Lime Down
Solar Park

Environmental Statement

Volume 3, Appendix 9-5: Great Crested Newt Survey Report

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1.1 Introduction

1.1.1 Clarkson and Woods Limited has been commissioned by Lime Down Solar Park Limited (the Applicant) to conduct a suite of ecological surveys across the Lime Down Solar PV Sites and Cable Route Corridor (CRC), including environmental DNA (eDNA) surveys for great crested newt (GCN).

1.1.2 GCN eDNA surveys have been carried out on all accessible waterbodies within and surrounding the Solar PV Sites between April 2023 and June 2025. Surveys followed a methodology aligned with the Great Crested Newt Mitigation Guidelines (Ref 9-5-1) (Ref 9-5-2).

1.1.3 Information on the presence of species collected during the surveys will be passed to the county biological records centre in order to augment their records for the area. This is in line with the Chartered Institute of Ecology and Environmental Management (CIEEM) Code of Professional Conduct (Ref 9-5-3).

Aims

1.1.4 Surveys for GCN have been undertaken to establish presence or likely absence of the species from within the Study Area for the Solar PV Sites, to ensure that the works are carried out in line with relevant legislation, and to inform an appropriate approach to mitigation during the construction and operational phases of the Scheme.

1.1.5 The Study Area encompasses all land within the Solar PV Sites and land within the surrounding 250 m, and the CRC.

1.1.6 This report details the methods and results of the surveys undertaken between April 2023 and June 2025, and a brief evaluation of the species in relation to the Scheme.

1.1.7 This information will be used within **ES Volume 1, Chapter 9: Ecology and Biodiversity, EN010168/APP/6.1** to inform the detailed ecological evaluation of the GCN population and the habitats used by the species, and to characterise the impacts on GCN considered likely to result from the Scheme.

Study Area

1.1.8 A detailed description of the Scheme is provided within **ES Volume 1, Chapter 3: The Scheme, EN010168/APP/6.1** and in **ES Volume 1, Chapter 9: Ecology and Biodiversity, EN010168/APP/6.1** in relation to the ecology of the Solar PV Sites and the habitats present.

Solar PV Sites (Lime Down A-E)

1.1.9 Lime Down A-E predominantly comprise large, open and relatively flat arable fields of varying crop types. Some, generally smaller, fields of permanent grassland, were also present. Fields within the Solar PV Sites are bounded by an extensive network of largely species-rich hedgerows and agricultural drainage ditches, with narrow field margins alongside both, where present. A large number of mature trees are present within hedgerows, as well as a small number of individual, standard trees within fields. The habitats within the Solar PV Sites are generally contiguous with the surrounding landscape, which is agricultural in character. The land to the north and west of the Solar PV Sites rises gently to form the hills and valleys associated with the Cotswolds National Landscape, part of which lies adjacent to the Order Limits.

1.1.10 A small number of woodland parcels are present within the Solar PV Sites, connecting with and forming part of a network of woodland habitat in the surrounding landscape, with several parcels also located immediately adjacent the Order Limits. Several ponds are present within the Solar PV Sites and constitute part of a wider pond network, as a relatively high number of ponds are present within the surrounding landscape. Ditches within the Solar PV Sites are largely seasonally-dry, with wet ditch features generally concentrated within Lime Down D. The priority river known as Gauze Brook, and Gabriel's Well stream run through in Lime Down D and E, respectively.

Cable Route Corridor

1.1.11 The CRC runs for approximately 22 km from the Solar PV Sites to the Existing National Grid Melksham Substation. The CRC is of similar character to the Solar PV Sites; habitats generally comprise agricultural fields bounded by hedgerows and ditches, with occasional ponds and blocks of woodland. Several watercourses, railways, and roads, including the M4, transect the route.

Quality Assurance

1.1.12 All ecologists employed directly by Clarkson and Woods are members, or pending members, of CIEEM and follow the Institute's Code of Professional Conduct when undertaking ecological work.

1.1.13 The competence of all field surveyors has been assessed by Clarkson and Woods with respect to the CIEEM Competencies for Species Survey (Ref 9-5-4).

1.1.14 This report has been prepared in accordance with the relevant British Standard: *BS42020: 2013 – Biodiversity: Code of Practice for Planning and Development* (Ref 9-5-5). It has been prepared by an experienced ecologist who is a member of CIEEM. The report has also been subject to a two-stage quality

assurance review by appropriately experienced ecologists who are members of CIEEM.

1.2 Methodology

1.2.1 The section below sets out the methodology that has been applied to inform the assessment of the Scheme in relation to GCN.

Desk Study

1.2.2 A comprehensive desk study and data search has been undertaken for the Scheme. The specific elements of the desk study of relevance to GCN are as follows:

- A search for 'International' designated sites for nature conservation within 10 km of the Study Area using the Multi-Agency Graphic Information for the Countryside (MAGIC) website (Ref 9-5-6) for which GCN are a reason for designation. International designated sites included Special Areas of Conservation (SACs), as well as proposed or potential SACs.
- A search for 'National' designated sites for nature conservation within 5 km of the Study Area using the MAGIC website for which GCN are a reason for designation. National designated sites included Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs);
- Information on 'Local' designated sites which cite GCN as a reason for designation within 2 km of the Study Area was obtained from the Wiltshire and Swindon Biodiversity Records Centre (WSBRC). Locally designated sites included Local Wildlife Sites (LWSs);
- Information pertaining to existing records of GCN within 2 km of the Solar PV Sites and within 500 m of the CRC was obtained from WSBRC;
- The MAGIC website was consulted for records of European Protected Species (EPS) licences issued for mitigation projects concerning GCN within 2 km of the Study Area;
- The MAGIC website was consulted for records of GCN Class Licence Returns confirming GCN presence within 2 km of the Study Area;
- The MAGIC website was consulted for records of GCN presence recorded during the 2017-2019 GCN Pond Surveys conducted to underpin District Level Licensing (DLL) schemes, within 2 km of the Study Area;
- Natural England GCN Strategic Opportunity Areas were consulted in relation to the Study Area, shown in **ES Volume 2, Figure 9-5-1 to 9-5-3: Natural**

England GCN Strategic Opportunity Areas – Order Limits [EN010168/APP/6.2]; and

- Natural England Risk Zones for District Licensing of GCN in Swindon and Wiltshire (Ref 9-5-7) were consulted in relation to the Study Area, shown in **ES Volume 2, Figure 9-5-4 to 9-5-6: Natural England GCN Risk Zones– Order Limits [EN010168/APP/6.2].**

1.2.3 The desk study also included a review of relevant national and local planning policy and legislation in relation to GCN.

1.2.4 The distances used in the search radii outlined above are considered proportionate to the scale of protection and likely sensitivity of the features listed, as well as the typical dispersal distance of GCN supported by them. It is considered unlikely that the Scheme would give rise to impacts on designated sites beyond these distances and as such are therefore considered to include the Zone of Influence of the Scheme.

1.2.5 The chosen, standard, search radii are considered to remain appropriate when considering the potential for cumulative impacts from other solar development proposals.

Survey Methods

Defining the Study Area

1.2.6 In determining an appropriate Study Area radius beyond the Order Limits, a rationale was applied. In general, development proposals which have the potential to significantly impact GCN or their habitats (and so may lead to a licence application) should be underpinned by survey evidence derived from either 250 m or 500 m beyond the site boundaries (Ref 9-5-8). The following factors were considered in order to determine the appropriate survey radius and define the Study Area:

- **Habitat Suitability, Connectivity, and Land Management:** Habitats within the Solar PV Sites, CRC and surrounding area are varied in suitability for GCN. However, the landscape is largely dominated by arable farmland interspersed with pasture fields and numerous woodland blocks linked by inter-connecting hedgerows. Ponds are frequent within the landscape, although habitat connectivity between waterbodies is generally limited to field margins, hedgerow bases, woodland edges, pasture fields (where present), and agricultural drainage ditches. Connectivity between ponds within the local network is therefore considered relatively poor, particularly given the presence of minor roads and settlements within the area, with larger barriers to dispersal including major roads and watercourses. The widespread arable land management is not generally conducive to thriving amphibian populations owing to the annual cultivation regime, application of

fertilisers and insecticide sprays and the infilling/draining of waterbodies or clearance of stands of vegetation, together degrading the ability for GCN to disperse within this landscape.

- **Characteristics of Likely Development Impacts:** The installation of a ground-mounted solar array will result in temporary impacts to land within the Order Limits, including the tracking of machinery and installation of cabling. Grassland and other natural habitats will be created and managed beneath the arrays themselves, and a development-free buffer from key ecological features and field boundaries will be embedded within Scheme design. This will mean that hedgerows, woodland, waterbodies, watercourses and uncultivated margins are maintained and enhanced wherever possible.

1.2.7 Following consideration of the above factors, a 250 m radius was considered an appropriate and proportionate distance within which to identify and survey waterbodies for GCN impacts associated with the Scheme. Consequently, the Study Area was defined as all land within the Solar PV Sites and CRC, as well as land within an additional 250 m radius from the Solar PV Sites and CRC.

1.2.8 GCN are associated with, and most frequently use, suitable habitats within close proximity to their breeding ponds (or networks thereof). GCN may be found up to 250 m from ponds (and up to 500 m from ponds in exceptional circumstances); however, studies by Jehle (Ref 9-5-9) and Cresswell & Whitworth (Ref 9-5-10) have demonstrated that the habitat within 50 m of the pond is the most important to GCN and supports the majority of a population within its terrestrial phase. Based on Natural England's GCN mitigation guidelines, habitat within 50 m is noted to be 'immediate' or 'core' habitat, 50 – 250 m is known as intermediate habitat and over 250 m is termed 'distant' habitat.

1.2.9 Presence of GCN in ponds over 250 m are not considered to be relevant to the temporary and low impacts associated with the proposals. Any records or presence of GCN beyond 250 m of the Solar PV Sites or CRC would not impact the proposals or mitigation due to the negligible impact on any newts present, lack of optimal habitat provided within the Study Area, and lack of connective habitat the Study Area may otherwise provide. This approach is also supported by and forms the basis of GCN district licensing schemes administered by Natural England.

District Level Licensing

1.2.10 District Level Licensing (DLL) for GCN via Natural England is being pursued for the CRC element of the Scheme, which does not require pond survey data to be collected. Ponds within the CRC and surrounding 250 m radius have therefore not been subject to GCN eDNA surveys. However, habitat condition

assessment data of all ponds encountered within the CRC were collected to inform the Biodiversity Net Gain (BNG) assessment (**Biodiversity Net Gain Assessment Report [EN010168/APP/7.12]** refers). The presence of ponds within the CRC initially identified through desk-based mapping was also ground-truthed to help inform the DLL registration process.

Identification of Waterbodies and Survey Access

1.2.11 Candidate waterbodies within the Study Area were identified using Ordnance Survey mapping, and cross-checking with aerial imagery where appropriate.

1.2.12 Land agents, Dalcour Maclaren, were commissioned to undertake identification of landowners and correspondence with them in writing to arrange access permissions where candidate ponds were identified on third-party land. To ensure an adequate level of effort was expended in attempting to gain access permissions, identified landowners were contacted on at least three occasions prior to the anticipated survey dates. Where no response was received after three attempts, it was assumed that access had not been granted.

1.2.13 Of the 122 waterbodies identified within the Solar PV Sites and the surrounding 250 m radius, 81 were granted access for field survey between April 2023 and June 2025.

eDNA Survey

1.2.14 Where waterbodies at the Solar PV Sites and within the surrounding 250 m radius were suitable to sample and where survey access was granted, an eDNA survey was undertaken of the waterbodies to confirm the presence or likely absence of GCN.

1.2.15 The surveys were undertaken in line with best practice guidance as outlined in the Technical Advice Note published by DEFRA (Ref 9-5-2) and adopted by Natural England for field and laboratory sampling of GCN eDNA. Suitably licensed and experienced surveyors undertook the sampling in line with the Technical Advice Note and field sampling protocol, collecting 20 samples of water from suitable locations around the waterbodies and providing six 30 ml samples for laboratory analysis.

1.2.16 Environmental DNA surveys can only be undertaken when the water level is of a sufficient depth (over 10 cm), and the surveys must be undertaken between mid-April and 30 June inclusive for the result to be considered reliable. The survey period spans the GCN breeding season and immediately after, when eDNA from the species is likely to remain in the water column once the animals have left. Within this period, it is possible for waterbodies to have dried up and therefore be unsuitable for eDNA survey. Professional judgement was used, based on surrounding habitats and vegetation present, to determine the

suitability for breeding GCN in any given year, and surveys were repeated wherever possible if a pond was found to be dry at the time of survey.

1.2.17 All survey visits undertaken during 2023 were limited to those waterbodies located within the Solar PV Sites and those within the surrounding 250 m under the same land ownership. Survey visits undertaken in 2024 and 2025 included those waterbodies on third-party land within 250 m of the Solar PV Sites. Attempts were also made to re-survey waterbodies in 2024 and 2025 that had been recorded during the 2023 and/or 2024 survey visit as dry, but likely to hold water, where access was granted.

Sample Analysis

1.2.18 Analysis of the eDNA samples was undertaken by ADAS, a Natural England approved laboratory. The eDNA analysis was carried out in accordance with the stipulated methodology found within the Technical Advice Note.

1.2.19 If all polymerase chain reaction (PCR) controls and extraction blanks give the expected results, a sample is considered negative for GCN if all of the replicates are negative, and positive for GCN if one or more of the replicates are positive.

Survey Personnel

1.2.20 **Table 9-5-1** presents the surveyor details for the individuals involved in undertaking eDNA surveys completed between April 2023 and June 2025.

Table 9-5-1: eDNA Survey Personnel

Surveyor Name and Relevant Qualifications	Surveyor Details and Experience, including Natural England Licence Information
Peter Timms BSc MSc	MCIEEM, 12 year's survey experience Natural England Class Licence for the survey of GCN (Reg. No.: 2015-19739-CLS-CLS)
Molly Brown BSc MSc	ACIEEM, 3 year's survey experience Natural England Class Licence for the survey of GCN (Reg. No. 2025-13065-CL08-GCN)
Sarah Richards BSc MSc	Qualifying CIEEM, 3 year's survey experience Accredited agent under Charlie Durigan's Natural England Class Licence for the survey of GCN (Reg. No.: 2017-10553-CLS-CLS)
Miranda Jones BSc	Qualifying CIEEM, 3 year's survey experience
Alfie Dickens BSc	Qualifying CIEEM, 1 year's survey experience
Ellie Gollop BSc PgD	10 year's survey experience
Bryan Tan MBiolSci	2 year's survey experience

Surveyor Name and Relevant Qualifications	Surveyor Details and Experience, including Natural England Licence Information
Holly Chapman-White BSc MSc	1 year's survey experience

Evaluation of Importance

1.2.21 The importance of the Solar PV Sites for GCN was evaluated using the standard approach applied in the UK to Ecological Impact Assessment, developed by CIEEM in 2018 and revised in 2019 (Ref 9-5-11). This guidance recommends that valuation of site importance is made with reference to a geographical framework, e.g. a site is of Local, District, County, Regional, National or International value. Additional categories of 'Site' or 'Negligible' importance are also applied, where relevant.

1.2.22 A detailed methodology for the evaluation of baseline biodiversity importance is provided in **ES Volume 3, Appendix 9-1: Ecological Baseline Report, [EN010168/APP/6.3].**

1.2.23 To inform the evaluation in this report, the number of ponds recording GCN presence (between April 2023 and June 2025) were considered in the context of the quality of habitat present, as well as the distribution and abundance of GCN within the local area and the UK.

1.2.24 An evaluation of habitats within the CRC for their suitability to support GCN has been provided within Section 1.4 of this report.

Limitations

Desk Study

1.2.25 The desk study data presented within the report should not be seen as exhaustive. Data obtained from within the search radii is highly unlikely to constitute a complete record of habitats and species within the search radii. It is therefore possible that GCN may occur within the vicinity of the Scheme that have not been identified within the desk study.

1.2.26 The data search for the Solar PV Sites was obtained in 2023 and for the CRC in 2024 and does not include records made subsequently. The datasets only provide records where information exists and should not be relied upon as a complete listing of all GCN which may occur within the search radii.

Field Surveys and Sample Analysis

1.2.27 Environmental DNA surveys and sample analysis can occasionally result in false positive or false negative scores due to a number of factors, including the following:

False Positives

- Cross-contamination between sample sites (due to equipment, clothing etc.);
- Aquatic animals (e.g. heron, water vole) transferring newt eDNA between sample sites (e.g. in faeces, in water trapped in fur);
- In-flows, bringing eDNA from sample sites with newts into unoccupied waterbodies;
- Historic eDNA in sediment released into the water column; and
- Laboratory false positives.

False Negatives

- Resident very low population present;
- Very wide, shallow drawdown zones where samples are collected, where no newt activity has occurred;
- Presence of very densely packed aquatic vegetation in waterbodies reducing sample collection or newt activity in these areas;
- Limited access to the entire waterbody perimeter; and
- Laboratory false negatives.

1.2.28 Despite the above listed limitations, the use of GCN eDNA sampling as a survey technique method is a tried and tested method and is approved for use by Natural England, with studies showing it can provide a more reliable result than other, traditional survey techniques (Ref 9-5-11). Furthermore, ADAS, a Natural England approved laboratory, undertake independent proficiency testing and consistently score 100% including during the 2023, 2024 and 2025 seasons. The results of laboratory analysis are therefore considered to be reliable and accurate. Care was taken during the surveys to strictly follow the GCN eDNA sampling best practice measures to prevent cross-contamination, as well as biosecurity issues.

1.2.29 All samples were taken from sufficient water depths (over 10 cm), however, where water levels were observed to be close to this depth, this was noted during the survey.

1.2.30 Samples which contain high levels of sediment, typically resulting from low water levels or highly polluted waterbodies, may provide an inconclusive result. Samples in which the marked DNA shows signs of degradation can also provide inconclusive results; degradation of DNA can occur as a result of overheating or improper storage of samples. Care was taken to ensure all samples were transported and stored under suitable conditions, to minimise the risk of overheating and degradation of the samples.

1.2.31 Where features such as in-flows into the waterbodies sampled were observed, these were recorded during the survey and have been reported as such, so that they may be taken into account.

1.2.32 Where waterbodies were observed to be dry in the 2023 or 2024 survey season, these were revisited during 2024 or 2025, where access was granted, to account for potential temporal fluctuations in water level.

1.2.33 Where dense vegetation surrounded a waterbody and made access difficult, attempts were made to clear areas as best as possible in order to take water samples. In some cases, access to the shoreline was greatly reduced and samples were either taken from a more limited area, or fewer samples were collected in total. This has been highlighted within the relevant tables below. Where these samples were returned as negative for GCN, the suitability of the surrounding habitat and presence of other nearby waterbodies will also be taken into account when recommendations for appropriate mitigation are made.

1.2.34 All ponds within the Solar PV Sites and within the same landownership boundaries have been accessed. Where access has not been granted (or assumed as not granted following reasonable effort to engage with landowners) on further ponds on third-party land within 250 m of the Solar PV Sites, eDNA surveys have not been undertaken. In the absence of survey data for these ponds (41 total), the evaluation of importance for the Solar PV Sites and surrounding pond network for GCN has been made on a precautionary basis. Given that the majority of ponds within the Solar PV Sites and surrounding 250 m radius have been accessed and surveyed, this data is considered to be representative of the local GCN population with the potential to be impacted by the Scheme.

1.2.35 At the time of writing, approximately 17 ha of land within the CRC has not been accessed for ecological survey due to a lack of access permission. Habitats within these areas have therefore not been assessed for their potential to support GCN. An assumption of the likely habitats present has been made, based on available desk study information (using satellite imagery and open-source datasets, where relevant), and the context of other habitats present within the local landscape. The precautionary principle has been applied when considering the suitability of habitats for GCN. Access agreements are being sought for these areas, and it is intended for all currently un-surveyed areas of the CRC to be assessed for their suitability to support GCN. Following completion of the outstanding survey work, the results of the surveys will be submitted into the Examination and amendments to this appendix will be made, if required.

1.3 Results

1.3.1 This section contains the desk study results, along with the results of eDNA sampling for each waterbody surveyed between April 2023 and June 2025. A brief assessment of overall terrestrial habitat quality for GCN within the Solar PV Sites is also provided.

Desk Study

1.3.2 A summary of desk study results relating to GCN is provided below. Refer to **ES Volume 3, Appendix 9-1: Ecological Baseline Report, [EN010168/APP/6.3]** for full data search results and associated figures.

Solar PV Sites (Lime Down A-E)

Designated Sites

1.3.3 No designated sites for which GCN are listed as a reason for designation were identified during the desk study, using the search parameters set out within Paragraph 1.2.2.

Protected Species Records

1.3.4 A total of 30 records of GCN, three granted EPS licences relating to GCN, 16 class licence returns confirming GCN presence, and four positive eDNA Pond Survey results were returned during the desk study, using the search parameters set out within Paragraph 1.2.2.

1.3.5 The Solar PV Sites lie within the green and amber Natural England GCN Risk Zones, with each Site falling within the two zones to differing extents. The Sites also lie within Strategic Opportunity Areas for GCN, including within core areas, particularly at Lime Down E.

Cable Route Corridor

Designated Sites

1.3.6 No designated sites for which GCN are listed as a reason for designation were identified during the desk study, using the search parameters set out within Paragraph 1.2.2.

Protected Species Records

1.3.7 A total of 41 records of GCN, eight granted EPS licences, four class licence returns confirming GCN presence, and two positive eDNA Pond Survey results were returned during the desk study, using the search parameters set out within Paragraph 1.2.2.

1.3.8 It should be noted that a relatively small number of records returned during the desk study of the CRC overlap with those returned associated with the Solar PV Sites.

1.3.9 The CRC lies within either green or amber Natural England GCN Impact Risk Zones along its entire length.

Habitat Suitability for GCN

1.3.10 A brief summary of the habitat suitability for GCN within the Study Area is provided below.

Solar PV Sites (Lime Down A-E)

1.3.11 Terrestrial habitats for GCN are generally limited in quality and extent across the Solar PV Sites. The Solar PV Sites largely comprised arable or agricultural grassland habitat, of sub-optimal suitability for GCN, although amphibians may be found in these habitats in close proximity to breeding ponds.

1.3.12 Areas of diverse and tussocky grassland, grassy field margins, scrub, hedge bases and woodland edges provide suitable foraging and sheltering opportunities for GCN across the Solar PV Sites. The network of agricultural drainage ditches throughout the Solar PV Sites also offer suitable habitat for the species.

1.3.13 A total of 24 ponds were identified within the Solar PV Sites; the greatest pond density was recorded at Lime Down C, D and E (8, 7 and 5 ponds respectively), whereas no ponds were present within Lime Down B. A further 98 waterbodies were identified within 250 m of the Solar PV Sites.

1.3.14 Suitable sheltering and over-wintering features were noted throughout the Solar PV Sites consisting of piles of logs, stones and rubble, fallen trees and deadwood, and cut grass and hay stores.

Cable Route Corridor

1.3.15 Habitats within the CRC are generally of similar character to the Solar PV Sites, comprising agricultural fields bounded by hedgerows and ditches, with occasional ponds and blocks of woodland. The CRC is therefore considered to be of similar suitability for GCN. Approximately 130 ponds have been identified within 250 m of the CRC during the desk-based assessment, and are shown in **ES Volume 2, Figure 9-5-13 to 19: On-Site Ponds and Ponds within 250m – Cable Route Corridor [EN010168/APP/6.2].**

Great Crested Newt eDNA Surveys

1.3.16 A total of 122 waterbodies were identified within 250 m of the Solar PV Sites during the desk-based assessment, of which 24 were located within the Solar PV Sites.

1.3.17 All ponds within the Solar PV Sites were accessed for survey in 2023 (per the relevant iteration of the Order Limits), along with a small number of off-site ponds within the surrounding 250 m radius under the same land ownership. However, many of these ponds were dry (or had insufficient water levels for survey) following a period of particularly hot weather in May 2023. Dry ponds were re-surveyed in 2024 or 2025, access permitting.

1.3.18 In 2024 and 2025, where access permission was granted, all off-site ponds within 250 m of the Solar PV Sites and those ponds included within the Order Limits following the inclusion of additional land at Lime Down C and D were also surveyed.

1.3.19 Between April 2023 and June 2025, only two of the on-site ponds have returned positive eDNA results for the presence of GCN (C_P7 and E_P1), located in Lime Down C and E. A further 14 positive eDNA results were returned from ponds within 250 m of the Solar PV Sites. Of the ponds surveyed, no positive eDNA results were returned within 250 m of Lime Down A.

1.3.20 The results of eDNA surveys completed between April 2023 and June 2025 are presented in **Table 9-5-2** and shown in **ES Volume 2, Figure 9-5-7 to 9-5-12: On-Site Ponds and Ponds within 250m – Solar PV Sites, [EN010168/APP/6.2]**.

Table 9-5-2: Summary of GCN eDNA Survey Results (April 2023 – June 2025) – Solar PV Sites

Pond Reference	Access	eDNA Undertaken/Year	eDNA Result	Notes
Lime Down A				
A_P1	Y	Y (2024)	Negative	
A_P2	Y	Y (2023)	Negative	
A_P3	Y	Y (2024)	Negative	
A_P4	Y	Y (2023)	Negative	
Lime Down C				
C_P1	Y	Y (2024)	Negative	
C_P3	Y	N	N/A	Dry pond 2023/24/25
C_P4	Y	N	N/A	Dry pond 2023/24/25
C_P5	Y	N	N/A	Dry pond 2023/25
C_P6	Y	N	N/A	Dry pond 2023/25
C_P7	Y	Y (2023)	Positive	
C_P8	Y	Y (2023)	Negative	
C_P9	Y	Y (2024)	Negative	Sampled 50% due to perimeter access
Lime Down D				
D_P1	Y	Y (2024)	Negative	
D_P1A	Y	Y (2024)	Negative	
D_P2	Y	Y (2024)	Negative	
D_P3	Y	Y (2023)	Negative	
D_P5	Y	N	N/A	Dry pond 2024/25

Pond Reference	Access	eDNA Undertaken/Year	eDNA Result	Notes
D_P6	Y	N	N/A	Dry pond 2023/25. Insufficient water levels and heavy sediment 2024
D_P7	Y	Y (2024)	Negative	
Lime Down E				
E_P1	Y	Y (2023)	Positive	
E_P3	Y	N	N/A	Dry pond 2023/24/25
E_P4	Y	Y (2024)	Negative	
E_P8	Y	Y (2024)	Negative	
E_P9	Y	Y (2024)	Negative	
Within 250m				
B_P1	Y	Y (2024)	Positive	
C_P2	Y	Y (2024)	Negative	
D_P4	Y	Y (2024)	Negative	
E_P2	Y	Y (2023)	Positive	
E_P5	Y	N	N/A	Dry pond 2023/24/25
E_P6	Y	N	N/A	Dry pond 2023/24/25
E_P7	Y	Y (2024)	Negative	
O_P1	Y	Y (2024)	Negative	
O_P2	Y	Y (2024)	Negative	
O_P3	Y	Y (2024)	Negative	
O_P4	Y	N	N/A	Pond did not exist

Pond Reference	Access	eDNA Undertaken/Year	eDNA Result	Notes
O_P5	Y	N	N/A	Dry pond 2024
O_P6	Y	Y (2024)	Negative	
O_P7	Y	Y (2025)	Negative	
O_P12	Y	Y (2023)	Positive	
O_P13	Y	Y (2024)	Negative	Slow flowing water connected to watercourse
O_P16	Y	Y (2023)	Negative	
O_P17	Y	Y (2024)	Negative	
O_P18	Y	Y (2024)	Negative	
O_P19	Y	Y (2024)	Positive	
O_P20	Y	Y (2024)	Negative	
O_P21	Y	Y (2023)	Negative	
O_P23	Y	Y (2023)	Positive	
O_P24	Y	N	N/A	Dry pond 2025
O_P25	Y	Y (2024)	Negative	Sampled 60 % due to perimeter access and variable water levels
O_P26	N	N/A	N/A	
O_P27	N	N/A	N/A	
O_P28	N	N/A	N/A	
O_P29	N	N/A	N/A	
O_P30	N	N/A	N/A	
O_P31	N	N/A	N/A	

Pond Reference	Access	eDNA Undertaken/Year	eDNA Result	Notes
O_P32	N	N/A	N/A	
O_P33	N	N/A	N/A	
O_P34	N	N/A	N/A	
O_P35	Y	N	N/A	Dry pond 2024/25
O_P36	Y	N	N/A	Dry pond 2024/25
O_P37	Y	Y (2024)	Negative	
O_P38	Y	Y (2024)	Positive	
O_P40	N	N/A	N/A	
O_P42	Y	N	N/A	Dry pond 2025
O_P44	Y	Y (2024)	Negative	
O_P45	Y	Y (2024)	Negative	Three small pools within partially dry pond footprint
O_P46	Y	Y (2024)	Positive	Sampled 40 % due to perimeter access
O_P47	Y	Y (2024)	Negative	
O_P48	N	N/A	N/A	
O_P49	Y	Y (2024)	Negative	
O_P52	Y	N	N/A	Dry pond 2025
O_P53	Y	Y (2024)	Negative	Sampled 70 % due to perimeter access
O_P54	N	N/A	N/A	
O_P56	N	N/A	N/A	
O_P57	Y	N	N/A	Dry pond 2024/25

Pond Reference	Access	eDNA Undertaken/Year	eDNA Result	Notes
O_P57A	Y	Y (2024)	Negative	
O_P58	Y	Y (2024)	Negative	Sampled 75 % due to perimeter access
O_P59	N	N/A	N/A	
O_P60	N	N/A	N/A	
O_P61	N	N/A	N/A	
O_P62	Y	Y (2023)	Positive	
O_P63	Y	N	N/A	Dry pond 2025
O_P64	Y	Y (2025)	Positive	
O_P65	N	N/A	N/A	
O_P66	N	N/A	N/A	
O_P67	N	N/A	N/A	
O_P68	Y	Y (2024)	Negative	
O_P69	N	N/A	N/A	
O_P70	N	N/A	N/A	
O_P71	Y	Y (2024)	Negative	
O_P72	N	N/A	N/A	
O_P73	N	N/A	N/A	
O_P74	Y	Y (2025)	Positive	
O_P75	Y	N/A	N/A	Dry pond 2025
O_P76	Y	Y (2025)	Positive	
O_P77	Y	Y (2024)	Negative	

Pond Reference	Access	eDNA Undertaken/Year	eDNA Result	Notes
O_P78	N	N/A	N/A	
O_P79	N	N/A	N/A	
O_P80	N	N/A	N/A	
O_P81	N	N/A	N/A	
O_P82	N	N/A	N/A	
O_P83	N	N/A	N/A	
O_P84	N	N/A	N/A	
O_P85	N	N/A	N/A	
O_P86	Y	N	N/A	Dry pond 2025
O_P87	N	N/A	N/A	
O_P88	N	N/A	N/A	
O_P89	N	N/A	N/A	
O_P91	N	N/A	N/A	
O_P92	N	N/A	N/A	
O_P95	Y	Y (2024)	Negative	
O_P96	N	N/A	N/A	
O_P97	N	N/A	N/A	
O_P98	Y	Y (2024)	Negative	Sampled 70 % due to perimeter access
O_P99	Y	Y (2024)	Negative	Water levels 10 cm
O_P100	N	N/A	N/A	
O_P101	Y	Y (2024)	Negative	

Pond Reference	Access	eDNA Undertaken/Year	eDNA Result	Notes
O_P102	N	N/A	N/A	
O_P103	N	N/A	N/A	
O_P104	Y	Y (2025)	Positive	
O_P110	N	N/A	N/A	

1.4 Evaluation and Conclusion

1.4.1 This section sets out a summary of survey results between April 2023 and June 2025 and provides an evaluation of the importance of the GCN population within the Order Limits and surrounding area, with the potential to be impacted by the Scheme.

Evaluation

Solar PV Sites (Lime Down A-E)

1.4.2 Environmental DNA surveys of the Solar PV Sites completed between April 2023 and June 2025 have confirmed presence of GCN in two of the ponds within the Solar PV Sites, across Lime Down C and E, with a further 14 positive eDNA results within the surrounding 250 m. These results indicate the use of the Solar PV Sites by a local population, or meta-population given the scale of the Solar PV Sites within the landscape, and therefore have the potential to be impacted by the Scheme.

1.4.3 No positive eDNA survey results have been returned from accessible ponds within 250 m of Lime Down A and D between April 2023 and June 2025. Several ponds are present within and in proximity to Lime Down A, B and D, and these areas offer limited suitable terrestrial habitat for the species. During their terrestrial life-stage, GCN are thought to primarily utilise terrestrial habitats within 250 m of breeding ponds but, depending on habitat quality, may travel considerably further. As such, given the confirmed presence of GCN in the surrounding area, the use of Lime Down A, B and D by individuals from the local meta-population(s) of GCN cannot be ruled out.

1.4.4 Overall, given the network of ponds present within the Solar PV Sites and the surrounding landscape, and the confirmed presence of GCN within the Study Area, GCN within the Solar PV Sites are considered to be of **Local Importance**.

Cable Route Search Corridor

1.4.5 During the desk-based assessment, approximately 130 waterbodies were identified within the CRC and surrounding 250 m. Given that the presence of GCN within the local landscape has been confirmed through eDNA surveys at the Solar PV Sites and given the numerous local records of the species, it can be assumed that GCN are present within a proportion of waterbodies identified associated with the CRC.

1.4.6 Terrestrial habitats within the CRC are generally considered to be of similar value for GCN as those within the Solar PV Sites, and suitable

habitats can therefore be assumed to support foraging and sheltering individuals. As such the above evaluation is for the Solar PV Sites can be considered appropriate for the CRC as well.

Conclusion

1.4.7 The presence of GCN has been confirmed within Lime Down C and E and within the surrounding 250 m at the Solar PV Sites, and, for the purposes of this evaluation, the presence of GCN has been assumed across the Scheme where survey data is not available.

1.4.8 Appropriate avoidance, mitigation, compensation and enhancement measures relating to GCN are detailed within **ES Volume 1, Chapter 9: Ecology and Biodiversity, EN010168/APP/6.1.**

1.5 References

Ref 9-5-1 English Nature (2001) Great Crested Newt Mitigation Guidelines.

Ref 9-5-2 Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F (2014) Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA. Freshwater Habitats Trust, Oxford

Ref 9-5-3 CIEEM (February 2022) Code of Professional Conduct. [redacted] [Accessed 19 August 2025]

Ref 9-5-4 CIEEM (2013) Competencies for Species Survey (CSS). [redacted] [Accessed 19 August 2025]

Ref 9-5-5 The British Standards Institution (2013) BS42020: 2013 – Biodiversity: Code of Practice for Planning and Development. BSI Standards Ltd.

Ref 9-5-6 Defra Magic Maps (2025) Available at: https://magic.defra.gov.uk/magicmap.aspx [Accessed 19 August 2025]

Ref 9-5-7 GCN Risk Zones (Swindon and Wiltshire) (2023) Available at: [redacted] [Accessed 19 August 2025]

Ref 9-5-8 Great crested newts: advice for making planning decisions (2025). Available at: https://www.gov.uk/guidance/great-crested-newts-advice-for-making-planning-decisions [Accessed 19 August 2025].

Ref 9-5-9 Jehle R (2000) The terrestrial summer habitat of radio- tracked great crested newts (*Triturus cristatus*) and marbled newts (*T. marmoratus*). Herpetological Journal 10: 137-142

Ref 9-5-10 Cresswell W and Whitworth R (2004) An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt *Triturus cristatus*. English Nature Research Report 576. English Nature, Peterborough

Ref 9-5-11 CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management. Available at: [redacted] [Accessed 19 August 2025]