Butterfly Solar Park

on behalf of RWE Renewables UK Ltd

Appendix 5-7: Report to Inform a Habitats Regulations Assessment

avian ecology

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1 PURPOSE OF REPORT

1.1.1 This report has been prepared in relation to a proposed solar energy generating station and an associated on-site Battery Energy Storage System (BESS) (the 'Proposed Development) located on land to the north of the B5426, Wrexham (the 'Site'). The Proposed Development also includes the associated infrastructure and connection to the Legacy National Grid substation.

1.1.2 The Proposed Development would enable the export of up to 99.9 megawatts (MW) of electricity, as well as the storage of electricity in the BESS. The solar array is divided into three principal areas referred to as the Western, Central and Eastern Array Areas (the WAA, CAA and EAA respectively and together the Array Areas). In addition, cabling is proposed between the EAA and CAA and between the CAA and WAA, and also between the proposed on-Site substation and the Legacy National Grid Substation. Together, proposed cabling locations are termed the Cable Route.

1.1.3 This report has been produced to assist in the undertaking of a Habitats Regulations Assessment (HRA) by the relevant Competent Authority (Wrexham County Council (WCC)) for the Proposed Development.

1.1.4 This report provides the Competent Authority with the necessary ecological information regarding the Proposed Development with respect to its potential for Likely Significant Effects (LSEs) upon the qualifying features of European sites in the UK (i.e. those which form part of the National Site Network).

2 LEGISLATIVE BACKGROUND

2.1.1 Council Directives 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive') and 2009/147/EC on the conservation of wild birds (the 'Birds Directive') provide for the designation of sites for the protection of certain species and habitats – Special Area of Conservations (SACs) and Special Protection Areas (SPAs). Such sites designated under the Directives together with Ramsar sites (wetlands of international importance) are collectively termed European sites and form part of a network of protected sites across Europe, known as the Natura 2000 network.

2.1.2 In the UK, the Conservation of Habitats and Species Regulations (2017) (the '2017 Regulations') transpose the Habitats and Birds Directives into national law. Changes were made to the 2017 Habitats Regulations by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (the '2019 Regulations. The 2017 and 2019 Regulations are collectively referred to as the 'Habitats Regulations'.

2.1.3 Under the amendment made by the 2019 Regulations SACs and SPAs in the UK no longer form part of the EU's Natura 2000 network, but form part of a National Site Network. The National Site Network includes:

- existing SACs and SPAs; and,
- new SACs and SPAs designated under the 2019 Regulations.

2.1.4 Wetlands of International Importance (known as Ramsar sites) do not form part of the national site network, but many overlap with SACs and SPAs, and may be designated for the same or different qualifying features. Ramsar sites are afforded the same protection as European sites.

2.1.5 As a Competent Authority, an assessment under the Habitats Regulations, known as a Habitats Regulations Assessment (HRA), must be carried out to test if a project or plan could significantly harm the qualifying features of a European site, in order to decide whether to approve the project or plan.

2.1.6 The Competent Authority may only approve a project or plan, where it can be concluded that it will not adversely affect the integrity of a European site. The exception to this is where there are Imperative Reasons of Overriding Public Interest (IROPI) and there are no other feasible alternatives, which would not affect the integrity of the European site. In this case the competent authority must assess all compensatory measures required to ensure the protection of the overall coherence of the National Site Network.

2.1.7 This HRA process can involve up to four stages, as summarised in Box 1.

Box 1 Stages of Habitats Regulations Assessment

Stage 1 – Screening:

This stage identifies the likely impacts upon a European Site of a project or Plan, either alone or 'in combination' with other projects or plans, and considers whether these impacts are likely to be significant.

Stage 2 – Appropriate Assessment:

Where there are likely significant impacts, this stage considers the impacts of the Plan or project on the integrity of the relevant European Sites, either alone or 'in combination' with other projects or plans, with respect to the sites' structure and function and their conservation objectives. Where there are adverse impacts, it also includes an assessment of the potential mitigation for those impacts.

Stage 3 – Assessment of Alternative Solutions:

Where adverse impacts [on the integrity of the site] are predicted, this stage examines [whether or not there are] alternative ways of achieving the objectives of the project or Plan that avoid adverse impacts on the integrity of European Sites.

Stage 4 – Assessment Where No Alternative Solutions Exist and Where Adverse Impacts Remain:

This stage assesses compensatory measures where it is deemed that the project or Plan should proceed for imperative reasons of overriding public interest (IROPI).

2.1.8 Stages 1 and 2 are covered by Regulation 63 and Stages 3 and 4 are covered by Regulation 64 and 68.

2.1.9 With respect to Stage 2, the integrity of a European Site relates to the site's conservation objectives and has been defined in guidance as "the coherent sum of the site's ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated"[1]. An adverse effect on integrity, therefore, is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of designation.

2.1.10 The HRA screening process uses the threshold of LSE to determine whether effects on European sites should be the subject of further assessment. The Habitats Regulations do not define the term LSE. However, in the Waddenzee case (Case C127/02)[2], the European Court of Justice found that an LSE should be presumed and an Appropriate Assessment (AA) carried out if it cannot be excluded on the basis of objective information that the plan or project will not have significant effects on the conservation objectives of the site concerned, whether alone or in combination with any other project.

[1] Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, at section 4.6.3 (Updated Version, November 2018)

[2] Judgment of the Court (Grand Chamber) of 7 September 2004. Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij. Reference for a preliminary ruling: Raad van State - Netherlands. Case C-127/02

The Advocate General's opinion of the Sweetman case (Case C-258/11)[3] further clarifies the position by noting that for a conclusion of an LSE to be made "there is no need to establish such an effect...it is merely necessary to determine that there may be such an effect" (original emphasis).

2.1.11 For the reasons highlighted above the assessment process follows the precautionary principle throughout and the word 'likely' is regarded as a description of a risk (or possibility) rather than in a legal sense an expression of probability.

2.1.12 Screening can be used to screen-out European sites and elements of works from further assessment, if it is possible to determine that significant effects are unlikely (e.g., if sites or interest features are clearly not vulnerable (exposed and / or sensitive) to the outcomes of the proposal due to the absence of any reasonable impact pathways).

2.1.13 The screening process has two potential conclusions, namely that a project or plan, alone or in combination with other developments, could result in:

- No LSE on any of the qualifying features of the European site; or
- LSE identified, or cannot be ruled out, on one or more of the qualifying features of the European site.

2.1.14 Only the second of these outcomes will trigger an AA. If one or more LSE are identified, or cannot be ruled out, it is then necessary to proceed to Stage 2 and undertake an AA.

2.1.15 On 12 April 2018, the Court of Justice of the European Union (CJEU) issued a judgment on Case C323/17 (People over Wind, Peter Sweetman v Coillte Teoranta)[4] which stated (at paragraph 41):

"Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects [mitigation] of the plan or project on that site."

2.1.16 This means that any mitigation relating to protected sites will no longer be considered at the screening stage but taken forward and considered at the appropriate assessment stage to inform a decision on whether no adverse effects on site integrity can be demonstrated.

2.1.17 The assessment provided within report takes into account the CJEU ruling on 'People over Wind' and the precautionary principle has been applied as per Waddenzee case.

3 INFORMATION TO INFORM THE ASSESSMENT

3.1 Site Description

3.1.1 The Site consists of agricultural land which mostly comprised arable fields in the EAA, mixed arable and pastoral fields in the CAA and pasture in the WAA. The field compartments are enclosed by a mixture of managed hedgerows, woodland edge, lines of trees, fencing or occasional ditches. Other habitats that are contained within the Site include mixed scrub, semi-natural broadleaved woodland,

[3] Judgment of the Court (Third Chamber), 11 April 2013 Peter Sweetman and Others v An Bord Pleanála. Request for a preliminary ruling from the Supreme Court (Ireland) Case C-258/11

[4] Judgment of the Court (Seventh Chamber) of 12 April 2018 People Over Wind and Peter Sweetman v Coillte Teoranta Request for a preliminary ruling from the High Court (Ireland) Case C-323/17

and small pockets of semi-improved grassland and ruderal communities which are mostly associated with field margins. Minor watercourses are present within/adjacent to all three Array Areas.

3.1.2 The cable route is located wholly along existing road networks.

3.1.3 The wider area is dominated by similar agricultural land, and beyond that the urban area of Wrexham approximately 3km to the north, Johnstown to the west and smaller settlements to the east and south.

3.2 Project Description

3.2.1 The Proposed Development comprises the installation and operation of a solar photovoltaic electricity generating station (or 'solar farm') comprising ground-mounted photovoltaic solar arrays and battery-based electricity storage containers together with a 132 kV substation, grid connection cable route options to the Legacy National Grid Substation, inter-array area cabling, Site accesses, internal access tracks, security measures, access gates, other ancillary infrastructure and landscaping and biodiversity enhancements. The solar farm would have an export capacity of up to 99.9 MW.

3.2.2 The Proposed Development as described in the Planning Statement includes for the following main components:

- Photovoltaic solar panels and associated support frames
- Hybrid Inverter Container Compounds including Battery Energy Storage Systems (BESS) containers, DC-DC converters and associated hybrid inverters
- Onsite electrical cabling
- An electrical substation compound (132kV) comprising a new substation and
- control building
- Spare parts storage container(s)
- Wooden post deer/stock fencing
- In-ward facing infrared CCTV cameras on 3 m poles
- Landscaping and ecological enhancements
- Electrical cabling between the solar array areas
- Electrical cabling to the National Grid Legacy Sub-Station

3.2.3 The construction works are expected to last between 39 and 52 weeks. The construction programme would allow for the following key construction-related works to be undertaken:

- Erection of tree protection fencing.
- Establishment of site compound.
- Construction of site access tracks.
- Erection of deer / stock fencing and gates to site perimeter.
- Installation of solar panels and frames.
- Installation of solar farm electrical infrastructure such as hybrid inverter and BESS compounds.

- Installation of WAA substation.
- Installation of CCTV poles and cameras.
- Installation of drainage infrastructure.
- Installation of cabling between array areas.
- Grid connection installation.
- Cultivation and seeding; and
- Hedgerow and tree planting.

3.2.4 The Proposed Development is not directly connected to or necessary for the management of any European site and is considered to be a 'Project' under the provisions of the Habitats Regulations.

3.3 European Sites

3.3.1 A statutory designated site plan is provided as **Figure 1**

3.3.2 Two European sites of conservation importance designated for their ecological qualifying features have been identified for screening based on their proximity to the Site (taken as being within a search area of 10km) and/or their connectivity to it (e.g. ecological or hydrological connectivity).

3.3.3 **Table 1** below identifies relevant European and Ramsar sites within 10km of the Site and outlines their qualifying features, as described within the corresponding *European Site Register Entries* document, presented in **Appendix 1**.

Table 1: European sites qualifying features.

European Site	Distance and Direction from Site	Qualifying Features
Johnstown Newt Sites SAC	Immediately adjacent to Cable Route	Designated for the presence of Annex II species great crested newt.
River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC	635m south of EAA	Designated for the presence of Annex I habitat water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. Designated for the presence of Annex II species Atlantic salmon, floating water plantain, sea lamprey*, brook lamprey*, river lamprey*, bullhead* and otter*. * Denotes features present as a qualifying feature, but not a primary reason for site selection

3.4 European Site Conservation Objectives

3.4.1 A HRA is required to assess if a project (or plan) is likely to have a significant adverse effect on the conservation objectives of a European site.

3.4.2 The Conservation objectives of a European site are a statement of standards and integrity of the site which must be met to maintain (or restore) the qualifying features of the European Site at (or to) "favourable conservation status" (FCS).

3.4.3 As defined the Articles 1(e) and 1(i) of the Habitats Directive, the conservation status will be taken as "favourable" according to the following definitions.

3.4.4 The conservation status of a natural habitat will be taken as favourable when:

- its natural range and areas it covers within that range are stable or increasing;
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- the conservation status of its typical species is favourable.

3.4.5 The conservation status of a species will be taken as 'favourable' when:

- population dynamics data on the species indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

3.4.6 The Conservation Objectives for each SAC are too long and detailed to be replicated in this document, however, for Wales these can be found in the Core Management Plan (CMP) documents for each site and for England can be found within the Supplementary Advice on Conservation Objectives, referenced as follows:

- Core Management Plan Including Conservation Objectives for Johnstown Newt Sites SAC (Countryside Council for Wales, 2008[5]);
- Core Management Plan Including Conservation Objectives for River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC (v3) (Natural Resources Wales, 2022[6]); and,
- European Site Conservation Objectives: Supplementary advice on conserving and restoring site features River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC (Natural England, 2019[7]).

3.5 Baseline Ecological Survey

3.5.1 This assessment has been informed by a desk study, extended habtiat survey and great crested newt eDNA survey. eDNA Survey methodology is provided below.

Desk Study

3.5.2 A desk study was undertaken to identify existing information on the presence of designated sites for nature conservation, protected and notable species and habitats within proximity to the Site as follows:

- Non-statutory designated sites for nature conservation within 2km of the Site.

5 https://naturalresources.wales/media/672594/Johnstown%20Newt%20Site%20Management%20Plan%20April%202008%20_English_.pdf

6 https://naturalresources.wales/media/673374/river_dee___bala_lake_32_plan.pdf

7 https://designatedsites.naturalengland.org.uk/TerrestrialAdvicePDFs/UK0030252.pdf

- Statutory designated sites for nature conservation, within 5km of the Site, extending to 10km for internationally protected sites with mobile qualifying species.

- Existing records of priority habitats, protected and notable faunal species, within 2km of the Site.

3.5.3 Results are presented in ES Appendix 5-1 Habitats Baseline Report.

Extended Habitat Survey

3.5.4 An extended Habitat Survey of the Array Areas was undertaken between the 21[s] and 23rd May 2025 by J. Stevens *BSc (Hons)*, C. Dean PhD, and K. Love Msc, all of whom are suitably experienced ecologists. The survey followed UK industry standard UKHab Methodology V2.0[8] with reference to the CIEEM, guidance (2017)[9]. A desk-based translation to align with JNCC Phase 1 Habitat Survey[10] types was also undertaken.

3.5.5 Habitats were mapped and described to the highest level of UK habitat classification as possible, with each habitat feature being assigned to a primary habitat and then described with secondary codes if applicable. The survey was extended to include the additional recording of specific features indicating the presence, or likely presence, of protected species, invasive species and other species of conservation significance using a series of 'target notes' (TNs).

3.5.6 Results are presented in ES Appendix 5-1 Habitats Baseline Report.

eDNA Survey

Identification of Ponds

3.5.7 Ordnance Survey and aerial mapping were used to search for potential ponds within the Site or within a 250m buffer around the Array Areas or within 50m of the cable route. This identified a total of 91 possible pond features (**Figure 7-5**), of which nine were located within 50m of the cable route only, 43 within 250m of the array areas only and the remaining 39 within both 50m of the cable route and 250m of the array areas.

3.5.8 Western Ecology sampled the Site in June 2022 and June 2023 with 19 ponds in total visited and sampled. The remaining ponds were not viewed at all due to access limitations.

3.5.9 In June 2024, Avian Ecology accessed the Site, with 22 ponds viewed (**Table 2**). Four of the previous ponds accessed by Western Ecology in 2022 (P60, 75, 75 and 89) were also sampled again by Avian Ecology in 2024. The remaining potential ponds could not be viewed at all due to access limitations.

3.5.10 In total, 37 ponds (or potential ponds) were surveyed over three survey seasons by the two separate consultancies with 54 ponds inaccessible.

[8] http://www.ukhab.org [Accessed 15/07/2024]
[9] CIEEM. (2017). *Guidelines for Preliminary Ecological Appraisal (2nd edition)*. Chartered Institute of Ecology and Environmental Management, Winchester.
[11] Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths R.A, Foster J, Wilkinson J, Arnett A, Williams P, Dunn F. 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.

eDNA Survey Methods

3.5.11 The protocol for sampling followed the technical advice note for field and laboratory sampling of great crested newts (Biggs *et al*. 2014)[11], which required the collection of 20 x 30ml subsamples from each pond, spaced as evenly as possible around the pond margin.

3.5.12 The subsamples were all placed within the same sample bag, which was shaken for 10 seconds, before a 15ml sample was pipetted from the bag and placed in a specimen tube for laboratory analysis. Following collection, samples were refrigerated prior to laboratory dispatch.

3.5.13 Laboratory analysis was undertaken by SureScreen Scientifics Ltd, using the methodology outlined by Biggs *et al*. (2014).

3.5.14 DNA was extracted from the sample and then amplified and detected using specific primers and probes within a q-PCR test. Each sample was run in 12 replicates, and the results reported as the proportion of the 12 replicates that were successfully amplified (indicating that GCN DNA is present). Inhibition and degradation checks were also carried out on each sample using a known DNA marker.

eDNA Survey Results

3.5.15 None of the 26 ponds sampled returned a positive result for GCN DNA. Full results are provided in **ES Appendix 5-4 GCN eDNA Report**.

4 POTENTIAL FOR LIKELY SIGNIFICANT EFFECTS (SCREENING)

4.1.1 The Proposed Development is not directly connected to or necessary to the conservation management of a European Site and is therefore a Project and requires a HRA.

4.1.2 *Likely Significant Effect* or LSE is, in this context, any appreciable effect that may reasonably be predicted as a consequence of a plan or project, that may affect the conservation objectives of the features for which the site was designated, but excluding trivial or inconsequential effects.

4.1.3 Where a LSE is identified, further assessment has been undertaken as set out in Section 5: Appropriate Assessment of this document to consider the potential for significant adverse effects on the integrity of the European site or its qualifying interest species.

4.1.4 Potential effects are considered during the construction, operation and decommission phases of the Proposed Development. Potential effects are likely to be restricted to the construction and decommissioning phases. During operation of the solar farm, potential effects are envisaged to be minimal. Operational activities will be restricted to occasional maintenance which will not generate significant levels of noise, vibration or lighting that have the potential to cause disturbance. During the decommission phase increased noise and vibration levels are likely to occur during the dismantling of the solar panels and removal of equipment from the Site and are considered to be comparable or lesser to those experienced during construction.

[11] Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths R.A, Foster J, Wilkinson J, Arnett A, Williams P, Dunn F. 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.

4.1 Potential Effects upon Qualifying Habitat Features of European Sites

Johnstown Newt Sites SAC

4.1.1 The Johnstown Newt sites SAC is not designated for Qualifying Habitat Features. The potential for impacts to supporting habitats of qualifying species are discussed separately below.

River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC

4.1.2 The River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC is designated for the presence of Annex I habitat water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation.

4.1.3 The Site does not form part of any European site, and therefore there will be no direct effects on any static qualifying habitats of European sites as a result of the Proposed Development.

4.1.4 The Site is located within the Catchment of the River Dee (Afon Dyfrdwy), and as such any release of contaminants has the potential to impact the SAC. Regardless of the proximity to any European Site, the Scheme would however be required to implement standard legislative and regulatory requirements to prevent pollution including Guidelines for Pollution Prevention (GPPs)[12] as part of embedded tertiary measures.

4.1.5 As such, with embedded measures there will be no LSE on upon qualifying habitat features of the aforementioned European site.

4.2 Potential Effects upon Qualifying Species Features of European Sites

Johnstown Newt Sites SAC

4.2.1 Great crested newt are known to disperse up to 1km or more from occupied ponds, however most adults typically remain within 250m of a breeding pond[13]. The land within 500m of a breeding pond is likely to be the 'core' habitat.

4.2.2 The Proposed Development is located immediately adjacent to the Johnstown Newt Sites SAC. All works would be confined to the Site boundary, and as such there would be no direct loss of, or change to supporting habitat of designated species features within the SAC.

4.2.3 Johnstown Newt Sites SAC is located approximately 200m west of the nearest Array Area, but is separated by the A483 dual carriageway, a busy road which is considered to present a barrier to great crested newt dispersal between Johnstown Newt Sites SAC and the Array Areas. During surveys, all ponds in proximity to the Array Areas were found likely absent of crested newts. Due the barrier to dispersal present, as supported by the absence of GCN within ponds the Array Areas, changes to habitat within the Site are not considered to impact GCN associated with Johnstown Newt Sites.

4.2.4 Cabling will involve the excavation of a trench approximately 0.7m width to between 1.1 and 1.6m depth, within which the cabling will be located. It is anticipated that works would be broken into short sections, each of which would be completed within a number of days after which the trench would be closed and made good. Nonetheless, trenches while open present a risk of entrapment to individual great crested newt associated with the Designated Newt Sites.

[12] https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/
[13] https://www.froglife.org/wp-content/uploads/2013/06/GCN-Conservation-Handbook_compressed.pdf

4.2.5 In the absence of mitigation there is potential for LSE to great crested newt through the entrapment of individual great crested newt within excavations and through modifications to supporting terrestrial and aquatic habitats (i.e., those up to 1km from the SAC). **An AA is therefore required**.

River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC

4.2.6 The River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC is designated for the presence of the following qualifying species features:

- Atlantic salmon;
- Floating water plantain;
- Sea lamprey;
- Brook lamprey;
- River lamprey;
- Bullhead; and,
- Otter.

4.2.7 All works would be confined to the Site boundary, and as such there would be no direct loss of, or change to, supporting habitat of designated species features within the SAC.

<u>Otter</u>

4.2.8 Otter are known to utilise large home ranges, with male ranges sometimes exceeding 30km and incorporating several typically smaller female territories. As such, otter using tributaries of the River Dee may also have home ranges that include the River Dee itself. The Foss watercourse located approximately 500m east of the EAA is a direct tributary of the River Dee. No evidence of otter was noted on the Foss, however the watercourse is suitable for the species and they may utilise it periodically.

4.2.9 Several other watercourses which flow into the River Clywedog, itself a tributary of the River Dee, are located within proximity to the Site, Pentre Bychan Brook and Black Brook, however are located over 10km upstream of the confluence with the River Dee. Otter are known on the Pentre-bychan Brook through the desk study.

4.2.10 While principally associated with watercourses, otter also utilise other habitats including woodland for natal holts and ponds a supplementary foraging resource, particularly during spring when amphibians are abundant.

4.2.11 Given the separation distance of 500m between the Site and the Foss, this is considered beyond the distance at which disturbance to otter has the potential to occur. Disturbance of otter potentially utilising other watercourses crossed by the Cable Route (e.g., the Pentre-bychan Brook) is located along roads with existing high levels of baseline disturbance from road traffic and so no negative impacts to otter are anticipated from construction related disturbance.

4.2.12 While it is possible otter associated with the Foss utilise nearby ponds for foraging on occasion, all ponds are located at least 400m from the Foss and are separated by agricultural land which is sub-optimal for otter. The Scheme is located over 500m from the Foss, and as such will not result in fragmentation during either construction or operation.

4.2.13 Given the baseline levels of disturbance and location of the Scheme in relation to potentially suitable watercourses for otter no LSE to otter are anticipated.

Floating water plantain

4.2.14 Floating water plantain is associated with lakes and slow flowing rivers. The species is only identified as a Key Species within the higher reaches of the SAC (units 7847, 7849 and 7850) within the CMP. As such given this distribution no LSE to this qualifying species are anticipated as a result of the Proposed Development.

Fish (including Atlantic salmon, bullhead, sea lamprey, brook lamprey and river lamprey)

4.2.15 The Proposed development would not result in fragmentation to the River Dee or its tributaries and as such no impacts to fish species are anticipated. As discussed in relation to qualifying habitat features Regardless of the proximity to any European Site, the Scheme would be required to implement standard legislative and regulatory requirements to prevent pollution including Guidelines for Pollution Prevention (GPPs)[14] as part of embedded tertiary measures. As such, no LSE to fish is anticipated

Potential for LSE

4.2.16 There is no potential for LSE on qualifying species features of the River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC.

4.3 Screening Conclusion

4.3.1 In the absence of mitigation, an AA is required to be made under the Habitats Regulations in relation to Johnstown Newt Sites SAC before the Competent Authority can give any consent, permission or other authorisation for the Proposed Development.

4.3.2 The Proposed Development is considered, alone to have potential for LSE upon the aforementioned designated sites above in relation to its potential to cause indirect effects upon qualifying species.

4.3.3 LSE are considered in relation to the construction, operation and decommissioning phases of the Proposed Development.

5 APPROPRIATE ASSESSMENT

5.1 Overview

5.1.1 In the absence of mitigation, the potential for LSEs is identified for the following European sites as a result of the Proposed Development:

- Johnstown Newt Sites SAC
    - Great crested Newt

5.1.2 This section of the report therefore considers the potential for adverse effects upon the integrity of the above European sites, in view of the site's conservation objectives (**Table 4.1**) and on the basis of mitigation measures.

[14] https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/

5.1.3 Consideration of measures included within a Project which have the effect of reducing or mitigating the effects of that Project on a European site have not been considered within Stage 1: Screening but must instead be assessed with respect to the integrity of the site concerned at Stage 2: Appropriate Assessment.

5.1.4 The Adverse Effect on Integrity Test undertaken in the Appropriate Assessment can take account of the protection measures forming part of the integral design or physical characteristics of the project aimed at avoiding or reducing any direct adverse effects for the site (Briels C-521/12, 2014).

5.1.5 In the absence of consideration of pollution and noise control measures, the Project has the potential to affect the integrity of the aforementioned designated sites during construction, operation or decommissioning.

5.1.6 The following Section details the mitigation measures included within the design of the Project, which will also be set out in a Construction Environmental Management Plan (CEMP), secured by planning consent and then an assessment of LSE in consideration of these measures is undertaken.

5.2 Mitigation During Construction

5.2.1 The following measures are proposed to mitigate for LSE during construction of the Proposed Development. For completeness, some embedded measures required for legislative compliance (e.g., pollution prevention measures) are repeated here however should not be considered as specific measures to reduce any potential LSE.

Construction Environmental Management Plan (CEMP)

5.2.2 An outline Construction Environmental Management Plan (oCEMP) is provided with this DNS application and presents the outline approach to and the application of environmental management and mitigation for the construction of the Proposed Development.

Pollution Prevention Measures

5.2.3 The oCEMP will include best practice and regulatory pollution prevention measures including adherence to GPPs.

Excavations

5.2.4 As a matter of good practice, the following measures are included in the oCEMP:

- Where left open overnight, trenches will be required to be backfilled or covered overnight. This will serve to ensure great crested newt (or other fauna) do not become trapped within trenches.
- Prior to commencement of works each morning, trenches will be checked for presence of great crested newt (and other fauna).
- An Ecological Clerk of Works (ECoW) holding a NRW licence (or an accredited agent) to disturb great crested newt will be retained for the duration of the Proposed Development, with details made available to all site staff; in the event a great crested newt is found the ECoW would be contacted to advise on any further measures to be implemented.

5.3 Mitigation During Operation

5.3.1 No specific measures are proposed to mitigate for LSE during operation of the Proposed Development.

5.4 Mitigation During Decommissioning

5.4.1 The mitigation employed during the decommissioning phase would be expected to be similar to that used during the construction phase.

5.4.2 At the point of full or partial decommissioning of the Proposed Development, the CEMP developed during the construction phase will provide guidance for the management of risk to the water environment. The CEMP would be reviewed and updated as appropriate to reflect future good practice guidance (along with any changes in legislation, climate, designations, habitats or water use) and used to plan decommissioning activity.

5.5 Appropriate Assessment

5.5.1 In the absence of mitigation, potential for LSE on the Johnstown Newt Sites SAC have been identified.

5.5.2 With the implementation of mitigation measures including the CEMP and project design measures, it can be concluded that the Proposed Development will not result in adverse effects upon the integrity of any European site.

5.5.3 The mitigation measures proposed are well established and in line with guidance and regulation and hence can be considered achievable and effective in preventing identified potential adverse effects. The mitigation will be secured by planning condition within the planning consent as part of the final CEMP.

5.5.4 With the inclusion of the mitigation outlined, LSE on the integrity of the Johnstown Newt Sites SAC would be avoided and subsequently **no adverse effects on the integrity of any European site, or its qualifying habitats or species will occur.**

5.6 Appropriate Assessment of Effects In-combination

5.6.1 Regulation 63 requires that the HRA process must consider the potential for LSEs of a proposed development either alone or in combination with other plans and projects. In-combination effects are subsequently considered to be restricted to potential direct effects from habitat loss and/or change and indirect effects of contamination/sedimentation/pollution with all other potential effects inconsequential on the European sites.

5.6.2 In-combination effects must be:

- practically feasible; and,
- interpreted and applied in a proportionate manner.

Johnstown Newt Sites SAC

5.6.3 No cumulative schemes have been identified within 500m of the Johnstown Newt Sites SAC, the distance at which great crested newt breeding within the SAC are considered likely to typically disperse, and as such there is no potential for cumulative effects with regards to this European site.

River Dee and Bala Lake SAC

5.6.4 Cumulative schemes identified are considered sufficiently distanced from the Foss (>200m) that no interaction would occur between the Proposed Development and cumulative schemes that could potentially increase the likelihood or magnitude of disturbance to otter populations, should construction of cumulative schemes be concurrent.

5.6.5 It would be expected that any cumulative schemes would also implement minimum standards of pollution prevention in line with legislative requirements. Given the implementation of best practice pollution prevention measures within the CEMP, there is considered to be no interaction between the Proposed Development and any cumulative schemes.

5.6.6 As such, it considered that there is no potential for potentially adverse in-combination effects to occur with any other development.

6 CONCLUSION

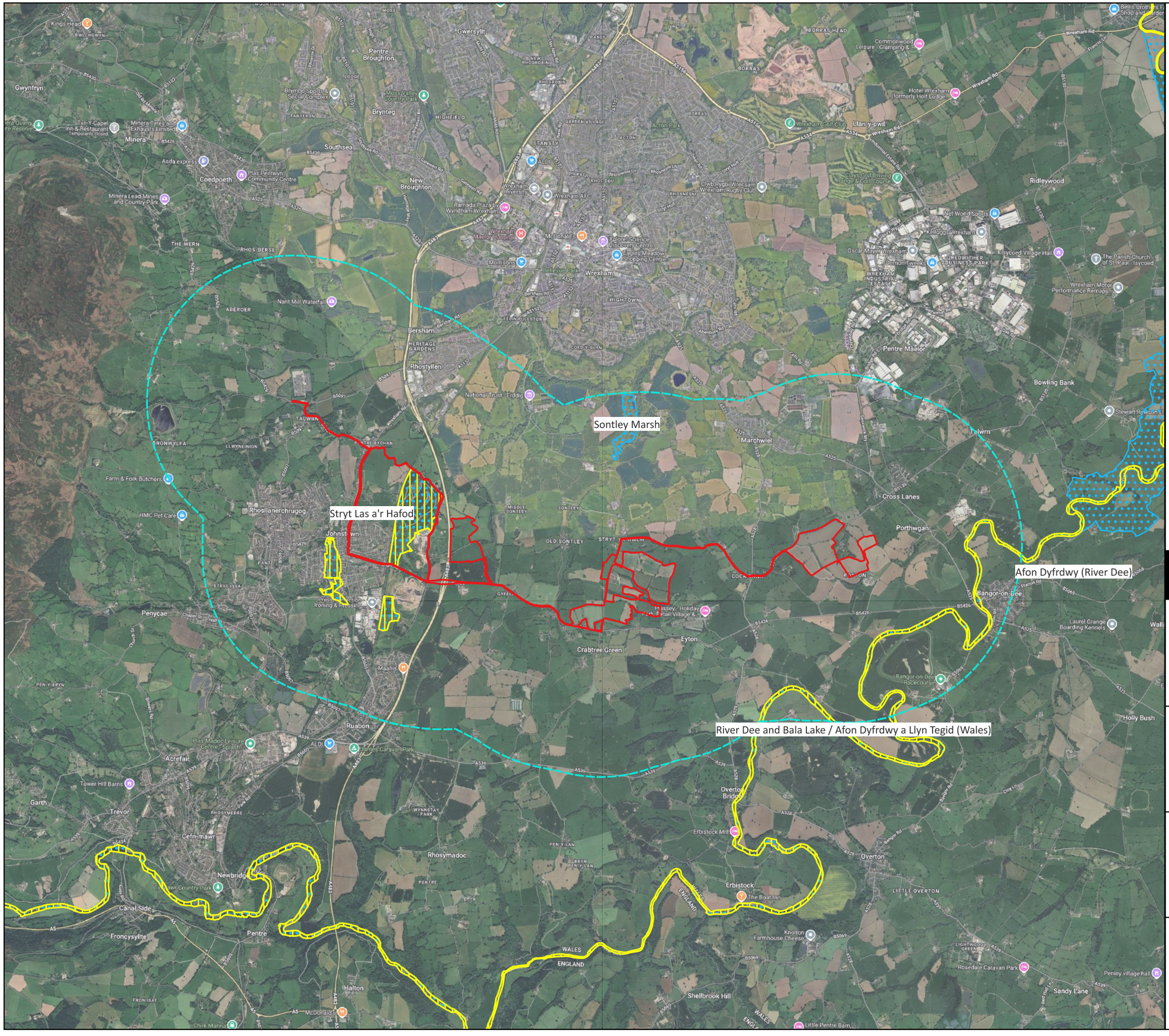
6.1.1 LSEs have been identified on the European sites and information to inform an Appropriate Assessment has been provided, including mitigation measures that will form a committed part of the Project.

6.1.2 The mitigation measures as described will ensure no direct or indirect effects on the favourable conservation status of qualifying species or habitats and hence no effects on the integrity of the European sites.

6.1.3 The mitigation measures proposed are well established and in line with guidance and regulation and hence can be considered to be achievable and effective in preventing identified potential adverse effects. The mitigation will be secured by planning condition within the planning consent as part of a CEMP.

FIGURES:

FIGURE 1: STATUTROY DESIGNATED SITES PLAN



- Site boundary
- 2km Search Area
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)

LEGACY SOLAR DNS

Statutory Designated Sites

Version: 01

Date: 10/09/2025

avian ecology

Avian Ecology, Suite 3c Walnut Tree Farm, Northwich Road, Lower Stretton
WA4 4PG
Tel: 0843 506 5116
www.avianecology.co.uk

0 1 2 km

Co-ordinate System : British National Grid
Projection: Traverse Mercator
Datum: OSGB 1936
Units: Metres

N

This map contains data from the following sources:

APPENDIX 1: REGISTER ENTRIES

Conservation (Natural Habitats, &c.) Regulations 1994 (SI 1994 No. 2716),
fel y'u diwygiwyd / as amended.

COFNOD YN Y GOFRESTR O SAFLEOEDD EWROPEAIDD I GYMRU

ENTRY IN THE REGISTER OF EUROPEAN SITES FOR WALES

(Rheoliad / Regulation 11.2)

***ENW'R SAFLE*:**
***SITE NAME*:** Johnstown Newt Sites

***MATH O SAFLE*:** Ardal Cadwraeth Arbennig (ACA)
***SITE TYPE*:** Special Area of Conservation (SAC)

***CÔD Y SAFLE*:**
***SITE CODE*:** UK0030173

***HANES DYNODIAD*:**

***Dyddiad y trosglwyddwyd i'r Comisiwn Ewropeaidd (Rheoliad 7.4)*:**
Hydref 2002

***Dyddiad y mabwysiadwyd fel safle o bwysigrwydd cymunedol (Council Directive 92/42/EEC, Erthygl 4.2)*:**
7 Rhagfyr 2004

***Dyddiad dynodi*:**
13 Rhagfyr 2004

***Dynodwyd gan (Rheoliad 8.1)*:**
Cynulliad Cenedlaethol Cymru

***LLEOLIAD*:**

Awdurdod unedol:
Wrecsam

***Cyfesurynnau*:**
Hydred 03 01 42 Gor, Lledred 53 00 44 Gog
Cyfeirnod Grid Cenedlaethol Arolwg Ordnans: SJ310466

Gweler hefyd y map(iau) amgaeëdig, nad ydynt yn ffurfio rhan o'r cofnod hwn.

***DESIGNATION HISTORY*:**

***Date transmitted to the European Commission (Regulation 7.4)*:**
October 2002

Date adopted as a site of community importance (Council Directive 92/42/EEC, Article 4.2):
7 December 2004

***Date designated*:**
13 December 2004

Designated by (Regulation 8.1):
National Assembly for Wales

***LOCATION*:**

Unitary authority:
Wrexham

***Coordinates*:**
Longitude 03 01 42 W, Latitude 53 00 44 N
Ordnance Survey National Grid Reference: SJ310466

See also the accompanying map(s), which do not form part of this entry.

MATHAU O GYNEFIN A/NEU RYWOGAETHAU Y DYNODIR Y SAFLE O'U PLEGID:
HABITAT TYPES AND/OR SPECIES FOR WHICH THE SITE IS DESIGNATED:

		Enw cyffredin	Common name	Term Gwyddonol	Scientific term
1		Y fadfall ddŵr gribog	Great crested newt	*Triturus cristatus*	

*Mae'n dynodi mathau o gynefin neu rywogaeth y rhoddir blaenoriaeth iddynt (a ddiffinnir yn Erthyglau 1(d) ac 1(h) o Council Directive 92/43/EEC).

*Denotes a priority habitat type or species (defined in Articles 1(d) and 1(h) of Council Directive 92/43/EEC).

***GWNAED Y COFNOD HWN*:**
14 Mehefin 2005

***THIS ENTRY MADE*:**
14 June 2005

***GAN*:**
Trish Fretten, ar ran Gweinidog dros yr Amgylchedd, Cynllunio a Chefn Gwlad, Cynulliad Cenedlaethol Cymru

***BY*:**
Trish Fretten, on behalf of the Minister for Environment, Planning and Countryside, National Assembly for Wales

***LLOFNOD*:**

***SIGNATURE*:**

DYDDIAD(AU) COFNODION BLAENOROL AR GYFER Y SAFLE HWN:
Dim

DATE(S) OF PREVIOUS ENTRIES FOR THIS SITE:
None

Conservation (Natural Habitats, &c.) Regulations 1994 (SI 1994 No. 2716),
fel y'u diwygiwyd / as amended.

COFNOD YN Y GOFRESTR O SAFLEOEDD EWROPEAIDD I GYMRU

ENTRY IN THE REGISTER OF EUROPEAN SITES FOR WALES

(Rheoliad / Regulation 11.2)

***ENW'R SAFLE*:**
***SITE NAME*:** River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid

***MATH O SAFLE*:** Ardal Cadwraeth Arbennig (ACA)
***SITE TYPE*:** Special Area of Conservation (SAC)

***CÔD Y SAFLE*:**
***SITE CODE*:** UK0030252

***HANES DYNODIAD*:**

***Dyddiad y trosglwyddwyd i'r Comisiwn Ewropeaidd (Rheoliad 7.4)*:**
Mai 2003

***Dyddiad y mabwysiadwyd fel safle o bwysigrwydd cymunedol (Council Directive 92/42/EEC, Erthygl 4.2)*:**
7 Rhagfyr 2004

***Dyddiad dynodi*:**
13 Rhagfyr 2004

***Dynodwyd gan (Rheoliad 8.1)*:**
Cynulliad Cenedlaethol Cymru

***LLEOLIAD*:**

Awdurdod unedol:
Cheshire, Shropshire, Gwynedd, Sir y Fflint, Wrecsam, Sir Ddinbych

Cyfesurynnau:
Hydred 02 51 40 Gor, Lledred 53 02 50 Gog
Cyfeirnod Grid Cenedlaethol Arolwg Ordnans: SJ423503

Gweler hefyd y map(iau) amgaeëdig, nad ydynt yn ffurfio rhan o'r cofnod hwn.

***DESIGNATION HISTORY*:**

***Date transmitted to the European Commission (Regulation 7.4)*:**
May 2003

Date adopted as a site of community importance (Council Directive 92/42/EEC, Article 4.2):
7 December 2004

***Date designated*:**
13 December 2004

Designated by (Regulation 8.1):
National Assembly for Wales

***LOCATION*:**

Unitary authority:
Cheshire, Shropshire, Gwynedd, Flintshire, Wrexham, Denbighshire

***Coordinates*:**
Longitude 02 51 40 W, Latitude 53 02 50 N
Ordnance Survey National Grid Reference: SJ423503

See also the accompanying map(s), which do not form part of this entry.

MATHAU O GYNEFIN A/NEU RYWOGAETHAU Y DYNODIR Y SAFLE O'U PLEGID:
HABITAT TYPES AND/OR SPECIES FOR WHICH THE SITE IS DESIGNATED:

	*	Enw cyffredin	Common name	Term Gwyddonol	Scientific term
1		Penlletwad	Bullhead	*Cottus gobio*	
2		Lamprai neu lysywen bendoll yr afon	River lamprey	*Lampetra fluviatilis*	
3		Lamprai'r nant	Brook lamprey	*Lampetra planeri*	
4		Llyriad nofiadwy	Floating water-plantain	*Luronium natans*	
5		Dyfrgi	Otter	*Lutra lutra*	
6		Lamprai neu lysywen bendoll y môr	Sea lamprey	*Petromyzon marinus*	
7		Eog yr Iwerydd	Atlantic salmon	*Salmo salar*	
8		Afonydd gyda llystyfiant nofiadwy - hynny'n aml yn grafanc y dŵr yn bennaf	Rivers with floating vegetation often dominated by water-crowfoot	Cyrsiau dŵr o 'r iseldir hyd at safleoedd mynyddig gyda llystyfiant *Ranunculion fluitantis* a *Callitricho-Batrachion*	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

*Mae'n dynodi mathau o gynefin neu rywogaeth y rhoddir blaenoriaeth iddynt (a ddiffinnir yn Erthyglau 1(d) ac 1(h) o Council Directive 92/43/EEC).

*Denotes a priority habitat type or species (defined in Articles 1(d) and 1(h) of Council Directive 92/43/EEC).

***GWNAED Y COFNOD HWN*:**
14 Mehefin 2005

***THIS ENTRY MADE*:**
14 June 2005

***GAN*:**
Trish Fretten, ar ran Gweinidog dros yr Amgylchedd, Cynllunio a Chefn Gwlad, Cynulliad Cenedlaethol Cymru

***BY*:**
Trish Fretten, on behalf of the Minister for Environment, Planning and Countryside, National Assembly for Wales

***LLOFNOD*:** ***SIGNATURE*:**

DYDDIAD(AU) COFNODION BLAENOROL AR GYFER Y SAFLE HWN:
Dim

DATE(S) OF PREVIOUS ENTRIES FOR THIS SITE:
None

COFNODWYD Y SAFLE HWN HEFYD YN Y GOFRESTR O SAFLEOEDD EWROPEAIDD AR GYFER LLOEGR

GAN:
Trevor Salmon, ar ran yr Ysgrifennydd Gwladol dros yr Amgylchedd, Bwyd a Materion Gwledig

DYDDIAD: 14 Mehefin 2005

THIS SITE HAS ALSO BEEN ENTERED IN THE REGISTER OF EUROPEAN SITES FOR ENGLAND

BY:
Trevor Salmon, on behalf of the Secretary of State for the Environment, Food and Rural Affairs

DATE: 14 June 2005

LLOFNOD: ***SIGNATURE:***

Trevor Salmon
