

Penstrowed Quarry
Caersws, Powys, SY17 5SG

*Proposed change of use and construction of
holiday lodges*

Ecological Impact Assessment

For: Mr G. Grigg (GF Grigg Construction Ltd)

1 August 2022

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1.0 INTRODUCTION

1.1 Background - Gerald Longley

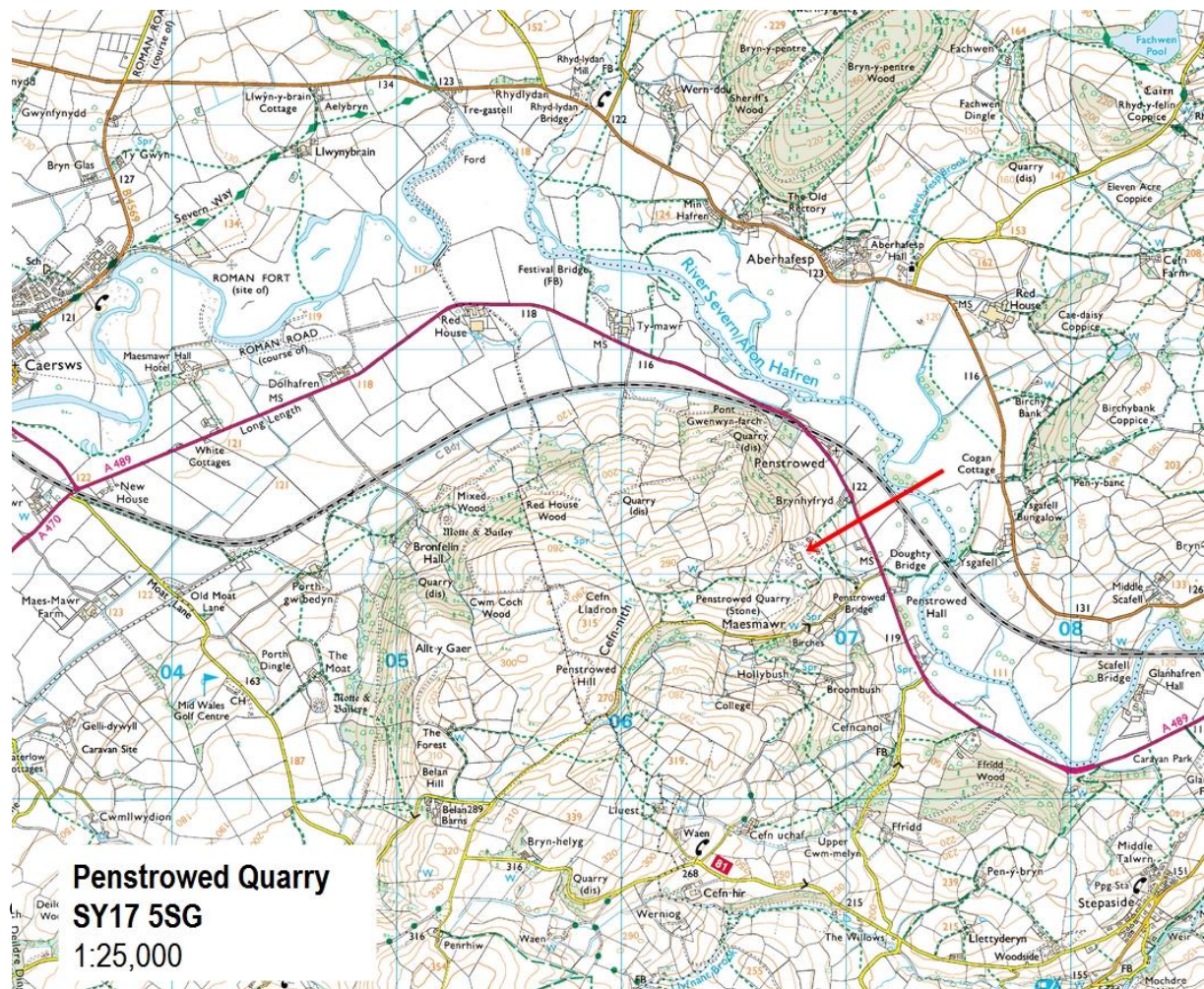
Gerald Longley Ecological Consultants (GLEC Ltd) has been commissioned to undertake a Preliminary Ecological Appraisal for a proposed development at Penstrowed Quarry, Caersws, Powys, SY17 5SG (national grid reference SO067908). Gerald Longley has two decades of experience of wildlife surveying and, prior to working as an independent ecological consultant, held posts as Conservation Officer with Montgomeryshire Wildlife Trust and Head of Shrewsbury Countryside Unit.

Derek Whitcher has over twenty years' experience of surveying for wildlife and has run his own wildlife consultancy since 1998. He has extensive experience of a wide variety of survey techniques for a variety of species of protected wildlife supplemented by attendance on a wide range of training courses through CIEEM, FSC and BCT. As a member of CIEEM he is committed to continuous professional development, a continual process of learning and career development, a condition of CIEEM membership. He holds current Natural England, CCW and NRW survey licences for, bat, great crested newt and white clawed crayfish.

1.2 Background – This Survey

The applicant is seeking planning permission to construct holiday lodges and associated access and services. The request for this work comes from their and the planning team's need to ensure that any valuable habitats at the site and the needs of any wildlife using the site and the nearby relevant locality are fully taken into account in the proposed development. Possibly relevant wildlife such as amphibians, birds, bats, and badgers are protected species or species of principal importance for conservation (previously biodiversity action plan species). A full citation of the law with regard to relevant protected or action plan wildlife is given in Appendix 1.

1.3 Site location





1.4 Aims of this Ecological Impact Assessment

- To identify existing sites designated for their nature conservation interest in the survey area, or relevantly close to it, and assess any potential impact.
- To identify any existing records of important species recorded in or relevantly close to the survey area and assess any potential impact.
- To identify and map habitat types and species in the survey area.
- To evaluate the nature conservation importance of recorded species and habitats.
- To identify possible ecological constraints on the proposed development and management of the survey area.
- To evaluate the overall impact of the development on the ecology of the site.

1.5 PEA Report Summary

Penstrowed Quarry, Caersws, Powys, SY17 5SG Proposed change of use and construction of holiday lodges Preliminary Ecological Appraisal

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Site surveys were initially undertaken by Gerald Longley on 15 December 2020. The site consisted of a quarry, and associated access roads, yards, buildings and steeply sloping banks with a mainly south to south-easterly aspect in a rural part of mid-Wales.

A 2km buffer desk study for sites and wildlife records was carried out. The main relevant findings were:

- Penstrowed Quarry Geological SSSI is within the site. Gweunydd Penstrowed SSSI immediately adjacent to south of the site.
- Pond approx 166m southwest. Nearest great crested newt record approx. 5km northeast.
- No recent reptile records in buffer.
- Common and soprano pipistrelles, brown long-eared, noctule and lesser horseshoe bats recorded within 2km.
- Otter recorded approx. 0.5km north. No records for water vole in buffer.
- Dormice recorded approx. 2km southwest (1990) and 2.25km southeast (1969-1997). More recent records in connection with construction of Newtown bypass, approx. 2-4km east.
- Pearl bordered and small pearl bordered fritillary recorded at Gweunydd Penstrowed adjacent.
- Birds, there were no records for the site, notably no cliff nesting birds.

No records of protected species, sites (the Quarry SSSI is geological only) or habitats were found for the site.

The site was principally an active workplace with aggregate recycling activities with many large buildings and sheds with much of the land surface being bare ground with stoned yards, roads, or fresh tipped soil or stone. Only tiny areas over much of the site was scrub on slopes by roads.

There was an area of a mosaic of dense bracken with patches of bramble and gorse scrub and scattered broad-leaved trees on south and south eastern slopes. Other habitats there were broad-leaved woodland, hedgerows. These were excellent potential breeding habitat for summer migrant warblers such as whitethroat, blackcap and the amber listed willow warbler as well as a range of more common bird species.

The separate strip of land adjacent to the site entrance road from the A483 was rank grassland, with intact native hedgerow to one side.

Nearby records for adult pearl bordered and small pearl bordered fritillary butterflies and the presence of their caterpillars' main larval food plant, violet, on the site itself on the southern slopes made it a potential breeding site for these UK priority species. There was also potential for foraging, basking and refuge habitat for reptiles and amphibians here too. Hedgerows on the south east boundaries of the site were well-established, intact native species hedgerows with few gaps, and some mature hedgerow trees.

The quarry had open cliff faces and appeared suitable for cliff nesting species such as peregrine falcon or kestrel. No nests or signs of roosting for these or other species could be found.

(continued)

(continued) Report summary

The majority of the site had no habitat to speak of at all. Buildings were almost entirely steel portal, steel clad and roofed with no potential for bat roosting at all. Common birds such as robin or blackbird could possibly nest in them. No old nests could be found in the survey.

Only three buildings (reception/offices) which were also portakabin type buildings but which had been clad in timber provided some possible habitat for possible bat roosting under the cladding. There was also potential for bats to feed around and over the quarry with much good habitat nearby.

An oak tree with split branches on the south edge of the site offered potential roosting habitat for bats and the site itself provided good foraging habitat well linked to more good foraging habitat in the surrounding area.

Although no signs of dormice were found during the survey, the southern and south eastern slopes contained potentially good feeding and breeding habitat for them, in the hazel woodland there.

See in particular section 4.3 and Table 1 in the report where the effects on Ecological Receptors are considered.

Provided all works and holiday park site are kept to the main work area of the former quarry, roads, yards, building areas and not any of the south and south east slopes the risk of ecological damage appears low (i.e. not on areas marked A.1.1.1 or C.1 on Phase 1 survey map Appendix 7.2). There were two potential ecological constraints in the quarry area itself: firstly the need for bat surveys of the office/reception buildings (3) and establish the extent to which bats foraged over the whole quarry site by survey. The second was the presence of three small areas of broadleaved semi-natural woodland in the quarry area - two by the office and one nearby, above the first quarry track to higher levels. These areas need protecting from works and permanently.

It is recommended that:

1. Since there is suitable habitat for: reptiles, potential habitat for dormice potential suitable breeding habitat for pearl bordered and small pearl bordered fritillary butterflies suitable breeding habitat for a range of birds on the south and south east slopes NO development, tipping of soil or any other works takes place in or at these areas and they are suitable marked on plans and protected. It would also form a buffer area between the holiday park and the Gweunydd Penstrowed SSSI meadows to the south. These areas are defined and marked on the Phase 1 survey marked as A.1.1.1 and C.1 at Appendix 7.2.
2. Hedgerows on the site boundaries below the woodland on the south eastern slopes and along the access road near the A483 are retained and protected during development works and into perpetuity. If road widening (at the latter area) and new access works take place the hedge will be translocated back and re-planted and not just felled and replanted, using the method outlined in a Biodiversity Enhancement Plan to be produced.

(continued)

(continued) Report summary

3. Carry out a bat survey on the office/reception buildings (3) and transect and passive bat surveys across the quarry site in the active period for bats. Further mitigation works may lead from the results of this.
4. Protect during works and into perpetuity the three areas of broadleaved semi-natural woodland (A.1.1.1) within the quarry area itself. See Phase 1 survey areas marked as A.1.1.1 at Appendix 7.2.
5. All works on site take into account the “Ecological principles to follow in this development” set out in appendix 7.3.
6. Any buildings to be demolished or heavily altered are worked on in the dormant period ONLY - November to February inclusive to protect any nesting birds inside/on them.
7. Carry put a range of biodiversity enhancement works around the site to be separately detailed in a Biodiversity Enhancement Plan to be drawn up once full details of the holiday park are known including: bird boxes, bat boxes, future management of the pond/lake proposed on the site and the southern bracken slopes, the sowing and management of new wildflower grassland areas etc.

2.0 METHODOLOGY

2.1 Desk Study

The 1:25000 Ordnance Survey map covering the site, and aerial photos accessed from the internet, were scrutinised to initially assess the wildlife value of the proposed development site and surrounding habitat at a crude level. This looked for any semi-natural habitat that may be of value to wildlife, for example ponds, hedges, parkland, wetland, and woodland with interconnecting habitat links. Searches were made for statutory designated sites coincident with or adjacent to the area of search and existing records of species within a 2km radius of the site, including protected species or species or habitats of principal importance for conservation, and sites of national and local nature conservation importance.

2.2 Site Surveys

The site surveys were undertaken by Gerald Longley 15 December 2020.

The following site surveys were undertaken:

- An 'extended' Phase 1 habitat survey, as per JNCC (2010) of the site.
- An ecological tree and hedgerow assessment. Any large and mature trees were assessed for the presence of large bird nests and their suitability for bat roosting. The assessment of hedgerows used the ecological evaluation contained in the Hedgerows Regulations 1997.
- An assessment of the site as potential habitat for reptiles and amphibians and a search for reptiles and amphibians under bricks, logs etc.
- Incidental records of amphibians, reptiles, mammals, birds and other species were made during the survey.

3.0 RESULTS

3.1. Desk Study

A 2km buffer desk study for sites and wildlife records revealed that the boundary of Penstrowed Quarry Geological SSSI, designated for its wide range of sedimentary rock features, was wholly contained within the development site. A second SSSI, a biological one, Gweunydd Penstrowed SSSI, designated for its unimproved neutral and acidic grasslands and population of the declining lesser butterfly orchid, was immediately adjacent to the south of the site. See appendix 7.2 Extended Phase 1 Survey map with the SSSIs white outlined in green.

A single pond was found within 500m of the site on some maps. It was in woodland, approximately 166m southwest of the site. No great crested newt records were found in the buffer. The nearest records found were approximately 5km northeast of the site (1999).

No recent reptile records were found in the 2km buffer. Old (1960s) records for grass snake and slow worm were found approximately 2km southeast of the site.

Common and soprano pipistrelles, brown long-eared, noctule and lesser horseshoe bats have all been recorded within 2km of the site.

Records for otter were found approximately 0.5km north of the site on the A489 (2015) and on a tributary of the River Severn (1997).

No records for water vole were found in the buffer.

Records for dormice were found approximately 2km southwest (1990), 2.25km southeast (1969-1997) and 3.5km south (1998) of the site. It is known that more recent records of dormice in the area have been made in connection with the construction of the Newtown bypass, approximately 2-4km east of the site.

No badger records were found in the 2km buffer.

Both pearl bordered fritillary and small pearl bordered fritillary have been recorded at Gweunydd Penstrowed SSSI (1999 and 1996 respectively). Both butterflies are Section 42 species of principal importance under the NERC Act in Wales (now Section 7 species under the Environment (Wales) Act 2016) and UK Priority Species.

There were no bird records for the site, notably no cliff nesting birds. Bird species that have been recorded at Gweunydd Penstrowed SSSI (1996) (immediately adjacent) include blackcap, wood warbler and nuthatch. Willow warbler, common whitethroat and yellowhammer along with a range of common species have been recorded within 1km of the site (1997).

No records of protected species, biological sites or habitats were found for the proposed site itself.

It should be noted that the lack of records for a particular species in a particular location does not confirm that the species is absent.

3.2 Site Surveys

15 December 2020 was a sunny clear day. Access was given to all areas of the site. See appendix 7.2 for a Phase 1 survey map.

The site consisted of Penstrowed Quarry a busy work site recycling aggregates with stone piles, soil, yards, roads, working areas and many buildings all in a rural part of mid-Wales between the settlements of Caersws and Newtown. It was in the former active shale quarry. There were also non-quarry parts with original vegetation on steeply sloping banks with a south to south-easterly aspect on the southern edge of the site. To the east and south the site was bordered by pasture fields, including the Gweunydd Penstrowed SSSI fields, with hedgerows and patches of un-grazed woodland and scrub and a small council lane. To the west was an area of dense bracken with trees and scrub developing, a continuation of the habitats on the site, with pasture fields beyond.

Habitats

Quarry (phase 1 habitat code I2.1 and Bare ground J4)

The site was principally an active workplace with aggregate recycling activities with the vast majority of the site being the levels of the quarry with bare soil/stone and its cliff faces. All of these areas were worked to the boundary with a only two three areas of broadleaved semi-natural woodland near the reception buildings.

Buildings and yard (J3.6)

Many large buildings and sheds with much of the land surface around them being stoned yard, access roads.

Broad-leaved, plantation woodland (A1.1.2)

This was the planted bank above the main access road to the eastern edge of quarry and included a range of broadleaved species planted about 15 years before.

Broad-leaved, semi-natural woodland (A1.1.1)

The south east part of the lower slopes had developed into woodland dominated by hazel with less frequent silver birch, oak, holly and goat willow. The ground layer was mainly of leaf litter, moss, ivy and patches of bramble. Seedlings of other spring flora were beginning to emerge including bluebell, violet, lesser celandine, wild arum, cleavers and dog's mercury, particularly along the less shaded woodland edge. There were also three other small areas of this habitat beside the main reception/office buildings and on a bank above the base of the main quarry track accessing higher levels.

Continuous bracken (C1)

The whole of the southern slopes, apart from the area of broad-leaved woodland at the south eastern end, was covered by continuous bracken with a thick litter layer of dead bracken and leaves. Seedlings of honeysuckle, bluebell, cleavers, violet and wood sage were recorded under the litter. This had areas of the following three habitats within it

Scattered scrub (A2.2)

Patches of bramble and gorse scrub were developing across the whole of the southern slopes.

Scattered broad-leaved trees (A3.1)

Oak, hazel, holly, silver birch, hawthorn and sycamore had self-seeded across the whole of the site. Trees were mainly young with some larger, more mature silver birch and oak.

Standing open water (G1)

There was a tiny area of standing water around a well capped with concrete (a water supply?) on the southern slopes in the bracken/scrub. The water was shaded by surrounding trees and scrub. No aquatic plants or frog spawn were recorded in the water.

Intact, native species hedgerows (J2.1)

The southeast boundary of the site was a native species hedge dominated by hazel with occasional hawthorn and holly. The hedge was trimmed to a height of approximately 1.5m. There was also this hedge habitat along the south side of the entrance council road from the A483.

As part of the assessment of the hedgerows, a count of the number of woody species in representative 30m sections was undertaken. A count of 7 woody species per 30m classifies hedges as "important" under the Hedgerows Regulations 1997. Other relevant features are also taken into account, including being beside a footpath, containing at least one tree per 50m, having a bank, ditch or wall associated with the hedge, having a parallel hedge within 1.5m or connections with other hedgerows. The hedgerows around the site and along the lane did not meet sufficient criteria to be classified as 'important' under the Regulations. Storage containers (phase 1 habitat code J3.6) and tracks.

A stoned track, (also the line of the public footpath) ran along the north edge of the southern slopes area.

Poor/semi-improved grassland (B6)

There was a small area of this, a rank, overgrown grassland, along the entrance road from the A483 fenced out from the adjacent field.

Amphibians

There were no actual ponds on the site; just the small wet area around the capped well described above. There were some potential refuge sites for amphibians, including great crested newts, among roots of trees, under rocks and stones and in piles of logs, particularly those in the shaded woodland area. There was potential foraging habitat in the bracken, scrub and woodland vegetation of the site. No amphibians were found during the survey.

Under government planning guidelines for assessing developments for possible effects on great crested newts, any pond within 500m should be investigated. One pond was found on some maps in the desk study, approximately 166m southwest of the site. It was not possible to see from the nearest road or public footpath if the pond existed and no further assessment was made or is considered necessary.

Reptiles

No reptiles were found during the survey. The southern slopes, especially the highest parts contained good habitat for reptiles with bare ground for basking, scrub and bracken for foraging and possible refuge sites in piles of logs and stones, and in cracks in the ground in parts of the site where the substrate was old quarry waste.

Bats

A mature oak on the south edge of the southern slopes had cracks and splits from a number of failed limbs that were potential roosting sites for bats. The bracken, scrub and woodland offered foraging habitat for bats on the site linked to similar habitat adjacent to the site and in the surrounding area. No bats or signs of bats were found during the survey.

The buildings were almost entirely steel portal, steel clad and roofed with no potential for bat roosting at all. Only three buildings (reception/offices) which were also portakabin type buildings but which had been clad in timber provided some possible habitat for possible bat roosting under the cladding. There was potential for bats to feed around and over the quarry with much good habitat nearby.

Otter and water vole

No signs of otter or water vole were found during the survey. Habitats on the site were not suitable for them.

Dormouse

The south eastern slopes and its surroundings in nearby woodland contained good habitat for dormice with hazel dominated hedgerows and frequent, un-cut, hazel across the main part of the site. An area of un-grazed, dense scrub immediately south of the site (across the council lane) was also good dormouse habitat. A search was made under some of the hazel trees across the site. Many opened nuts were found. Inspection of a selection with a hand lens found them to have been opened by squirrels or wood mice and voles.

Badger

A clear track along the west boundary fence of the site and other tracks across the site were wide enough to have been made by badgers. No setts were found, only small holes most likely to have been dug by rabbits.

Birds

No large nests were recorded in the trees on the site. The site had good habitat for small birds that favour patchy scrub, particularly migrant warblers such as black cap, willow warbler and whitethroat. The quarry had open cliff faces and appeared suitable for cliff nesting species such as peregrine falcon or kestrel. No nests or signs of roosting for these or other species could be found. Common birds such as robin or blackbird could possibly nest in the many open fronted steel buildings on site but no old nests could be found.

Insects

A search was made in a number of places beneath the bracken litter for violet seedlings, the main larval food plant of both pearl bordered and small pearl bordered fritillary butterflies which had been recorded in the SSSI immediately south of the site. A small number of seedlings were found, although mainly on the edge of the more wooded east part of the south east slopes.

Invasive species

No invasive species, as defined by the Wildlife and Countryside Act 1981 (amended), were recorded on the site.

3.3. Species Specific Survey Results.

A bat survey, based on the Bat Conservation Trust Guidelines (BCT2016) was carried out by GLEC Ltd at the office/reception and in the wider quarry. The survey of the offices consisted of a thorough daytime inspection survey followed by one evening and two pre-dawn bat activity surveys between 17th May and 6th July 2021. The survey of the wider quarry consisted of a passive automatic bat survey between 17th May and 2nd June 2021.

At the offices, no bats were recorded entering or emerging from the building. Common Pipistrelle and Soprano Pipistrelle bats were recorded foraging near the buildings, showing that bats were active, but not using the building.

Five species of bat were recorded in the wider quarry, Common Pipistrelle, Soprano Pipistrelle, Brown long-eared bats, Noctules and Lesser Horseshoes. Further details are provided in the bat survey report.

4.0 DISCUSSION AND INTERPRETATION

4.1 Appraisal - development plans & ecology baseline

The proposal is to construct holiday lodges and associated infrastructure and access on the quarry site. Access for visitors to the site once it is developed would be along the council road from the A483 and then the existing tarmac quarry access road.

4.2 Constraints of this survey

As with all wildlife surveys conducted, the data collected is only a representation of the habitats, species and species presence evidence found during the actual date/s of the survey/s. There are other seasons and many species are mobile or transitory. The date of the survey was outside the ideal time to conduct preliminary, extended Phase 1 appraisals: May to September, when many more species are active and non-woody plants are clearly more evident. However, seedlings of relevant plants such as violets were starting to be visible and given the small range of habitats at the site it was not considered that the timing of the survey significantly affected the results or recommendations.

5.0 ASSESSMENT OF IMPACTS, MITIGATION AND RESIDUAL EFFECTS

Ecological receptors are habitats or species which may show some change in population levels at a site in response to the implementation of the desired change or development. Change/s may be neutral, minor, negligible, negative or strongly negative. They can also be positive. They can change through time. Are habitats/species effected during works or post works with the new land management arising from the works or both? Ecological receptors and any predicted impacts are summarised below in Table 1.

5.1. Designated Sites.

5.1.1. Assessment.

5.1.1.1. The boundary of Penstrowed Quarry Geological SSSI, designated for its wide range of sedimentary rock features, was wholly contained within the development site. Its interest cannot be damaged by the proposed works provided the cliff faces are left exposed as agreed already between the applicant (site owner) and NRW.

5.1.1.2. The second SSSI, a biological one, Gweunydd Penstrowed SSSI, designated for its unimproved neutral and acidic grasslands and population of the declining lesser butterfly orchid, was immediately adjacent to the south of the site. (See appendix 7.2 Extended Phase 1 Survey map with the SSSIs white outlined in green.) This could be harmed by works if they were close by with dust and possibly water leaching to it. It could also be harmed by increased human pressures.

5.1.2. Mitigation.

5.1.2.1. A post and rail fence will be erected along the top and the bottom of the quarry face of Penstrowed Quarry Geological SSSI, to deter human access to the SSSI features. This will be supplemented by two display boards outlining the features of interest within the SSSI and need to protect them.

5.1.2.2. Two display boards will be erected, one at either end of the path across the Gweunydd Penstrowed SSSI. Explaining the important features of the SSSI and emphasising the need to keep to the recognised pathway and to keep dogs on a lead.

5.1.3. Residual Effects.

By installing the above mitigation measures, monitored and enforced by site staff, there will be **No Negative Impact** on the important SSSI features.

5.2. Habitats.

5.2.1. Woodland

5.2.1.1. Assessment.

The small area of hazel-dominated broad-leaved woodland on the south-east slopes was largely of ecological value for its potential as dormouse habitat a possible breeding site for violet feeding butterflies and its breeding birds.

5.2.1.2. Mitigation.

This habitat will be retained.

5.2.1.3. Residual Effects.

By retaining the habitat, there will be **No Negative Impact** on that habitat.

5.2.2. Bracken with scattered scrub and trees

5.2.2.1. Assessment.

The mosaic of dense bracken with patches of scrub and scattered broad-leaved trees was excellent breeding habitat for summer migrant warblers including whitethroat, blackcap and the amber listed willow warbler (see 'birds' below). Its varied structure also provided good foraging and basking habitat and shelter for reptiles (see 'reptiles' below). The presence of violet seedlings and nearby records for adult pearl bordered and small pearl bordered fritillary butterflies made the habitat potentially valuable as a breeding site for these UK priority species (see butterflies section below).

5.2.2.2. Mitigation.

This habitat will be retained.

5.2.2.3. Residual Effects.

By retaining the habitat, there will be **No Negative Impact** on that habitat.

5.2.3. Hedgerows.

5.2.3.1. Assessment.

Although the hedgerows on the boundaries of the site and along the access lane did not meet the ecological criteria to be classified as 'important' hedges under the Hedgerows Regulations 1997, they were well-established, native species hedgerows with few gaps, and some mature hedgerow trees and their loss would be negative. Hedgerows are important to a wide variety of species as refuges, breeding and feeding sites and as links between habitats and are included in the Powys LBAP Linear Habitats Action Plan which seeks to prevent further loss of hedgerows in the county and promote traditional, ecologically beneficial, hedge management.

5.2.3.2. Mitigation.

The hedgerows will be retained.

5.2.2.3. Residual Effects.

By retaining the hedgerows, there will be **No Negative Impact** on that habitat.

5.2.4. Habitats Overall.

5.2.4.1. Assessment.

There are attractive and valuable habitats present on the site for both their value to wildlife and their amenity value. The proposed development will not impact on those habitats but will be confined to the old quarry working areas. There will therefore be no reduction in Biodiversity value.

5.2.4.2. Mitigation.

There will be extensive new native planting on the site in the form of grassland, trees and scrub. These will all provide additional habitat for wildlife and will ensure a substantial increase in the biodiversity value of the site.

5.2.4.3. Residual Effects.

There will be a **Significant Positive Residual Impact** on habitats.

5.3. Species.

5.3.1. Amphibians and Reptiles.

5.3.1.1. Assessment.

5.3.1.1.1. No common amphibians (frogs, toads, smooth and palmate newts) were found during the survey. There were possible refuge sites and foraging habitat in the damper parts of the south and south eastern slopes for amphibians and it would not have been surprising to find common frog spawn in the small area of water around the well with a survey in the Spring.

5.3.1.1.2. No great crested newts were found during the survey. There were potential refuge sites for great crested newts and foraging habitat in the scrub, bracken and woodland on the south and south eastern slopes which was linked to similar habitats in the surrounding area. Although it was not possible to confirm the existence of a pond found approximately 166m southwest in the desk study, it is considered that their possible passing over the active quarry area and its forthcoming works is highly unlikely with no nearby records and the only pond at that distance.

5.3.1.1.3. No reptiles were found during the survey. The upper parts of the southern slopes had good foraging, basking and refuge habitat for reptiles and, if they were present, individuals would be at risk of being injured or killed by the proposed works.

5.3.1.1.4. Widespread reptiles, such as grass snake, slow worm and common lizard are protected by law against intentional killing and, if they are present, mitigation must be provided by the use of fencing during active works to stop reptiles passing into the quarry and active work areas.

5.3.1.2. Mitigation.

5.3.1.2.1. Development personnel will be briefed with respect to the potential presence of amphibians and reptiles and will be provided with identification photographs to aid identification. Where any amphibian or reptile is found in the work areas, this will be reported to the site manager and works will cease at that location until the amphibian or reptile has been safely relocated out of harms way.

5.3.1.2.2. A record will be kept of all amphibians and reptiles found, when and where.

5.3.1.2.3. If a significant number of amphibians or reptiles (5+) are found, the advice of an ecologist will be sought.

5.3.1.3. Residual Effects.

By following the above mitigation measures, there will be **No Negative Impact** on Amphibians and Reptiles.

5.3.2. Bats.

5.3.2.1. Assessment.

5.3.2.1.1. No bat roosts have been identified in the buildings on the site.

5.3.2.1.2. Five species of bat have been found foraging across the site during a static detector survey using an Anabat SD1 detector.

5.3.2.1.3. Bat surveys across the quarry site indicated a good level of bat use by a range of species despite the relatively small amount of foraging habitat and complete lack of roosting habitat.

5.3.2.2. Mitigation.

5.3.2.2.1. Mature trees and hedgerows and the woodland on site are to be retained habitat.

5.3.2.2.2. Provision of a purpose designed Dedicated Bat Building (DBB) erected close to the proposed lake and the installation of bat boxes across the site will provide roosting places for bats where there are currently none. High levels of native plant landscaping to link the DBB to existing vegetation around the margins of the site will encourage bats to use the DBB and provide bat foraging habitat across the site.

5.3.2.3. Residual Effects.

By following the above mitigation measures, there will be **No Negative Impact** on roosting or foraging bats.

5.3.3. Birds.

5.3.3.1. Assessment.

Birds recorded on the adjacent Gweunydd Penstrowed SSSI included a number of red and amber listed species of conservation concern and the southern and south eastern slopes also provided excellent habitat for these along with summer migrant warblers and other more common species.

5.3.3.2. Mitigation.

5.3.3.2.1. These important habitats will be retained and enhanced by additional native species planting as outlined in the site landscaping plans.

5.3.3.2.2. Any localised vegetation clearance will be undertaken outside the nesting bird season, which extends from March to September. Any vegetation clearance necessary within the nesting season, will be preceded by a nesting bird survey, undertaken by a suitably experienced ecologist no more than three days prior to vegetation clearance commencing. Any active nests found, plus a buffer zone around the nest, will be retained undisturbed until the young have fledged.

5.3.3.3. Residual Effect.

By following the above mitigation measures, there will be **No Negative Impact** on nesting birds.

6.0 RECOMMENDATIONS

A range of biodiversity enhancement works will be undertaken around the site, as separately detailed in the Biodiversity Enhancement Plan including: bird boxes, bat boxes, future management of the pond/lake proposed on the site and the southern bracken slopes, the sowing and management of new wildflower grassland areas etc.

7.0 REFERENCES

1. The UK Biodiversity Action Plan. Joint Nature Conservancy Council. Peterborough, Belmont Press. ANON (2004 and later amended)
2. Powys Local Biodiversity Action Plan
<http://www.powys.gov.uk/en/countryside-outdoors/biodiversity-in-powys/local-biodiversity-action-plan/>
3. JNCC (2010) Handbook for Phase 1 Habitat Survey. A technique for environmental audit
4. Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal
5. Mitchell-Jones, AJ. (2004) Bat mitigation guidelines. English Nature
6. Collins, J (ed)(2016) Bat Surveys for Professional Ecologist. Good Practice Guidelines (3rd Edition) Bat Conservation Trust.
7. Bright, P, Morris, P and Mitchell-Jones, T (2006) The Dormouse Conservation Handbook (2nd ed) Natural England.
8. ARG (2010) ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom.
9. Cresswell, W and Whitworth, R (1994) An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt *Triturus cristatus*. English Nature Research Report 576.
10. Eaton M, Aebischer N, Brown A, Hearn R, Lock L, Musgrowve A, Noble D, Stroud D and Gregory R (2015) Birds of Conservation Concern 4: The population status of birds in the United Kingdom, Channel Islands and the Isle of Man. British Birds 108, 708-746.
11. Rose, F. (revised 2006) The Wildflower Key
12. UK Government Advice and Guidance on protected sites and species
<https://www.gov.uk/topic/planning-development/protected-sites-species>
13. Natural England (2011) Badgers and development - a guide to best practice and licensing. Interim guidance document.
14. DEFRA. The Hedgerows Regulations: Your questions answered
15. BS5837:2012 Trees in relation to design, demolition and construction: Recommendations

8.0 APPENDICES

8.1 Relevant species legislation

Birds - Legislation

Under Section 1 of the Wildlife and Countryside Act 1981 it is an offence to intentionally kill, injure, handle or remove any wild bird (with the exception of a few pest species); take or damage a nest whilst in use or being built; and take or destroy eggs. A person is not guilty of any offence if their action was the incidental result of a lawful activity and could not have been reasonably avoided.

A higher level of protection is afforded to those birds listed in Schedule 1 of the Act. It is an offence to disturb Schedule 1 species whilst it is building or sitting on a nest, in addition to damaging or destroying their nests or eggs.

It is not an offence to disturb non-Schedule 1 species whilst they are building a nest or sitting on it. However, an offence may be committed if the bird is driven away from a nest by prolonged disturbance which results in the failure of eggs or death of dependent young.

In essence, the relevance of this is that any tree, hedge or similar that could have birds nesting in it can only be removed in the period October to February (inclusive) unless subject to additional onsite survey immediately prior to its intended removal by a suitably qualified ecologist.

Amphibians and Reptiles - Legislation

All native amphibian and reptile species are protected in England and Wales by specific laws to varying degrees. Amphibians and reptiles fall into three groupings with differing levels of protection:

- Widespread amphibians
- Widespread reptiles
- European protected species

Widespread Amphibians

The palmate newt, smooth newt, common frog and common toad are listed on Schedule 5 of the Wildlife and Countryside Act 1981, but are protected by Section 9(5) only. This refers to trade in animals (prohibition of sale and advertising for sale, etc.). Hence these species are not legally protected from killing, injury or development, although other considerations may be taken into account (e.g. existing site designations, planning guidance and Biodiversity Action Planning).

Widespread Reptiles

Four reptile species, slow-worm, viviparous (or common) lizard, grass snake and adder have additional protection under the Wildlife and Countryside Act 1981. Their inclusion on Schedule 5 gives 'partial protection' via Section 9(1) from intentional killing & injuring.

Section 10(3) c of the Wildlife and Countryside Act 1981 offers a defence in situations where killing and injury are an incidental result a lawful action and could not reasonably have been avoided. Interpretation can be difficult, but courts have taken the view that activities, such as development, that lead to injuring or killing reptiles, can constitute an intentional act if insufficient care to avoid harm was taken.

European Protected Species

These are strictly protected species, great crested newt, natter jack toad, sand lizard and smooth snake, which are protected by a combination of both the Wildlife and Countryside Act 1981 (Schedule 5 - full protection) and the Conservation of Habitats and Species Regulations 2010 (listed on Schedule 2). The latter are domestic implementation of the European Commission's "Habitats Directive" 1992, hence the term.

Protection of these "European protected species" differs from that of the widespread reptiles in that not only are they protected from killing and injury, but also from disturbance and capture. Additionally, the habitat of European protected species is legally protected, from damage or destruction. The development of a site where European protected species occur can therefore go ahead only if licensed by Natural England/Natural Resources Wales.

Note that the natter jack toad, sand lizard and smooth snake are rare species, occurring in a few specific locations, so they only infrequently coincide with building development issues. In contrast, the great crested newt has a large range in England and is hence more likely to occur in areas subject to building development. The great crested newt's strict protection stems from a decline throughout its European range – England is a stronghold area for the species.

Bats – Legislation

All British bat species receive legal protection in the United Kingdom. The Wildlife and Countryside Act 1981 (WCA) (as amended) transposes into UK law the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). The 1981 Act was amended by the Countryside and Rights of Way (CROW) Act 2000 and the more recent Conservation of Habitats and Species Regulations 2010. All British bat species are listed under Schedule 5 of the 1981 Act, and is therefore subject to the provisions of Section 9, which makes it an offence to:

- Intentionally kill, injure or take a bat [Section 9(1)];
- Possess or control any live or dead specimen or anything derived from a bat [Section 9(2)]
- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection [Section 9(4)(b)];
- Intentionally or recklessly obstruct access to any structure or place which a bat uses for shelter or protection [Section 9(4)(c)]
- Sell, offer for sale, possess or transport for the purpose of sale or publish advertisements to buy or sell a bat [section 9(5)]

Bats are also included on Annex IV of Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (known as the Habitats Directive). As a result of the UK ratifying this directive, all British bats are protected under The Conservation of Habitats and Species Regulations 2010. Regulation 39 makes it an offence to:

- Deliberately capture or kill a bat [Regulation 39(1)(a)];
- Deliberately disturb a bat in such a way as to be likely to significantly affect i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young, OR ii) the local distribution of that species. [Regulation 39(1)(b)];
- Damage or destroy a breeding site or resting place of a bat [Regulation 39(1)(d)].

Under the law, a roost may be any structure or place used for resting, shelter or protection. This could be any structure, for example any building or mature tree. Bats use many roost sites and feeding areas throughout the year. These vary according to bat age, condition, gender and species, as well as season and weather. Since bats

tend to re-use the same roosts for generations, the roost may be protected whether the bats are present or not.

Badger – Legislation

The Protection of Badgers Act 1992 is based primarily on the need to protect badgers from baiting and deliberate harm or injury. It also contains restrictions that apply more widely and all the following are criminal offences:

- to wilfully kill, injure, take, possess or cruelly ill-treat a badger;
- to attempt to do so; or
- to intentionally or recklessly interfere with a sett. Sett interference includes damaging or destroying a sett, obstructing access to a sett, and disturbing a badger whilst it is occupying a sett. It is not illegal, and therefore a licence is not required, to carry out disturbing activities in the vicinity of a sett if no badger is disturbed and the sett is not damaged or obstructed.
- to deliberately introduce a dog into a sett
- to bait or dog for badgers
- to possess, sell or offer for sale a live badger
- to possess or control a dead badger or parts of a badger (if unlawfully obtained)
- to mark or attach a device to a badger

Target notes

See phase 1 habitat map for locations

1	Woodland dominated by hazel. Good habitat for dormice.
2	Violet seedlings. Larval food plant of pearl bordered and small pearl bordered fritillary butterflies recorded in adjacent fields.
3	Potential reptile basking area – bare ground on south facing slopes.
4	Oak tree with cracked and split limbs. Possible bat roosting site
5	Small area of standing water around capped well. No wetland plants or frog spawn recorded.

10 Ecological principles to follow in this development

By adhering to the following principles, the disturbance, either short-term or long term to species should be significantly reduced. However, it is still possible that during works, protected or other, not protected but vulnerable, species could be encountered. A prepared plan of action in this situation should be followed and should include:

- Construction workers and staff should be aware of the potential for protected species and should be fully briefed about their legal responsibilities towards them and how to proceed if discovered, as below.
- In the event that protected species are encountered during the construction phase then a suitably qualified ecologist should be contacted and all work cease until an assessment has been made.
- If common reptiles/amphibians (e.g. common frogs, common toads, slow worm, grass snake) are discovered they should be translocated to a close and safe area by an ecologist.
- If great crested newts are discovered then Natural England (NE) or a suitably qualified ecologist should be contacted for advice. Works should cease and an EPS licence may be required to allow work to continue.
- If active nests of common breeding birds are discovered during the works a suitably qualified ecologist must be contacted for advice, with probably a 25 metre stand-off/exclusion zone put in place (further for some species) until breeding has ended/birds fledged.
- All works to cut, prune or fell trees, hedges etc. and other vegetation should be carried out in the dormant season, October to February. If vegetation/tree work must be carried out in the bird breeding season, a comprehensive assessment of the area must be made by a suitably qualified ecologist immediately prior to the works, to ensure active nests are not present or disturbed.
- All final developed landscaped site and internal boundary structures (fences/walls etc.) should be designed and constructed so that they do not seal to the ground continuously and stop the movement and dispersal of wildlife, notably hedgehogs. Boundaries should have 130mm by 130mm square holes at ground level at least every 10m running length or should not seal to the ground at all between posts and have a 130mm gap from fence base to ground.
- A post-construction ecological survey is recommended to assess any potential effects or issues the development has had or is having.

11.0 SITE PICTURES





Office/reception (3 buildings) with wood cladding of potential for bat roosting
Semi-natural woodland behind

www.geraldlongley.co.uk



native hedge beside entrance council road off A483

www.geraldlongley.co.uk







