
Legacy Substation – Battery Storage Facility
on behalf of Pelagic Energy
Outline Great Crested Newt Mitigation Strategy



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1 INTRODUCTION

1.1 Background

- 1.1.1 This document has been prepared in relation to the proposed development of a Battery Storage Facility (BSF) at Legacy Substation. It should be read in conjunction with the Ecological Assessment Report (Avian Ecology, May 2021) which contains relevant Figures and Photographs.
- 1.1.2 Due to the confirmed presence of great crested newt *Triturus cristatus* (GCN) at Legacy Substation and in the wider area, the construction of the proposed development (if consented) is likely to require a European Protected Species Mitigation (EPSM) Licence from Natural Resources Wales (NRW). This document provides an outline GCN Mitigation Strategy to inform consultations and the planning application process, and will underpin any future licence application to NRW. It outlines the proposed strategy for the protection of GCN during construction, and for habitat management and enhancement.
- 1.1.3 The strategy and any subsequent licence application will include measures to safeguard both individuals, and the favourable conservation status of the local population of this species in accordance with the Habitats Regulations 2017 (as amended), Wildlife and Countryside Act 1981 (as amended) and Policy EC6 of the Wrexham Unitary Development Plan.

1.2 Legislation and Policy

- 1.2.1 GCN are European Protected Species (EPS) and they and their habitat are fully protected under the Wildlife & Countryside Act 1981 (as amended) and the Habitats and Species Regulations 2017 (as amended). The combined legislation makes it illegal to:
- intentionally or deliberately capture, kill or injure a great crested newt;
 - intentionally or recklessly damage, destroy or obstruct access to any place used for shelter and protection including resting and breeding places, whether occupied or not;
 - deliberately, intentionally or recklessly disturb a great crested newt when in a place of shelter;
 - possess a great crested newt, or any part of it, unless acquired lawfully;
 - sell, barter, exchange or transport or offer for sale great crested newts or parts of them.
- 1.2.2 Anyone carrying out activities which may affect EPS must consider the presence of EPS, their breeding sites and resting places.

1.3 Baseline Information

- 1.3.1 The Site occupies an area of land within the National Grid Legacy Substation, which is also designated as a Local Wildlife Site (LWS). The Site comprises neutral semi-improved grassland with areas of willow *Salix* sp. scrub at the western boundary. The grassland is relatively diverse, damp in places but much drier towards the east and north. This has developed as secondary grassland on an area previously subject to earthworks during the construction of the substation, when earthworks and soil movement along with bund creation took place. There appears to have been limited management of this grassland in recent years, with scrub encroachment across the grassland.

- 1.3.2 Immediately adjacent, to the north, east and west, are further areas of scrub and grassland, leading on to broad-leaved plantation woodland which covers the bund slopes. To the south of the Site there is the main Substation, comprising structures, hardstanding and bare ground.
- 1.3.3 A large bund forms the north, east and west boundaries of the Legacy Substation, the lower slopes of which is grassland and scrub, leading in to young/semi-mature broad-leaved plantation woodland which has colonised the bund slopes. The woodland contains frequent young self-seeded trees and supports a limited ground flora, with species present predominantly mosses, bramble *Rubus fruticosus*, and ivy *Hedera helix*.
- 1.3.4 The south facing inner slope of the bund and lower-lying land adjacent to the Substation, including the land within and surrounding the Site, consist of a mosaic of scrub and unmanaged grassland. The scrub is predominantly hawthorn *Crataegus monogyna* with some willow *Salix* sp., seedling birch and ash, dog rose *Rosa canina* and bramble. In some areas, particularly to the east, this mosaic includes tall ruderal species such as nettle *Urtica dioica* and willowherb *Chamerion angustifolium*. There is also a small area of partly bare ground with ephemeral/short perennial vegetation.
- 1.3.5 A pond (P1) is present on land to the east of the Site as shown on Figures 4 and 6 of the Ecological Assessment Report. This pond is approximately 10m by 10m in size, containing a variety of marginal species including purple loosestrife *Lythrum salicaria*, bulrush *Typha latifolia*, bryophytes as well as occasional willow scrub and a small amount of New Zealand pygmyweed *Crassula helmsii* (a non-native invasive aquatic species listed under Schedule 9 of the Wildlife and Countryside Act 1981, as amended).
- 1.3.6 Another pond (P2) is present approximately 250m south of the Site (Figure 6). This was approximately 3m by 10m and associated species include bramble and willow scrub. This pond contained minimal amounts of water (less than 5cm) in September 2019 and was completely dry when surveyed in May 2020, appearing completely silted up and filled with leaf litter and plant debris.

2 POTENTIAL IMPACTS AND LICENCE REQUIREMENTS

2.1 Impacts

- 2.1.1 The Site lies within Legacy Substation Local Wildlife Site (LWS) and the proposed development will result in direct land take (approximately 0.4ha) and permanent loss of terrestrial habitat comprising scattered scrub and species-rich grassland likely to be used by GCN for foraging and shelter. There will also be localised temporary disturbance and habitat loss, however once constructed, vegetation would be reinstated and would be available to GCN.
- 2.1.2 The proposed development is relatively small within the overall Substation and LWS. Habitat connectivity within the Legacy Substation and to terrestrial and aquatic habitat in the wider area will remain available outside the construction area, limiting the potential for adverse impacts on GCN movement, breeding and foraging opportunities.
- 2.1.3 Pond P1, confirmed as supporting GCN, will not be directly affected, but its proximity places it at some risk of indirect effects from construction due to surface water runoff and pollution, if not suitably controlled. Pond P2 is dry and overgrown and is not currently suitable for GCN; this pond also lies outside the proposed development area. No other waterbodies are affected by the proposal.

2.2 Licence requirements

- 2.2.1 An assessment of potential impacts of the development on GCN and the provision of an outline mitigation strategy has been undertaken with reference to the NRW' *Template Method Statement to be used within a Great Crested Newt Development Licence Application*.
- 2.2.2 Anyone carrying out activities which may affect EPS must consider their presence, breeding sites and resting places. Based on the knowledge that GCN are present within the Site and the local area, construction activity and habitat loss associated with the development could result in an offence in the absence of mitigation and would therefore require a licence. The potential impacts (in the absence of mitigation) can be summarised as:

Short-term impacts: disturbance to terrestrial sheltering and foraging habitat resulting from vegetation clearance works and construction activity.

Long-term impacts: loss of an area of potential foraging habitat and places of shelter and refuge resulting from removal of grassland/scrub vegetation.

Post-development impacts: no discernible impacts likely.
- 2.2.3 The predicted impacts are considered to be localised within the curtilage of the Legacy Substation, involving the loss of an area of good quality terrestrial habitat close to a confirmed GCN breeding pond.
- 2.2.4 A EPSM licence is likely to be required from NRW to allow the development to proceed lawfully.

3 MITIGATION STRATEGY

3.1 Rationale and approach

- 3.1.1 Taking into consideration the baseline conditions at the Site, combined with an understanding of GCN habitat preferences and likely dispersal behaviours, it is considered possible to protect individual GCN potentially present and ensure the favourable conservation status of the local population through an appropriate mitigation strategy enacted under licence from NRW.
- 3.1.2 The proposed development will be undertaken (if consented) under a EPSM Licence for GCN granted by NRW, including detailed mitigation measures and Method Statement to ensure the continued favourable conservation status of local population of the species. Compensation and enhancement proposals will aim to replace the habitats that are to be lost or, where a lesser area of habitat is provided, provide enhancements to increase the carrying capacity of habitats. Any net loss of terrestrial habitat will be justified in the EPSM licence application and proposed mitigation and/or compensation measures will be provided.
- 3.1.3 The licence will contain a detailed description of how impacts will be addressed to ensure no detriment to the maintenance of the population at a favourable conservation status. Outlined below are the main elements of the proposed approach, to include
- capture and exclusion measures for construction area, under licence;
 - supervision, monitoring and biosecurity;
 - on-Site receptor area / off-site habitat compensation measures; and,
 - 'newt friendly' design features.

3.2 Capture and Exclusion Under licence

- 3.2.1 The construction area (including temporary works compound etc.) will be subject to capture and exclusion of amphibians undertaken on receipt of a EPSM licence issued by NRW. Exclusion fencing (temporary amphibian fencing or TAF) will be installed around the area to be cleared, with pitfall traps installed along the internal wall of the fence at a minimum 10m intervals, carpet tiles will also be used to assist the efficiency of the capture process.
- 3.2.2 Pitfall traps and carpet tiles will be searched on a daily basis (before 10am) with caught individuals relocated to an agreed receptor location, likely to be the nearby on-Site pond and adjacent terrestrial habitat outside the construction area which has confirmed GCN presence. The capture of amphibians will be recorded and a log maintained to provide accurate accounts for licence returns. The standard trapping effort for a small GCN population is likely to require approximately 30 days in suitable weather conditions (temperatures above 5°C) however capture effort will be discussed and agreed with NRW as part of the consultation process.
- 3.2.3 Once reasonable capture and exclusion effort has been exhausted and the development area is considered clear of amphibians, all pitfall traps and carpet tiles will be carefully removed (under the watch of the project ecologist) and the Site released for development. The perimeter exclusion fence will be maintained throughout the development or until such time it is no longer required to prevent amphibians moving back into working areas. Fences will be regularly checked while in place to ensure their integrity and maintain them in good repair.

3.3 Supervision, monitoring and biosecurity

- 3.3.1 Licensed works will be supervised by a licensed ecologist who will liaise as necessary with the client team and site contractors. Supervision and monitoring will be set out in detail in the EPSM licence Method Statement.
- 3.3.2 Site staff will be informed via Tool Box Talks of the licensed measures in place to safeguard GCN, and alerted to the requirement to avoid defined exclusion zones outside the construction area, in particular around pond P1. Exclusion zones will be identified on Site with clear fencing and signage and monitored as necessary by the licensed ecologist.
- 3.3.3 Site contractors will be required to comply with bio-security measures whilst undertaking works on site. Tools and vehicles have the potential to transfer pests and disease from site to site and suitable bio-security measures will be included in the Construction Environment Management Plan (CEMP).
- 3.3.4 If any invasive plant species are discovered on Site (such as Himalayan balsam or Japanese knotweed), works at this location will cease and the project ecologist will be contacted immediately for specialist advice in order to prevent the accidental spread of such species. The potential presence of invasive non-native species will be addressed as part of the induction tool box talk delivered to all site based operatives immediately prior to the commencement of site works.

3.4 Habitat compensation and enhancement measures

- 3.4.1 Mitigation for the proposed development addresses permanent terrestrial habitat loss potentially used by GCN, and the effects of temporary habitat disturbance during construction, as set out in the Ecological Assessment Report. This will focus on the provision of equivalent or enhanced habitat diversity within the LWS but could include off-Site compensation measures to be agreed with Wrexham County Borough Council and NRW if considered necessary. The GCN mitigation strategy will inform consultations and the planning application process, and will underpin any future licence application to NRW. As part of the licence application itself, a detailed form of the strategy with accompanying Method Statement will set out measures for the protection of GCN during construction, and for habitat management and enhancement over the long term to maintain the favourable conservation status of GCN in accordance with the Conservation of Habitats and Species Regulations 2017 (as amended).
- 3.4.2 Mitigation within the Legacy Substation will be achieved through targeted habitat management, aimed at maintaining and enhancing habitat suitable for GCN (and other wildlife) within the LWS over the long term. Such measures will be agreed with National Grid as landowner, and are consistent with national Grid's own biodiversity objectives including driving biodiversity net gain and enhancing natural assets. Such measures will include:
 - planting new native species hedgerow to provide foraging, refuge and habitat connectivity;
 - scrub management to prevent further encroachment into grassland areas, to maintain habitat diversity and range of foraging opportunities;
 - new hibernacula in proximity to ponds within the Legacy Substation; and,
 - restoration of pond P2, which is currently dried out and unsuitable for GCN, to provide additional breeding and foraging habitat and strengthen habitat links to the local pond network.
- 3.4.3 Habitat enhancement and favourable vegetation management practices will contribute to provide increased opportunities for GCN and other amphibian species within and around the Site, providing favourable breeding, refuge and foraging habitat and strengthening habitat linkages.

- 3.4.4 Due to the relatively limited scale of habitat loss and other impacts, along with the range of mitigation and enhancement that can be delivered, construction and operation of the BSF is not considered likely to detrimentally affect the status of local populations of GCN.

Hedgerow Planting

- 3.4.5 New hedgerow/trees will be planted. Hedgerows will be notched planted in a double staggered row, planted approximately at 5 plants per linear metre or infilled as required. Species planted will include the native species which are recommended by Wrexham County Borough Council (WCBC) for use in hedgerow planting.
- 3.4.6 The timing of the proposed planting will be dependent on the ground conditions but bare-root planting should ideally take place between the months of November-February inclusive. It is expected that ground conditions and climate will allow for earlier planting (i.e. before January), and this will allow the plants more time to establish a network of feeder roots before the onset of spring. Planting should avoid freezing and water logged conditions.

Grassland Enhancement

- 3.4.7 Existing species-rich grassland within the LWS is gradually being replaced by less diverse habitat through scrub encroachment. Maintenance and enhancement of grassland habitat will be achieved through careful scrub removal to reduce over shading and loss of grassland /herb species. The management objective will be to encourage both species and structural diversity over time, also benefitting invertebrates, amphibians, birds and small mammals.
- 3.4.8 Where re-seeding is required, this should be undertaken in accordance with BS 4428:1989 Code of Practice for general landscape operations (excluding hard surfaces), or the most up to date and current British Standard.

Hibernacula Construction

- 3.4.9 Habitat creation and compensation specifically for amphibians but also benefiting other wildlife is proposed within the wider Legacy substation. This ensures that there will be no detriment to the conservation status of GCN in the area as a result of the proposed development and that suitable habitat for GCN can be maintained over the long term.
- 3.4.10 Four artificial hibernacula will be constructed within the LWS; these will provide safe refuge for amphibian (and other) species. These will follow the standard design as detailed in the *Great Crested Newt Mitigation Guidelines* (English nature 2001) and reproduced in **Diagram 1**.

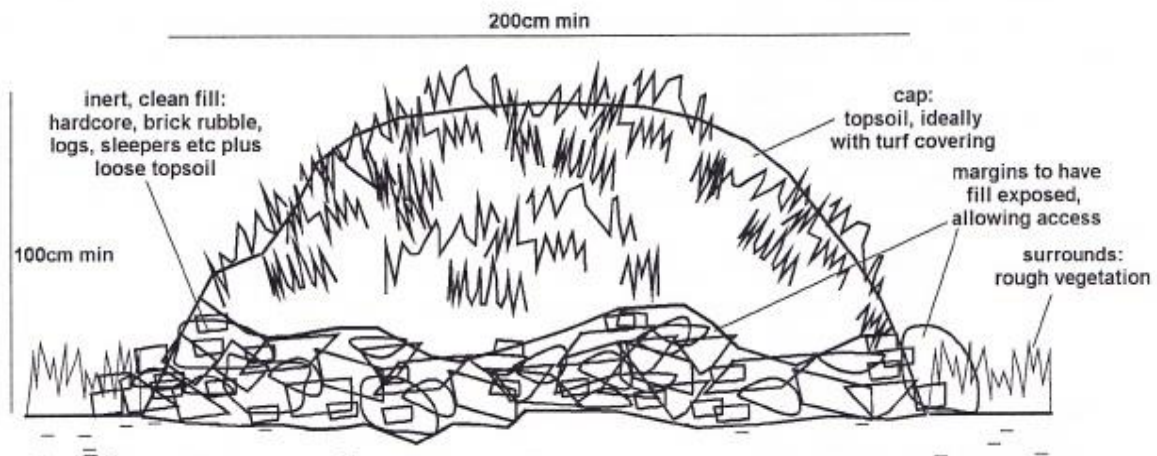


Diagram 1 Hibernacula design taken from the Great Crested Newt Mitigation Guidelines (English Nature 2001).



Photo 1 – Example of a hibernacula created based on the Great Crested Newt Mitigation Guidelines (English Nature 2001).

- 3.4.11 The hibernacula will be set within grassland/marginal vegetation or woodland edge near to ponds to provide extra shelter. Each will comprise a mound of brick / stone rubble, boulders and logs capped with topsoil and turf (see Photo 1). Margins will be left exposed allowing amphibians to access the feature.
- 3.4.12 The development is not considered to result in barriers to dispersal for great crested newts.

Restoration of Pond P2

- 3.4.13 The pond will be re-profiled to provide a range of depths and will have an irregular shape. A shallow wetland shelf of less than 30cm will encourage a diversity of pond plants which in turn provides for invertebrates and egg laying substrate for newts. A bentonite liner will be used to provide a permanent waterbody, if required.
- 3.4.14 The pond re-profiling will be undertaken by a long-reach excavator (or similar), in order to undertake the works with the minimal amount of impact to immediately surrounding habitats as possible.
- 3.4.15 All works should be supervised and preceded by a fingertip search of habitats within and surrounding the dry pond (impact zone) by an Ecological Clerk of Works (ECOW). Contractors should be provided with a toolbox talk prior to works commencing. Works will be timed to minimise the potential for impacts, being undertaken in within the time-period when great crested newts are least likely to be present in ponds and when newt activity is at a minimum (November to February).

3.5 Ongoing habitat management

Hedgerow and Scrub Management

- 3.5.1 During the establishment period of new planting, all dead, dying or diseased stock will be replaced with stock of similar size and species by the appointed contractor at his own cost. If the failure of the plant is due to disease and the disease is considered likely to re-occur then an alternative native species of local provenance may be used as a replacement. The exact timing of the planting of replacement hedgerow and trees is dependent on the ground conditions; however, planting should ideally take place between the months of November and February inclusive, this will allow the plants more time to establish a network of feeder roots before the onset of spring.
- 3.5.2 Planting will be kept weed-free during the establishment period, using approved hand-weeding or if necessary, herbicide treatment (applications in April, June and August). The herbicide handbook (English Nature, 2003) provides guidance on appropriate herbicide use in relation to nature conservation works. Where used, herbicides will be sprayed in appropriate weather conditions, to avoid affecting adjacent grassland areas.
- 3.5.3 During the establishment period, the planted hedgerows should be inspected during periods of warm weather and drought (dry periods of at least seven days). If it is considered that the ground conditions are too dry, the planted areas will be watered on a regular basis until weather conditions are considered suitable for watering to cease.
- 3.5.4 During establishment, hedgerows will be trimmed outside each growing season; hedgerows will be cut back by half the growth of that year with pruning aiming to encourage the development of healthy well-shaped specimens. New hedgerows will be trimmed using powered hand-held machinery.
- 3.5.5 Once established, all hedgerows will be cut on a flexible basis; annual cuts are not required. Ideally not all hedgerows will be cut in the same year for the benefit of wildlife and to allow sections of hedgerow to flower and set seed/fruit. Established hedgerows will be cut between late September and February.
- 3.5.6 No cutting or trimming is to be undertaken during the breeding bird season (01st March to 31st August inclusive).

Grassland Management

- 3.5.7 Grassland will be managed to establish long meadow/tussock grassland with a varied structure, of value to GCN for foraging and shelter, and other wildlife.
- 3.5.8 The grassland will generally be managed with a single cut (reducing sward height to approximately 150mm) late in the season, between August and September. The late cuts will allow the seeds of the later flowering species to fall prior to the cut. An additional early cut may occasionally be required to prevent encroachment of weeds or over-competitive species.
- 3.5.9 The management of grassland will take a flexible approach and the exact dates will be dependent upon weather conditions. An annual cut is not required and a phased (rotational) cutting regime is recommended (i.e. ideally the entire area should not be cut at the same time) in order to allow for more structured grassland and to provide some areas of refuge for amphibians and other wildlife at all times.

Hibernacula Management

- 3.5.10 Monitoring of the hibernacula will be undertaken every two years (between July - September) following creation and will be repaired or built-up as and when required prior to the winter hibernation / dormancy period (typically November to February inclusive). Management will also include checking for and the removal of any barriers that may hinder GCN movements.
- 3.5.11 Cut material from vegetation management may be retained on Site and piled up in suitable locations or added to hibernacula to provide refuge for GCN and other species.
- 3.5.12 A licence from NRW or the presence of a licensed ecologist may be required, if hibernacula are required to be dismantled or moved for any reason. NRW and Wrexham Borough Council should be contacted prior to any such works commencing.

3.6 Bio-security

- 3.6.1 All onsite contractors will be required to comply with appropriate bio-security measures whilst undertaking works on Site. Tools and machinery and vehicles have the potential to transfer pests and fragments of invasive plant material from site to site.
- 3.6.2 Two invasive species are confirmed present, cotoneaster (on scrub slopes of bund) and New Zealand pigmyweed in the nearby pond P1. Control and avoidance measures for these species will form part of the biosecurity plan for the proposed development.
- 3.6.3 If any other invasive plant species are discovered on Site (such as Himalayan balsam or Japanese knotweed), works at this location will cease and the project ecologist will be contacted immediately for specialist advice in order to prevent the accidental spread of such species. The potential presence of invasive non-native species will be addressed as part of the induction tool box talk delivered to all site based operatives immediately prior to the commencement of site works.
- 3.6.4 All nursery stock supplied for new planting will be checked and confirmed as free from pests and disease.

4 MONITORING AND REVIEW

- 4.1.1 Monitoring will form part of the licence requirements from NRW and will include both surveys for GCN and checks on habitat mitigation and management. Habitat monitoring will involve an inspection of the planted hedgerows, translocated/new sown grassland, hibernacula and any other features to ensure that they are being managed as required. The results of the monitoring will be used to inform licence returns and any future changes in management to achieve the mitigation objectives. Management measures will be amended if necessary, based on the monitoring recommendations.

5 HABITAT ENHANCEMENT AND MANAGEMENT IMPLEMENTATION

Key

	No works programmed
	Management works can be undertaken but not the preferred period
	Recommended period for undertaking management works
*	Works only required if conditions / monitoring demonstrate that management is required

The following management programme covers the first 10 years and identifies the optimum months in which activities can be undertaken (Year 1 is the year development commences).

Habitat Creation and Enhancement	Year 1											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
<i>Initial Habitat Works</i>												
Hedgerow, tree and native shrub planting												
Grassland seeding (if required)												
Creation of hibernacula												
Pond Enhancement (P2)												

Management	Years 2 - 10											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
New hedgerows / scrub – Regular checks, watering, weed removal etc. during the first 5 years.												
Hedgerows and trees –Periodic inspection remedial works undertaken as and when required, taking account of relevant legislation. hedgerows cut avoiding the breeding bird season March 01 st to August 31 st inclusive).												
Cut back encroaching scrub on a phased basis in particular where encroaching on species-rich grassland or overshadowing ponds.												
Grassland – Subject to a periodic flexible cut reducing sward to no less than 150mm in height												
Hibernacula - monitoring												
Hibernacula - repaired or built up as and when required, prior to the winter dormancy / hibernation period (taking account of relevant wildlife legislative)*.												