



Meridian Solar Farm

EN010169

Volume 6

Environmental Statement

6.3 ES Appendix 9-9: Great
Crested Newt Survey

APFP Regulation 5(2)(a)

Infrastructure Planning (Applications:
Prescribed Forms and Procedure)
Regulations 2009

March 2026

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1. Summary of Key Findings

- 1.1.1. Temple was commissioned by Meridian Solar Farm Limited, to undertake a survey to determine the presence or likely absence of great crested newt (GCN) *Triturus cristatus* within suitable habitats at or within the zone of influence of Meridian solar farm, Lincolnshire and, if present, to identify any constraints on, or opportunities from, the Scheme. Meridian Solar Farm Limited (hereafter referred to as 'the Applicant') has prepared this Great Crested Newt eDNA and HSI Survey Report as part of its application for a Development Consent Order ('the DCO Application') for the construction, operation and decommissioning of the proposed Meridian Solar Farm ('the Scheme').
- 1.1.2. GCN surveys have been undertaken in May and June 2025 and included Habitat Suitability Index (HSI) surveys and environmental DNA (eDNA) surveys.
- 1.1.3. The main findings are as follows:
 - Four ponds/ditches were identified within the Site and a further 31 ponds/ditches up to 500m from the Site.
 - GCN surveys were undertaken in May and June 2025, comprising HSI and eDNA assessments.
 - One, pond was no longer present, all ponds within the Site and within a 250m buffer were surveyed, but two ponds within the 250m buffer were not subject to eDNA survey, and 3 ponds located between 250m-500m outside the Site were not surveyed, due to a combination of access and H&S issues.
- 1.1.4. eDNA testing returned negative results for all ponds tested, indicating absence of GCN.

2. Introduction

2.1. Background to commission

- 2.1.1. Temple was commissioned by Meridian Solar Farm Limited in 2025 to undertake surveys to determine the presence or likely absence of great crested newt (hereafter referred to as GCN).
- 2.1.2. Meridian Solar Farm Limited (hereafter referred to as 'the Applicant') has prepared this Great Crested Newt eDNA and HSI Survey Report as part of its application for a Development Consent Order ('the DCO Application') for the construction, operation and decommissioning of the proposed Meridian Solar Farm ('the Scheme').
- 2.1.3. The DCO Application is for a Nationally Significant Infrastructure Project (NSIP) comprising the construction, operation (including maintenance) and decommissioning of photovoltaic (PV) solar panels and up to 13 km of overhead line connection into National Grid's planned Weston Marsh B substation. The Scheme will also include associated infrastructure, including co-located battery energy storage systems (BESS) and inter-array connections to link together the land parcels where the solar panels are located.
- 2.1.4. Where access was permitted, the survey covers all on-site waterbodies as well as all waterbodies located within 500m of the Site boundary (hereon referred to as the Site) as indicated on **ES Figure 1-1: Scheme Location** (Doc Ref. 6.2).

2.2. Scope of Report

- 2.2.1. The objectives of the report are to:
 - present the methodology used and identify any constraints encountered during the GCN surveys;
 - present the results of the HSI assessment for all ponds and other potentially suitable waterbodies;
 - present the results of the eDNA, presence/absence surveys; and
 - provide a summary of the potential for the Scheme to support opportunities for GCN.
- 2.2.2. This report provides an assessment of the status of GCN in ponds on Site and within 500m of the Site. This will be used to identify any potential ecological

constraints associated with the Scheme that may risk contravention of legislation or policy.

- 2.2.3. The assessment is based on the following sources of information:
- 2.2.4. A desk-based assessment of the surrounding habitats to identify potential aquatic and terrestrial habitat within and up to a 500m radius of the Site (including revised Order Limits showing extension to the north of the Grid Connection Route), records of GCN pond surveys, review of mitigation licences for amphibians, a study of great crested newt class licence returns, GCN strategic opportunity area mapping, and local biodiversity records centre species records to at least 2km from the Site boundary; a review of whether the Site falls into a District Level Licence (DLL) scheme; a HSI and eDNA assessment¹ of all accessible ponds within 500m of the Site boundary (ARG UK, 2010); and an environmental DNA (eDNA) assessment of 35 ponds;
- 2.2.5. This assessment has been prepared with reference to best practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM)² and as detailed in British Standard 42020:2013 Biodiversity - Code of Practice for Biodiversity and Development³.
- 2.2.6. A pond location and survey results map is included in Appendix 1, photographs in Appendix 2, the HSI results in Appendix 3, and the eDNA analysis results in Appendix 4.

2.3. Site Context and Status

- 2.3.1. The Site constitutes the total land area within the Order Limits of the Scheme, including the Solar Development Area, Inter-Array Connections and Grid Connection Route. A summary of the areas for each part of the Scheme is provided below:
 - Solar Development Area - Land Parcel A: 197ha
 - Solar Development Area - Land Parcel B: 335ha

1 ARG UK, 2010. Amphibian Habitat Suitability Index and eDNA Guidelines. Amphibian and Reptile Groups of the United Kingdom.

2 Chartered Institute for Ecology and Environmental Management (CIEEM), 2023. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. CIEEM, Winchester.

3 BSI, 2013. British Standard 42020:2013 Biodiversity - Code of Practice for Biodiversity and Development. British Standards Institution.

- Solar Development Area - Land Parcel C: 205ha
- Solar Development Area - Land Parcel D: 330ha
- Underground Inter-Array between Land Parcel A & B: 15ha
- Overhead Inter-Array between Land Parcel C & D: 46ha
- Grid Connection Route: 510ha
- Site (total): 1616ha*

*Note the sum of parts for the areas of the Scheme exceeds the total area of the Order Limits due to an overlap of the Grid Connection Route with Solar Development Area Land Parcel B.

2.4. Development Proposals

- 2.4.1. The Scheme would comprise the construction, operation (including maintenance) and decommissioning of a solar PV electricity generating station with associated infrastructure, including co-located Battery Energy Storage System (BESS), Inter-Array Connections to link the land parcels that form the Solar Development Areas, and an up to 13km overhead line Grid Connection (with one short undergrounded section) which would run north towards a point of connection (PoC) at the proposed Weston Marsh B National Grid Electricity Transmission (NGET) substation, to the north of Weston.
- 2.4.2. The Solar PV generating station, associated BESS, on-site substations and other associated infrastructure would be located within four land parcels (A, B, C and D) referred to collectively as the Solar Development Area, as shown in **ES Figure 1-1** (Doc Ref. 6.2).
- 2.4.3. The Inter-Arrays would be the areas within which 132kV connection cables (the 'Inter-Array Connections') would link the land parcels of the Solar Development Area. The configuration of the Inter-Array Connections (132kV) would comprise underground cabling between Land Parcels A and B ('the Underground Inter-Array') and an overhead line between Land Parcels C and D ('the Overground Inter-Array').
- 2.4.4. The Grid Connection Route would be the area between the Solar Development Area and the National Grid Weston Marsh B Substation in which a 400kV overhead line (the 'Grid Connection') would be located. There is one section where the Grid Connection would route underground to avoid conflicts with an existing 132kV overhead line. Cable Sealing End Compounds (CSECs) would join the proposed underground cable at that section with the proposed overhead line.

2.5. Relevant Legislation and Planning Policy

2.5.1. The following key pieces of nature conservation legislation are relevant to this assessment.

- The Conservation of Habitats and Species Regulations 2017 (as amended)⁴ ;
- The Wildlife and Countryside Act 1981 (as amended)⁵ ;
- Natural Environment and Rural Communities Act 2006⁶ ; and
- The Environment Act 2021⁷ .

2.5.2. GCN and their habitats are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). Regulation 43 identifies offences in relation to animals that are protected by the Regulations. The relevant offences are to:

- Deliberately capture, injure, or kill GCN;
- Deliberately take or destroy the eggs of GCN newts;
- Deliberately disturb great crested newts; or
- Damage or destroy a breeding site or resting place of GCN.

2.5.3. Regulation 9 of The Wildlife and Countryside Act 1981⁸ makes it an offence to:

- intentionally kill, injure or take GCN;
- Possess or control any live or dead specimen or anything derived from GCN;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by GCN; and

4 The Conservation of Habitats and Species Regulations 2017 (as amended). Available at:

<https://www.legislation.gov.uk/uksi/2017/1012/contents/made> (Accessed: 27 February 2026).

5 The Wildlife and Countryside Act 1981 (as amended). Available at: <https://www.legislation.gov.uk/ukpga/1981/69> (Accessed: 27 February 2026).

6 Natural Environment and Rural Communities Act 2006. Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents> (Accessed: 27 February 2026).

7 The Environment Act 2021. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted> (Accessed: 27 February 2026).

8 The Wildlife and Countryside Act 1981 (as amended). Available at: <https://www.legislation.gov.uk/ukpga/1981/69> (Accessed: 27 February 2026).

- Intentionally or recklessly disturb GCN whilst they are occupying a structure or place used for shelter or protection.

2.5.4. Activities affecting GCN can be licensed by the appropriate Statutory Nature Conservation Organisation (SNCO). These include mitigation licences that apply to development or other work. The licences allow for derogation from the strict provisions within the Conservation of Habitats and Species Regulations 2017⁹ (as amended), subject to the application of the 'licensing tests' and specifically that there is no satisfactory alternative, and the development of an appropriate method statement including secured mitigation measures that ensure there will be no adverse impact on the species.

2.5.5. The National Planning Policy Framework¹⁰ (Ministry of Housing, Communities and Local Government, 2024) requires public authorities to contribute to and enhance the natural and local environment including by minimising impacts on and providing net gains for biodiversity when taking planning decisions. The Environment Act, 2021¹¹ has strengthened the duty to conserve biodiversity within the Natural Environment and Rural Communities Act 2006¹², such that all public authorities are required to conserve and enhance biodiversity.

9 The Conservation of Habitats and Species Regulations 2017 (as amended). Available at:

<https://www.legislation.gov.uk/uksi/2017/1012/contents/made> (Accessed: 27 February 2026).

10 Ministry of Housing, Communities and Local Government (2024) National Planning Policy Framework. Available at:

<https://www.gov.uk/government/publications/national-planning-policy-framework--2> (Accessed: 27 February 2026).

11 The Environment Act 2021. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted> (Accessed: 27 February 2026).

12 Natural Environment and Rural Communities Act 2006. Available at:

<https://www.legislation.gov.uk/ukpga/2006/16/contents> (Accessed: 27 February 2026).

3. Methodology

3.1. Desk Study

- 3.1.1. A desk study was previously undertaken and documented in Temple (2025b), to obtain data relating to GCN within the Site and at least 2km radius of the Site.
- 3.1.2. Additional contextual information was compiled from publicly available data sources:
- MAGIC (<http://www.magic.gov.uk>) – the Government’s on-line mapping service. Information was sought regarding: the presence of ancient semi-natural woodland (ASNW), statutory designated nature conservation sites and extant or historic mitigation licences for GCN;
 - Ordnance Survey mapping and publicly available aerial photography to determine any features such as ponds, ditches and other waterbodies within 500m of the Site, and woodland, tree lines and hedgerows; and
 - Survey data provided by National Grid was received and reviewed for the revised Order Limits to the north of the Grid Connection Route.

3.2. Field Surveys

- 3.2.1. In 2025, HSI and eDNA surveys were carried out from 13/05/2025 to 15/05/2025 and on 23/06/2025. Additional surveys were conducted on 04/06/2025 and 05/06/2025 by qualified and experienced ecologists.

3.3. Habitat Suitability Index Assessment

- 3.3.1. Ponds and potentially suitable waterbodies identified in Preliminary Ecological Appraisal for the Scheme (**ES Appendix 9-2: Preliminary Ecological Appraisal Report** (Doc. Ref. 6.3)). These ponds were assessed for their potential to support GCN using the standardised Habitat Suitability Index (HSI) methodology¹. The HSI is a methodology that assesses habitat suitability and quantity using ten suitability indices.
- 3.3.2. These indices are:
- Factor 1 - Geographic location;
 - Factor 2 - Pond area;
 - Factor 3 - Permanence;

- Factor 4 - Water quality;
- Factor 5 - Shading;
- Factor 6 - Waterfowl;
- Factor 7 - Fish;
- Factor 8 - Pond count;
- Factor 9 – Terrestrial habitat; and
- Factor 10 - Macrophytes.

3.3.3. Each of these indices, assessed by either desk study or field survey, is given an individual value from 0 to 1 and the HSI is calculated by taking a geometric mean of these indices’ values, giving an overall score from 0 through to 1.

3.3.4. The results of the HSI calculation were compared to categorised HSI scores used by the National Amphibian and Reptile Recording Scheme to identify the suitability of a pond for GCN. The five categories are summarised in Table 3-1 below.

3.3.5. The HSI method is recognised as not sufficiently precise to conclude that ponds with a high score will support newts, or that any pond with a low score will not. Instead, HSI is a tool for consistently evaluating potential rather than providing a substitute for GCN presence or assumed absence surveys.

Table 3-1: HSI Categories

Pond Suitability for GCN	HSI Score
Poor	Below 0.5
Below Average	0.5-0.59
Average	0.6-0.69
Good	0.7-0.79
Excellent	Above 8.0

3.4. Environmental DNA Surveys (Presence/ Likely Absence)

3.4.1. Following the HSI surveys all waterbodies with suitable habitat and the potential to support GCN were subject to eDNA surveys. The exceptions to these were where there was:

- restricted access;

- where waterbodies were dry at the time of survey.
- 3.4.2. The environmental DNA (eDNA) water sampling followed the methodology set out in Natural England's 'Technical advice note for field and laboratory sampling of great crested newt DNA'¹³, which is provided as an appendix of the research report published by DEFRA into environmental DNA testing for GCN.
- 3.4.3. The following information was collected as part of the eDNA process for each waterbody:
- site name, location, and nearest settlement;
 - time and date of sampling;
 - personnel collecting the sample;
 - percentage of pond perimeter accessible to undertake the survey;
 - data on inflows, outflows, and general water quality; and
 - any limitations in collecting the sample.
- 3.4.4. The sample locations were selected to include the entire pond margin (where accessible) targeting on areas with vegetation suitable for newt egg laying activities. The sampling procedure was as follows:
- 20 samples of 30ml each were taken from the perimeter of each pond at locations equally spaced apart (where accessible);
 - The ladle was stirred gently in the pond before the sample was retrieved in order to mix the water column, with care being taken not to stir up the sediment;
 - All 20 samples collected were emptied as they were collected into a Whirl-Pack bag, which was then sealed and mixed for a minimum of 10 seconds;
 - Using a sterile pipette, 15ml of the sample was transferred to six sterile tubes containing ethanol. Each tube was then shaken for 10 seconds to homogenize the water;

13 Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R.A., Foster, J., Wilkinson, J., Arnett, A., Williams, P. and Dunn, F. (2014) Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA. Appendix 5 of: DEFRA, Analytical and methodological development for improved surveillance of the great crested newt (WC1067). Available at: http://randd.defra.gov.uk/Document.aspx?Document=11976_WC1067_Appendix_5_TechnicalAdviceNote.pdf (Accessed: 27 February 2026).

- Samples were then stored at 2-4°C in a refrigerator until dispatched to the laboratory for analysis.

3.4.5. To eliminate cross contamination of samples by the surveyor new sterile gloves were worn for each eDNA kit and samples were collected without the surveyor entering the water.

3.4.6. Samples were analysed following Natural England's published protocol¹³. Sampling kits were returned to the Sure Screen Scientific laboratory by Temple in May and June 2025.

Data validity and Limitations

3.4.7. It is important to note that even where data are held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

Site Specific Limitations

3.4.8. Access to Ponds 7, 10, 15 and 37 was not granted for the survey. Pond 38 was found not to exist at the time of the survey and Pond 20 was too shallow to undertake eDNA. Therefore, the status of GCN within this pond is unknown.

3.4.9. Data from GCN surveys may be valid for up to three seasons depending on the nature of the impacts of the proposals. Where supporting a mitigation licence application, guidance is available on the validity of data and its age within the Survey Guidance table (Instructions tab) of the Natural England mitigation licence method statement document¹³.

4. Results

Field Survey

4.1. Habitats Overview

4.1.1. Terrestrial habitats on Site predominantly comprised open, low-lying arable agricultural land typical of the Fenland landscape. Field parcels are separated by a vast network of drainage features, including species-poor ditches and Internal Drainage Board (IDB) main drains, which provided limited ecological connectivity.

4.2. Habitat Suitability Index and eDNA Survey

4.2.1. Ponds 3, 4, 9, 12, 14, 17, 18, 40, 41, and GC3 (see Appendix 1, Figure 1 for pond locations) were assessed as providing 'Poor' habitat suitability for GCN based on HSI scoring. This classification was largely on account of the fish observed within the ponds which will likely predate newt eggs and efts.

4.2.2. Pond 43 was assessed as providing 'Poor' habitat suitability for GCN based on HSI scoring. This pond was not eDNA tested due to the steepness of the bank and the density of the vegetation obscuring its edge from the pond, which appeared to be polluted by farm animal slurry.

4.2.3. Ponds 8 and 24 were assessed as providing 'Below Average' habitat suitability for GCN, based on the HSI scoring. Pond 8 had dried out so an eDNA test could not be carried out.

4.2.4. Ponds 13, 16, 21, 25, 42, 44, GC1, and GC2 were assessed as providing 'Average' habitat suitability for GCN, based on the HSI scoring.

4.2.5. Ponds 1, 2, 5, 6, 11, 19, 20 (which were too shallow for eDNA), 22, 23, 39 were assessed as providing 'Good' suitability for GCN, based on the HSI scoring.

4.2.6. Pond 21 was not eDNA tested due to insufficient water being in the pond. Pond 44 was fenced off, with no accessibility, so was not eDNA tested. Ponds GC1 and GC2 were attenuation ponds with very little water in them, and no safe access to that water, and so were not eDNA tested. Pond 25 was not eDNA tested due to the presence of nesting moorhen. Ponds 10, 15, 37 were not surveyed due to lack of access. Pond 38 was found to no longer exist at the time of the survey.

- 4.2.7. All ponds tested for eDNA were found to be negative suggesting the absence of GCN
- 4.2.8. A summary of the HSI and eDNA results are presented in Table 4-1 overleaf. A Pond location map is provided in Appendix 1. Figure 1, photographs, full HSI calculations and eDNA laboratory reports are presented in Appendices 2, 3 and 4 of this document.

Table 4-1: Summary of HSI and eDNA Survey Results

Pond Number	Description	Distance (m) Site	HSI score and suitability	eDNA Result
1	Small pond with moderate water quality, rarely dries, and has ~40% macrophyte cover. No shading, minor waterfowl impact, and fish presence. Surrounded by poor terrestrial habitat and three nearby ponds, resulting in moderate ecological connectivity.	200m west	0.72 Good	Negative
2	Small pond with moderate water quality, rarely dries, and has ~40% macrophyte cover. Minimal shading, minor fish and waterfowl impact, and moderate terrestrial habitat. Surrounded by six nearby ponds.	200m west	0.75 Good	Negative
3	Clear water pond with fishing pier and terrestrial vegetation along the perimeter near parcel A	30m south	0.46 Poor	Negative
4	Turbid fishing pond with fishing pier and terrestrial vegetation along the perimeter located near parcel A	30m south	0.47 Poor	Negative
5	A small pond surrounded by dense terrestrial vegetation near parcel A	onsite	0.73 Good	Negative
6	A long pond surrounded by dense reeds near parcel A	onsite	0.75 Good	Negative
7	Pond near Inter-array A	300m south	Not surveyed	Not surveyed
8	Dried up pond with shallow banks covered with terrestrial vegetation e.g. nettles and trees on the sound side near parcel A	100m north	0.50 Below Average	Negative
9	Fishing Pond	400m northeast	0.47 Poor	Negative
10	Pond covered with reeds near parcel A	400m northeast	Not Surveyed	Not surveyed

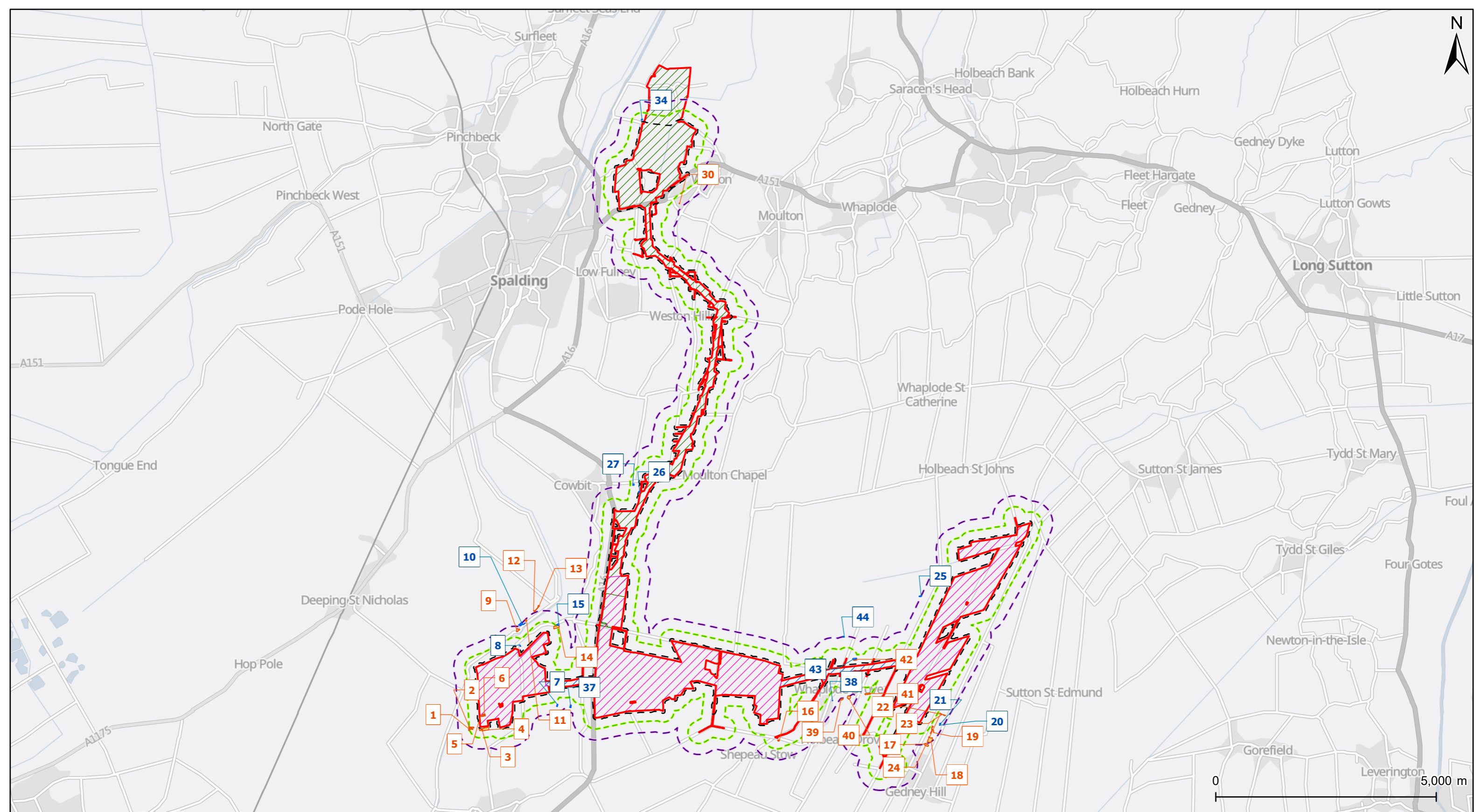
Pond Number	Description	Distance (m) Site	HIS score and suitability	eDNA Result
11	Pond covered with reeds near parcel A	400m northeast	0.76 Good	Negative
12	Heavily shaded small pond with dark and turbid water near parcel A	500m northeast	0.47 Poor	Negative
13	Heavily shaded small pond with dark and turbid water near parcel A	500m northeast	0.61 Average	Negative
14	Turbid fishing pond with fishing pier and terrestrial vegetation along the perimeter located near parcel A	200m east	0.45 Poor	Negative
15	Pond covered with dense reeds located near parcel A	200m east	No access	No access
16	Large pond in garden of private dwelling, stand of common reed present on one side, near Interarray B parcel	450m south	0.68 Average	Negative
17	Turbid fishing pond with fishing pier and terrestrial vegetation near Land parcel C	500m south	0.42 Poor	Negative
18	Turbid fishing pond with fishing pier and terrestrial vegetation near Land parcel C	500m southeast	0.42 Poor	Negative
19	Pond heavily shaded and lined with trees on golf course near Land parcel C	500m southeast	0.70 Good	Negative
20	Insufficient water left in pond to sample. Golf course. Near land parcel C	400m south	0.70 Good	Not tested
21	Insufficient water left in pond to sample. Extensive reed vegetation pond near land parcel C	400m south	0.66 Average	Not tested
22	Heavily reed vegetation pond near land parcel C	300m southeast	0.79 Good	Negative
23	Dark turbid water and heavily shaded near land parcel C	300m southeast	0.71 Good	Negative

Pond Number	Description	Distance (m) Site	HIS score and suitability	eDNA Result
24	Heavily shaded by trees, leaf drop, golf course near land parcel C	300m southeast	0.55 Below Average	Negative
25	V. steep bank, obscured by tall common reeds all round pond. Nesting moorhen present, no eDNA done. near land parcel C	500m northwest	0.62 Average	Not surveyed
37	Pond near Inter-array A	300m south	Not Surveyed	Not surveyed
38	No Longer Exists	-	-	-
39	Newt species present a few years ago, GCN from talking to landowner. Small fish present. near land parcel C	200m south	0.70 Good	Negative
40	Fishing pond full of carp, wildfowl presence. near land parcel C	200m south	0.39 Poor	Negative
41	Fishing pond, carp, wildfowl present, near land parcel C	100m south	0.20 Poor	Negative
42	Farmland pond with turbid water surrounded by reeds near land parcel C	Onsite	0.61 Average	Negative
43	Farmland pond with turbid water, possibly at one time used for slurry runoff, surrounded by reeds and tall, rank vegetation near land parcel C	Onsite	0.47 Poor	Not tested
44	Steep-sided fenced off pond between a farm and a private house, partially surrounded by trees, tall vegetation present, poor connectivity to other ponds	400m north	0.66 Average	Not tested
GC1	Artificial lined pond with steep banks in grid connection route	100m west	0.66 Average	Not tested
GC2	Artificial lined pond with steep banks in grid connection route	200m west	0.65 Average	Not tested
GC3	Artificial lined pond with shallow banks in grid connection route	300m east	0.21 Poor	Negative

5. Summary

- 5.1.1. This section summarises the data gathered during the surveys and the likely impacts on GCN and supporting habitats that are present on the Site, as described in previous sections of this report.
- 5.1.2. eDNA survey and analysis has indicated an absence of GCN within all the waterbodies surveyed on site and within 500m of the Site boundary, where access was available. Where ponds were unable to be surveyed it is considered reasonable to assume that if GCN were present, they would also be found within suitable ponds which were surveyed between the Site and the ponds which were not surveyed.
- 5.1.3. Given that ~80% of ponds identified within 500m were surveyed and absence confirmed by eDNA it is considered unlikely that GCN will be present within ponds not surveyed, and reasonable to assume likely absence of GCN at within the Order Limits of the Scheme, during aquatic and terrestrial phases.

Appendix 1: Survey Map



Project Title Meridian Solar Farm			
Map Title Environmental Statement Figure 1: Great Crested Newt eDNA Survey Results			
Scale @ A3 1:80,000	Version 0	Drawn JM	Reviewed JET

Legend


- Order Limits
- Solar Development Areas
- Inter-Array Connections
- Grid Connection Route
- Survey Area
- 250m buffer of Survey Area
- 500m buffer of Survey Area

eDNA survey result

- Negative
- Not surveyed

Date: 20/03/2026

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Appendix 2: Photographs



Photograph 1: Pond 3 - Poor HSI score



Photograph 2: Pond 8 - Below Average HSI score



Photograph 3: Pond 14 - Average HSI score



Photograph 4: Pond 6 - Good HSI score


Appendix 3: Habitat Suitability Index Results


Project	T7615.2 - Meridian Solar - Ecology Support		No image
Pond access/landowner (inc contact)			
Pond number	1		
Grid Reference (Easting, Northing)	TF236124		
Surveyor Name(s)	Mark Gough		
Date	13/05/2025		
Distance from site			
Description of Water Body	Small Zone A pond (~300 m ²) with moderate water quality, rarely dries, and has ~40% macrophyte cover. No shading, minor waterfowl impact, and fish presence. Surrounded by poor terrestrial habitat and three nearby ponds, resulting in moderate ecological connectivity.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	300	0.6
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Possible	0.67
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	3	0.65
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	40	0.7
		Resulting HSI Score	0.70
		Pond Suitability	Average

Project	T7615.2 - Meridian Solar - Ecology Support		No Image
Pond access/landowner (inc contact)			
Pond number	2		
Grid Reference (Easting, Northing)	TF237124		
Surveyor Name(s)	Mark Gough		
Date	13/05/2025		
Distance from site			
Description of Water Body	Small Zone A pond (~300 m ²) with moderate water quality, rarely dries, and has ~40% macrophyte cover. Minimal shading, minor fish and waterfowl impact, and moderate terrestrial habitat. Surrounded by six nearby ponds.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	300	0.6
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Minor	0.33
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	6	0.8
Terrestrial Habitat	Good, Moderate, Poor, None	Moderate	0.67
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	40	0.7
		Resulting HSI Score	0.71
		Pond Suitability	Good

Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	3		
Grid Reference (Easting, Northing)	TF240124		
Surveyor Name(s)	Mark Gough		
Date	13/05/2025		
Distance from site			
Description of Water Body	Clear-water Pond featuring a fishing pier, bordered by terrestrial vegetation along its perimeter. High water clarity supports submerged plant growth and aquatic life, while surrounding vegetation enhances edge habitat and ecological connectivity		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	2000	0.8
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Major	0.01
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	6	0.8
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	20	0.5
		Resulting HSI Score	0.46
		Pond Suitability	Poor



Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	4		
Grid Reference (Easting, Northing)	TF236124		
Surveyor Name(s)	Mark Gough		
Date	13/05/2025		
Distance from site			
Description of Water Body	Turbid fishing pond with pier and surrounding terrestrial vegetation		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	450	0.9
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Major	0.01
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	6	0.8
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	20	0.5
		Resulting HSI Score	0.47
		Pond Suitability	Poor

Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	5		
Grid Reference (Easting, Northing)	TF240127		
Surveyor Name(s)	Mark Gough		
Date	13/05/2025		
Distance from site			
Description of Water Body	Small pond surrounded by dense terrestrial vegetation		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	2000	0.8
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Possible	0.67
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	6	0.8
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	50	0.8
		Resulting HSI Score	0.73
		Pond Suitability	Good
			


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	6		
Grid Reference (Easting, Northing)	TF240127		
Surveyor Name(s)	Mark Gough		
Date	13/05/2025		
Distance from site			
Description of Water Body	Long, narrow pond bordered by dense stands of emergent reeds along its margins.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	1350	0.9
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Possible	0.67
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	6	0.8
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	50	0.8
		Resulting HSI Score	0.75
		Pond Suitability	Good





Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	8		
Grid Reference (Easting, Northing)	TF248143		
Surveyor Name(s)	Mark Gough		
Date	14/05/2025		
Distance from site	Onsite		
Description of Water Body	Dried-up pond with shallow, exposed banks, bordered by nettle growth and mature trees concentrated along the southern edge. Vegetation suggests nutrient-rich soils and partial shading, with limited aquatic habitat due to seasonal or prolonged drying		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	300	0.6
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Dries annually	0.1
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Absent	1
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	2	0.55
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	0	0.3
		Resulting HSI Score	0.50
		Pond Suitability	Below average


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	9		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	04/06/2025		
Distance from site			
Description of Water Body	Turbid fishing pond bordered by terrestrial vegetation, with reduced water clarity likely due to suspended sediments or nutrient input.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	<50	0.05
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Major	0.01
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	4	0.69
Terrestrial Habitat	Good, Moderate, Poor, None	Moderate	0.67
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	30	0.6
		Resulting HSI Score	0.35
		Pond Suitability	Poor


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	11		
Grid Reference (Easting, Northing)	TF236124		
Surveyor Name(s)	Mark Gough		
Date	14/05/2025		
Distance from site			
Description of Water Body	Pond densely covered with reeds		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	1800	0.84
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Possible	0.67
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	5	0.75
Terrestrial Habitat	Good, Moderate, Poor, None	Moderate	0.67
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	20	0.5
		Resulting HSI Score	0.76
		Pond Suitability	Good


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	12		
Grid Reference (Easting, Northing)	TF251151		
Surveyor Name(s)	Mark Gough		
Date	13/05/2025		
Distance from site			
Description of Water Body	Small, heavily shaded pond with dark, turbid water, likely influenced by leaf litter and low light penetration. Surrounding canopy and limited water clarity suggest reduced aquatic plant growth and potential habitat for shade-tolerant species.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	1000	0.95
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Dries annually	0.1
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	100	0.2
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Possible	0.67
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	4	0.69
Terrestrial Habitat	Good, Moderate, Poor, None	Moderate	0.67
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	0	0.3
		Resulting HSI Score	0.47
		Pond Suitability	Poor


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	13		
Grid Reference (Easting, Northing)	TF252152		
Surveyor Name(s)	Mark Gough		
Date	13/05/2025		
Distance from site	Onsite		
Description of Water Body	Small, heavily shaded pond with dark, turbid water, likely influenced by leaf litter and low light penetration. Surrounding canopy and limited water clarity suggest reduced aquatic plant growth and potential habitat for shade-tolerant species.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	1800	0.84
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Sometimes dries	0.5
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	80	0.6
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Possible	0.67
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	4	0.69
Terrestrial Habitat	Good, Moderate, Poor, None	Moderate	0.67
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	0	0.3
		Resulting HSI Score	0.61
		Pond Suitability	Average


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	14		
Grid Reference (Easting, Northing)	TF256147		
Surveyor Name(s)	Mark Gough		
Date	14/05/2025		
Distance from site	Onsite		
Description of Water Body	Large, turbid fishing pond featuring a wooden pier and bordered by diverse terrestrial vegetation. Reduced water clarity suggests high suspended sediment or nutrient input, while surrounding plant cover supports edge habitat and contributes to ecological connectivity.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	2000	0.8
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Major	0.01
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	3	0.65
Terrestrial Habitat	Good, Moderate, Poor, None	Moderate	0.67
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	0	0.3
		Resulting HSI Score	0.45
		Pond Suitability	Poor


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	16		
Grid Reference (Easting, Northing)	TF306122		
Surveyor Name(s)	Mark Gough		
Date	14/05/2025		
Distance from site	Onsite		
Description of Water Body	Large, turbid fishing pond featuring a wooden pier and bordered by diverse terrestrial vegetation. Reduced water clarity suggests high suspended sediment or nutrient input, while surrounding plant cover supports edge habitat and contributes to ecological connectivity.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	550	1
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Minor	0.33
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	2	0.55
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	50	0.8
			Resulting HSI Score
			0.68
			Pond Suitability
			Average


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	17		
Grid Reference (Easting, Northing)	TF340121		
Surveyor Name(s)	Mark Gough		
Date	15/05/2025		
Distance from site			
Description of Water Body	Large, turbid fishing pond featuring a wooden pier and bordered by diverse terrestrial vegetation. Reduced water clarity suggests high suspended sediment or nutrient input, while surrounding plant cover supports edge habitat and contributes to ecological connectivity.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	2000	0.8
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Major	0.01
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	11	0.96
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	5	0.35
		Resulting HSI Score	0.42
		Pond Suitability	Poor


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	18		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	15/05/2025		
Distance from site			
Description of Water Body	Large, turbid fishing pond featuring a wooden pier and bordered by diverse terrestrial vegetation. Reduced water clarity suggests high suspended sediment or nutrient input, while surrounding plant cover supports edge habitat and contributes to ecological connectivity.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	2000	0.8
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Major	0.01
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	11	0.96
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	5	0.35
		Resulting HSI Score	0.42
		Pond Suitability	Poor

Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	19		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	04/06/2025		
Distance from site			
Description of Water Body	Small pond on golf course, shaded and bordered by mature trees. One margin features dense reed stands extending into dark, tannin-rich water, while the opposite bank is enclosed by woodland canopy.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	300	0.6
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Minor	0.33
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	9	0.9
Terrestrial Habitat	Good, Moderate, Poor, None	Moderate	0.67
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	10	0.4
		Resulting HSI Score	0.70
		Pond Suitability	Good

Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	20		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	04/06/2025		
Distance from site			
Description of Water Body	Shallow pond with extensive coverage of emergent reeds across the surface and margins. Open water areas are minimal, with dense vegetation dominating the basin.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	300	0.6
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Sometimes dries	0.5
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Absent	1
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	9	0.9
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	80	1
		Resulting HSI Score	0.70
		Pond Suitability	Good


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	21		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	04/06/2025		
Distance from site			
Description of Water Body	Small pond with calm, shallow water and a closed canopy of surrounding trees. The site is heavily shaded, with limited light penetration and leaf litter accumulating along the margins.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	150	0.3
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Sometimes dries	0.5
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Absent	1
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	9	0.9
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	80	1
		Resulting HSI Score	0.66
		Pond Suitability	Average


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	22		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	04/06/2025		
Distance from site			
Description of Water Body	Small to medium-sized pond densely bordered and partially covered by thick stands of reeds. Emergent vegetation dominates the margins and extends into the water column.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	450	0.9
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Sometimes dries	0.5
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Absent	1
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	9	0.9
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	80	1
		Resulting HSI Score	0.79
		Pond Suitability	Good


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	23		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	04/06/2025		
Distance from site			
Description of Water Body	Small-sized Pond with dark, black-coloured water, likely due to high organic content or tannins. The margins are defined and may be bordered by natural vegetation or shaded by surrounding canopy, contributing to the water's coloration and subdued light conditions.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	450	0.9
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Sometimes dries	0.5
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	70	0.8
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Absent	1
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	9	0.9
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	60	0.9
		Resulting HSI Score	0.71
		Pond Suitability	Good


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	24		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	04/06/2025		
Distance from site			
Description of Water Body	Small pond with turbid, muddy water and limited visibility. The site is heavily shaded by surrounding trees, with overhanging canopy reducing light penetration and contributing to cooler surface conditions. Margins are irregular and may be lined with leaf litter and organic debris.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	400	0.8
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Sometimes dries	0.5
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	100	0.2
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Absent	1
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	9	0.9
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	0	0.3
		Resulting HSI Score	0.55
		Pond Suitability	Below average





Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	25		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	04/06/2025		
Distance from site			
Description of Water Body	Small to medium-sized pond with dark-coloured water and dense reed growth along the perimeter. The margins are well-defined, with emergent vegetation forming a continuous border around the water's edge.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	750	1
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1
Water Quality	Good, Moderate, Poor, Bad	Moderate	0.67
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Possible	0.67
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	1	0.43
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	10	0.4
		Resulting HSI Score	0.67
		Pond Suitability	Average


Project	T7615.2 - Meridian Solar - Ecology Support			
Pond access/landowner (inc contact)				
Pond number	39			
Grid Reference (Easting, Northing)	TF341122			
Surveyor Name(s)	Mark Gough			
Date	04/06/2025			
Distance from site				
Description of Water Body	Medium-small natural pond densely covered with emergent reeds across much of the surface and margins. Water is shallow to moderate in depth, with limited open areas and vegetation dominating the perimeter and interior zones.			
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score	
Geographic Location	Zone A, B or C	Zone A	1	
Pond Area	Calculated based on surface area when water is at its highest level (m2)	1350	0.9	
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1	
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33	
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1	
Waterfowl	Absent, Minor, Major	Minor	0.67	
Fish	Absent, Possible, Minor, Major	Minor	0.33	
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	1	0.43	
Terrestrial Habitat	Good, Moderate, Poor, None	Good	1	
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	70	1	
			Resulting HSI Score	0.70
			Pond Suitability	Average


Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	40		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	04/06/2025		
Distance from site			
Description of Water Body	Expansive fishing pond with turbid water and broad surface area. Surrounded by maintained banks and scattered vegetation, the site features multiple access points and open shoreline designed for recreational angling.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	50	0.1
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Major	0.01
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	1	0.43
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	0	0.3
		Resulting HSI Score	0.31
		Pond Suitability	Poor

Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	41		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	04/06/2025		
Distance from site			
Description of Water Body	Large fishing pond with still to gently rippling water and moderate clarity. Surrounded by maintained banks with intermittent vegetation, the pond is designed for recreational angling and features accessible margins and open casting areas.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	50	0.1
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Major	0.01
Fish	Absent, Possible, Minor, Major	Major	0.01
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	1	0.43
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	0	0.3
		Resulting HSI Score	0.20
		Pond Suitability	Poor

Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	42		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	23/06/2025		
Distance from site			
Description of Water Body	Large ditch with green-tinged water and continuous vegetation lining both banks. The channel is wide and uniform, with gently sloping margins and a mix of grasses and reeds along the edges.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	1000	0.95
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Minor	0.67
Fish	Absent, Possible, Minor, Major	Possible	0.67
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	2	0.55
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	0	0.3
		Resulting HSI Score	0.61
		Pond Suitability	Average

Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	43		
Grid Reference (Easting, Northing)	TF341122		
Surveyor Name(s)	Mark Gough		
Date	23/06/2025		
Distance from site			
Description of Water Body	Natural pond with low turbidity and moderate water clarity. Surrounded by native vegetation and gently sloping margins.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	650	1
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Possible	0.67
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	2	0.55
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	10	0.4
		Resulting HSI Score	0.66
		Pond Suitability	Average
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	5	0.35
		Resulting HSI Score	0.66
		Pond Suitability	Average

Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	GC1		
Grid Reference (Easting, Northing)	TF275178		
Surveyor Name(s)	Mark Gough		
Date	15/05/2025		
Distance from site	Onsite		
Description of Water Body	Artificial, plastic-lined tailings pond with turbid, green-hued water and steeply sloping margins. The site contains no vegetation and exhibits low water clarity.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m2)	550	1
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Absent	1
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	1	0.43
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	5	0.35
		Resulting HSI Score	0.66
		Pond Suitability	Average

Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	GC2		
Grid Reference (Easting, Northing)	TF274180		
Surveyor Name(s)	Mark Gough		
Date	15/05/2025		
Distance from site	Onsite		
Description of Water Body	Artificial, plastic-lined tailings pond with turbid, green-hued water and steeply sloping margins. The site contains no vegetation and exhibits low water clarity.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	850	0.97
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Rarely dries	1
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Absent	1
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	1	0.43
Terrestrial Habitat	Good, Moderate, Poor, None	Poor	0.33
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	0	0.3
		Resulting HSI Score	0.65
		Pond Suitability	Average

Project	T7615.2 - Meridian Solar - Ecology Support		
Pond access/landowner (inc contact)			
Pond number	GC3		
Grid Reference (Easting, Northing)	TF284243		
Surveyor Name(s)	Mark Gough		
Date	14/05/2025		
Distance from site	Onsite		
Description of Water Body	Artificial tailings pond with turbid, green-hued water and gently sloping margins. The site exhibits low water clarity, no vegetation.		
HSI Factor	HSI Criteria/score ²	Field Survey Results	Suitability Index Score
Geographic Location	Zone A, B or C	Zone A	1
Pond Area	Calculated based on surface area when water is at its highest level (m ²)	100	0.2
Permanence	Never dries, Rarely dries, Sometimes dries, Dries annually	Never dries	0.9
Water Quality	Good, Moderate, Poor, Bad	Poor	0.33
Shade	Estimate percentage of pond perimeter shaded to at least 1m from the shore.	0	1
Waterfowl	Absent, Minor, Major	Absent	1
Fish	Absent, Possible, Minor, Major	Major	0.01
Pond Count	Number of ponds occurring within 1km of survey pond and divide ponds by Pi (3.14).	1	0.43
Terrestrial Habitat	Good, Moderate, Poor, None	None	0.01
Macrophytes	Estimated percentage of pond surface area occupied by macrophyte cover.	5	0.35
		Resulting HSI Score	0.25
		Pond Suitability	Poor



Appendix 4: eDNA Survey Results

Folio No: 1577-2025
 Purchase Order: POP007490
 Contact: Temple Group
 Issue Date: 02.06.2025
 Received Date: 16.05.2025



GCN eDNA Analysis

Summary

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analyzing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

Results

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN25 5512	Meridian - P13	TF 252 152	Pass	Pass	Negative	0/12
GCN25 5513	Meridian - P12	TF 251 151	Pass	Pass	Negative	0/12
GCN25 5514	Meridian - P18	TF 241 122	Pass	Pass	Negative	0/12
GCN25 5516	Meridian - P1	TF 236 124	Pass	Pass	Negative	0/12
GCN25 5517	Meridian - P17	TF 340 121	Pass	Pass	Negative	0/12
GCN25 5518	Meridian - P5	TF 240 127	Pass	Pass	Negative	0/12
GCN25 5519	Meridian - P6	TF 240 127	Pass	Pass	Negative	0/12
GCN25 5520	Meridian - P11	TF 249 149	Pass	Pass	Negative	0/12
GCN25 5521	Meridian - Pond GC3	TF 284 243	Pass	Pass	Negative	0/12
GCN25 5522	Meridian - P16	TF 306 122	Pass	Pass	Negative	0/12

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Folio No: 1577-2025
 Purchase Order: POP007490
 Contact: Temple Group
 Issue Date: 02.06.2025
 Received Date: 16.05.2025



GCN25 5523	Meridian - P14	TF 256 147	Pass	Pass	Negative	0/12
GCN25 5524	Meridian - P2	TF 237 124	Pass	Pass	Negative	0/12
GCN25 5525	Meridian - P3	TF 240 124	Pass	Pass	Negative	0/12
GCN25 5526	Meridian - P4	TF 239 124	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: [Redacted]

Approved by: [Redacted]

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Folio No: 2197-2025
 Purchase Order: POP007582
 Contact: Temple Group
 Issue Date: 20.06.2025
 Received Date: 06.06.2025



GCN eDNA Analysis

Summary

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analyzing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

Results

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN25 5508	Meridian - P39	TF 32140 13155	Pass	Pass	Negative	0/12
GCN25 5511	Meridian - P41	TF 32694 13262	Pass	Pass	Negative	0/12
GCN25 5515	Meridian - P40	TF 32257 13171	Pass	Pass	Negative	0/12
GCN25 7214	Meridian - P23	TF 34398 12784	Pass	Pass	Negative	0/12
GCN25 7216	Meridian - P22	TF 34463 12767	Pass	Pass	Negative	0/12
GCN25 7218	Meridian - P19	TF 34182 12526	Pass	Pass	Negative	0/12
GCN25 7220	Meridian - P24	TF 34357 12818	Pass	Pass	Negative	0/12
GCN25 7221	Meridian - P9	TF 24807 14740	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: [Redacted]

Approved by: [Redacted]

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Folio No: 3117-2025
 Purchase Order: POP007582
 Contact: Temple Group
 Issue Date: 11.07.2025
 Received Date: 27.06.2025



GCN eDNA Analysis

Summary

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analyzing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

Results

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN25 5509	Meridian - Pond 42	TF 32441 14035	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: [Redacted]

Approved by: [Redacted]

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