

United Environmental Services Ltd

1 Booths Park,
Chelford Road,
Knutsford,
Cheshire
WA16 8QZ



www.ues.org.uk

enquiries@ues.org.uk

01565 757788

PRELIMINARY ECOLOGICAL APPRAISAL

At

Cae'r Glaw Quarry – Proposed Extension Area

Holyhead Road

Gwalchmai

Anglesey

LL65 4PW

NGR: SH 38512 77319

Prepared for:	Hogan Aggregates Ltd
Written by:	Tom Kenwright, UES Senior Ecologist
Approved by:	Toby Hart, UES Managing Director

A handwritten signature in black ink, appearing to read 'Toby Hart', is positioned below the 'Approved by' line.

Date:	30 th November 2021
Updated:	1 st November 2022
UES reference:	UES02936/01



CONTENTS

EXECUTIVE SUMMARY	3
1 INTRODUCTION	5
1.1 Author, surveyors, qualifications and scope of study area.....	5
1.2 Survey objectives.....	5
1.3 Proposed development and previous survey information	5
1.4 Structure of the report	6
2 METHODOLOGY	7
2.1 Desk study	7
2.2 Field survey	7
2.3 Survey limitations.....	8
3 RESULTS.....	9
3.1 Desk study	9
3.2 Baseline conditions – Habitats	13
3.3 Baseline conditions – Protected species or resources	18
4 EVALUATION AND RECOMMENDATIONS	23
4.1 Habitats	23
4.2 Species.....	24
5 CONCLUSION.....	27
6 REFERENCES	28
APPENDICES.....	29
Appendix 1 – Desk study.....	29
Appendix 2 – Phase 1 habitat plan	30
Appendix 3 – Wider quarry layout plan	31
Appendix 4 – Pond plan	32
Appendix 5 – Aerial photographs.....	33
Appendix 6 – Photographs	34
Appendix 7 – Planning and statutory context.....	35

EXECUTIVE SUMMARY

United Environmental Services Ltd (UES) was commissioned by Hogan Holdings Ltd to carry out a baseline ecological survey of a parcel of land at Cae'r Glaw Quarry, Holyhead Road, Gwalchmai, Anglesey. A desk study and preliminary ecological appraisal (PEA) survey were undertaken on 9th June and 12th July 2021, including searches using the Multi Agency Geographic Information Centre (MAGIC).

The PEA provides an assessment of potential ecological impacts associated with the development of the land parcel. The proposals are for the extension of the existing granite quarry, together with the consolidation of this new extraction area with the extant mineral planning permission in force on the wider quarry area. The proposed extension has an area of approximately 6.89ha and will be undertaken in five phases over a period of ten years. This proposed extension is an alternative to an extension to the north-west of the quarry which was granted by Anglesey Council in December 2019 (planning reference 48C79J).

The proposed extension boundary has been amended on a number of occasions, in some cases to reduce impacts on ecological receptors. As such, the area surveyed to inform this application covers a greater area than is to be quarried.

The proposed extension area comprises a mosaic of sheep-grazed semi-improved acid grassland, continuous bracken, exposed rock, dense gorse *Ulex spp.* scrub and some areas of neutral / acidic flush. In addition, a drystone wall with some scattered hawthorn *Crataegus monogyna* scrub runs north to south within the western section. The wider survey boundary contains additional areas of purple moor-grass *Molinia caerulea* marshy grassland, valley mire fen and a small area of modified bog.

The results of the survey combined with the results of the desk study have highlighted the requirement for further work in relation to the following habitats and species:

- **Amphibians** – Due to the presence of great crested newts (GCNs) *Triturus cristatus* on site, and the proposed loss of suitable terrestrial habitats, the proposed quarry extension will need to be registered under a European protected species (EPS) mitigation licence to proceed. It is recommended that the existing GCN EPS mitigation licence that has been granted for the ongoing consented quarry works is amended to include the proposed extension works. As part of the EPS mitigation licence, a suite of mitigation measures will be implemented to protect GCNs and other amphibians during the works, further details of which are provided in the ecological design strategy (EDS) that has been prepared as part of the application (see report reference UES02936/07). These measures include installation of exclusion fencing and a period trapping and translocation amphibians to a suitable receptor area within the wider quarry. In addition, compensation for the loss of high-quality foraging habitat will be provided within the wider quarry site, as detailed within the Landscape and Ecology Management Plan (LEMP) prepared for the site (see report reference UES02936/06).
- **Badger** – No evidence of badger *Meles meles* setts were observed on site, however a single badger scat was observed. It is considered that badger use of the site is limited to a single or low number of individuals foraging or commuting across the site in a transitory capacity. Reasonable avoidance measures detailed in section 4.2.3 will need to be implemented during the development, including a pre-commencement badger survey undertaken to search for any new setts prior to each phase of the quarrying works.



- **Breeding birds** – To reduce the potential for nesting birds to be present at the time of the works, each phase of the proposed extension should be stripped of vegetation in advance of any excavation / blasting quarrying works. Vegetation clearance works (including enabling works) are to take place outside of the breeding bird season and should not be undertaken from March to August inclusive. If this is not possible and works need to take place between this period, a targeted breeding bird nest scoping survey should be conducted by a suitably qualified ecologist immediately prior to the works, or an ecological clerk of works appointed to oversee the works.

Compensatory habitat creation and ongoing management will be implemented within other areas of the quarry and will incorporate the provision of bird boxes, full details of which are provided in the LEMP report that has been prepared for the site.

- **Plant communities** – The valley mire, purple moor-grass marshy grassland, acidic / neutral flushes and the modified bog habitats within the survey boundary may qualify as habitats of principal importance under Section 7 of the Environment (Wales) Act 2016. Further national vegetation classification (NVC) surveys have been undertaken to provide a detailed assessment of these habitats and to inform the compensatory habitat creation and ongoing management that will be incorporated into the proposals. Full details of the proposed habitat creation and management works are detailed within the LEMP report.
- **Reptiles** – The site contains areas of high-quality reptile habitat and reptile surveys undertaken by UES in 2021 found the site to support a 'good' population of breeding common lizard *Zootoca vivipara* and slow worm *Anguis fragilis* and a 'low' population of breeding adder *Vipera berus*. Mitigation measures that will be implemented to protect reptiles during the works are detailed in the EDS and include the installation of exclusion fencing and a period trapping and translocation of all reptiles to a suitable receptor area within the wider quarry. In addition, compensation for the loss of high-quality reptile habitat will be provided within the wider quarry site, as detailed within the LEMP.

Mitigation measures, as detailed in section 4, should be adhered to, which may in some cases negate the need for further survey work.

This report should be read with appendices 1 to 7, which include results of the desk study, GIS phase 1 habitat mapping, photographs of site and relevant statutory guidance. This report should also be read in conjunction with the following associated reports prepared for the site by UES:

- Reptile Population Size Class Assessment (reference UES02936/02)
- Great Crested Newt Impact Assessment (reference UES02936/03)
- National Vegetation Classification Survey (reference UES02936/04)
- Landscape and Ecology Management Plan (reference UES02936/06)
- Ecological Design Strategy (reference UES02936/07)
- Ecological Impact Assessment (reference UES02936/08)



1 INTRODUCTION

1.1 Author, surveyors, qualifications and scope of study area

This report is written by Tom Kenwright BSc MSc, UES Senior Ecologist. Tom holds a level 5 Botanical Society for Britain and Ireland (BSBI) field identification skills certificate (FISC), which certifies him as competent to undertake botanical and habitat surveys up to NVC level.

Other surveyors include:

- Toby Hart BSc MCIEEM PIEMA, UES Managing Director. Toby holds a level 6 BSBI FISC, which certifies him as competent to undertake phase 1 habitat and NVC surveys.

The report provides an assessment of the potential ecological impacts associated with the proposed quarry extension at Cae'r Glaw Quarry, Holyhead Road, Gwalchmai, Anglesey.

The zone of influence considered within the scope of the survey includes all land within the red line boundary. Where relevant, other ecological resources, receptors and important habitats which are spatially separate from the site are considered.

1.2 Survey objectives

UES was commissioned in 2021 to conduct a PEA of the proposed development site. This was completed in order to:

- Establish baseline conditions and determine the importance of ecological features present or potentially present within the survey area
- Identify key ecological constraints to the project
- Make recommendations for design options to avoid significant effects on important ecological resources at an early stage of development planning
- Identify potential requirement for further surveys for nationally or internationally protected species which may be present on site
- Identify potential requirement for mitigation or compensation, including measures that may be required based on further surveys

1.3 Proposed development and previous survey information

The proposed development is for the extension of the existing granite quarry at Cae'r Glaw Quarry, together with the consolidation of this new extraction area with the extant mineral planning permission in force on the wider quarry area. The proposed extension has an area of approximately 6.89ha and will be undertaken in five phases.

The proposed extension boundary has been amended on a number of occasions, in some cases to reduce impacts on ecological receptors. As such, the area surveyed to inform this application covers a greater area than is to be quarried.

This proposed extension is an alternative to an extension to the north-west of the quarry (see Appendix 3) which was granted by Anglesey Council in December 2019 (planning reference 48C79J). As part of the previously approved extension, a suite of ecology surveys was undertaken of the proposed extension area, including:

- PEA survey – January 2016
- GCN impact assessment and population size class assessment – March to June 2016
- NVC survey – July 2016
- Reptile presence / absence and population size class assessment survey – April to October 2016
- Bat activity survey – May to August 2016
- Invertebrate survey – August 2016

In addition to the surveys of the proposed extension area, PEA surveys were undertaken of the proposed compensation and restoration areas (see Appendix 3) within the existing quarry in December 2017. These surveys were undertaken to assess the baseline value of these areas and to identify opportunities for habitat creation and management works to compensate for the loss of habitats associated with the extension. A suite of reptile surveys were also undertaken of the compensation and restoration areas to inform the suitability for the translocation of reptiles from the extension area.

Following the surveys of the consented extension area, compensation area and restoration area, a reptile mitigation strategy, LEMP and EDS were prepared to support the application. These reports were prepared to detail the mitigation and compensation measures due to be undertaken as part of the consented extension. A large quantity of the proposed compensatory habitat creation works have already undertaken, despite the consented extension not being undertaken and the permission due being relinquished following the granting of the new application for the alternative extension area.

Additionally, due to the presence of GCNs within ponds within the quarry, ongoing works within the entire quarry have been registered under a GCN EPS mitigation licence. GCN monitoring surveys of these ponds are currently ongoing, with surveys having been completed in 2020, 2021 and 2022.

1.4 Structure of the report

This report is a baseline appraisal that forms the basis for further ecological surveys and Environmental Impact Assessments (EIA) if required. In the majority of cases the preliminary ecological assessment will not provide all the ecological data required by the Local Planning Authority to determine an application, especially in the event that protected habitat or species issues are present or likely.

This report should be read with appendices 1 to 7, which include results of the desk study, GIS phase 1 habitat mapping, photographs of site and relevant statutory guidance. This report should also be read in conjunction with the following associated reports prepared for the site by UES:

- Reptile Population Size Class Assessment (reference UES02936/02)
- Great Crested Newt Impact Assessment (reference UES02936/03)
- National Vegetation Classification Survey (reference UES02936/04)
- Landscape and Ecology Management Plan (reference UES02936/06)
- Ecological Design Strategy (reference UES02936/07)
- Ecological Impact Assessment (reference UES02936/08)

2 METHODOLOGY

This PEA comprises a desk study and a field survey. The desk study is conducted in order to collate ecological information on species and / or habitats of interest that may be present. The field survey is conducted in order to assess the habitats and their importance, both on site and in the context of their wider surroundings.

2.1 Desk study

The following resources were used to inform the desk study:

- National – Using the UK government's MAGIC website, statutorily protected sites were scoped to a distance of 10km from the application site.
- Local – An environmental records search was undertaken through COFNOD in 2016 as part of the previous suite of surveys undertaken to inform the consented extension. The information has been used to inform this report, in addition to the previous survey data.

2.2 Field survey

An ecological walkover survey was carried out on the 9th June 2021 by Tom Kenwright and Toby Hart and on the 12th July by Tom Kenwright. The purpose of the survey was to identify, record and map dominant habitat types within the development area and highlight any further species surveys that may be required based on the quality of those habitats. When conducting the surveys particular focus was concentrated on the following species and habitat features:

- Amphibians
- Reptiles
- Badger
- Bats
- Hazel dormouse
- Birds
- Trees
- Hedgerows
- Plant communities
- Invasive species
- Otter
- Water vole
- White-clawed crayfish

The habitats were assessed by using the phase 1 habitat survey technique, which is a system for environmental audit widely used within the environmental consultancy field. The survey was undertaken in accordance with the methodology in the 'Handbook for phase 1 habitat survey - A technique for environmental audit' (JNCC, 2010) as recommended in the "Guidelines for Preliminary Ecological Appraisal" (CIEEM, 2017).

The survey area encompasses all of the land within the development footprint and the land to a distance of 30m outside it where accessible. In line with recognised guidelines, ponds were also scoped to a distance of 500m (250m radius from the survey area).

The phase 1 habitat survey methodology was extended to record any signs of habitats suitable to support protected / invasive species and any incidental observations of other noteworthy species.



2.3 Survey limitations

The survey was conducted at an appropriate time of year when most plant species are identifiable, allowing a robust assessment of habitats to be undertaken.

3 RESULTS

3.1 Desk study

A desk study was conducted for the proposed development site and surrounding area. Statutorily protected sites were scoped to a distance of 10km. Further results of the desk study can be found at Appendix 1 – Desk study.

3.1.1 Protected sites

There are two non-statutorily protected sites within 2km of the proposed development site:

- E10: Cors Tafarn-y-Grib
Located approximately 500m south-west of the proposed development site, the designation covers a very wet basin more with predominantly aquatic vegetation, small areas of sedge-rich meadow and a small area of willow carr. A large part of the site is dominated by water horsetail *Equisetum fluviatile* with bottle sedge *Carex rostrata* and bogbean *Menyanthes trifoliata*. The rare greater spearwort *Ranunculus lingua* and common spike-rush *Eleocharis palustris* are locally co-dominant. Around the edges of the site are areas of tall herb vegetation, with meadowsweet *Filipendula ulmaria*, hemlock water dropwort *Oenanthe crocata* and water horsetail. The wet meadow contains abundant carnation sedge *Carex panicea*, common sedge *Carex nigra* and early marsh orchid *Dactylorhiza incarnata*. There is a small pool surrounded by bottle sedge and containing a stand of common club-rush. Bird species associated with the site include greylag goose *Anser anser*, Canada goose *Branta canadensis*, sedge warbler *Acrocephalus schoenobaenus*, reed bunting *Emberiza schoeniclus*, whitethroat *Sylvia communis* and moorhen *Gallinula chloropus*.
- E12: Tyddyn Gwyn
Located approximately 1.7km south-east of the proposed development site, the designation comprises a large area of semi-improved neutral grassland with some marshy grassland and dense scrub. The neutral grassland is variable with the most species-rich areas containing abundant common knapweed *Centaurea nigra*, sweet vernal grass *Anthoxanthum odoratum* and crested dog's-tail *Cynosurus cristatus*. Also present are common bird's-foot trefoil *Lotus corniculatus*, greater bird's-foot trefoil *Lotus pedunculatus*, common spotted orchid *Dactylorhiza fuchsii*, and numerous sedge species. Other parts of the site have been subject to greater levels of agricultural improvement and have an increased abundance of perennial ryegrass *Lolium perenne*. The marshy grassland occurs in three areas and is dominated by rushes with meadowsweet, marsh bedstraw *Galium palustre*, sneezewort *Achillea ptarmica* and oval sedge *Carex leporina*.

There are two statutorily protected sites within 2km of the proposed development site:

- Y Werthyr SSSI¹
Located approximately 850m west of the proposed development site, the designation comprises a small area of valley mire that supports fen vegetation. This wetland has developed at the head of a short shallow valley running in a northerly direction to the Afon Caradog. It is a relatively intact example of a mesotrophic valley mire or 'poor fen' and has a high water table. Vegetation community's characteristic of this type of habitat are very well represented and include large stands of rushes, including blunt-flowered

¹ Site of Special Scientific Interest

rush *Juncus subnodulosus*, a variety of sedges including bottle sedge and slender sedge *Carex lasiocarpa* as well as a range of wetland herbs such as the marsh cinquefoil *Potentilla palustris* and bogbean. There is also a well-developed bryophyte layer in which various mosses, particularly *Acrocladium spp.*, are abundant. The uncommon greater spearwort is widely distributed across the site.

- Cors Bodwrog SSSI

Located approximately 1.2km east of the proposed development site, the designation comprises a large area of mesotrophic valley mire that once contained a large lake until it was drained in the 1970s. Purple moor-grass *Molinia caerulea* mire is the principal vegetation type within the site, typical associates of which include cross-leaved heath *Erica tetralix*, bog asphodel *Nartheciun ossifragum*, tormentil *Potentilla erecta* and bog-myrtle *Myrica gale*. In places, particularly the edge of the site this community grades into fen meadow dominated by Yorkshire-fog *Holcus lanatus*, creeping bent *Agrostis stolonifera* and rush species *Juncus spp.* Black bog-rush *Schoenus nigricans*, occurs as scattered clumps within the *Molinia* mire and as a local dominant within the less acidic communities present. Blunt-flowered rush and great fen-sedge *Cladium mariscus*, further indicators of local base enrichment, have been recorded. The old peat cuttings ditch lines and wet hollows support the main stands of mesotrophic vegetation variously dominated by bottle sedge, slender sedge, common cottongrass *Eriophorum angustifolium*, marsh cinquefoil, bogbean, greater tussock-sedge *Carex paniculata* and the nationally scarce lesser tussock sedge *Carex diandra*. The moss cover is variable within this community and includes *Calliargon giganteum* and the bog mosses *Sphagnum subniters* and *Sphagnum contortum*. A number of uncommon plants are recorded including greater spearwort and lesser bulrush *Typha angustifolia*.

There are twenty-eight statutorily protected sites within 2 – 10km of the proposed development site:

- Beddmanarch-Cymyran SSSI
- Caeau Talwrn SSSI
- Cors Erddreiniog NNR²
- Corsydd Mon / Anglesey Fens SAC³
- Corsydd Mon a Lyn / Anglesey and Lyn Fells Ramsar
- Fferam Uchaf SSSI
- Glannau Rhoscolyn SSSI
- Glannau Mon: Cors heli / Anglesey Coast: Saltmarsh SAC
- Glannau Ynys Gybi / Holy Island Coast SPA⁴
- Llyn Alaw SSSI
- Llyn Llywenan SSSI
- Llyn Maelog SSSI
- Llynnau Y Fali – Valley Lakes SSSI
- Llyn Padrig SSSI
- Llyn Traffwl SSSI
- Maen Gwyn SSSI
- Malltraeth Marsh / Cors Ddyga SSSI
- Nantanog SSSI
- Newborough Warren and Ynys Llanddwyn NNR
- Newborough Warren – Ynys Llanddwyn SSSI
- Rhosneiger SSSI
- Rhosneiger Reefs SSSI
- Ty Croes SSSI
- Tyddyn Gyrfer SSSI
- Tywyn Aberffraw SSSI
- Ynys Feurig SSSI
- Ynys Feurig, Cemlyn Bay and the Skerries SPA
- Y Twyni o Abermenai I Aberffraw / Abermenai to Aberffraw Dunes SAC

² National Nature Reserve

³ Special Area of Conservation

⁴ Special Protection Area



3.1.2 Protected species – record search

The following records of protected or otherwise notable species were highlighted by the environmental records search undertaken through COFNOD in 2016:

- Amphibians: three records of GCNs were returned from within 2km of the proposed development site, dating from 1999 and 2008. The records are located approximately 600m south-east and 500m east of the proposed development site. Records of common frog *Rana temporaria*, common toad *Bufo bufo* and palmate newt *Lissotriton helveticus* were also returned.
- Badgers: two records of badger were returned from within 2km of the proposed development site.
- Bats: a low number of records of brown-long eared (BLE) bat *Plecotus auritus*, noctule *Nyctalus noctula*, Daubenton's *Myotis daubentonii*, common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus* bats were returned. Only two records of bat roosts were returned, with all other records detailing recordings from bat detectors or unspecified records. The two roost records detail a BLE bat roost used by a single adult bat in 1988 located approximately 1.4km south-east of the site and a noctule bat roost used by a single adult bat in 2004 located approximately 600m west of the site.
- Birds: various species, including several species listed under Section 7 of the Environment Wales Act 2016 and under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).
- Hazel dormouse: no records of hazel dormouse *Muscardinus avellanarius* were returned from within 2km of the proposed development site.
- Hedgehog: ten records of hedgehog *Erinaceus europaeus* were returned from within 2km of the proposed development sites. All records date from 2003-2015 and the closest record lies approximately 1.8km south-east of the site within the village of Gwalchmai.
- Otter: numerous records of otter *Lutra lutra* were returned, all of which date from 2003-2012. Exact location details for these records haven't been provided due to the sensitive nature of the species, however all records are located from an unnamed narrow watercourse that runs approximately 1km south of the site at its closest point.
- Reptiles: a single record of common lizard was the only reptile record returned from within 2km of the proposed development site. The record dates from 2005 and is located approximately 1.7km south of the proposed development site.
- Water vole: numerous records of water vole *Arvicola amphibius* were returned from within 2km of the proposed development site, all of which date from 1999 and 2010. The vast majority of records are from unnamed drainage ditches, small watercourses and connected waterbodies to the south and east of the site and the closest record lies approximately 1.5km south of the proposed extension area.
- White clawed-crayfish: no records of white-clawed crayfish *Austropotamobius pallipes* were returned from within 2km of the proposed development site.

3.1.3 Protected species – previous survey information

A suite of ecology surveys were undertaken of the extension area and the existing quarry to inform the planning application for the previously consented alternative extension area and the GCN EPS mitigation licence. Given that the consented extension area and the existing quarry lie immediately adjacent to the proposed extension area, this information is considered to be relevant to inform this proposed extension application and is summarised below:

- **Amphibians:**
 - During the 2016 population size class assessment surveys, a medium population of GCNs (peak count of 24 adults was recorded in a lake that lies within the existing quarry (Pond 4), approximately 510m south of the proposed extension. Egg folds were present throughout the survey period. Smooth newt *Lissotriton vulgaris*, palmate newt and common toad were recorded in low numbers.
 - During the 2020 EPS mitigation licence monitoring surveys for the wider quarry works, a moderate population of GCNs were recorded in Pond 4 (peak count of 17 individuals) and a low population of GCNs were recorded in Pond 6 (peak count of 6 individuals). No GCNs were observed within Ponds 2, 5, 7 and 8.
 - During the 2021 EPS mitigation licence monitoring surveys for the wider quarry works, a low population of GCNs were recorded in Pond 4 (peak count of 7 individuals) and a low population of GCNs were recorded in Pond 6 (peak count of 2 individuals). No GCNs were observed within Ponds 2, 5, 7 or 8.
 - During the 2022 EPS mitigation licence monitoring surveys for the wider quarry works, a low population of GCNs were recorded in Pond 4 (peak count of 9 individuals) and a low population of GCN were recorded in Pond 6 (peak count of 9 individuals). GCN eggs were observed within both Pond 4 and 6. No GCNs were observed within Ponds 2, 5, 7 or 8.
- **Bats:** low levels of bat activity were recorded across the consented extension area during the bat transect surveys, with no bat activity being recorded during some transect surveys. Only common species of bats were recorded during the surveys: noctule, common pipistrelle, soprano pipistrelle, BLE bat and *Myotis sp.* No horseshoe *Rhinolophus sp.* bats were recorded.
- **Badger** – No evidence of badger activity was observed on site.
- **Birds:** 23 species of bird species (as detailed in Table 1 below) were recorded either on site, on land adjacent to site or were flying over site. The bird species recorded on site formed a fairly typical heathland bird assemblage, with corvids, gulls and waders also present in the surrounding areas.

Table 1 – Bird species recorded during the 2016 surveys of the consented extension area and their conservation significance

Latin name	English name	RSPB conservation status	Sch. 1 sp.	Sec. 41 sp.	UK BAP sp.	Wales BAP sp.
<i>Alauda arvensis</i>	Skylark	Red		x	x	x
<i>Anthus pratensis</i>	Meadow pipit	Amber				
<i>Buteo buteo</i>	Buzzard	Green				
<i>Carduelis cannabina</i>	Linnet	Red		x	x	x
<i>Columba palumbus</i>	Woodpigeon	Green				
<i>Corvus corax</i>	Raven	Green				
<i>Corvus corone</i>	Carrion crow	Green				



<i>Corvus monedula</i>	Jackdaw	Green				
<i>Erithacus rubecula</i>	Robin	Green				
<i>Falco tinnunculus</i>	Kestrel	Amber				x
<i>Gallinago gallinago</i>	Snipe	Amber				
<i>Haematopus ostralegus</i>	Oystercatcher	Amber				
<i>Hirundo rustica</i>	Swallow	Amber				
<i>Larus argentatus</i>	Herring gull	Red		x	x	x
<i>Larus fuscus</i>	Lesser black-backed gull	Amber				
<i>Larus marinus</i>	Great black-backed gull	Amber				
<i>Pica pica</i>	Magpie	Green				
<i>Pyrrhula pyrrhula</i>	Bullfinch	Amber		x	x	x
<i>Riparia riparia</i>	Sand martin	Green				
<i>Saxicola torquata</i>	Stonechat	Green				
<i>Sylvia atricapilla</i>	Blackcap	Green				
<i>Troglodytes troglodytes</i>	Wren	Green				
<i>Tyto alba</i>	Barn owl	Green	x			

- Invertebrates:** The consented extension area was found to support invertebrate species characteristic of lowland heathland in the damper climate of western Britain. 48 species of invertebrate were identified to genus or species level. Of these, grayling *Hipparchia semele* and small heath *Coenonympha pamphilus* butterflies have conservation status, as they are both listed under Section 7 of the Environment Wales Act 2016. Analysis of the invertebrate fauna using Natural England's ISIS (Invertebrate Species and habitats Information System) application generated an assessment of below SSSI quality.
- Reptiles:** The consented extension area was found to support a 'good' population of slow worm, a 'low' population of common lizard and a 'low' population of adder. The site was therefore classified as important for reptiles due to its species assemblage. Juvenile slow worm and common lizard were recorded on site, confirming that the site is used for breeding.

The proposed compensation area was found to support a 'low' population of slow worm and a 'low' population of common lizard. The proposed restoration area was found to support a 'low' population of slow worm. Juvenile slow worms were found within both areas, indicating they are used for breeding.

3.2 Baseline conditions – Habitats

The results of the PEA are also shown on the accompanying map at Appendix 2 – Phase 1 habitat plan. Habitats are colour-coded in accordance with the phase 1 standard.

Large areas of the of the site, particularly the eastern section, comprise a mosaic of habitats under various stages of succession. The attached phase 1 habitat plan at Appendix 2 provides a detailed indication of the location of each habitat, however some areas form a mosaic or are in a transitional stage of succession, which cannot be mapped in fully. The following principal habitat types were characterised within the survey boundary:



- A2.1 Dense scrub
- A2.2 Scattered scrub
- B1.2 Semi-improved acid grassland
- B5 Marshy grassland
- C1.1 Continuous bracken
- E1.8 Dry modified bog
- E2.1 Acidic flush
- E3.1 Fen – valley mire
- G1 Standing water
- I1.4.1 Other exposure – acidic / neutral
- J2.5 Wall

3.2.1 A2.1 Dense scrub

Large stands of dense gorse scrub are present across the site. These stands of gorse comprise a mix of both European gorse *Ulex europaeus* and western gorse *Ulex gallii*, with other species recorded amongst the gorse being limited to bramble *Rubus fruticosus* agg., bracken *Pteridium aquilinum* and the grassland species detailed below. All stands of dense scrub on site were entirely comprised of gorse, with the exception of an area of dense hawthorn, grey willow *Salix cinera* and eared willow *Salix aurita* scrub within the north-eastern corner of the survey boundary, but outside of the development boundary.

3.2.2 A3.2 Scattered scrub

The majority of scattered scrub on site is gorse, however stands of scattered hawthorn, grey willow and eared willow are present at the site boundaries and within and adjacent to the valley mire in the eastern section of the survey boundary. Additionally, numerous stands of scattered hawthorn scrub are present along the drystone wall that runs north to south through the centre of the site.

3.2.3 B1.2 Semi-improved acid grassland

Large parts of the site, particularly the western section comprise sheep-grazed semi-improved acid grassland. This grassland is subject to moderate levels of grazing, with the majority of the sward being short during all survey visits. The majority of the grassland is relatively species-poor and is dominated a low number of by competitive grasses. The majority of the species present are indicative of neutral conditions, however some acidic indicator species are present in low abundances. Yorkshire fog and perennial ryegrass are the most abundant species within the sward, however spreading meadow grass *Poa humilis*, crested dog's-tail, sheep's fescue *Festuca ovina*, red fescue *Festuca rubra*, sweet vernal grass, rough meadow grass *Poa trivialis* and common bent *Agrostis capillaris* are occasional. Forb species are largely limited to occasional creeping thistle *Cirsium arvense*, white clover *Trifolium repens*, creeping buttercup *Ranunculus repens*, marsh thistle *Cirsium palustre* and common mouse-ear *Cerastium fontanum*. Additional forb species recorded in very low numbers are primarily at the ectotone between the grassland and other habitats and include germander speedwell *Veronica chamaedrys*, common bird's-foot trefoil, heath wood-rush *Luzula multiflora*, sheep's sorrel *Rumex acetosella*, lesser trefoil *Trifolium dubium*, common cat's-ear *Hypochaeris radicata*, common ragwort *Jacobaea vulgaris*, common dog violet *Viola riviniana*, pignut

Conopodium majus, green-ribbed sedge *Carex binervis*, tormentil, yarrow *Achillea millefolium*, stinging nettle *Urtica dioica* and common chickweed *Stellaria media*.

The site contains many areas of exposed granite as detailed in section 3.2.10 below. In addition, there are numerous small, raised hills where a thin layer of soil remains over large granite deposits. The grassland surrounding the exposed granite and on the raised hills is similar to the surrounding sheep-grazed grassland, but supports a slightly different vegetative community. The sward in these areas has very little perennial ryegrass and Yorkshire fog and instead comprises abundant sheep's fescue and common bent and frequent sweet vernal grass, spreading meadow grass and sheep's sorrel. Other species present include occasional or rare perennial ryegrass, crested dog's-tail, Yorkshire fog, spear thistle *Cirsium vulgare*, English stonecrop *Sedum anglicum*, common mouse-ear, annual meadow grass *Poa annua*, heath bedstraw *Galium saxatile*, green-ribbed sedge, foxglove *Digitalis purpurea*, heath milkwort *Polygala serpyllifolia* and white clover. The large areas of exposed granite and the surrounding small areas of grassland within the eastern section of the survey boundary but outside of the development boundary support very small quantities of common heather *Calluna vulgaris*, bell heather *Erica cinerea*, western gorse and European gorse.

Other areas of grassland are present on site, however these are dominated and covered by dense bracken for most of the year and hence have been mapped as such on the phase 1 habitat plan and are discussed below in section 3.2.5.

3.2.4 B5 Marshy grassland

An area of purple-moor grass dominated marshy grassland is present within the north-eastern section of the survey boundary but outside of the development boundary. Whilst this grassland is subject to some grazing, this is limited by its accessibility due to the adjacent rocky outcrops and valley mire. The grassland is dominated by large tussocks of purple moor-grass and the majority of the sward is relatively species-poor, however pockets of the sward have a higher species richness, particularly towards the ecotone with the adjacent valley mire. The ground is predominantly dry underfoot and the minimal grazing exposure is evidenced by occasional scattered stands of encroaching common heather, cross-leaved heath, creeping willow *Salix repens*, hawthorn, bramble and western gorse. Rushes present include frequent sharp-flowered rush *Juncus acutiflorus* and small scattered stands of soft rush *Juncus effusus* and compact rush *Juncus conglomeratus*. Other species present include sheep's fescue, sweet vernal grass, spreading meadow grass, rough meadow grass, crested dog's-tail, Yorkshire fog, common yellow sedge *Carex demissa*, glaucous sedge *Carex flacca*, tawny sedge *Carex hostiana*, flea sedge *Carex pulicaris*, carnation sedge, heath wood-rush, greater bird's-foot trefoil, marsh thistle, tormentil, narrow buckler fern *Dryopteris carthusiana*, marsh bedstraw, marsh willowherb *Epilobium palustre*, marsh violet *Viola palustris*, foxglove, bog asphodel and heath spotted orchid *Dactylorhiza maculata*.

3.2.5 C1.1 Continuous bracken

Large areas of the site, particularly those within the survey boundary but outside of the development boundary, are dominated by dense stands of bracken, growing over the semi-improved acid grassland. During the spring when the bracken was still short, the grassland was assessed and was found to be similar to the other areas of semi-improved grassland on site, with the exception of the area to the east of the valley mire, which supported occasional spring quill *Scilla verna*, pignut, lesser stitchwort *Stellaria graminea*, heath bedstraw, greater stitchwort *Stellaria holostea*, English bluebell *Hyacinthoides non-scripta* and foxglove.



Additional species recorded within the bracken dominated grasslands include sweet vernal grass, cock's-foot *Dactylis glomerata*, rough meadow grass, Yorkshire fog, sheep's-fescue, crested dog's-tail, red fescue, common bent, spreading meadow grass, spear thistle, marsh thistle, heath wood-rush, dandelion *Taraxacum officinale* agg., bramble, tormentil, germander speedwell, wall speedwell *Veronica arvensis*, common sorrel *Rumex acetosa*, barren strawberry *Potentilla sterilis*, changing forget-me-not *Myosotis discolor*, ground ivy *Glechoma hederacea* and scattered western gorse.

3.2.6 E1.8 Dry modified bog

A small area of modified bog is present within a shallow depression along the eastern edge of the survey boundary, lying outside of the development boundary. This bog was damp but mostly dry at the time of the surveys and is subject to some, albeit minor grazing. *Sphagnum* spp. are present across the bog, however coverage is limited and large areas of the bog predominantly comprise exposed peat with a sparse covering of common cotton grass. A small number of purple moor-grass and cross-leaved heath hummocks are present within the centre of the bog, with encroaching western gorse. Bogbean and marsh St-John's-wort *Hypericum elodes* were the only other frequent species, being locally abundant in some areas. Other species present in low abundances include soft rush, *Polytrichum* moss, bottle sedge, creeping bent, marsh willowherb, star sedge *Carex echinata*, common sedge, bog asphodel, bog pondweed *Potamogeton polygonifolius*, marsh bedstraw, marsh cinquefoil, tufted hair grass *Deschampsia cespitosa*, creeping willow, tormentil, heath wood-rush, compact rush, many-stalked spike-rush *Eleocharis multicaulis*, marsh violet and sharp-flowered rush.

3.2.7 E2.1 Neutral / acidic flush

There are numerous flushes across the site, the vast majority of which are species-poor and are dominated by soft rush and / or sharp-flowered rush. Other species present include Yorkshire fog, creeping bent, compact rush, greater bird's-foot trefoil, sweet vernal grass, rough meadow grass, marsh bedstraw, tufted hairgrass, lesser spearwort *Ranunculus flammula*, creeping soft grass *Holcus mollis*, bog stitchwort *Stellaria alsine*, heath wood-rush, marsh thistle, creeping thistle, meadow buttercup *Ranunculus acris*, tormentil, ragged robin *Silene flos-cuculi* and oval sedge.

The flush within the south-western section of the survey boundary that surrounds two of the ephemeral pools of standing water (see Target Note 1), and to a lesser extent the smaller flush that surrounds Pond 1 (Target Note 2), have a much greater species-diversity and include the following additional species: flea sedge, tawny sedge, carnation sedge, glaucous sedge, common yellow sedge, marsh pennywort *Hydrocotyle vulgaris*, self-heal *Prunella vulgaris*, bulbous rush *Juncus bulbosus*, marsh willowherb, creeping forget-me-not *Myosotis secunda*, water mint *Mentha aquatica*, marsh cinquefoil, bogbean, marsh speedwell *Veronica scutellata*, bog asphodel, heath grass *Danthonia decumbens*, heath spotted orchid, sneezewort, bog pondweed, floating club-rush *Eleogiton fluitans* and common spike-rush.

3.2.8 E3.1 Fen – valley mire

Granite outcrop cliffs form a shallow valley in the eastern section of the survey boundary, within which a mire is present. During the walkover survey, the northern section of the mire was predominantly dry, however the mire becomes damp and slightly waterlogged as it extends south. Evidence of sheep passing through the mire is present, however grazing

appears to be minimal. The mire is dominated by soft rush with abundant sharp-flowered rush, however the vegetation is species-rich and numerous forb species are present. The species assemblage is similar across the entirety of the mire, however the northern section that lies adjacent to the purple moor-grass marshy grassland has a greater abundance of grass and sedge species compared to the rush dominated southern section. Species present in this area include star sedge, flea sedge, oval sedge, glaucous sedge, heath wood-rush, carnation sedge, tufted hair-grass, Yorkshire fog, creeping bent, purple moor-grass, ground ivy, yellow pimpernel *Lysimachia nemorum* and bugle *Ajuga reptans*. Additionally, small shallow areas of more open vegetation are present within the central section of the mire, with few rushes presence and a greater abundance of herbaceous species such as bog pondweed, marsh cinquefoil, marsh St John's-wort, floating club-rush, bogbean, floating sweet grass *Glyceria fluitans* and creeping forget-me-not.

Other species present throughout the valley mire include water mint, marsh willowherb, greater bird's-foot trefoil, marsh bedstraw, ragged robin, bog stitchwort, rough meadow grass, cuckoo flower *Cardamine pratensis*, marsh marigold *Caltha palustris*, creeping buttercup, greater willowherb *Epilobium hirsutum*, marsh thistle, creeping bent, common sedge, Yorkshire fog, creeping forget-me-not, marsh speedwell, common spike-rush, sweet vernal grass, red fescue, marsh foxtail *Alopecurus geniculatus*, wavy bittercress *Cardamine flexuosa*, rough meadow grass, lesser spearwort, common cotton-grass, water starwort *Calitriche sp.*, marsh horsetail *Equisetum palustre*, wild angelica *Angelica sylvestris*, meadowsweet, water horsetail, marsh pennywort, tawny sedge, marsh ragwort *Jacobaea aquatica*, meadow buttercup, compact rush, brown sedge *Carex disticha*, bottle sedge and common mouse-ear.

3.2.9 G1 Standing water

Four pools of standing water are present on site, all of which lie within or the valley mire and are considered to ephemeral, being dry during visits to the site in July. Unlike the rest of the surrounding mire vegetation the pools have generally open herbaceous vegetation, with a lack of dominance by graminoid (grasses, sedge and rushes) species. All of the pools were relatively shallow when holding shallow water, with a maximum depth of 30cm. All of the pools have similar species communities and have abundant floating sweet grass and bogbean, frequent bog pondweed, floating club-rush, sharp-flowered rush, occasional marsh bedstraw, lesser spearwort and marsh speedwell and rare soft rush, greater bird's-foot trefoil, marsh St John's-wort, creeping bent, marsh cinquefoil and creeping forget-me-not.

3.2.10 I1.4.1 Other exposure – Acidic / neutral

Numerous granite outcrops are present across the site, particularly in the eastern section of the survey boundary, outside of the development boundary. The grassland surrounding these outcrops has been described above in section 3.2.3, however the exposed rock areas also support English stonecrop, *Polytrichum sp.* moss, *Cladonia sp.* lichen.

Granite outcrops within the eastern section of the survey boundary form a small valley, within which a valley mire is present, as described above in section 3.2.8. These cliffs have a maximum height of approximately 8m and support scattered navelwort *Umbilicus rupestris*, early hairgrass *Aira praecox*, ivy *Hedera helix*, western polypody *Polypodium interjectum* and wood sorrel *Oxalis acetosella*.



3.2.11 J2.5 Wall

A drystone wall runs north to south through the centre of the survey area.

3.3 Baseline conditions – Protected species or resources

As part of the PEA, specific observations of wildlife were also recorded. Wildlife observations focused on protected species, invasive species or species of conservation concern. Habitats with potential to support protected species were noted with a view to follow up surveys if required.

3.3.1 Amphibians

The habitats on site vary in their suitability to support GCNs, with the areas of dense bracken, scrub and acidic flushes offering high-quality foraging and sheltered commuting opportunities for amphibians. The western section of the site has a higher proportion of grazed semi-improved grassland, which offers lower suitability for foraging and commuting amphibians. The drystone wall that bisects the survey site north-south also provides some commuting and potential hibernating opportunities.

There is a single area of standing water within the proposed development boundary (Pond 1), four areas of standing water within 250m of the proposed site boundary (Pond 2 and Pools 1-3) and one additional area of standing water within 250m - 500m of the proposed development boundary (Ponds 3) (see Appendix 4 – Pond Plan).

All waterbodies on site and within 500m of the site were accessed and surveyed during an initial GCN impact assessment that was undertaken on the 5th May 2021. However, during a subsequent site visit on the 29th June 2021, Pools 1 - 3 that lie within the survey boundary but outside of the development boundary were found to be completely dry and are therefore considered to be unsuitable to support breeding GCNs. During this subsequent visit on the 29th June, Pond 1 had mostly dried out, with a maximum depth of approximately 10cm. Subsequent visits to the site to undertake reptile surveys revealed that the pond was completely dry by middle of July. July is the key period for GCN eft development, and the presence of standing water is essential for their survival. Given that the pond is considered to dry between June and August annually, it is considered to be unsuitable to support breeding GCNs.

Pond 2 is located approximately 230m to the south of the proposed development boundary and is located within the base of the existing quarry. Pond 2 is a linear drainage ditch measuring approximately 300m in length and with open pools of standing water at each end. The ditch is subjected to annual GCN population size class assessment monitoring surveys as a condition of the existing GCN EPS mitigation licence for the wider quarry. Palmate newts and common toads have been recorded since 2016, however GCNs have never been recorded in this waterbody, considered to be due to the high number of sticklebacks *Gasterosteidae* sp. present, which would predate GCN larvae. As part of the existing GCN EPS mitigation licence, newt exclusion fencing has been installed around the working quarry site, and Pond 2 is located within the fenced area. Therefore, GCNs are not considered to be present in or around this pond.

Pond 3 is located approximately 490m north of the proposed development boundary, in an area of farmland. The pond has an area of approximately 500m² and appears to have been man-made for wildfowl shooting purposes, however it is well established.

As part of the GCN impact assessment, the ponds within 500m of the site that were holding water at the time of the survey were assessed for their suitability to support GCNs using the Habitat Suitability Index (HSI). Pond 1 was assessed as having 'below average' suitability, Pond 2 was assessed as having 'poor' suitability and Pond 3 was assessed as having 'excellent' suitability. In addition, Ponds 1 and 3 were subject to an environmental DNA (eDNA) analysis to determine the presence / absence of GCNs and a search of marginal and aquatic vegetation was undertaken to search for GCN eggs. Pond 2 was not subject to eDNA analysis, as GCN absence has already been confirmed by monitoring surveys of the pond (associated with the existing GCN EPS licence). Ponds 1 – 3 were not subject to eDNA analysis as they were dry at the time and are considered to be ephemeral pools that only hold standing water for small periods of the year and are unsuitable to support breeding GCNs.

Pond 1 returned 3/12 positive replicates of GCN eDNA, indicating that GCN DNA was present within the pond. The relative low number of replicates represents a weak score, indicating that GCNs are only present in very low numbers or transiently such as using the pond for foraging purposes rather than breeding. As detailed above, Pond 1 is an ephemeral pool which had partially dried out during the second survey visit at the end of June and completely dried out by mid-July, rendering the pond unsuitable for breeding GCNs. As such, it is considered that GCNs are only using the site for foraging and commuting purposes.

As part of the ecological survey work undertaken of the proposed extension site, 130 artificial refugia were searched 15 times each as part of reptile surveys. When amphibians (including GCNs) are present on a site, they are often found sheltering beneath these refugia. During the reptile surveys, low numbers of common toad, common frog and palmate newt were observed, however no GCNs were recorded.

All ponds onsite and within 500m of the site returned negative results for GCNs (Ponds 2 and 3) or are ephemeral and are considered to be unsuitable to be used by breeding GCNs (Pond 1 and Ponds 1-3). As such, it is considered that the low number of GCNs present on site are part of the population known to be breeding within Ponds 4 and 6 that lie within the working quarry and are being monitored as part of the ongoing licence.

3.3.2 Reptiles

Common lizard, slow worm and adder are known to be present within the adjacent consented extension area and within the wider boundary of the quarry site.

The habitats on site, particularly the areas of gorse, bracken, granite outcrops and associated grassland, provide suitable foraging, commuting, basking and breeding opportunities for adder, slow worm and common lizard. The large areas of sheep-grazed grassland on site are of limited value for reptiles.

Reptile surveys undertaken of the site by UES in 2021 found that the site supports a 'good' population of common lizard, and 'low' populations of slow worm and adder. Juveniles of all species were also recorded on site, indicating that the site is used for breeding. The site can be classified as important for reptiles as a result of its species assemblage.



3.3.3 Badger

No records of badger were returned from within 2km of the proposed development site and no evidence of badger activity was observed during the previous ecological surveys of the previously consented extension site.

A single badger scatt was observed on site during the walkover survey but was not associated with a dug latrine (see Appendix 2 – Target Note 3). No other evidence of badger activity and no evidence of any potential badger setts were observed or within the immediate vicinity of the site during the suite of ecological surveys undertaken to inform this application.

The habitats on site provide some suitable foraging and commuting habitat for badgers, however the site is considered to be broadly unsuitable to support sett building opportunities for badgers due to the shallow soils over granite rock and the lack of sheltered potential sett building locations.

It is considered that badgers are not using the site and immediately adjacent habitats for sett building and badger use of the site is considered to be limited to a single of low number of individuals foraging or commuting across the site in a transitory capacity.

3.3.4 Bats

There are no buildings on site which could be used by roosting bats. The small granite cliffs along the boundaries of the valley mire in the eastern section of the site do not support any cracks or crevices suitable to support roosting bats. Additionally, there are no trees that could be used on site, with the hawthorn and willow scrub being stunted and lacking suitable roosting features.

The habitats on site provide some opportunities for foraging and commuting bats however the large areas dominated by short sheep-grazed grassland are considered to be of limited value and the suitability of the entire site is limited due to its exposed nature and strong prevailing winds.

Previous bat activity surveys of the adjacent consented extension area found very low levels of bat activity across the site, with only common species recorded and with no bat activity being recorded during some transect surveys. Given the distance between the sites and the similar habitats, it is considered that the site will have the same levels of bat activity.

3.3.5 Hazel dormouse

The habitats on site are unsuitable for dormice as there are no hedgerows or areas of woodland and the site is isolated from areas of suitable habitat within the wider landscape. Hazel dormice have a limited distribution nationally and are not known to be present within the local area.

Hazel dormice are not considered to be present on site or within the immediate vicinity of the site.



3.3.6 Birds

Although a targeted bird survey was not conducted during the site visit, the following bird species were recorded on site or within the immediate vicinity of the site during the walkover survey: carrion crow, robin, magpie, jackdaw, snipe and buzzard.

The areas of grassland, scrub, dense bracken and flush habitats on site provide potential breeding opportunities for numerous bird species, including many observed to be present within the local area during the previous ecology surveys of the consented extension, such as stonechat, linnet, skylark, meadow pipit and snipe.

3.3.7 Trees

With the exception of stunted hawthorn, grey willow and eared willow scrub, there are no trees on site or within the immediate vicinity of the site.

3.3.8 Hedgerows

There are no hedgerows on site or within the immediate vicinity of the site.

3.3.9 Plant communities

The valley-mire, purple moor-grass marshy grassland, acidic / neutral flushes and the modified bog habitats within the survey boundary may qualify as habitats of principal importance listed under Section 7 of the Environment (Wales) Act 2016. A detailed national vegetation classification survey has been undertaken to fully categorise and to assess the value of these habitats (see report reference UES02936/04).

3.3.10 Invasive species

No invasive species were recorded on site or within the immediate vicinity of the site.

3.3.11 Otter, water vole and white-clawed crayfish

There are no aquatic habitats on site or within the immediate vicinity of the site that are suitable to support water vole, otter or white-clawed crayfish. It is considered that these species are not present on site or within the immediate vicinity of the site.

3.3.12 Invertebrates

In order to assess the value of the site for invertebrates, an invertebrate survey was undertaken in July 2021. The survey found that the site supports a very characteristic invertebrate fauna for an area of lowland dwarf shrub heath (which is primarily located offsite but immediately adjacent to the site) and mire on undulating granite bedrock. The associated invertebrate fauna observed included one Section 7 Environment Wales Act (2016) species: grayling butterfly and one nationally scarce species: peatland rove beetle *Stenus europaeus*.



Analysis of the invertebrate species and assemblage observed on site using Natural England's Pantheon database generated an assessment of below SSSI quality. Lowland heathland is however a localised habitat type which has become increasingly scarce in recent decades and is especially threatened at inland localities. Comparable sites have become very scarce on Anglesey, and so the site has been assessed as of significant conservation value although less than county (Anglesey) significance.

Following the survey it was recommended that the exploratory survey undertaken is adequate for the purposes of site assessment for invertebrates and no further survey appears warranted.



4 EVALUATION AND RECOMMENDATIONS

This section provides a brief assessment of the likely impacts associated with the proposed development on the receptors identified during the walkover survey and desk study. It also includes any mitigation and compensation measures which may be required for the proposed development to proceed.

4.1 Habitats

4.1.1 Designated sites

The sites identified during the desk study were cross-referenced with the survey area relevant to this report. The closest non-statutorily protected site is Cors Tafarn-y-Grib which lies approximately 500m south-west of the proposed extension area. The closest statutorily protected site is Y Werthyr SSSI, which lies approximately 850m to the west of the proposed development site.

Given the distances from site, it is considered unlikely that the proposed development will have any direct or indirect impact on these or any other local designated sites as the quarry is currently operational, and the extension of the quarry will not have impacts above those already present on site. The drainage and run-off from the quarry will remain unchanged and these sites are not hydrologically connected to the proposed quarry area.

4.1.2 Plant communities and protected habitats

The valley-mire, purple moor-grass marshy grassland, acidic / neutral flushes and the modified bog habitats within the survey boundary may qualify as habitats of principal importance listed under Section 7 of the Environment Wales Act (2016).

Construction impacts

The proposed extension of the quarry will result in the loss of acidic / neutral flush habitat. Following the identification of these habitats, the site boundary has been amended to ensure the retention of the valley-mire, purple moor-grass marshy grassland and modified bog habitats.

Compensation

Compensation for the loss of acidic / neutral flush habitat will be provided as part of the proposals and full details of the proposed habitat creation and management works are detailed within the LEMP report.

Operational impacts

No operational impacts are envisaged.



4.2 Species

4.2.1 Amphibians

The proposed extension area does not contain any suitable breeding habitat for GCNs, however they are known to be present on site in low numbers and newts from the population within the wider quarry to the south are considered to be using the terrestrial habitats on site in transitory capacity for foraging, commuting, sheltering or hibernating.

Construction impacts

Potential impacts include direct harm, injury and / or death to individuals and the loss of terrestrial foraging and commuting habitats.

Mitigation and compensation

Due to the presence of GCNs on site, an EPS mitigation licence will be required in order for the development to proceed. No further GCN presence / absence or population size class assessments are required to inform the licence, as there are no ponds present on site suitable for GCN breeding and all other offsite ponds within 500m of the site have confirmed absence of GCN or have already been subject to PSCA surveys as part of the monitoring surveys for the existing GCN licence for the ongoing quarry works.

It is recommended that the existing GCN EPS mitigation licence for the wider quarry is amended to include the proposed extension area. Mitigation measures that will be implemented to protect GCNs and other amphibians during the works are detailed in the EDS and include the installation of exclusion fencing and a period trapping and translocation of all amphibians to a suitable receptor area within the wider quarry. In addition, compensation for the loss of high-quality foraging habitat will be provided within the wider quarry site, as detailed within the LEMP.

Operational impacts

As part of the licence, permanent reptile / amphibian fencing will need to be installed around the ongoing quarrying area to exclude amphibians from the working area during the operational phase of the works.

4.2.2 Reptiles

The site contains areas of high-quality reptile habitat and reptile surveys undertaken in 2021 found the site to support breeding common lizard, slow worm and adder.

Construction impacts

If reptiles are present during the quarrying works, they could be directly harmed. The development will also result in a loss of suitable habitat.

Mitigation and compensation

Compensatory habitat creation will need to be provided to compensate for the loss of high-quality reptile habitat. As the site was found to support breeding common lizard, slow worm and adder, a suite of mitigation measures will be implemented to protect reptiles during the



works. These measures include the installation of exclusion fencing and a period of trapping and translocation to remove all reptiles from the site. Full details of the proposed mitigation measures are provided within the EDS.

Operational impacts

Permanent reptile / amphibian fencing will need to be installed around the ongoing quarrying area to exclude reptiles from the working area during the operational phase of the works.

4.2.3 Badger

No evidence of badger setts were observed on site, however a single badger scat was observed. It is considered that badgers are not using the site and immediately adjacent habitats for sett building and badger use of the site is considered to be limited to a single or low number of individuals foraging or commuting across the site in a transitory capacity.

Construction impacts

If badger setts are present on site at the time of the works, quarrying activities without mitigation could result in direct harm to badgers, disturbance, sett collapse and sett abandonment.

Mitigation

A licence from Natural England to disturb, damage or destroy a badger sett is not required for the proposed development to proceed as there are no active badger setts within the proposed development boundary. Additionally, no further badger surveys are required prior to the determination of a planning application.

The following RAMs should be adhered to during the development to protect any badgers using the site:

- Prior to the commencement of each phase of the proposed quarrying works, a pre-commencement badger survey will be undertaken by a suitability qualified ecologist to identify any potential new setts within or immediately adjacent to the site.
- Any areas of vegetation due to be removed as part of the proposals should be removed by cutting / strimming prior to heavy plant accessing the site.
- Any pipes will be stored with caps on to prevent entry by badgers and materials such as barbed wire will be stored so that animals cannot become entangled in them.
- Any chemicals or harmful materials will be stored so that they cannot be accessed by badgers or other wildlife.

Operational impacts

No operational impacts are envisaged.



4.2.4 Birds

There are a number of habitats, such as scrub, grassland, dense bracken and mire and flushes which could support breeding birds.

Construction impacts

Vegetation clearance could result in the direct loss of nests, any individuals within the nests and of available nesting territories if conducted during the breeding season.

Mitigation

To reduce the potential for nesting birds to be present at the time of the works, each phase of the proposed extension area should be stripped of vegetation in advance of quarrying works. Vegetation clearance works (including enabling works) are to take place outside of the breeding bird season and should not be undertaken from March to August inclusive. If this is not possible and works need to take place between this period, a targeted breeding bird nest scoping survey should be conducted by a suitably qualified ecologist immediately prior to the works, or an ecological clerk of works appointed to oversee the works.

Compensation and enhancement

Similar habitats to those being lost will be recreated within the restoration and compensation areas within the wider quarry, full details of which are provided within the LEMP. Additional compensation for the loss of nesting habitat and an additional enhancement of the nesting opportunities on site will also be provided through the provision of bird nest boxes.

Operational impacts

No operational impacts are envisaged.



5 CONCLUSION

The development proposals are for the extension of the existing granite quarry at Chwwarel Cae'r Glaw Quarry, together with the consolidation of this new extraction area with the extant mineral planning permission in force on the wider quarry area. The proposed extension has an area of approximately 6.89ha and will be undertaken in five phases. This proposed extension is an alternative to an extension to the north-west of the quarry which was granted by Anglesey Council in December 2019 (planning reference 48C79J).

The proposed extension boundary has been amended on a number of occasions, in some cases to reduce impacts on ecological receptors. As such, the area surveyed to inform this application covers a greater area than is to be quarried.

The proposed extension area comprises a mosaic of sheep-grazed semi-improved acid grassland, continuous bracken, exposed rock, dense gorse scrub and some areas of neutral / acidic flush. In addition, a drystone wall with some scattered hawthorn scrub runs north to south within the western section. The wider survey boundary contains additional areas of purple moor-grass marshy grassland, valley mire fen and a small area of modified bog.

The preliminary ecological appraisal has highlighted potential issues with the following ecological receptors on or adjacent to site: amphibians, badgers, breeding birds, reptiles and plant communities and protected habitats. Provided these issues are addressed in accordance with the recommendations detailed in this report and the compensation and mitigation measures detailed within the LEMP and EDS prepared for the site, the development may proceed without adversely impacting the aforementioned ecological receptors.



6 REFERENCES

CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal* (Second Edition).

DEFRA (2019). *MAGIC* [online]. Available at: <http://magic.defra.gov.uk/>.

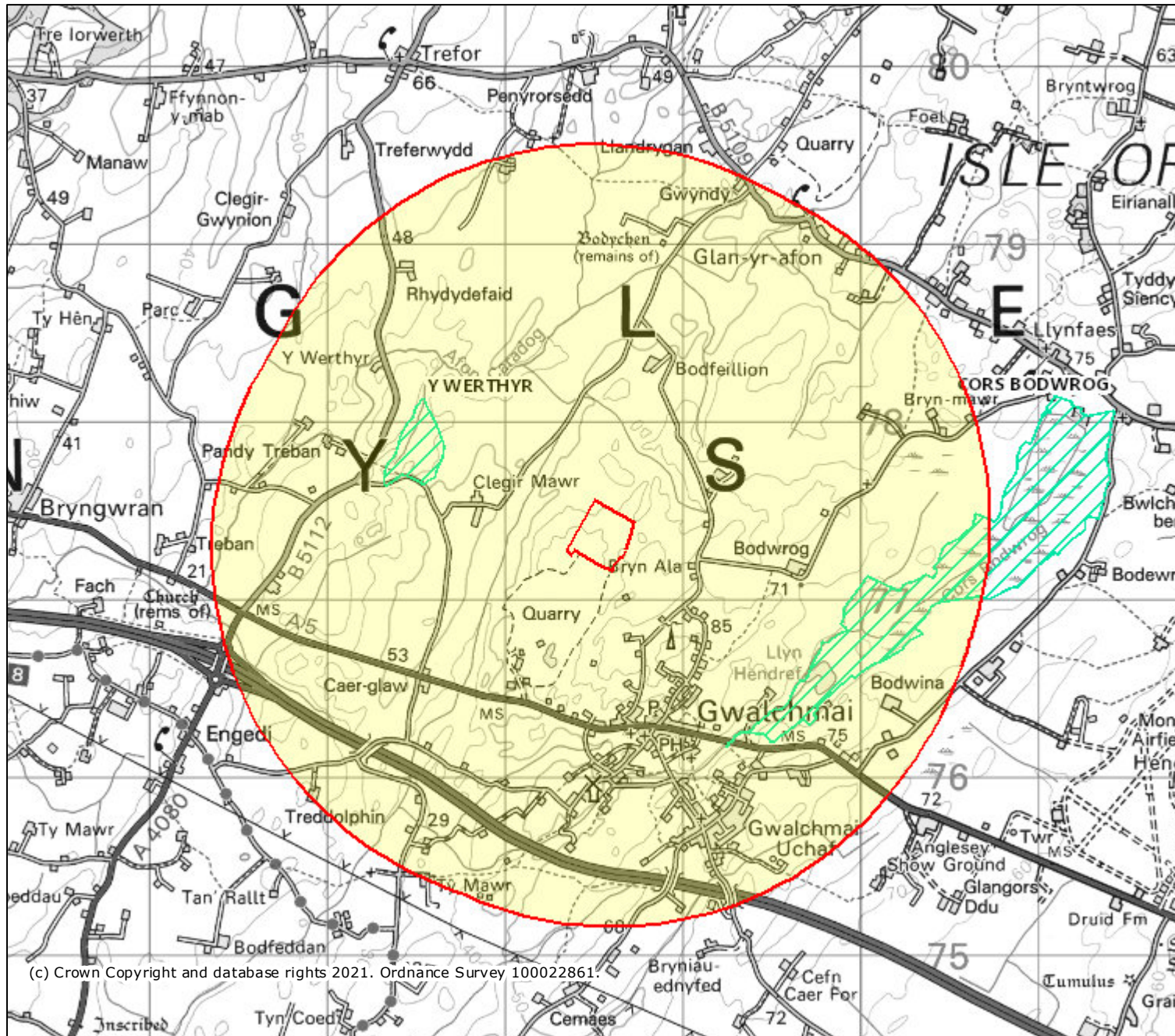
JNCC (2010). *Handbook for Phase 1 habitat survey: A technique for environmental audit*.

Welsh Government (2018). *Planning Policy Wales*, Edition 10






APPENDICES

Appendix 1 – Desk study



Legend

-  National Nature Reserves (Wales)
-  Ramsar Sites (Wales)
-  Sites of Special Scientific Interest (Wales)
-  Special Areas of Conservation (Wales)
-  Special Protection Areas (Wales)
-  Biosphere Reserves (Wales)

Projection = OSGB36

xmin = 233000

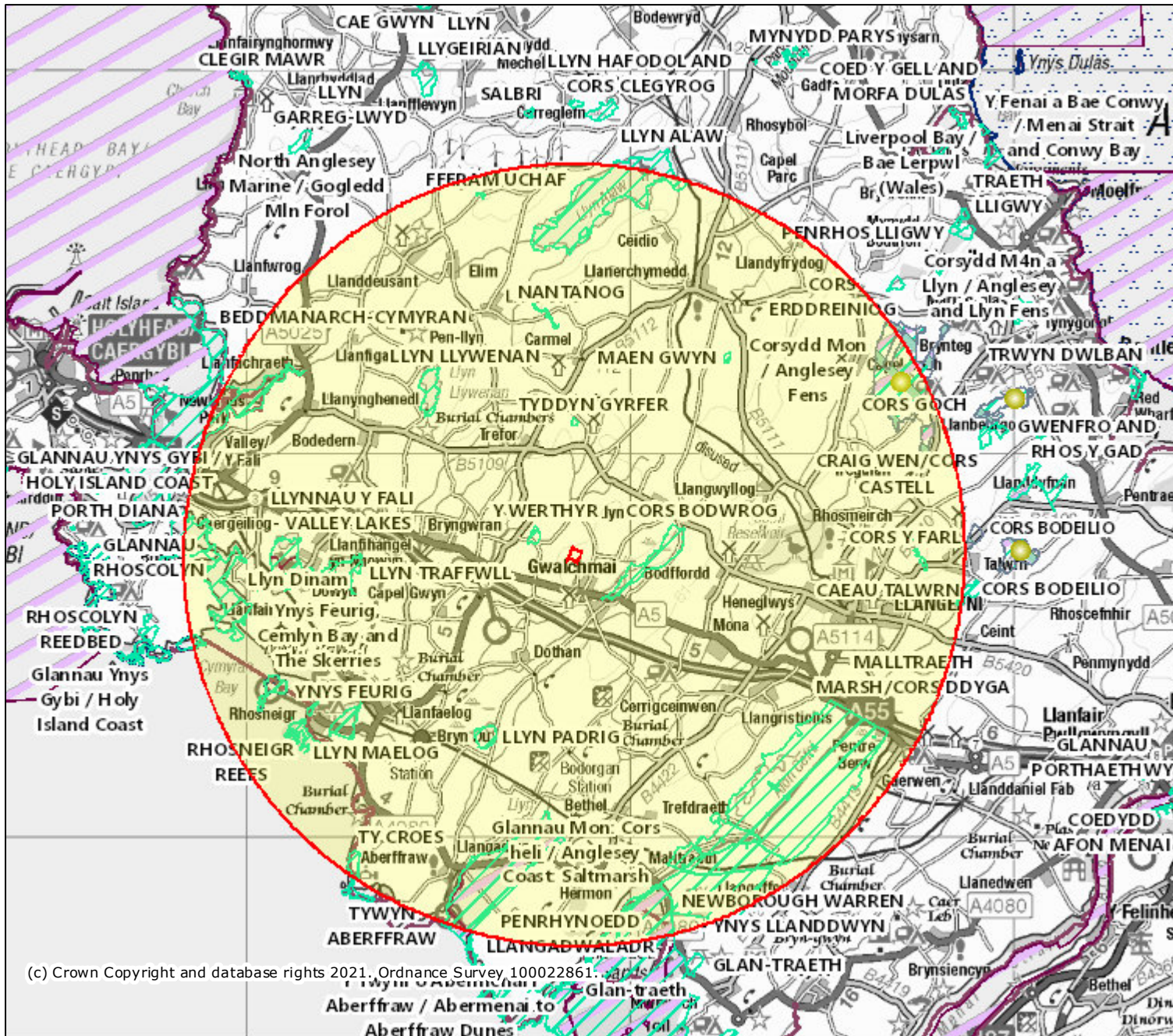
ymin = 374800

xmax = 244000







ymax = 380100



Map produced by MAGiC on 12 November, 2021.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGiC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.



Legend

-  National Nature Reserves (Wales) - points
-  Ramsar Sites (Wales)
-  Sites of Special Scientific Interest (Wales)
-  Special Areas of Conservation (Wales)
-  Special Protection Areas (Wales)
-  Biosphere Reserves (Wales)

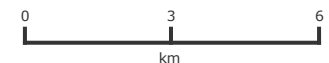
Projection = OSGB36

xmin = 213300

ymin = 365800

xmax = 264700

ymax = 390600



Map produced by MAGiC on 12 November, 2021.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGiC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.



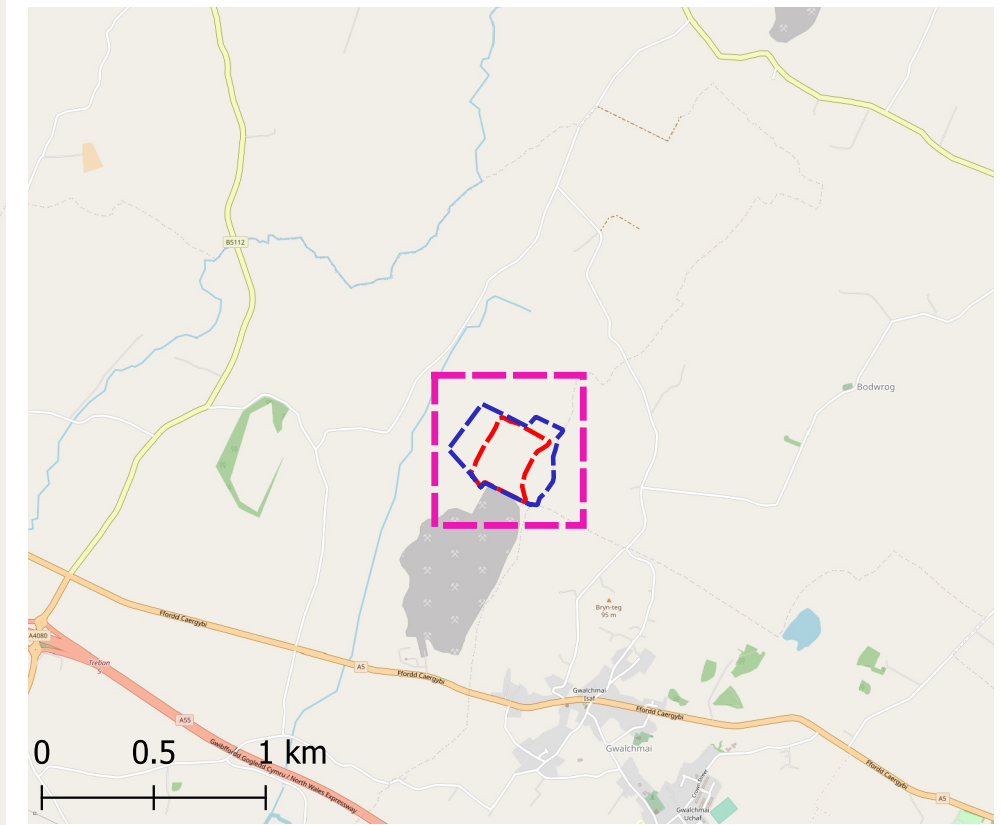
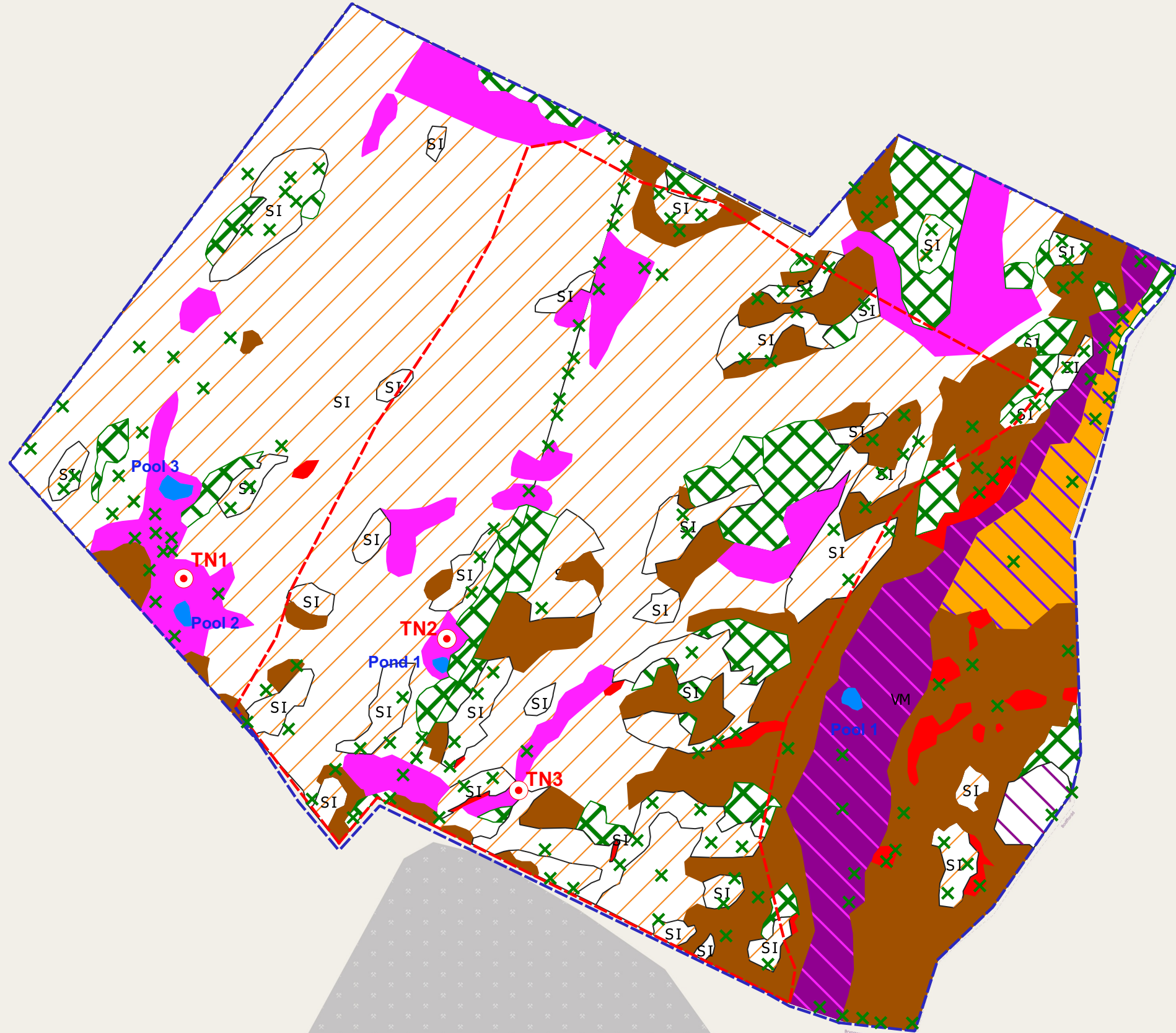
Appendix 2 – Phase 1 habitat plan

- Target Note 1 - Species-rich flush contain two ephemeral ponds.
- Target Note 2 - Species rich flush containing Pond 1
- Target Note 3 - Single badger scat



Preliminary Ecological Appraisal

**Site: Cae'r Glaw Quarry
- Proposed Extension Area**
NGR: SH 38512 77319
Author: Tom Kenwright
Date: 01/11/2022



KEY:

A2.1 - Scrub - dense/continuous	VM E3.1 - Fen - valley mire
A2.2 - Scrub - scattered	G1 - Standing water
B1.2 - Semi-improved acid grassland	I1.4.1 - Other exposure - acid/neutral
B5 - Marshy grassland	J2.5 - Wall
C1.1 - Continuous bracken	Development boundary
E1.8 - Dry modified bog	Survey boundary
E2.1 - Neutral / acidic flush	Target Notes

THIS PLAN IS BASED UPON OpenStreetMap® AND IS OPEN DATA, LICENSED UNDER THE OPEN DATA COMMONS OPEN DATABASE LICENCE (ODbI) BY THE OpenStreetMap FOUNDATION.

THIS PLAN IS ISSUED BY UNITED ENVIRONMENTAL SERVICES LTD SUBJECT TO THE CONDITION THAT IT IS NOT COPIED EITHER IN WHOLE OR IN PART OR DISCLOSED TO THIRD PARTIES UNLESS PRIOR WRITTEN AUTHORISATION IS GIVEN.



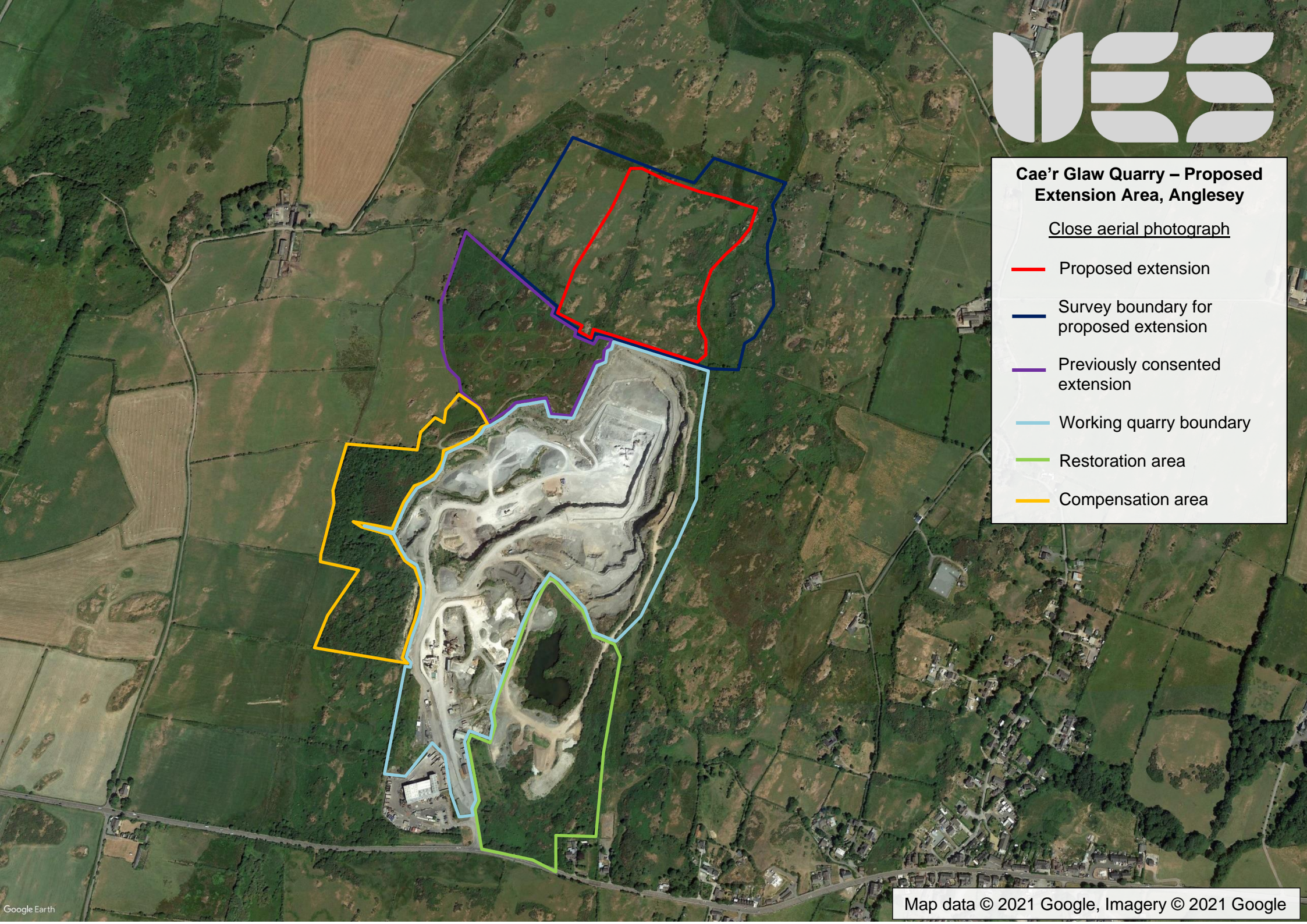
Appendix 3 – Wider quarry layout plan



Cae'r Glaw Quarry – Proposed Extension Area, Anglesey

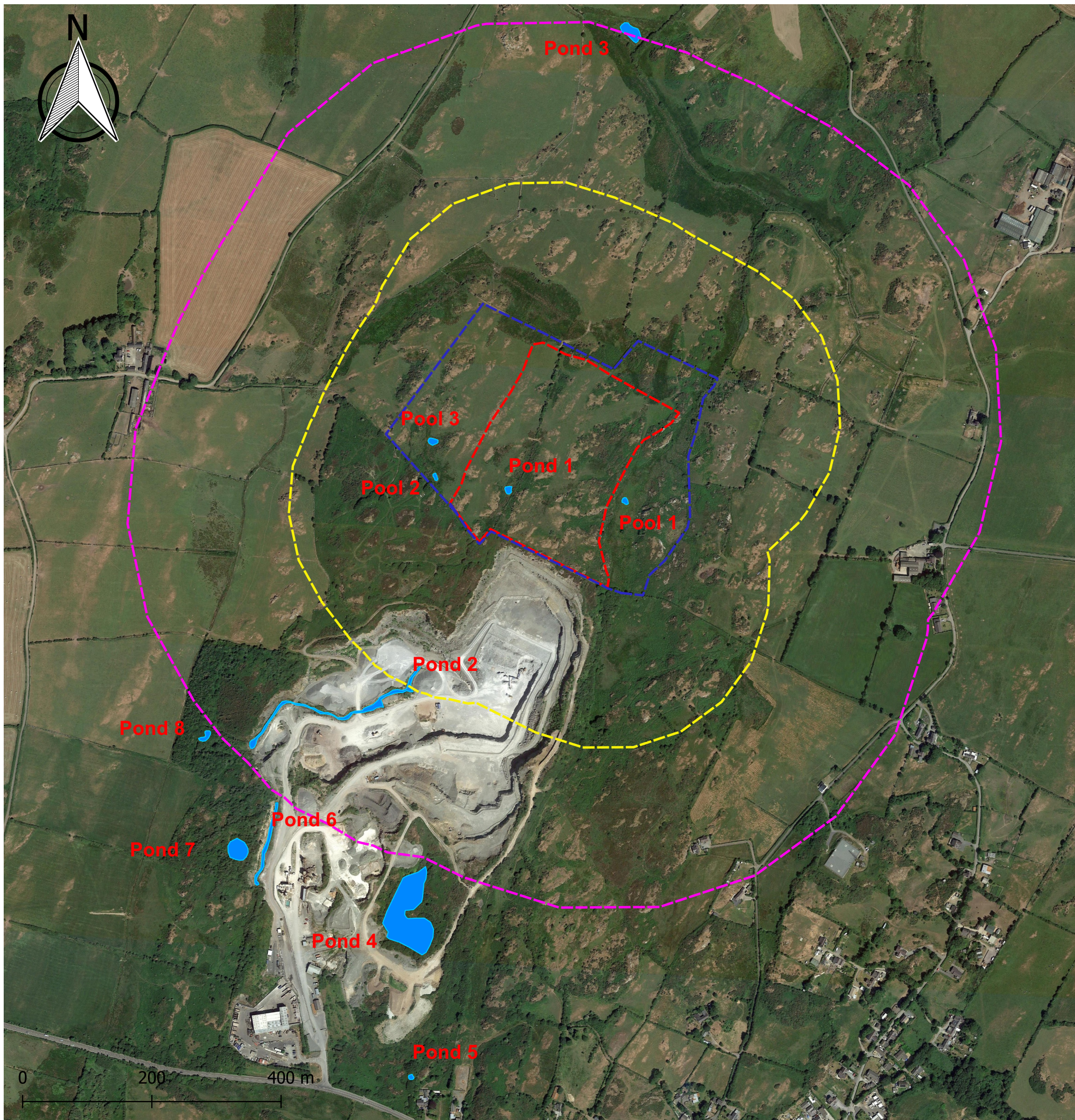
Close aerial photograph

- Proposed extension
- Survey boundary for proposed extension
- Previously consented extension
- Working quarry boundary
- Restoration area
- Compensation area



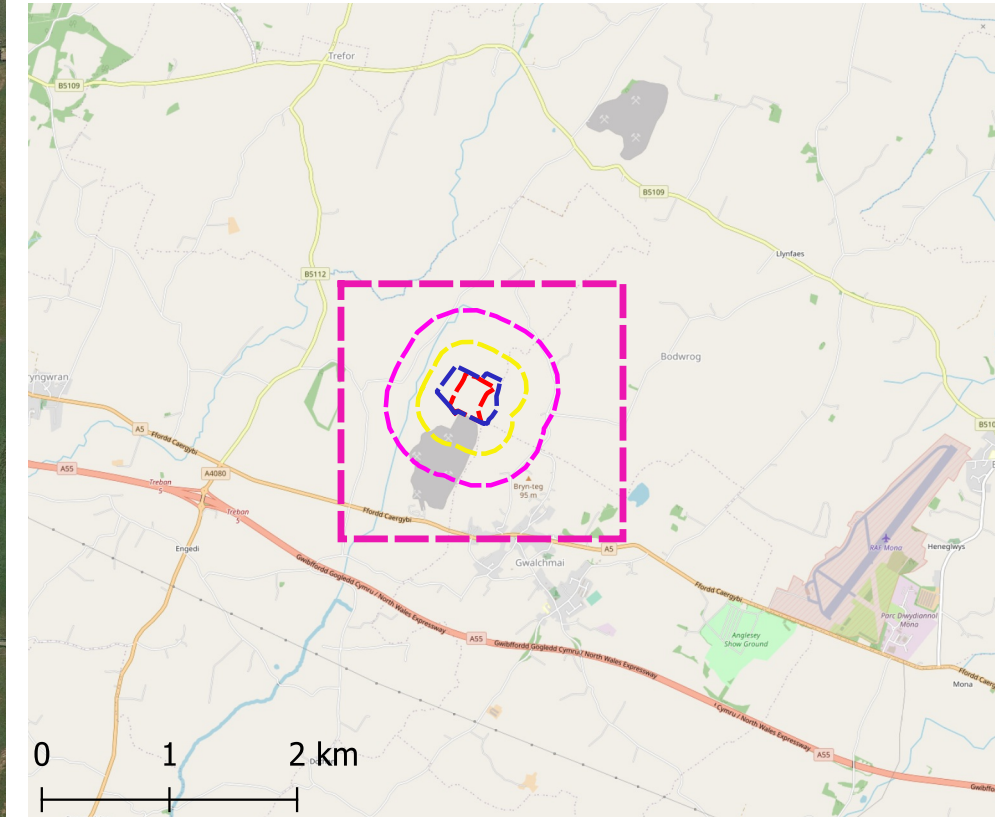


Appendix 4 – Pond plan



Pond Plan

Site: Cae'r Glaw Quarry -
Proposed Extension Area
NGR: SH 38512 77319
Author: Tom Kenwright
Date: 01/11/2022



- KEY:**
- Development boundary
 - Survey boundary
 - 250m buffer zone
 - 500m buffer zone
 - Pond / pool

THIS PLAN IS BASED UPON MAP DATA © 2021 Google, Imagery © 2021 Google

THIS PLAN IS BASED UPON OpenStreetMap® AND IS OPEN DATA, LICENSED UNDER THE OPEN DATA COMMONS OPEN DATABASE LICENCE (ODbL) BY THE OpenStreetMap FOUNDATION.

THIS PLAN IS ISSUED BY UNITED ENVIRONMENTAL SERVICES LTD SUBJECT TO THE CONDITION THAT IT IS NOT COPIED EITHER IN WHOLE OR IN PART OR DISCLOSED TO THIRD PARTIES UNLESS PRIOR WRITTEN AUTHORISATION IS GIVEN.



Appendix 5 – Aerial photographs

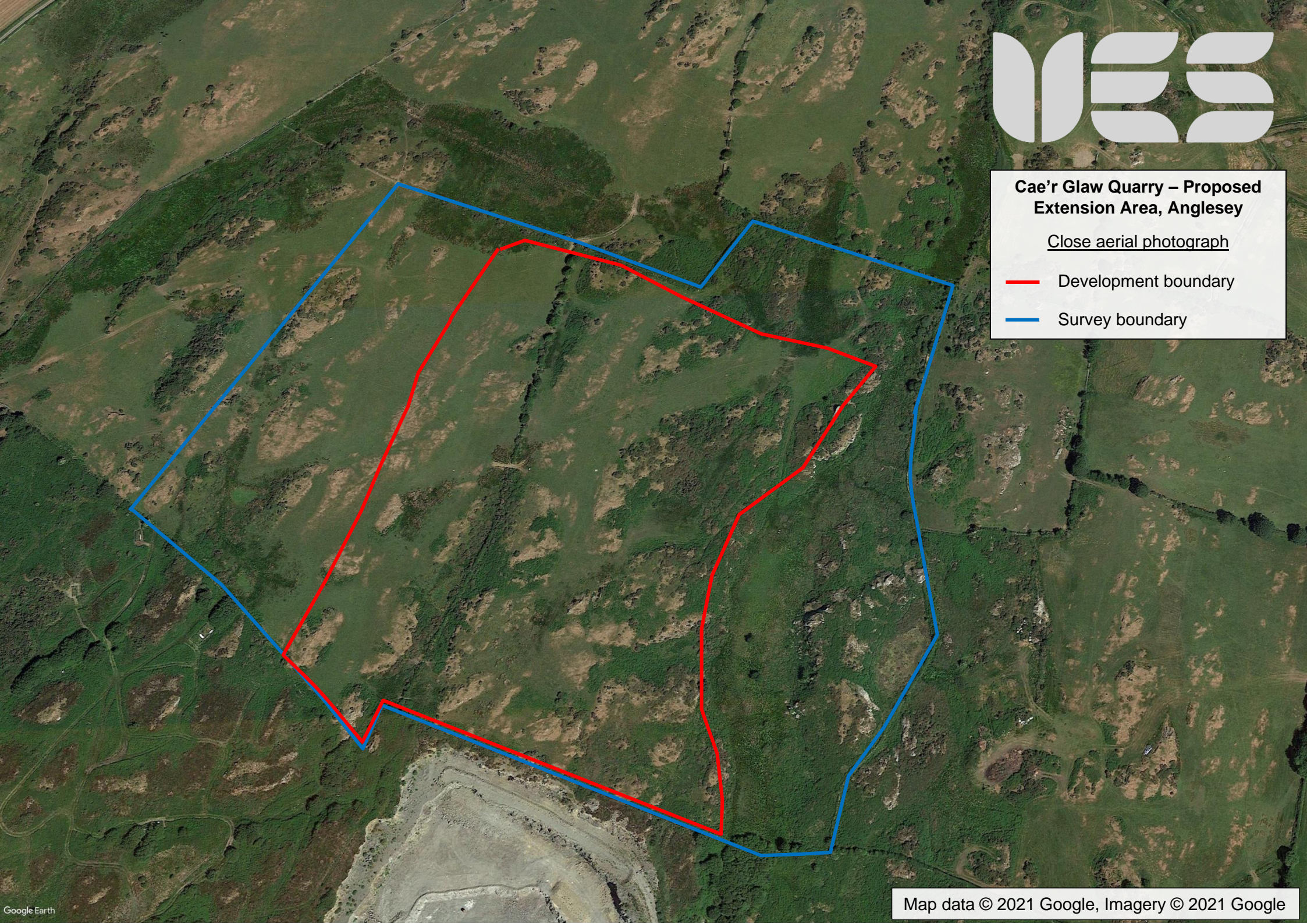


**Cae'r Glaw Quarry – Proposed
Extension Area, Anglesey**

Close aerial photograph

— Development boundary

— Survey boundary





**Cae'r Glaw Quarry – Proposed
Extension Area, Anglesey**

Wide aerial photograph

 Site location





Appendix 6 – Photographs



Photograph 1 – Example of dense gorse scrub present across the site.



Photograph 2 – Example of dense hawthorn and willow scrub within the north-eastern corner of the survey area but outside of the development boundary.



Photograph 3 – Example of scattered hawthorn scrub on site.



Photograph 4 – Showing the sheep-grazed semi-improved acid grassland that covers a large proportion of the site.



Photograph 5 – Showing the sheep-grazed semi-improved acid grassland that covers a large proportion of the site.



Photograph 6 – Showing the different semi-improved acid grassland community present on the mounds created by granite outcrops.



Photograph 7 – Looking north along the purple moor-grass marshy grassland within the north-eastern section of the survey boundary, located outside of the development boundary.



Photograph 8 – Showing the boundary between the purple moor-grass marshy grassland (background) and the valley mire (foreground).



Photograph 9 – Showing areas of dense bracken.



Photograph 10 – Showing the boundary between the valley mire and the dense bracken on the valley slopes.



Photograph 11 – Example of neutral / acidic flushes that are present across the site.



Photograph 12 – Looking north along the valley mire present within the eastern section of the survey boundary but outside of the development boundary.



Photograph 13 – Example of the small pools of ephemeral standing water that are present on site.



Photograph 14 – Showing the granite outcrops that are present across the site.



Photograph 15 – Showing the granite cliff faces present within the eastern section of the survey boundary but outside of the development boundary.



Photograph 16 – Showing the mosaic of grassland, scrub and bracken that is present across the site.



Photograph 17 – Badger scatt observed on site.



Photograph 18 – Grayling butterfly observed on site.



Appendix 7 – Planning and statutory context

STATUTORY AND PLANNING CONTEXT

Ecological assessments

Ecological assessments play an important part within the planning context; they include an initial assessment which highlights any specific interests of a site. From the initial site assessment, the surveyor assesses the suitability of habitats within the site to support protected species and makes recommendations for further survey works if required. The following paragraphs provide a brief interpretation of the legislative protection that is relevant to the findings of this report.

Habitats

Section 7 of the Environment Act (Wales) places a duty on Welsh Ministers to publish, review and revise lists of types of habitats and species in Wales which they consider are of key significance to sustain and improve biodiversity. The Welsh Ministers must also take all reasonable steps to maintain and enhance the habitats published in these lists, and encourage others to take such steps.

Amphibians

Great crested newts

Great crested newts (GCN) *Triturus cristatus* and their habitat (aquatic and terrestrial) are afforded full protection by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture GCN
- Deliberately, intentionally or recklessly disturb GCN in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to hibernate or migrate
 - their local distribution or abundance
- Deliberately, intentionally or recklessly take or destroy the eggs of GCN
- Damage or destroy breeding sites or resting places of GCN
- Intentionally or recklessly disturb sheltering GCN, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead GCN, any part of GCN or anything derived from GCN

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

GCN are also protected by the Protection of Animals Act 1911, which prohibits cruelty and mistreatment. Releasing a GCN in such a way as to cause undue suffering may be an offence under the Abandonment of Animals Act 1960.

In addition to the above, there are various statutory provisions relating to the transport of animals, designed to ensure their welfare. GCN are also listed under Section 7 of the Environment (Wales) Act 2016.

It is important to identify the presence of GCN individuals and also to identify suitable habitat on sites so that legal obligations regarding this species can be observed. If a survey identifies the presence of GCN on the site, an assessment of the population size class is required. This can then inform a mitigation scheme, which would need to be developed in liaison with the local Natural Resources Wales (NRW) team, and which minimises direct threats to newts and compensates for any loss of habitat. A licence issued by NRW is required for the legal implementation of a mitigation scheme.

An NRW mitigation licence application requires a Mitigation Method Statement and a Reasoned Statement of Application. The Mitigation Method Statement contains details of the proposed mitigation works. The Reasoned Statement needs to provide a rational and reasoned justification as to why the proposed development meets the requirements of the Conservation (National Habitats & c.) regulations 1994, namely Regulations 44(2)(e), (f) or (g), and 44(3)(a).

Other amphibians

More common British amphibians, such as common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Triturus vulgaris* and palmate newt *Triturus helveticus* are protected only by Section 9(5) of the Wildlife and Countryside Act 1981 (as amended). This section prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy.

The above named species are also listed as UK Species of Conservation Concern. Due to general declines in most British amphibian species in recent years, many local authorities require amphibian surveys as a planning condition, or as part of environmental information submitted as part of a planning application, even where the presence of GCN is ruled out.

Natterjack toad *Bufo calamita* and pool frog *Pelophylax lessonae* are also offered the same level of protection as GCN, through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017.

Natterjack and common toad are also listed under Section 7 of the Environment (Wales) Act 2016.

Water bodies that support all five (more common) species of British amphibians in high numbers, may be afforded protection in local plans, as Sites of Importance for Nature Conservation (SINC), or a similar equivalent, for sites of local importance. A site may require statutory protection as a Site of Special Scientific Interest (SSSI).

Reptiles

Common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix natrix* and adder *Vipera berus* are protected under the Wildlife and Countryside Act 1981 (as amended). They are listed as a Schedule 5 species therefore part of Section 9(1) and section 9(5) apply. The Countryside and Rights of Way Act 2000 also strengthens their protection. It is offence to:

- Intentionally or recklessly kill or injure any of the species listed above
- Sell, offer, advertise or transport for sale a live or dead animal of the species listed above

If a proposed development is likely to have an impact on these reptiles the local statutory nature conservation organisation must be consulted.

Sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* receive full protection under the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species Regulations 2017. Read together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture any sand lizards or smooth snakes
- Deliberately, intentionally or recklessly disturb sand lizards or smooth snakes in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to hibernate or migrate
 - their local distribution or abundance
- Deliberately, intentionally or recklessly take or destroy the eggs of such an animal
- Damage or destroy breeding sites or resting places of such animals
- Intentionally or recklessly disturb sheltering sand lizards or smooth snakes, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead sand lizards or smooth snakes, any part of such an animal or anything derived from such an animal

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

All reptile species (except for smooth snake) are also listed under Section 7 of the Environment (Wales) Act 2016.

Badger

European badgers *Meles meles* and their habitat are protected under The Protection of Badgers Act 1992 and are also included on Schedule 6 of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention. The legislation affords badgers protection against deliberate harm or injury making it an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat a badger (or attempt to do so)
- To interfere with a sett by damaging or destroying it
- To obstruct access to, or entrance of, a badger sett
- To disturb a badger whilst it is occupying a sett

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Works that disturb badgers whilst they are occupying a sett are illegal without a licence. Disturbance can occur even without direct interference or damage to the sett in question. In general, the following activities are likely to require a licence:

- Use of heavy machinery or significant earth moving within 30m of a sett
- Use of lighter machinery (usually any wheeled vehicles) within 20m of a sett
- Any digging, chain saw use or scrub clearance within 10m of a sett

Hazel dormouse

Hazel dormice *Muscardinus avellanarius* are offered full protection through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture dormice
- Deliberately, intentionally or recklessly disturb dormice in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to hibernate or migrate
 - their local distribution or abundance
- Damage or destroy breeding sites or resting places of dormice
- Intentionally or recklessly disturb sheltering dormice, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead dormouse, any part of a dormouse or anything derived from a dormouse

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Dormice are also listed under Section 7 of the Environment (Wales) Act 2016.

Bats

In the United Kingdom, all species of bat and their roosts are afforded full protection under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (known as the “Habitats Regulations”). The Wildlife and Countryside Act is the domestic implementation of the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) and was amended by the Countryside and Rights of Way Act 2000. This makes it an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture a bat
- Deliberately, intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection (even if the bat is not present at the time)
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead bat, any part of a bat or anything derived from a bat

Under UK law, a bat roost is *any structure or place which any wild [bat] ... uses for shelter or protection*. As bats often reuse the same roosts, legal opinion is that a roost is protected whether or not the bats are present at the time of the activity taking place.

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

If an activity is likely to result in any of the above offences, a licence can be applied for to derogate from the protection afforded. These licences must provide appropriate mitigation and are issued by NRW.

The Environment (Wales) Act 2016 also lists the following bat species as species of principle importance under Section 7:

- Barbastelle *Barbastella barbastellus*
- Bechstein's bat *Myotis bechsteinii*
- Noctule *Nyctalus noctula*
- Common pipistrelle *Pipistrellus pipistrellus*
- Soprano pipistrelle *Pipistrellus pygmaeus*
- Brown long-eared bat *Plecotus auritus*
- Greater horseshoe *Rhinolophus ferrumequinum*
- Lesser horseshoe *Rhinolophus hipposideros*

Birds

All wild birds, their nests and young are protected throughout England and Wales by the Wildlife & Countryside Act 1981 (as amended). It is illegal to kill, injure or take any wild bird, or damage or destroy the nest or eggs of breeding birds. The legislation applies to all bird species, common and rare.

In addition to the protection afforded to all wild birds, more vulnerable species listed on Schedule 1 of the Act receive enhanced protection when breeding. Schedule 1 species, including their dependent young, are protected from intentional or reckless disturbance whilst at or near the nest, in addition to the protection afforded the more common species.

The Environment (Wales) Act 2016 offers further protection to the nests of some species that regularly re-use their nests, even when the nests are not in use.

The leading governmental and non-governmental conservation organisations in the UK have reviewed the population status' of 244 UK bird species. "Birds of Conservation Concern 4: the Red List for Birds" is the most recent publication summarising their findings. Three lists, Red, Amber and Green, have been produced based on the most up-to-date evidence available and criteria include conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance. These lists are a valuable resource when considering conservation priorities.

Trees

Trees may be protected on an individual or group level through a Tree Preservation Order (TPO). In order to carry out works to trees with a TPO, prior written consent must be obtained from the Local Planning Authority. Trees may also be protected through a condition of planning consent or designated conservation areas.

Hedgerows

The Hedgerow Regulations are made under Section 97 of the Environment Act 1995 and came into operation on 1st of June 1997. They aim to protect important hedgerows in the countryside by controlling their removal through a system of notification to the Local Planning Authority.

A hedgerow can only be considered for classification as "important" if it, or the hedgerow of which the section belongs to is over 20m in length (or which meets a hedgerow at either end) and has existed for 30 years or more.

Plants

Schedule 8 of the Wildlife & Countryside Act 1981 (as amended) lists a number of plant species which are protected under Section 13 of the same legislation. As such, it is an offence to:

- Intentionally or recklessly pick, uproot or destroy a plant, or any seeds or spores attached to it, which is listed on Schedule 8
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead wild plant on Schedule 8, any part of the plant or anything derived from the plant

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

The Conservation of Habitats and Species Regulations 2017 extends European legislative protection to a further subset of plants. It is therefore an offence to pick, collect, cut, uproot, destroy or trade any plant listed in Schedule 4 of these Regulations, unless the appropriate licence is first obtained.

A large number of species of vascular plants, lichens, algae, fungi, mosses, stoneworts and liverworts are also protected through planning policy as species of principal importance, as required under Section 7 of the Environment Act (Wales) 2016.

Invasive Plant Species

A number of invasive, non-native plant species are listed under Schedule 9 (Part II) of the Wildlife and Countryside Act 1981 (as amended). The most commonly encountered listed species in ecological surveys are Japanese knotweed *Fallopia japonica*, Montbretia *Crocasmia x crocosmiiflora* and variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum*. Section 14(2) of this Act makes it an offence to *plant or otherwise cause to grow in the wild* any plant listed on Schedule 9 (Part II). These provisions are necessary to prevent the establishment of non-native species which may be detrimental to our native wildlife.

A number of invasive, non-native plants species are listed under Schedule 2 (Part II) of the Invasive Alien Species (Enforcement and Permitting) Order 2019. The most commonly encountered listed species in ecological surveys are Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*. Section 3 of this Act make it an offence to *plant or otherwise causes to grow in the wild* any plant which is listed on Schedule 2 (Part II). These provisions are necessary to prevent the establishment of non-native species which may be detrimental to our native wildlife.

Soil or plant material contaminated with non-native and invasive plants can cause ecological damage and may be classified as controlled waste. It is an offence to keep, treat or dispose of waste that could harm the environment or human health. If there is any doubt, contact the local authority or Environment Agency.

Japanese knotweed has an extensive root system and new plants can regenerate rapidly from the smallest fragments of rhizomes. Material containing this species is classed as “controlled waste” under the Environmental Protection Act (Duty of Care) Regulations 1991. The disposal of such waste requires all involved parties to follow a strict code of practice and maintain adequate records regarding their conduct.

Otter

European otter *Lutra lutra* are offered full protection through the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. If both national and international legislation are taken together, it is an offence to:

- Deliberately, intentionally or recklessly kill, injure or capture otters
- Deliberately, intentionally or recklessly disturb otters in such a way to be likely to significantly affect:
 - their ability to survive, breed, reproduce, rear or nurture their young
 - their ability to migrate
 - their local distribution or abundance
- Damage or destroy breeding sites or resting places of otters
- Intentionally or recklessly disturb sheltering otters, or obstruct access to their resting place
- Keep, transport, sell or exchange, or offer for sale or exchange any live or dead otter, any part of an otter or anything derived from otter

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Otters are also listed under Section 7 of the Environment (Wales) Act 2016.

Water vole

Water voles *Arvicola amphibius* are protected by the provisions of Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- Intentionally kill, injure or take water vole
- Possess or control live or dead water vole or any part of a water vole
- Intentionally or recklessly damage destroy or obstruct access to any structure or place which a water vole uses for shelter or protection, or disturb water vole using such a place
- Sell, offer, advertise or transport live or dead water voles for sale

Licences are available from NRW to allow activities that would otherwise be an offence, including:

- Scientific or educational purposes
- For the purposes of ringing or marking
- Conserving wild animals or introducing them into particular areas
- Preserving public health or public safety
- Preventing the spread of disease
- Preventing serious damage to any form of property or to fisheries

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Water voles are also listed under Section 7 of the Environment (Wales) Act 2016.

White-clawed crayfish

White-clawed crayfish *Austropotomobius pallipes* are protected under the Wildlife and Countryside Act 1981 (as amended). They are listed as a Schedule 5 species therefore part of Section 9(1) and section 9(5) apply. The Countryside and Rights of Way Act 2000 also strengthens their protection. It is offence to:

- Intentionally or recklessly kill or injure white-clawed crayfish
- Sell, offer, advertise or transport for sale a live or dead white-clawed crayfish

If a proposed development is likely to have an impact on white-clawed crayfish then the local statutory nature conservation organisation must be consulted.

Penalties for offences include unlimited fines (formerly up to £5000), plus up to six months imprisonment, for each offence committed.

Their inclusion on the EC Habitats Directive allows areas to be designated as Special Areas of Conservation (SAC) for the presence of white-clawed crayfish. Such a designation brings legal protection under the Conservation of Habitats Regulations 2017, this includes how the site is managed and what development can occur on and in proximity to these sites.

White-clawed crayfish are also listed under Section 7 of the Environment (Wales) Act 2016.

Planning Policy

National planning guidance is issued in the form of Planning Policy Wales (PPW - 2018). The most relevant sections are included in Chapter 6: Distinctive and Natural Places. This chapter details the policies on issues such as the protection of trees, woodlands, species, and designated sites. The document is free and available to view online.