalandie Woods but was dry within the Site, where it was dominated with rush species (Photograph 9). The ditch had steep grassy banks with the same species mix present as the other modified grassland strips occurring across the Site.

Photograph 8: The eastern ditch (r2b)



Photograph 9: The western ditch emerging from Cultmalandie Woods (r2b)



Other native hedgerow (h2a6)

Along the eastern Site boundary and an adjacent field margin were hedgerows containing fewer than three native woody species. The hedgerows were dominated by hawthorn *Crataegus* sp. with other woody species including dog rose *Rosa canina*, gorse *Ulex europaeus*, rowan *Sorbus aucuparia* and brambles *Rubus* sp.

The hedgerow running between the two arable fields on Site was non-continuous with a height of 1 – 1.5m (Photograph 10). This hedgerow overlies a wet ditch (50) between fields. The hedgerow running along the Site's eastern boundary was also non-continuous with tall forbs (16) (Photograph 11).

Photograph 10: The non-continuous hedgerow and wet ditch (h2a6)



Photograph 11: Hedgerow comprising the Site's eastern boundary (h2a6)



Other woodland - mixed - mainly broadleaved (w1h5)

The southeast corner of the Site partially contained the canopy of a block of mixed, semi-mature woodland planted on private land (Photograph 1212). The species mix included the broadleaved species birch *Betula*, cherry *Prunus* and, to a lesser extent, the coniferous species sitka spruce *Picea sitchensis*.

Photograph 1212: Mixed woodland on private land bordering the Site (w1h5)



3.2.2 Protected, Notable and Invasive Species

3.2.2.1 Plants

The NBN data search returned records of two invasive, non-native species (INNS) of plant, Himalayan balsam, *Impatiens glandulifera* and Japanese knotweed listed on Schedule 9 of the Wildlife and Countryside Act 1981 (WCA) (as amended in Scotland).

An area of Japanese knotweed was recorded within one of the arable fields within the Site during the field surveys (TN 28). This had recently died back at the time of the initial UKHab survey but had regrown during the follow-up survey.

3.2.2.2 Invertebrates

The NBN data search returned no records of protected or notable invertebrates within 2km of the Site within the last 15 years. No invertebrates were recorded during the field survey.

The Site was predominantly open arable and modified habitats with limited suitability for invertebrates.

Occasional piles of debris, including stones and rotting wood, across the Site may provide important habitat for invertebrates (TN 18), as may hedgerow in the east of the Site or woodland occurring adjacent to the Site.

3.2.2.3 Amphibians

The NBN data search returned no records of protected or notable amphibians within 2 km of the Site within the last 15 years.

An off-site area of wetland, within coniferous woodland west of the Site, that was dry at the time of survey but has potential to be seasonally wet, may provide suitable habitat for amphibians (TN 19).

Two wet ditches ran through the Site providing some potential connectivity for amphibians. However, these were generally of poor quality with bare or poorly vegetated banksides providing few opportunities for amphibians.

A frog was incidentally recorded during an endoscope inspection of a tree, outside the Site (Tree 2).

Scattered rock piles occurring infrequently across the Site could provide potentially suitable refugia for amphibians (TN 17 and 18).

3.2.2.4 Reptiles

The NBN data search returned no records of protected or notable reptiles within 2km of the Site within the last 15 years.

No reptiles were recorded during the field survey.

Tussocky grassland (e.g. g3c in the west of the Site) and woodland edge habitat may provide potential suitability for reptiles. Scattered rock piles infrequently noted across the Site could also provide potentially suitable refugia for reptiles (TN 17 and 18).

3.2.2.5 Birds

The NBN data search returned records of two species of bird which are included within Annex I of the Birds Directive:

- Kingfisher, *Alcedo atthis*; and
- Smew, *Mergellus albellus*.

In addition, two species were identified which are included within Schedule 1 of the Wildlife and Countryside Act 1981 (as amended in Scotland):

- Barn owl, *Tyto alba*; and
- Greylag goose, *Anser anser*.

Several other birds of national and/or local importance that are Red or Amber-listed, Scottish Biodiversity List (SBL) priority species and/or Local Biodiversity Action Plan (LBAP) priority species were identified. Buzzard *Buteo buteo* were recorded close to the Site, in or around areas of coniferous woodland during both visits (TN 21 and 22). A red kite *Milvus milvus* was also recorded flying over coniferous woodland west of the Site (TN 23). The nest of a bird of prey, most likely buzzard, was recorded within the coniferous woodland west of Site (TN 20).

Full details of the breeding bird survey programme conducted to date across the Site are presented in the Baseline Ornithology Report (SLR, 2025).

3.2.2.6 Mammals

The NBN data search returned records of five national and/or locally important species of mammal within 2km of the site within the past 15 years.

Bats

The location of trees surveyed during the GLTA are shown on **Figure 4**.

The NBN data search returned no records of bats within 2km of the Site within the last 15 years.

The Site was predominantly open arable habitat with limited suitability for foraging, commuting and roosting bats. Based on standard guidance¹⁷, the Site has an overall potential suitability of Low. The habitat could be used by small numbers of bats with flight-paths limited to non-continuous hedgerows, unvegetated streams and dry stonewalls. However, the woodland areas adjacent to the Site are likely to be suitable for bats and bats are therefore likely to be present, to some extent, commuting and foraging along these Site boundaries.

Two trees with PRFs were identified within the Site. A mature oak in the east of the Site had many veteran features creating potential suitability for multiple bats and/or maternity roosting (PRF-M) (Tree 22). A mature ash in the south of the Site had potential roosting features that could not be fully inspected at the time of survey due to height and leaf cover (Tree 21) and was thus classified as Further Assessment Required (FAR).

An additional 19 trees with PRFs were present within woodland outside of the Site, with eight occurring in coniferous woodland to the west (Trees 1 – 8) and 11 trees within mixed woodland to the south (Trees 9 – 19). Further inspection of three of these trees (Tree 2, 10 and 16) identified a potential roosting suitability for individual bats only (PRF-I). Further inspection of another three of these trees (Trees 9, 12 and 13) confirmed no suitability for roosting bats. The remaining trees could not be fully inspected without undertaking tree climbing or emergence/re-entry survey and remain classified as FAR.

Badger

The NBN data search returned no records of badger *Meles meles* within 2km of the Site within the last 15 years.

A badger print was recorded in the centre of the Site (TN 1). Mammal paths potentially attributable to badger were recorded emerging from coniferous woodland to the west of the Site (TN 2 – 4). Potential badger foraging signs were also recorded within this coniferous woodland (TN 5 and 6). No potential setts were identified within the Site or the 200m buffer area.

Overall, the Site had low suitability for badger, being predominantly composed of open arable habitats with few areas of scrub, hedgerow or woodland providing suitable shelter and foraging resource. The Site's cropland has potential to be used seasonally for foraging, and as such, temporarily occupied subsidiary or outlying setts may be excavated within the Site. Linear habitats such as field edges, hedgerow and woodland edge found within or adjacent to the Site are likely to be used as commuting routes by badgers emerging from woodland bordering the Site.

Otter and Water Vole

The NBN data search returned no records of otter *Lutra lutra* or water vole *Arvicola terrestris* within 2km of the Site within the last 15 years.

No evidence of otter or water vole was recorded during the field surveys. The two watercourses within the Site comprised dry or partially dry ditches with bare or sparsely vegetated banks (TN 7 – 9).

Both watercourses, therefore had negligible suitability for otter foraging and resting. Neither ditch provided hydrological connectivity with the local area, both being off-site and not clearly

connected to any other watercourses. As such, potential suitability for otter commuting across the Site is considered low.

The poorly vegetated banks, low to negligible water flow and modified nature of the ditches resulted in low to negligible suitability for water vole burrowing.

Pine marten

The NBN data search returned no records of pine marten *Martes martes* within 2km of the Site within the last 15 years.

Two pine marten scats, one old and one fresh, were recorded within coniferous woodland west of the Site (TN 14 and 15). A third potential scat was also recorded within the entrance of an underground mammal burrow (TN 16).

The Site provided low to negligible suitability for pine marten, comprising predominantly open arable habitat with no woodland cover. No potentially suitable denning sites were noted within the Site.

The woodland bordering the Site had high suitability for pine marten, providing mature coniferous woodland with recorded evidence of nesting birds and small mammals including squirrels providing potential foraging resource.

Red Squirrel

The NBN data search returned 52 records of red squirrel, *Sciurus vulgaris*, which is fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended in Scotland).

Squirrel feeding signs, including stripped cones and piles of pinecone scales, were recorded frequently throughout the coniferous woodland west of the Site (TN 10). Potential dreys were also recorded atop Scots pine trees within this coniferous woodland (TN 11 – 13) but could not be confirmed from the ground. This woodland had high suitability for red squirrel, providing foraging resource and potential places of shelter.

The Site provided low to negligible suitability for red squirrel, comprising predominantly open arable habitat with no woodland cover. No potential dreys were noted within the Site.

Other Mammals

The NBN data search returned three records of beaver, *Castor fiber*, which is a European protected species under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland).

The Site contains no habitat of potential suitability for beaver and is unlikely to be connected to suitable beaver habitat within the local area due to the lack of suitable watercourses within the Site.

During the field survey there were three incidental sightings of hares (TN 25 – 27) within the Site's fields. The Site's arable habitat, in particular cereal crop field edges, offers high suitability for hare foraging and shelter.

4.0 Ecological Constraints and Opportunities

4.1 Designated Sites

Dupplin Lakes SSSI and South Tayside Goose Roosts SPA/Ramsar exist within 1km of the Site, to the southwest. The SSSI is of national importance for pink-footed goose, and the SPA/Ramsar is of international importance for pink-footed goose and greylag goose. Both species have the potential to utilise the Site's arable habitats for seasonal foraging from

September through to April/May. As such, the Proposed Development has the potential to directly impact one or more notified features of these designated sites.

Firth of Tay and Eden Sanctuary SPA/Ramsar is also notified for pink-footed and greylag geese but is a significantly greater distance from the Site, approximately 14.2km to the east. As a result, and due to the wide array of comparable foraging habitat between the Site and the SPA/Ramsar, it is considered less likely that the Proposed Development will pose any significant risk of disturbance to these notified features.

Several other designated nature conservation sites were identified within 10km of the Site. However, due to the nature of the qualifying/notified interests of these sites, the distances involved and the lack of any likely hydrological connectivity, it is considered unlikely that any of these sites has the potential to be significantly impacted by the Proposed Development.

4.2 Habitats

The Site is predominantly composed of farmland associated habitats including arable fields and modified grassland field margins. No habitats occurring within the Site have been identified as priority farmland habitats within the Tayside LBAP. All habitats occurring within the Site are likely to be widespread throughout the local area. No notable flora was identified during the UKHab survey, with the exception of the INNS Japanese knotweed which occurs in a small area within one of the Site's westerly arable fields.

4.3 Protected Species

4.3.1 Bats

As a whole, the Site's open, arable habitats are likely to provide value for foraging and commuting bats only. Two trees with PRFs were identified within the Site, including one with potential suitability for multiple bats and/or maternity roosting. Several additional trees with PRFs were identified within woodland bordering the Site to the west and to the south.

The two trees with PRFs within the Site are likely to be disturbed by the Proposed Development without appropriate mitigation. The PRF-M tree would require further assessment to confirm presence/likely absence of any maternity roosts and inform the most appropriate mitigation. The FAR tree would require further assessment to determine the presence and extent of PRFs to inform the next steps.

The Site's open farmland habitats and linear features such as stone walls, field margins and tree lines offer low value for foraging and moderate value for commuting bats. In the absence of bat activity data confirming presence/likely absence, it should be assumed that the Site is, at minimum, occasionally utilised by foraging bats and regularly utilised by commuting bats.

4.3.2 Great Crested Newt

No ponds potentially suitable to support GCN were identified within the Site or within potential disturbance distance (250m) of the Proposed Development. GCN is not considered to be a potential constraint to the Proposed Development.

4.3.3 Otter and Water Vole

All watercourses within the Site, and within 250m of the Site, had low to negligible suitability for otter and water vole and were poorly or unconnected to the wider hydrological network. These watercourses comprised dry or mostly dry arable drainage ditches. No evidence of use by otter or water vole was recorded during the surveys. Neither species is considered to be a potential constraint to the Proposed Development.

4.3.4 Badger

One badger print was identified within the Site and mammal paths potentially attributable to badger were identified leading from the Site to coniferous woodland to the west. Potential badger foraging signs were identified within the woods, but no badger setts were recorded within the Site or 200m buffer area.

Suitable sett building habitat exists within the woodland edge habitat bordering the Site, and the potential for subsidiary or outlying setts to appear within the Site (most likely along field margins) to exploit seasonal foraging resource associated with cropland.

At the time of survey, it was likely that badger activity across the Site was limited to occasional foraging only. However, badgers are a mobile species and there is potential for new badger setts to appear within the Site or within potential disturbance distance of the Proposed Development prior to the commencement of the proposed works which would raise a potential constraint to development.

4.3.5 Pine Marten

No evidence of pine marten was recorded within the Site. Suitable habitat for pine marten exists within coniferous woodland to the west and the south of the Site.

The Site itself offers negligible value for pine marten, and it is therefore considered unlikely that pine marten would be a potential constraint to the Proposed Development.

4.3.6 Red Squirrel

Evidence of significant squirrel activity was recorded within coniferous woodland bordering the Site to the west, including foraging signs and potential dreys. This evidence could not be directly attributed to red squirrel in the absence of confirmation of this species via camera trap footage or incidental sightings. Several records of red squirrel in the area were returned by the desk study. As such, it is considered likely that this species occurs within the woodland bordering the Site, and there is potential for red squirrel resting places (i.e. dreys) to occur within potential disturbance distance of the proposed works.

4.3.7 Breeding Birds

The results of the programme of breeding bird surveys conducted across the Site in 2025 are detailed within the baseline ornithology report¹⁹. The identified potential constraints and opportunities associated with birds across the Site and the wider area are described within the Ecology and Ornithology Chapter of the Environmental Impact Assessment Report (EIA)²⁰.

4.4 Invasive Non-native Species

The surveys confirmed the presence of Japanese knotweed growing within the Site. Appropriate control measures are likely to be required to avoid the spread of this invasive species as a result of the Proposed Development.

¹⁹ SLR (2025) Dupplin Solar & Battery Energy Storage System. Baseline Ornithology Report – Breeding Bird Survey 2025

²⁰ SLR (2025) Dupplin Solar EIA Report. Chapter 6 – Ecology and Ornithology

5.0 Conclusions and Recommendations

5.1 Designated Sites

Under the Habitats Regulations, the potential of any 'likely significant effect' on a European Designated Site by a proposed development should be determined by 'appropriate assessment' as part of Habitats Regulations Appraisal (HRA). This process is likely to be a requirement for the Proposed Development to determine the potential of likely significant effects upon the nearby South Tayside Goose Roosts SPA.

A shadow HRA (sHRA) was undertaken for the Site in 2026²¹.

5.2 Bats

A 30m standoff from woodland and trees for infrastructure, reduced to 15m for fences and roads has been agreed.

Further inspection of the PRF-M tree via tree climbing and internal inspection or summer emergence surveys by a licenced ecologist would likely be required to confirm the presence or likely absence of any maternity roosts. The FAR tree would likely require tree climbing to determine the presence and extent of suspected PRFs and define whether there is a requirement for summer emergence surveys. In the absence of tree climbing inspection, emergence surveys would likely be required to determine presence/likely absence of bats and inform the most appropriate mitigation. Appropriate mitigation would be agreed following discussions with NatureScot.

5.3 Badger

There is potential for badger setts to arise within the Site or within potential disturbance distance of the proposed works. As such, the Proposed Development is likely to be subject to pre-construction surveys for badger. In the event that an active badger sett is identified, a badger licence and Species Protection Plan may be required.

5.4 Red Squirrel

There is potential for red squirrels and their dreys to occur within potential disturbance of the proposed works where construction activities occur close to bordering woodland. A 30m standoff from woodland and trees for infrastructure, reduced to 15m for fences and roads has been agreed.

Where appropriate mitigation is unable to guarantee that no disturbance to a red squirrel place of shelter will occur, a red squirrel licence and Species Protection Plan may be required.

5.5 Invasive Non-Native Species

The INNS Japanese knotweed has been identified within the Site. In order to prevent the spread of INNS, biosecurity measures should be included within the CEMP, and an INNS management plan should be developed. Measures outlined within the Plan are likely to include a pre-construction INNS survey to confirm the extent of INNS across the Site, in line with current professional best practice guidelines²². The survey will inform the appropriate stand-off distances to be maintained via the erection of exclusion fencing. Additional good

²¹ SLR (2026) Dupplin Solar Farm. Technical Appendix 6.3: shadow Habitats Regulations Appraisal (sHRA)

²² CIEEM. (2023). Good Practice Guidance for Habitats and Species. Version 3.

practice measures with regard to INNS across the Site are detailed within Section 6.13.3 of the EIA²⁰.

Appendix A Relevant Legislation and Planning Policy

Dupplin Solar

Preliminary Ecological Appraisal Report

TRIO Dupplin Solar LLP

SLR Project No.: 405.065786.00001

5 January 2026



A.1.1 Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)

Under the conservation (Natural Habitats, &c.) Regulations 1994 (The Habitats Regulations) (as amended in Scotland) it is an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time). Otter, wildcat and all bat species are listed under Schedule 2 of the Habitat Regulations.

A.1.2 The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2019

These Regulations amend the Conservation (Natural Habitats, &c.) Regulations 1994, which make provision for the transposition of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.

Regulation 2 amends schedule 2 of the 1994 Regulations to add the Eurasian Beaver (otherwise known as the European Beaver) to the list of European Protected Species of Animals that are given protection under the 1994 Regulations.

A.1.3 Wildlife and Countryside Act 1981 (as amended)

Under the Wildlife and Countryside Act 1981 (as amended in Scotland) it is an offence to intentionally or recklessly:

- Kill, injure or take and wild animal listed under Schedule 5 to the Act;
- Damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; and
- Disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection.

Otter, water vole, pine marten, red squirrel, wildcat and all bat species are listed under Schedule 5 of the Act.

Water voles receive partial protection of their places of shelter only; this has long since been expected to change with water vole receiving full protection in future to align with their steep populations declines and increasing risk of extinction on mainland Great Britain.

A.1.4 Nature Conservation (Scotland) Act 2004 (as amended)

The Nature Conservation (Scotland) Act 2004 places duties on public bodies in relation to the conservation of biodiversity, increases protection of Sites of Special Scientific Interest (SSSI), amends legislation on Nature Conservation Orders, provides for Land Management Orders for SSSIs and associated land and strengthens wildlife enforcement legislation, among other requirements. It also amends the legislation for protected species, introducing new conditions to the 'incidental results of a lawful operation' defence for all wild birds and certain species of animal and plant.

The Act places a duty on every public body to further the conservation of biodiversity consistent with the proper exercise of their functions.

It also requires Scottish Ministers to designate one or more strategies for the conservation of biodiversity as the Scottish Biodiversity Strategy, and to publish lists of species of flora, fauna and habitats of principal importance. The lists of species of flora and fauna and habitats of principal importance in Scotland is known as the Scottish Biodiversity List (SBL).



A.1.5 The Wildlife and Natural Environment (Scotland) Act 2011 (as amended)

The Wildlife and Natural Environment (WANE) (Scotland) Act 2011 (as amended) makes changes to existing legislation covering specific wild fauna (e.g., birds, rabbits, hare etc), deer management, game management/licensing, species licensing, snaring, protection of badgers, muirburn, invasive non-native species, protected areas and enforcement/liability in relation to certain offences. In relation to bats, the WANE Act:

- Introduces the offence of 'knowingly causing or permitting' certain 'acts' within Sections 6, 7 and 15A as 'offences' under the W&C Act 1981;
- Permits derogation of disturbance and/or destruction of bat roosts by the appropriate authority for development purposes, subject to specific requirements of licensing; and furthermore
- Wildlife crime now requires to be documented in an annual report, as a result of Section 20 of the WANE Act, which inserted a new Section 26B into the W&C Act 1981. It prescribes that Ministers must lay a report every calendar year on offences which relate to wildlife, to include information on incidences and prosecutions during the year and on research and advice relevant to those offences.

A.1.6 Protection of Badgers Act 1992 (as amended)

The Protection of Badgers Act 1992 (as amended in Scotland) makes it illegal to kill, injure or take a badger or to interfere with a badger sett intentionally or recklessly (i.e., damage/destroy a sett). Sett interference includes disturbing badgers whilst they are occupying a sett or obstructing access to it.

A.1.7 Animals and Wildlife (Penalties, Protections and Powers) (Scotland) Act 2020

The Animals and Wildlife (Penalties, Protections and Powers) (Scotland) Act 2020 increases the maximum available sentences in relation to a range of offences concerning animal health and welfare and wildlife; provides regulatory powers for the issuing of fixed penalty notices; and provides authorised persons with new powers regarding animals taken into their possession.

Note that the Scottish Government has passed legislation to maintain the same levels of legal protections of wildlife in Scotland post EU-exit³.

A.2 Relevant Planning Policy

A.2.1 National Planning Policy

National Planning Framework 4 (NPF4)

The National Planning Framework 4 (NPF4) was adopted by Scottish Ministers on 13 February 2023. In order to accord with the biodiversity provisions of NPF4, development proposals should demonstrate that they contribute to the enhancement of biodiversity. Of particular relevance to this project, Policy 3 of NPF4 states:

3a) Development proposals will contribute to the enhancement of biodiversity, including where relevant, restoring degraded habitats and building and strengthening nature networks and the connections between them. Proposals should also integrate nature-based solutions, where possible.

...



c) Development proposals for national or major development, or for development that requires an EIA will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance biodiversity, including nature networks so they are in a demonstrably better state than without intervention. This will include future management. To inform this, best practice assessment methods should be used. Proposals within these categories will demonstrate how they have met all of the following criteria:

- i. the proposal is based on an understanding of the existing characteristics of the site and its local, regional and national ecological context prior to development, including the presence of any irreplaceable habitats;*
- ii. wherever feasible, nature-based solutions have been integrated and made best use of;*
- iii. an assessment of potential negative effects which should be fully mitigated in line with the mitigation hierarchy prior to identifying enhancements;*
- iv. significant biodiversity enhancements are provided, in addition to any proposed mitigation. This should include nature networks, linking to and strengthening habitat connectivity within and beyond the development, secured within a reasonable timescale and with reasonable certainty. Management arrangements for their long-term retention and monitoring should be included, wherever appropriate; and*
- v. local community benefits of the biodiversity and/or nature networks have been considered.*

d) Any potential adverse impacts, including cumulative impacts, of development proposals on biodiversity, nature networks and the natural environment will be minimised through careful planning and design. This will take into account the need to reverse biodiversity loss, safeguard the ecosystem services that the natural environment provides, and build resilience by enhancing nature networks and maximising the potential for restoration.

Tayside Local Biodiversity Action Plan (LBAP) (2nd Edition)

The Tayside Local Biodiversity Action Plan (LBAP)(2nd Edition) was published in 2016 and sets out a 10-year action plan to ensure Scottish, UK and European policies, plans and strategies are delivered at a local scale. The LBAP identifies priority habitats and priority species present across the county, recommending additional mitigation to help avoid negative impacts. The FNRC data search returned records of 31 priority species recorded within the last 15 years.

Local Development Plan (LDP)

The Local Development Plan (LDP) was adopted by the Perth and Kinross Council on 29 November 2019. In order to accord with the biodiversity provisions of LDP, new development should be sympathetic to the landscape in which it is set, and will not place unnecessary burden on the environment. Of particular relevance to this project, policy 41 states:

The Council will seek to protect and enhance all wildlife and wildlife habitats, whether formally designated/protected or not, taking into account the ecosystems and natural processes in the area. Proposals that have a detrimental impact on the ability to achieve the guidelines and actions identified in these documents will not be supported unless clear evidence can be provided that the ecological impacts can be satisfactorily mitigated. Planning permission will not be granted for development that would be likely to have an adverse effect on protected species unless it can be justified in accordance with the relevant protected species legislation (Wildlife and Countryside Act 1981 (as amended) and the Protection of Badgers Act (1992)).





Appendix B Protected, Notable and Invasive Species Records

Dupplin Solar

Preliminary Ecological Appraisal Report

TRIO Dupplin Solar LLP

SLR Project No.: 405.065786.00001

5 January 2026

Table 5-1 Protected, Notable and Invasive Species Records within 2km of the Site within the Last 15 Years

Scientific Name	Common Name	Number of Records within the Last 15 Years	Date of Last Record	Protection/Conservation Status	Record Rightsholder(s)
Birds					
<i>Tyto alba</i>	Barn Owl	1	05.02.16	WCA1, SBL, LBAP	BTO
<i>Chroicocephalus ridibundus</i>	Black-headed Gull	24	13.11.19	BoCC-Amb, SBL	BTO
<i>Pyrrhula pyrrhula</i>	Bullfinch	4	21.05.17	BoCC-Amb, SBL, LBAP	BTO
<i>Larus canus</i>	Common Gull	4	11.12.18	BoCC-Amb	BTO
<i>Numenius arquata</i>	Curlew	7	02.06.21	BoCC-Red, SBL, LBAP	BTO
<i>Prunella modularis</i>	Dunnock	8	02.06.21	BoCC-Amb	BTO
<i>Mareca strepera</i>	Gadwall	18	14.11.20	BoCC-Amb	BTO
<i>Carduelis carduelis</i>	Goldfinch	5	28.06.17	LBAP	BTO
<i>Mergus merganser</i>	Goosander	26	06.02.20	LBAP	BTO
<i>Larus marinus</i>	Great Black-backed Gull	1	11.05.14	BoCC-Amb	BTO
<i>Ardea cinerea</i>	Grey Heron	63	22.02.21	LBAP	BTO
<i>Anser anser</i>	Greylag Goose	9	17.03.21	WCA1, BoCC-Amb, LBAP	BTO
<i>Larus argentatus</i>	Herring Gull	3	11.06.19	BoCC-Red, SBL, LBAP	BTO
<i>Delichon urbicum</i>	House Martin	5	11.06.19	BoCC-Red, LBAP	BTO
<i>Passer domesticus</i>	House Sparrow	10	02.06.21	BoCC-Red, SBL, LBAP	BTO
<i>Alcedo atthis</i>	Kingfisher	1	22.10.20	WCA1, BD1, SBL, LBAP	BTO
<i>Vanellus vanellus</i>	Lapwing	1	12.05.13	BoCC-Red, SBL, LBAP	BTO
<i>Larus fuscus</i>	Lesser Black-backed Gull	4	14.04.21	BoCC-Amb	BTO
<i>Linaria cannabina</i>	Linnet	3	28.06.16	BoCC-Red, SBL, LBAP	BTO
<i>Anas platyrhynchos</i>	Mallard	81	14.04.21	BoCC-Amb	BTO
<i>Anthus pratensis</i>	Meadow Pipit	4	28.06.14	BoCC-Amb	BTO



Scientific Name	Common Name	Number of Records within the Last 15 Years	Date of Last Record	Protection/Conservation Status	Record Rightsholder(s)
<i>Gallinula chloropus</i>	Moorhen	53	14.04.21	BoCC-Amb, LBAP	BTO
<i>Cygnus olor</i>	Mute Swan	100	14.04.21	LBAP	BTO
<i>Haematopus ostralegus</i>	Oystercatcher	14	02.06.21	BoCC-Amb, LBAP	BTO
<i>Anser brachyrhynchus</i>	Pink-footed Goose	7	20.01.19	BoCC-Amb, LBAP	BTO
<i>Aythya ferina</i>	Pochard	12	17.12.20	BoCC-Red, SBL, LBAP	BTO
<i>Emberiza schoeniclus</i>	Reed Bunting	1	12.05.13	BoCC-Amb, SBL, LBAP	BTO
<i>Corvus frugilegus</i>	Rook	9	02.06.21	BoCC-Amb	BTO
<i>Acrocephalus schoenobaenus</i>	Sedge Warbler	1	28.06.17	BoCC-Amb	BTO
<i>Spatula clypeata</i>	Shoveler	1	22.10.20	BoCC-Amb	BTO
<i>Alauda arvensis</i>	Skylark	14	02.06.21	BoCC-Red, SBL, LBAP	BTO
<i>Mergellus albellus</i>	Smew	1	12.03.09	BD1, BoCC-Red, SBL	BTO
<i>Gallinago gallinago</i>	Snipe	1	18.04.21	BoCC-Amb	BTO
<i>Turdus philomelos</i>	Song Thrush	5	02.06.21	LBAP	BTO
<i>Sturnus vulgaris</i>	Starling	8	28.06.17	BoCC-Red, SBL	BTO
<i>Hirundo rustica</i>	Swallow	10	11.06.19	LBAP	BTO
<i>Apus apus</i>	Swift	2	13.05.18	BoCC-Red, SBL, LBAP	The Royal Society for the Protection of Birds
<i>Anas crecca</i>	Teal	34	22.10.20	BoCC-Amb, LBAP	BTO
<i>Passer montanus</i>	Tree Sparrow	2	11.06.19	BoCC-Red, SBL, LBAP	BTO
<i>Oenanthe oenanthe</i>	Wheatear	2	01.05.19	BoCC-Amb, LBAP	BTO
<i>Rallus aquaticus</i>	Water Rail	7	30.07.19	LBAP	BTO
<i>Curruca communis</i>	Whitethroat	11	02.06.21	BoCC-Amb	BTO
<i>Mareca penelope</i>	Wigeon	33	22.02.21	BoCC-Amb, LBAP	BTO



Scientific Name	Common Name	Number of Records within the Last 15 Years	Date of Last Record	Protection/Conservation Status	Record Rightsholder(s)
<i>Phylloscopus trochilus</i>	Willow Warbler	11	02.06.21	BoCC-Amb	BTO
<i>Columba palumbus</i>	Woodpigeon	14	02.06.21	BoCC-Amb	BTO
<i>Emberiza citrinella</i>	Yellowhammer	14	02.06.21	BoCC-Red, SBL, LBAP	BTO
Mammals					
<i>Castor fiber</i>	Beaver	3	07.12.20	HR2,	NatureScot
<i>Lepus europaeus</i>	Brown Hare	10	02.06.21	SBL	BTO
<i>Erinaceus europaeus</i>	Hedgehog	1	07.07.21	WCA6, SBL, LBAP	The Mammal Society, and Biological Records Centre
<i>Sciurus vulgaris</i>	Red Squirrel	52	09.11.23	WCA5, WCA6, SBL, LBAP	Scottish Wildlife Trust
<i>Capreolus capreolus</i>	Roe Deer	8	11.06.19	LBAP	BTO
Plants					
<i>Impatiens glandulifera</i>	Himalayan Balsam	2	28.07.15	WCA9	Botanical Society of Britain and Ireland and Biological Records
<i>Fallopia japonica</i>	Japanese Knotweed	1	28.07.15	WCA9	Botanical Society of Britain and Ireland and Biological Records

Protection / conservation status:

WCA1 = Wildlife & Countryside Act 1981 (as amended in Scotland): Schedule 1

WCA5 = Wildlife & Countryside Act 1981 (as amended in Scotland): Schedule 5

WCA6 = Wildlife & Countryside Act 1981 (as amended in Scotland): Schedule 6

WCA9 = Wildlife & Countryside Act 1981 (as amended in Scotland): Schedule 9

HR2 = The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended in Scotland): Schedule 2

SBL = Scottish Biodiversity List

BD1 = The Birds Directive 2009: Annex 1

BoCC-Amb = Birds of Conservation Concern 5: Amber List



BoCC-Red = Birds of Conservation Concern 5: Red List

LBAP = Local Biodiversity Action Plan

BTO = British Trust for Ornithology





Appendix C PEA Survey Target Notes

Dupplin Solar




Preliminary Ecological Appraisal Report

TRIO Dupplin Solar LLP




SLR Project No.: 405.065786.00001

5 January 2026




Table 5-2: PEA Target Notes

Target Note ID	Grid reference	Description	Photo
Badger			
1	NO0447721736	Badger print at section of partially collapsed stone wall and likely fence crossing point.	
2	NO0369021494	Mammal path leading under fence bordering coniferous woodland. No evidence of use by badger. Deer hair trapped in fence.	
3	NO0387321563	Mammal path leading under fence bordering coniferous woodland. No evidence of use by badger.	






Target Note ID	Grid reference	Description	Photo
4	NO0415621207	Mammal path and fence crossing point with likely fox scat. No evidence indicative of use by badger.	
5	NO0419921443	Fresh excavation within coniferous woodland potentially attributable to foraging badger.	
6	NO0417121256	Fresh excavation within coniferous woodland potentially attributable to foraging badger.	
Otter and water vole			






Target Note ID	Grid reference	Description	Photo
7	NO0404321586	Dry watercourse along edge of coniferous woodland. Negligible suitability for otter and water vole.	
8	NO0406721545	Partially wet ditch with standing water within coniferous woodland. Negligible suitability for otter and water vole.	
9	NO 05759 21772	Wet ditch with hedgerow. Low suitability for water vole and commuting otter.	
Red squirrel			






Target Note ID	Grid reference	Description	Photo
10	NO 04144 21432	22 individual instances of squirrel feeding signs (stripped cones and piles of scales) were recorded within this off-Site area of Scots pine and larch coniferous woodland.	
11	NO0411521562	Bird nest or potentially a large squirrel drey below canopy of tall Scots pine in coniferous woodland.	
12	NO0416721336	Potential squirrel drey midway up a Scots pine in coniferous woodland.	





Target Note ID	Grid reference	Description	Photo
13	NO0418721260	Bird nest or potentially a large squirrel drey within canopy of tall Scots pine in coniferous woodland.	
Pine marten			
14	NO 03685 21496	Old, broken up pine marten scat.	
15	NO 03682 21489	Fresh pine marten scat.	





Target Note ID	Grid reference	Description	Photo
16	NO 04108 21605	Potential pine marten scat outside mammal burrow.	
Amphibians and reptiles			
17	NO0391521739	Scattered rock piles creating potential hibernacula for amphibians and reptiles.	
18	NO0391521739	Rock and wood piles creating potential hibernacula for amphibians and reptiles.	



Target Note ID	Grid reference	Description	Photo
19	NO0415421093	Wetland habitat. Completely dry at time of survey. Wetland vegetation and basin shape suggests it is seasonally wet.	
Birds			
20	NO0407921540	Large bird nest in Scots pine. Suspected buzzard.	
21	NO0485421235	Incidental sighting of two buzzards calling at field edge.	
22	NO0417021458	Incidental sighting of buzzard close to suspected nest in coniferous woodland.	
23	NO 04262 21370	Incidental sighting of a red kite over Scots pine woodland. Flying SW.	
Other mammals			



Target Note ID	Grid reference	Description	Photo
24	NO0419821403	Unidentified mammal scat within coniferous woodland. Mostly composed of invertebrate remains.	
25	NO0388722084	Incidental sighting of a brown hare in arable field.	
26	NO0413321868	Incidental sighting of a brown hare flushed from a burrow at field edge.	
27	NO0495821343	Incidental sighting of a brown hare in arable field.	
INNS			
28	NO0391821738	INNS – Japanese knotweed growing within grassland island within arable field.	





Appendix D GLTA Survey Results

Dupplin Solar



Preliminary Ecological Appraisal Report

TRIO Dupplin Solar LLP



SLR Project No.: 405.065786.00001

5 January 2026



Table 5-3 GLTA Survey Results

Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
1	Scots pine	1.2	15	NO 03677 21492	Crack/split Unspecified (large tree)	FAR (further assessment required)	Large mature pine with split in SW facing limb at 3m.	
2	Willow	0.3	6	NO 03980 21579	Large hollow	PRF-I (individual bats)	Willow with hollow potentially suitable for individual bats at 0.4m. No evidence of bats recorded. Frog incidentally recorded within feature during endoscope inspection.	





Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
3	-	0.3	3	NO 04092 21566	Woodpecker holes	FAR	Standing deadwood with multiple woodpecker holes that could not be fully inspected from the ground.	
4	Birch	-	-	NO 04121 21501	Tear out	FAR	Tall birch with torn off branches creating small cavities that could not be fully inspected from the ground.	





Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
5	Scots pine	0.2	7	NO 04181 21403	Woodpecker hole	FAR	Standing deadwood with woodpecker hole near top which couldn't be fully inspected from ground.	
6	-	0.3	3	NO 04149 21352	Woodpecker holes	FAR	Standing deadwood with multiple woodpecker holes that could not be fully inspected from the ground.	





Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
7	Scots pine	0.4	-	NO0423321316	Snapped limb	FAR	Pine with broken branch. Full extent of feature not visible from the ground.	
8	Scots pine	0.6	14	NO0421821293	Snapped limb	FAR	Pine with broken crown limb. Full extent of feature not visible from the ground.	





Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
9	Beech	0.3	10	NO 04730 21056	Crack/split	NONE	Potential split at 5m on W aspect was inspected and found to have no potential suitability for roosting bats.	
10	-	0.5	12	NO 04735 21100	Lifting bark	PRF-I	Standing deadwood with lifting bark around base of trunk with potential suitability for individual bats. Endoscoped with no evidence of use by bats identified.	





Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
11	Scots pine	0.6	5	NO 04721 21107	Transverse snap	FAR	Snapped trunk with potentially large, open feature. Unable to be inspected from ground.	
12	Beech	0.5	15	NO 04711 21120	Crack/split	NONE	Tall beech with split branch at 7m on W aspect. Branches have been cleanly cut leaving no potential roosting features.	





Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
13	-	0.5	2	NO 04719 21131	-	NONE	Previously noted tree with peeling bark which has since been cut down. No features potentially suitable for roosting bats.	
14	Sycamore	1.2	15	NO 04751 21154	Tear out	FAR	Mature sycamore with tear out creating a potential cavity at 7m on W aspect that could not be fully inspected from ground.	





Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
15	Scots pine	1	12	NO 04725 21166	Knot hole	FAR	Scots pine with small hole beneath branch at 5m on NW aspect. Could not be fully assessed from ground.	
16	Scots pine	1	15	NO 04758 21197	Branch end cavity/cracks	PRF-I	Scots pine with small end crack on NW facing branch at 6m. Potentially suitable for individual bats though could not be fully assessed from ground.	




Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
17	Scots pine	0.9	15	NO 04780 21214	Knot hole Crack/split	FAR	Scots pine with knot hole at 5m on limb and cracks along limb at 7-8m. Features could not be assessed for roosting suitability from ground.	
18	Scots pine	0.8	15	NO 04799 21206	Knot hole Crack/split	FAR	Scots pine with cracked branch at 7m on N aspect. Also, a hole at 5m on the main trunk. Features could not be fully assessed from ground.	



Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
19	Scots pine	0.8	15	NO 04809 21204	Knot hole	FAR	Scots pine with a potential small hole at 7m on SW aspect. Feature could not be fully assessed from ground.	
20	Scots pine	0.8	15	NO 04805 21187	Knot holes Peeling bark	FAR	Scots pine with holes in secondary trunk at 7m and potentially peeling bark at 5m on N aspect. Could not be fully assessed from ground.	



Tree ID	Tree Species	Diameter (m)	Height (m)	Grid Reference	PRF Types	Preliminary Classification	Notes	Photo
21	Ash	1.2	12	NO 04813 21284	Branch end cavities and cracks Knot hole	FAR	Mature ash with obscured branch end cavities at 8m on N aspect and a knot hole at 6m. Features could not be fully assessed from ground.	
22	Oak	1.5	8	NO 05567 21526	Branch end cavities/cracks Lifting bark Crack/split Large hollow Butt rot	PRF-M (multiple bats/maternity)	Mature oak with high suitability for roosting bats. Multiple veteran features including lifting bark in several areas, cracks on branches on every aspect and significant butt rot. Tree has potential suitability for multiple bats and may be used as a maternity roost.	