Whitcher Wildlife Ltd.
Ecological Consultants.

KNOWLES QUARRY.

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PRELIMINARY ECOLOGICAL APPRAISAL.

Ref No: **200131/Rev 1.**

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1. INTRODUCTION.

1.1. It is proposed that plans are to be submitted for planning permission to build a residential development in a Knowles Quarry, Cudworth.

1.2. Whitcher Wildlife Ltd has therefore been commissioned to carry out a Preliminary Ecological Appraisal of the site to establish whether there are any issues that may affect the proposed works. This survey was carried out on 13th January 2020.

1.3. The PEA identified bat roost potential in the cliff face and further bat surveys were recommended. A bat dusk emergence survey was carried out on 20th August 2020 and a second bat dusk emergence survey was carried out on 10th September 2020. This report outlines the findings of all surveys and makes appropriate recommendations.

1.4. Appendices I to IV of this report provide additional information on specific species and are designed to assist the reader in understanding the contents of this report.

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2. SURVEY METHODOLOGY.

2.1. Prior to visiting the site, the survey area was cross referenced to maps and aerial photographs to give a general idea of the habitats and potential issues within the area and to identify potential access and walking routes.

2.2. The survey area was walked where access was agreed and public rights of way were used where no access was agreed. All habitats within and immediately around the survey area were documented and the dominant species within that habitat listed in line with the JNCC Handbook for Phase 1 Habitat surveys.

2.3. The survey area and immediate surrounding area was thoroughly searched for evidence of badger (*Meles meles*) activity by looking for the following signs in line with Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*. Mammal Society: -

* Badger setts.
* Badger latrines or dung pits.
* Badger snuffle holes and evidence of foraging.
* Badger paths.
* Badger prints in areas of soft mud.
* Badger hairs caught on fencing.

2.4. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 100m in each direction were thoroughly searched for evidence of water vole (*Arvicola amphibius*) activity by looking for the following signs, in line with Dean M, Strachen R, Gow D and Andres R (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series).* Eds Fiona Mathews and Paul Chanin. The mammal Society, London: -
(2011). *Water Vole Handbook: Third Edition*: -

* Water vole burrows.
* Water vole faeces and latrines.
* Water vole feeding stations.
* Water vole runs.
* Water vole prints in areas of soft mud.
* Water vole lawns.
* Predator field signs.

2.5. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of otter (*Lutra lutra*) activity by looking for the following signs in line with the P Chanin (2003). *Monitoring the Otter* and *Conserving Natura 2000 Rivers: Monitoring Series No10 Guidelines: -*

* Otter prints in soft mud.
* Otter spraints.
* Otter Holts.

2.6. The survey area was searched for watercourses and waterbodies. Where found, and where safe to enter the water, all were thoroughly searched for the presence of crayfish, for approximately 50m in each direction of the site, by searching under rocks and logs. Where stated, crayfish traps were also deployed into the watercourse. All survey work was carried out in accordance with the *Conserving Natural 2000 Rivers Monitoring Series No 1, Protocol for Monitoring the White Clawed Crayfish*.

2.7. The survey area was searched for trees and structures and where found these were checked for potential bat roosting sites in line with Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)* by looking for the following signs: -

* Holes, cracks or crevices.
* Bat Droppings.

2.7.1. The subsequent dusk emergence survey was also conducted in accordance with Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition).* It was conducted by a sufficient number of surveyors to cover all areas of roosting potential, in suitable weather conditions from fifteen minutes before sunset to at least an hour and half after.

2.7.2. All surveyors were equipped with Batbox Duet bat detectors, or similar. The use of static recording devices such as Anabat SD2's and video cameras with infrared lights were also utilised were appropriate.

2.8. The land immediately adjacent to the survey area was assessed for bat roosting potential and bat foraging potential. Connective routes and flight lines were also assessed whilst on site and using maps of the area.

2.9. The area within 500m of the survey site was cross referenced to maps to highlight all ponds close to the site. Where possible, all ponds identified were accessed using agreed access or public rights of way to assess the potential for great crested newts (*Triturus cristatus*) to be present.

2.10. The survey area was assessed for the potential for reptiles and suitable reptile habitats. Where applicable the area was also searched for the presence of reptiles.

2.11. Where appropriate, the habitat within and surrounding the survey area was searched for species such as hazel, oak, honeysuckle, bramble and other species which may provide potential habitat for hazel dormice (*Muscardinus avellanarius*). Field signs such as feeding remains and nests were also searched for where possible, in line with P Bright, P Morris and T Mitchell-Jones *The Dormouse Conservation Handbook 2nd Edition*.

2.12. Where appropriate, the area within and surrounding the survey area was assessed for its potential to house habitat for red squirrels. Field signs of red squirrels were searched for at least every 50m, looking for any dreys, feeding signs or sightings of red squirrels.

2.13. The survey area was searched for all alien invasive plant species as listed on Schedule 9 of the Wildlife and Countryside Act 1981. The location of all plants identified were recorded and listed within the survey report along with appropriate recommendations to avoid causing the plants to spread in the wild. All species were searched for, but the main species generally found under this category are Japanese knotweed, Giant hogweed, Himalayan balsam, Cotoneaster, Rhododendron and Japanese Rose.

2.14. All surveys were carried out in line with the Chartered Institute of Ecological and Environmental Management (CIEEM) survey standards and advice.

2.15. The initial survey was carried out by James Campbell MCIEEM. Since 2003 James has had experience in a professional capacity as a Wildlife Consultant carrying out Ecology Surveys and Phase 1 Habitat surveys and is a full member of CIEEM. James holds licences with several licensing bodies including: -

- Natural England Survey Licences in respect of bats, great crested newts, white clawed crayfish and barn owls.
- Scottish Natural Heritage Licences in respect of bats and great crested newts.

- Countryside Council for Wales Licences in respect of bats and great crested newts.

He has also successfully completed numerous courses run by CIEEM, BCT and FSC regarding protected species and in carrying out Phase 1 Habitat surveys. He is also confined spaces trained and qualified to NVQ Level 2 in tree climbing and aerial rescue.

The dusk emergence surveys were carried out by teams of Whitcher Wildlife Ltd surveyors lead by Jenny Whitcher Roebuck MCIEEM. Since 2001 Jenny has had experience in a professional capacity as a Wildlife Consultant carrying out Ecology Surveys and Phase 1 Habitat surveys. Jenny holds Natural England Survey Licences in respect of bats, great crested newts, crayfish and barn owls, NRW and SNH Survey Licences in respect of bats and great crested newts. She has also successfully completed a number of courses run by the Chartered Institute of Ecology and Environmental Management (CIEEM), the Bat Conservation Trust (BCT) and the Field Studies Council (FSC) in the relative protected species, plant species and in carrying out Phase 1 Habitat Surveys. As a full member of CIEEM she is committed to continuous professional development, a continual process of learning and career development, a condition of CIEEM membership.

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3. SURVEY RESULTS.

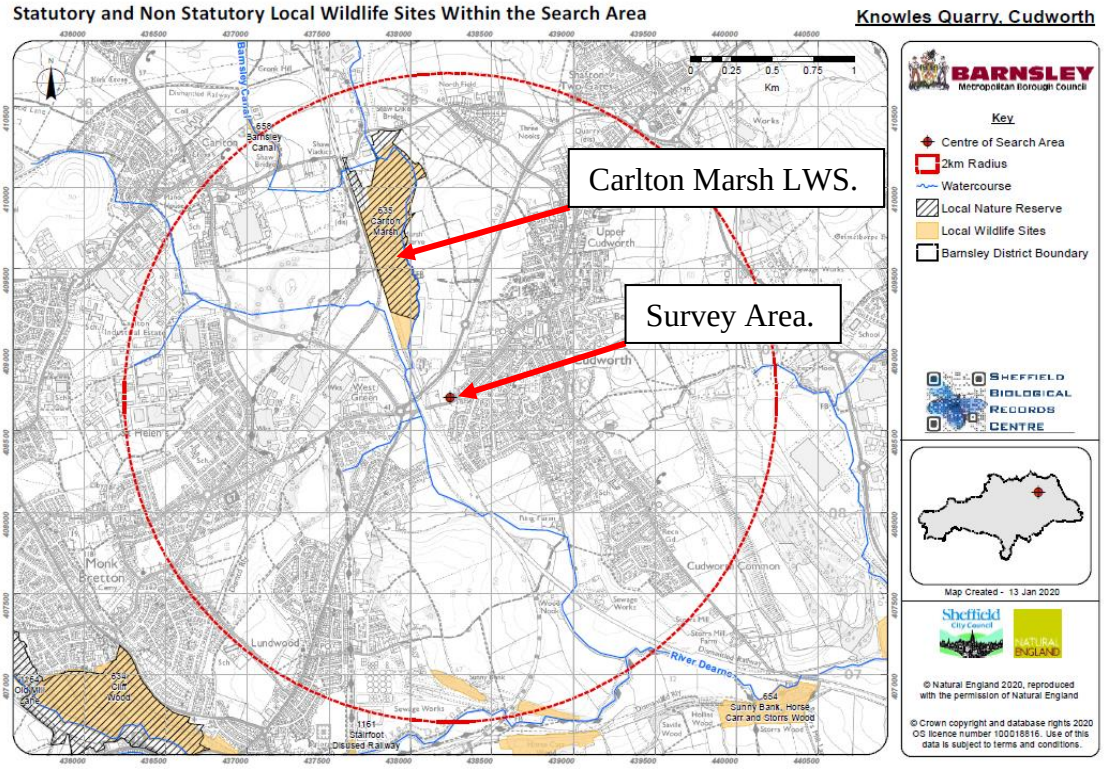
3.1. Data Search Results.

3.1.1. A data search was submitted to South Yorkshire Bat Group and Barnsley Biological Record Centre. The results of the data search are shown below:-

3.1.1.1. South Yorkshire Bat Group returned numerous records of bat within the surrounding area. However, the nearest bat record was a grounded Pipistrelle bat, 500m to the east of the survey area. The nearest roost was three Pipistrelle bats roosting in a building located 781m to the north of the survey area. The proposed works will not have an impact these or any other of the bat records.

3.1.1.2. Barnsley Biological Record Centre returned records of Carlton Marsh Local Nature Reserve, which was identified approximately 520m to the north of the survey area. The data search also returned vast amounts of records from Carlton Marsh LWS including birds, mammals and flora. However, there will be no impact on this local nature reserve or these species during the proposed works.

3.1.1.2.1. The map below shows the survey area and the location of Carlton Marsh LWS to the north of the survey area.



3.2. The Surveyed Area.

3.2.1. The survey area comprised a disused quarry located to the north of Barnsley Road in Cudworth. The quarry had a large cliff face around the northern and western boundary, which was partially vegetated with dense ivy. The majority of the sites was populated by several large, scattered trees and dense scrub.



3.2.2. The immediate surrounding area was grazing land to the north and to the west, residential to the east and Barnsley Road to the south.

3.2.3. The aerial photograph below shows the location of the survey area and the immediate surrounding area.



3.2.4. The aerial photograph below shows the survey area and the extended surrounding area.

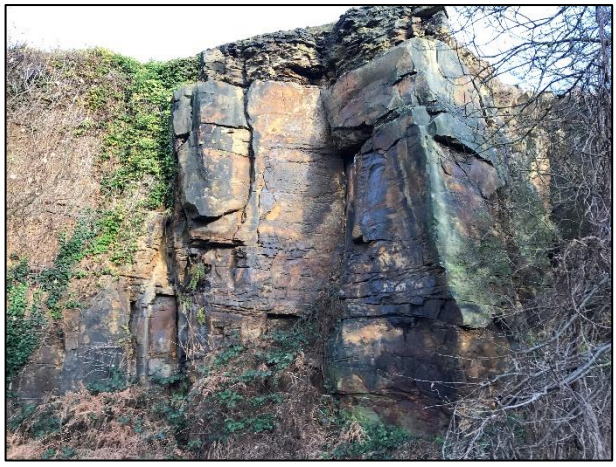


3.3. Description of Habitats.

3.3.1. Appendix V of this report contains annotated maps marked up with the varying habitats that are cross referenced to target notes in Appendix VI of this report. The habitats on and adjacent to the site are: -

- Inland cliff.
- Bare ground.
- Scrub.
- Tall ruderal.
- Bracken.
- Ephemeral/Short perennial.
- Scattered trees.
- Wall.
- Fence.
- Building.

3.3.2. **Inland cliff.**



A cliff face was identified along the northern and western boundary of the site. In areas the cliff face was heavily vegetated with common ivy (*Hedera helix*) and Atlantic ivy (*Hedera Hibernica*) with areas of bracken (*Pteridum*) where it was able to take root.

3.3.3. **Bare ground.**



An area of bare ground was identified to the south east of the survey area. The ground comprises tarmac, aggregate and some ephemeral/short perennial species including groundsel (*Senecio vulgaris*), smooth sow thistle (*Sonchus oleraceus*), germander speedwell (*Veronica chamaedrys*), prickly sow thistle (*Sonchus asper*) and a prominent grass species Yorkshire fog (*Holcus lanatus*).

3.3.4. **Scrub.**



The site was predominantly covered with dense and scattered scrub. The main species include elder (*Sambucus*), bindweed (*Convolvulus arvensis*), hawthorn (*Crataegus monogyna*) and bramble (*Rubus*).

3.3.5. **Tall ruderal.**



Within the areas of scrub there were areas of tall ruderal species including common nettle (*Urtica dioica*), dead nettle (*Lamium*) and rosebay willowherb (*Chamaenerion angustifolium*).

3.3.6. **Bracken.**



Areas of bracken (*Pteridum*) were identified scattered through the survey area including gaps between the cliff face.

3.3.7. **Ephemeral/Short perennial.**



Small areas of ephemeral/short perennial species were identified scattered throughout the survey area. The species included groundsel (*Senecio vulgaris*), cleavers (*Galium aparine*), smooth sow thistle (*Sonchus oleraceus*), comfrey (*Symphytum*), germander speedwell (*Veronica chamaedrys*) and prickly sow thistle (*Sonchus asper*).

3.3.8. **Scattered trees.**

There were numerous large, scattered trees identified within the survey area. The species comprised silver birch (*Betula pendula*), goat willow (*Salix caprea*) and oak (*Quercus* sp).



3.3.9. **Wall.**

The eastern boundary of the site comprises a short length of brick wall and small sections of low-level brick wall were identified in the north western corner of the survey area.



3.3.10. **Fence.**

There was a shorth length of temporary Heras fencing along the southern boundary of the site.



3.3.11. **Building.**

Two temporary storage containers were identified to the east of the survey area during this survey.



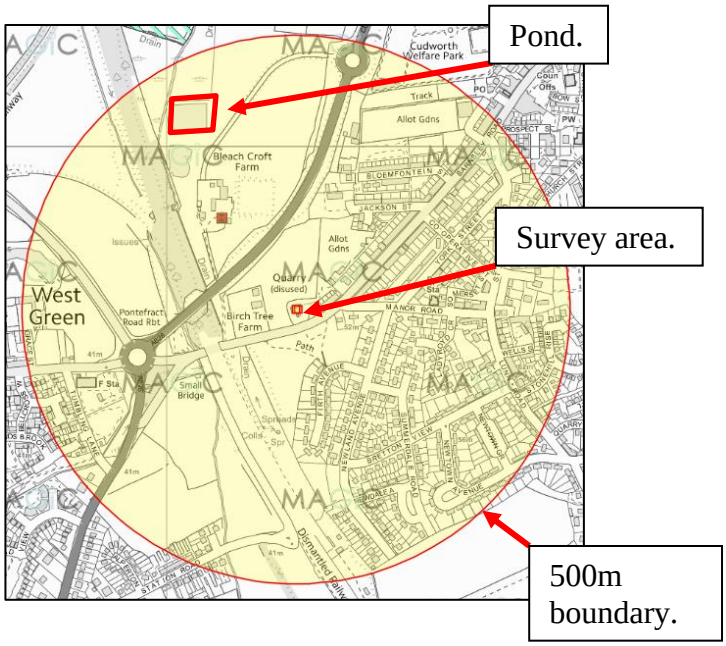
3.4. Description of Fauna.

3.3.1. There were no badger setts or badger field signs within the survey area during this survey.

3.3.2. There were no watercourses within the survey area during this survey. Therefore, there was no suitable habitat for water voles, otters or white clawed crayfish.

3.3.3. There was one pond identified within 500m of the survey area, approximately 380m to the north. The pond was not visited during this survey as it lay on private land. The survey area could provide suitable terrestrial habitat for great crested newts. However, there is more suitable habitat identified directly around the pond.

3.3.3.1. The map below shows the location of the survey area, the location of the pond and a 500m boundary around the site.



3.3.4. There were no buildings that provide a suitable opportunity for roosting bats within the survey area, as the two storage containers will not provide a suitable habitat. However, the cliff face identified on the northern and western boundary of the site has numerous cracks and crevices, which could provide a suitable habitat for roosting bats. Although, they could not be thoroughly surveyed during the daytime surveys and no bat roosts or bat field signs were identified in the areas, which could be inspected.

3.3.4.1. There were no trees that provide a suitable opportunity for roosting bats within the survey area, as the trees were in a good condition with no gaps or crevices suitable for roosting bats. No bat roosts or bat field signs were identified in the trees during this survey.

3.3.4.2. A comprehensive assessment of the bat foraging habitat on the site could not be undertaken during a daytime survey although, the surrounding habitat was assessed to provide a low value bat foraging habitat. During the dusk emergence survey low numbers of Common Pipistrelle bats foraged over the quarry for a short time then moved on.

3.3.5. The cliff face and the surrounding vegetation provides a suitable habitat for nesting birds during the nesting season, which extends from March to September. Nesting and roosting bird field signs were identified on some of the ledges in the cliff

face during this survey. However, no nests or nesting bird activity was identified during this survey.

3.3.6. The survey area provides a suitable habitat for occasional reptiles due to the refugia and basking sites in the debris on site. No reptiles were identified during this survey.

3.3.7. The site does not provide a suitable habitat for dormice as there was a lack of suitable connective habitat and the site was outside their natural range.

3.3.8. The site does not provide a suitable habitat for red squirrel as there was a lack of suitable connective vegetation. There were no red squirrels or red squirrel field signs identified within the survey area during this survey.

3.3.9. There were no invasive plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 identified within the survey area during this survey.

3.4. Dusk Emergence Survey Results, 20th August 2020.

3.4.1. A dusk emergence bat survey of the cliff face was carried out by two surveyors on the 20th August 2020. One surveyor holds a Natural England bat survey licence and the other is an experienced surveyor. Both were equipped with a Batbox Duet bat detector, a two-way radio for communication and a static Anabat detector.

3.4.2. The weather at the time of the survey was fine and clear throughout the survey. The evening had a light breeze to 1BWS. There was a temperature of 21°C recorded at 20:00 and a temperature of 19°C was recorded at the end of the survey. Sunset on the day of the survey was at 20:22.

3.4.3. The surveyors were positioned where they had a full view of the cliff face and a good sky line above the cliff face. The positions of the surveyors and Anabat detectors during the survey are shown on the below plan marked by S, a surveyor and AB, an Anabat.



3.4.4. A brief outline of the findings from each of the surveyors and the Anabat detectors are included below.

3.4.4.1. Surveyor 1.

- 20:36– Common Pipistrelle flew from the east and foraged over quarry until 20:45.
- 20:46– Common Pipistrelle flew from the east and foraged over quarry until 20:49.
- 20:47– Common Pipistrelle flew from south and foraged over quarry until 20:49.
- 21:00– Common Pipistrelle flew from east and foraged briefly.
- 21:15– Common Pipistrelle heard pass in the distance, not seen.

Anabat 1 with Surveyor 1 recorded fifty-nine Common Pipistrelle calls between 20:36 and 21:21 and one brief Noctule call at 21:20.

3.4.4.2. Surveyor 2.

- 20:36– Common Pipistrelle flew from the east and foraged over Surveyor 1.
- 20:45– Common Pipistrelle heard pass to the south.
- 20:46– Common Pipistrelle flew over the site from north to south.
- 20:50– Common Pipistrelle flew from south to northwest.
- 20:52– Common Pipistrelle heard pass to the south.

- 20:57– Common Pipistrelle heard pass to the south.
- 21:15– Common Pipistrelle heard pass to the south.
- 21:18– Common Pipistrelle heard pass to the south.

Anabat 11 with Surveyor 2 recorded eight Common Pipistrelle calls between 20:36 and 21:18 and one brief Noctule call at 21:20.

3.4.5. No bats were seen to emerge from the cliff face during this survey. The main activity was Common Pipistrelle bats passing along the road to the south and flying from the east and foraging over the quarry before moving on. On Noctule passed by the site.

3.5. Dusk Emergence Survey Results, 10th September 2020.

3.5.1. A dusk emergence bat survey of the cliff face was carried out by two surveyors on the 10th September 2020. Both surveyors hold a Natural England bat survey licence. Both were equipped with a Batbox Duet bat detector, a two-way radio for communication and a static Anabat detector.

3.5.2. The weather at the time of the survey was fine with some cloud throughout the survey. The evening had a light breeze to 1BWS. There was a temperature of 14°C recorded at 19:15 and a temperature of 13C was recorded at the end of the survey. Sunset on the day of the survey was at 19:32.

3.5.3. The surveyors were positioned where they had a full view of the cliff face and a good sky line above the cliff face. The positions of the surveyors and Anabat detectors during the survey are shown on the below plan marked by S, a surveyor and AB, an Anabat.



3.5.4. A brief outline of the findings from each of the surveyors and the Anabat detectors are included below.

3.5.4.1. Surveyor 1.

- 19:45– Common Pipistrelle flew from the east and foraged over quarry.
- 19:47– Common Pipistrelle flew from the east and foraged over quarry.
- 19:49– Common Pipistrelle flew from the east and foraged over quarry.
- 19:50– Two Common Pipistrelle foraging over the quarry.
- 20:12– Common Pipistrelle flew from east and foraged.
- This activity continued with constant foraging until 20:22 when activity stopped.

Anabat 20 with Surveyor 1 recorded eighty-two Common Pipistrelle calls between 19:45 and 20:22.

3.5.4.2. Surveyor 2.

- 19:45– Common Pipistrelle flew from the east and foraged over Surveyor 1.
- 19:47– Common Pipistrelle flew from east to west along rear gardens.
- 19:49– Common Pipistrelle flew over the site from south to north.
- 19:53– Common Pipistrelle flew from east to west, from the road.
- 19:58– Common Pipistrelle heard pass, not seen.
- 20:02– Common Pipistrelle flew from east to west, from the road.

- 20:05– Common Pipistrelle heard pass to the south.
- 20:09– Common Pipistrelle flew from east to west.
- 20:12– Common Pipistrelle flew from west to east.
- 20:15– Common Pipistrelle flew from east to west, from the road.
- 20:16– Common Pipistrelle heard pass, not seen.
- 20:22– Common Pipistrelle heard pass, not seen.

Anabat 18 with Surveyor 2 recorded seven Common Pipistrelle calls between 19:45 and 20:22.

3.5.5. No bats were seen to emerge from the cliff face during this survey. The main activity was Common Pipistrelle bats passing along the road to the south and flying from the east and foraging over the quarry before moving on.

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4. EVALUATION OF FINDINGS.

4.1. The bare ground, tall ruderal, bracken, ephemeral/short perennial, wall, fence and buildings have **no ecological value**. The proposed works will have a **high impact** on these habitats.

4.2. The inland cliff, scrub and scattered trees will have a **medium ecological value** as birds could be present nesting and foraging during the nesting bird season. The cliff face could also present suitable roosting potential for bats. The proposed works could have a **high impact** on nesting birds and roosting bats.

4.3. There were no Habitats of Principal Importance under the NERC Act 2006 identified within the survey area during this survey. There will be **no impact** on any Habitats of Principal Importance during the proposed works.

4.4. No badger setts or other badger field signs were identified within the survey area during this survey. Therefore, there will be **no impact** on badgers during the proposed works.

4.5. There were no watercourses identified within the survey area during this survey. Therefore, there will be no suitable habitat for water voles, otters or white clawed crayfish and there will be **no impact** on these species during the proposed works.

4.6. One pond was identified 380m to the north of the survey. The pond was not visited during this survey as it lay on private land. However, there are no records of great crested newts within the survey area or within 2km of the survey area. Therefore, it is unlikely that great crested newts will be present within the survey area and it is assessed that the proposed works will have **no impact** on great crested newts.

4.7. The two storage containers within the survey area and the trees present on the site will not provide a suitable habitat for roosting bats and no bat roosts or bat field signs were identified during this survey. However, the cliff face has a **moderate** potential for roosting bats and the proposed works could have a **high impact** on roosting bats if they were to be present during the works. No bat roosts or bat field signs were identified during this survey.

4.8. A comprehensive assessment of the bat foraging habitat on the site could not be undertaken during the daytime survey although the surrounding habitat was assessed to provide a **low value** bat foraging habitat. Nevertheless, the proposed works will not fragment bat foraging habitat and there will be **no impact** on foraging bats.

4.8.1. During both dusk emergence surveys low numbers of Common Pipistrelle bats flew mainly from the east and foraged over the quarry for a short time then moved on. The bats flew through areas well lit with street lights and are a light tolerant species. Therefore, works will have a **low impact** on foraging and commuting bats as the works will not fragment any habitat and rear gardens will continue to provide foraging habitat.

4.9. The vegetation and the cliff face within the survey area, will provide suitable habitat for various species of bird during the nesting season, which extends from March to September each year. The proposed works will have a **high impact** on nesting birds during the nesting season and a **low impact** on nesting birds outside the nesting bird season.

4.10. The survey area provides a suitable habitat for the low numbers of reptiles, which may be present passing through the survey area. No reptiles were identified during this survey. The proposed works could have a **low impact** on reptiles.

4.11. The site was outside the natural range of dormice. Therefore, there will be **no impact** on dormice during the proposed works.

4.12. The site provides no suitable habitat for red squirrel. There will be **no impact** on red squirrel during the proposed works.

4.13. There were no non-native invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 identified within the survey area during this survey. There will be **no impact** on any non-native invasive plant species during the proposed works.

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5. RECOMMENDATIONS.

5.1. Due to the very low potential presence of great crested newts within the survey area as a precautionary measure a suitable briefing should be given on the identification of great crested newts and what to do if a newt is identified during the works. A toolbox talk on great crested newts has been included at the end of this report to provide further information and aid in the briefing process.

5.2. As no bats were identified roosting in the cliff face there is no requirement for any further bat surveys or for a Natural England EPS licence.

5.2.1. It is recommended that a sensitive lighting scheme is designed for the site and any lighting on the site must be down lighting with no lights shining onto the cliff face.

5.3. The cliff face and the vegetation within the survey area will provide a suitable habitat for nesting birds. All vegetation clearance should be carried out outside the nesting bird season which extends from March to September. The works that will affect the cliff face and the vegetation should be carried out outside the nesting bird season, which extends from March to September. If the cliff face or the vegetation is to be affected during the nesting bird season the works should be preceded by a thorough nesting bird survey carried out by a suitably experienced person. If an active nest is identified during this survey the nest should be left undisturbed until the young have fledged.

5.4. As there is a very low potential for reptiles to be present within the survey area it is recommended that all personnel working on the site are briefed on the potential presence of reptiles and how to identify the species. A toolbox talk on reptiles has been included at the end of this report to aid in the briefing. It is then recommended that the following precautions are implemented during the works.

- Any vegetation clearance works should be initially cleared to no less than 150mm to allow animals to escape.
- Any debris removed from the access, compound or worksite should be carefully lifted and the area underneath checked for reptiles.
- Parking and access should use existing hard standing areas were possible.
- Any material stored on the site should be stored on pallets or batons to avoid animals seeking refuge underneath.

5.4.1. In the event individual reptiles are encountered during the works they should be allowed to move away of their own accord or carefully moved to areas of suitable refugia outside the worksite. In the event large numbers of reptiles (5+) are encountered works in that area should cease and further advice should be sought.

5.5. In order to provide biodiversity enhancements in line with the NPPF, as bird nesting potential is going to be lost during the development, when the vegetation is removed nesting boxes should be erected in suitable locations around the site. These can either be integrated into the buildings, on the cliff face or situated within any remaining vegetation.

5.5.1. Integrated bat boxes should also be included in new buildings constructed on the site to provide opportunities for roosting bats.

5.5.2. Native plant species should be included in the landscaping of the site including fruit and berry bearing species.

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Prepared by:	
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Revised by:	
Jenny Whitcher Roebuck MCIEEM.	Date: 11th September 2020.

Checked by:	
Derek Whitcher. BSc, MCIEEM, MCMI	Date: 13th September 2020.

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Appendix I. BAT INFORMATION.

Ecology

There are currently 18 species of bat residing in Britain, 17 of which of which are known to breed here. They are extremely difficult to identify in the hand and even more so in flight.

All appear to be diminishing in numbers, probably due to habitat change and shortage of food, caused by pesticides, as insects are their sole diet.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and the roofs of buildings.

Certain species, particularly the pipistrelle (the commonest and most widespread British bat) can quickly adapt to man-made structures and will readily use these to roost and to rear their young.

Surveys

During walkover surveys, bat roosts can be identified by looking for:

- Suitable holes, cracks and crevices within any building, tree or other structure.
- Bat droppings along walls, window cills, or on the ground.
- Prey remains, such as insect wings.

Further investigations can be made using endoscopes, by carrying out aerial inspections of trees or by conducting bat activity surveys during dusk and dawn over summer months.

Legislation

Bats are protected under Appendix II and III of the Bern Convention (1982), Schedule 5 and 6 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive (some species under Annex II), Annex II of the Conservation of Habitats and Species Regulations (2010) and EUROBATS agreement. Numerous species are also listed under section 41 of the Natural Environment and Rural Communities Act (2006) making them species of principal importance.

All bats and their roosts are therefore protected in the UK. This makes it an offence to kill, injure or take any bat, to interfere with any place used for shelter or protection, or to intentionally disturb any animal occupying such a place.

The UK has designated maternity and hibernacula areas as Special Areas of Conservation (SAC's) under the Habitats Directive. Implementation of the UK Biodiversity Action Plan also includes action for a number bat species and the habitats which support them.

Where development proposals are likely to affect a bat roost site, a licence is required from Natural England.

Appendix II. GREAT CRESTED NEWT INFORMATION.

Ecology

Great Crested Newts breed in ponds and other water bodies. They can begin to migrate to their breeding ponds as early as the first frost-free days in late January with the majority reaching their breeding ponds by mid-March. Timing will be influenced by several factors, primarily evening temperatures above 5^{o}C and rainfall.

The peak egg-laying period is from mid-March to mid-May. The newts will lay their eggs individually, mainly on the leaves of submerged plants. The larva hatch after three weeks and then take another 2-3 months to complete larval development. Adult newts generally leave their breeding ponds from late May onwards.

Once the larvae have completed metamorphosis (the transition from aquatic larvae, efts, to land-adapted juveniles), they emerge from the pond. This emergence begins in late August and generally continues until late October. It takes 2-4 years to reach sexual maturity, during which time the newts will be land based.

Adults and immature newts spend the winter in places that afford protection from frost and flooding. This will generally be underground amongst tree roots, in mammal burrows, or under suitable refuges above ground like deadwood or rubble piles. Hibernation may last from October to February.

Whilst on land, outside the hibernation period, great crested newts will forage at night, taking a wide range of invertebrate prey.

Great Crested Newts therefore spend the majority of their time on land and only visit the ponds for breeding purposes.

Great Crested Newts will travel large distances between ponds and terrestrial refuges. It is recommended that anywhere within 500m of a pond should be treated as potential Great Crested Newt habitat.

Surveys

Walkover surveys will identify the suitability of any ponds within the area for Great Crested Newts by using an HSI assessment. The terrestrial habitat and their links will also be assessed.

Aquatic surveys of newts can be carried out through the trapping of ponds in suitable weather conditions during the breeding season, although these surveys do not provide accurate population estimates.

Terrestrial surveys and exclusions can be conducted between March and September when newts are moving out of breeding ponds.

An experienced surveyor must carry out the surveys and must be in possession of an appropriate Natural England Great Crested Newt survey license.

It is essential that Great Crested Newt surveys are planned well in advance of any development and ideally before Planning Consent is sought. Surveys can only be carried out at the appropriate time of year and repeat surveys are essential.

Legislation

Great Crested Newts are protected under Appendix II of the BERN Convention (1982), Schedule 5 of the Wildlife and Countryside Act (1981), Annex II and IV of the Habitats Directive, Annex II of the Conservation and Wildlife Regulations (2010) and are listed under section 41 of the Natural Environment and Communities Act (2006) making them a species of principal importance.

This makes it an offence to kill, injure or take any Great Crested Newt, to interfere with any place used for shelter or protection, or to intentionally disturb any animal occupying such a place.

If Great Crested Newts are to be affected by any development, a thorough assessment of the population is essential followed by the design of a comprehensive mitigation package. Only when this has been done can a license application be submitted to Natural England for approval. It takes 30 working days for a license application to be determined and the period that mitigation measures take can be measured in months. It is therefore essential to plan well in advance of development commencing.

Appendix III. NESTING BIRD INFORMATION.

Ecology

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September. It is also worth remembering that some birds nest in trees and scrub, but others are ground nesting or prefer man- made structures or buildings.

Surveys

Nesting bird surveys search for potential nest sites in vegetation, buildings etc. Potential nesting sites are observed over a suitable period of time for bird movements or calling male birds that would indicate the presence of a nest. The presence of a nest can be identified from the field signs without the necessity to see the nest itself, thereby avoiding any disturbance of the nests. The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

Legislation

Nesting birds are protected under The Wildlife and Countryside Act 1981.

Part 1. -(1) Of the Act states that: - If any person intentionally: - kills, injures or takes any wild bird; takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Part 1. -(5) of the Act states that: - If any person intentionally: - disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or disturbs young of such a bird, he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.

Appendix IV. REPTILE INFORMATION.

Ecology

There are five main species of reptile that reside in the UK; Common or Viviparous Lizard (*Lacerta vivipara*); Sand Lizard (*Lacerta agilis*); Slow Worm *(Anguis fragilis*); Grass Snake (*Natrix natrix*) and Adder (*Vipera berus*). The Adder is the only native species that is venomous although this is rarely harmful to humans.

Reptiles occupy a wide range of habitats including woodland, marshes, heathland, moors, sand dunes, hedgerows and bogs. Sand Lizards are confined to moorland and coastal sand dunes where they lay their eggs in the warm sand. The range of the Sand Lizard in the UK is therefore very limited. Slow Worms can be found in a wide variety of habitats throughout Britain and is the most likely reptile to be found in urban and suburban environments.

Maintaining the right body temperature is vital to reptiles' survival. In the morning, they find a warm basking site to heat up their bodies, then later they may move back into the shade because they do not sweat and have to be careful not to overheat. During hot summers, Adders will try to move to damper, cooler sites.

Over winter reptiles will hibernate in burrows or under longs where they are protected from the cold and predators, emerging from February onwards as the weather warms up.

Reptiles generally begin to mate April to May with young born in late July to September. The Common Lizard gives birth to live young, hence the term viviparous, meaning live bearing.

Surveys

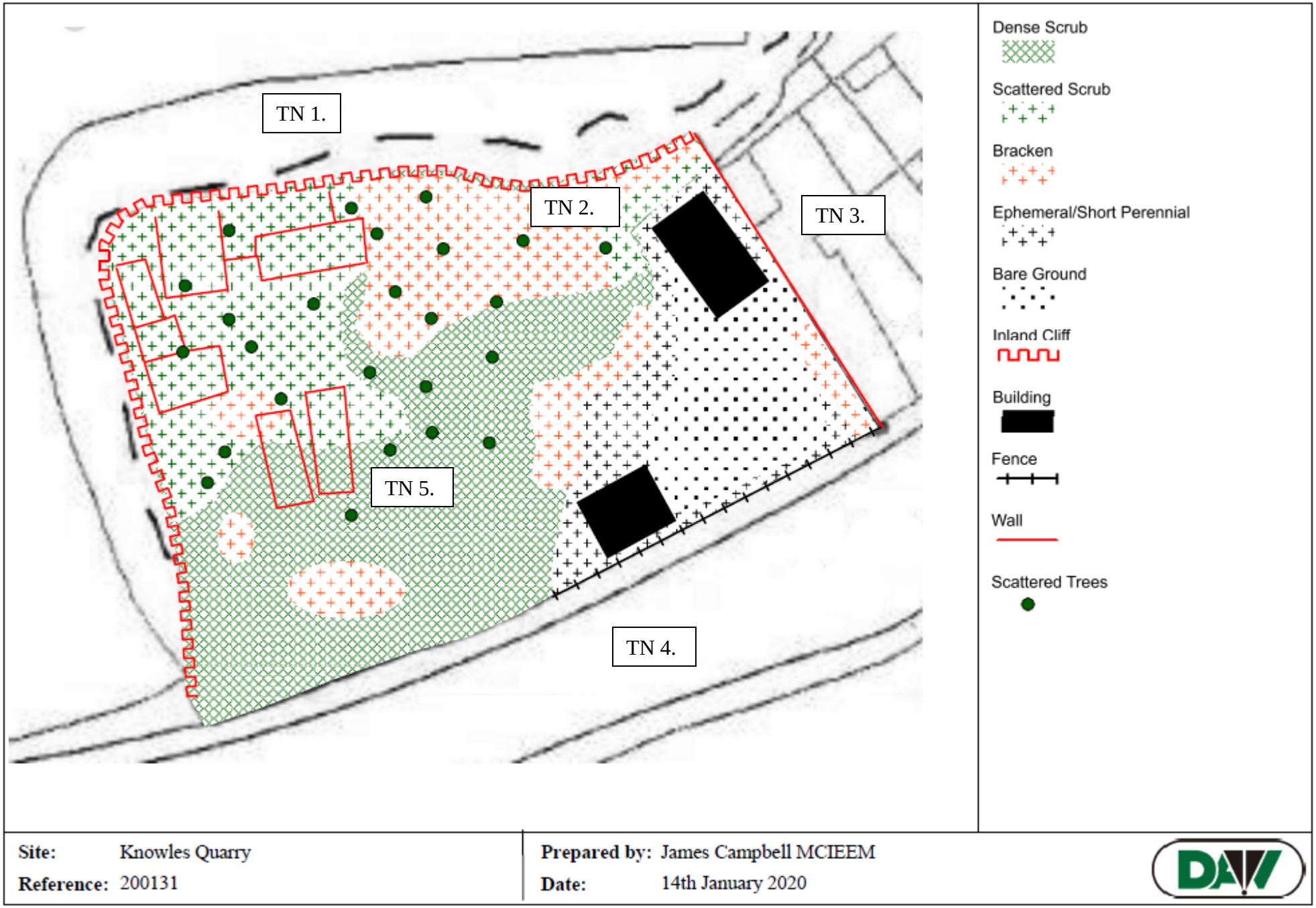
Reptile surveys involve the searching of refuge such as logs and stones for any animal sheltering below. Artificial refuge may be laid out on site for the purpose of reptile surveys.

Legislation

Reptiles are protected under Appendix II (sand lizards) and Appendix III (common lizard, slow worms, smooth snake, grass snake and adders) of the BERN Convention (1982), partially protected under Schedule 5 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive and are all listed under section 41 of the Natural Environment and Communities Act (2006) making them a species of principal importance.

This makes it an offence to disturb any reptile while it is occupying a structure or place it uses for shelter or protection or to obstruct access to such a place.

Appendix V. ANNOTATED MAP OF THE SURVEY AREA.



Appendix VI. TARGET NOTES.

TN1. Is an area of grazing land above the cliff face.

TN2. Is the large cliff face, which runs along the northern and western boundary of the survey area.

TN3. Is the start of the residential housing leading into the town of Cudworth.

TN4. Is Barnsley Road and associated footpaths.

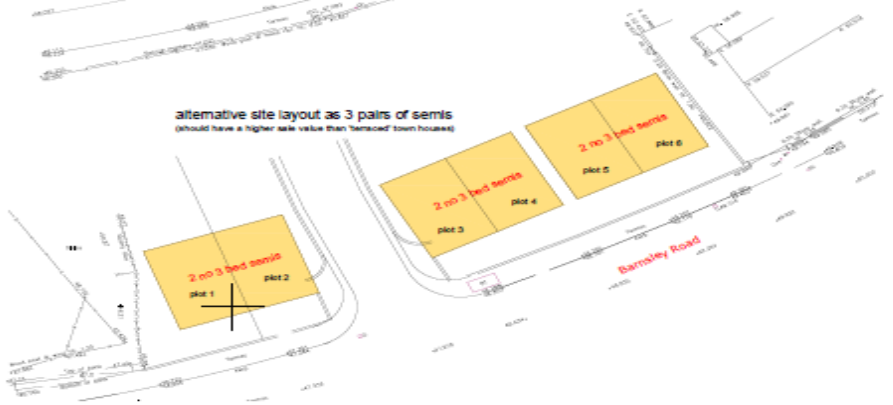
TN5. Are areas of brick walls, which remain from demolished buildings to the north west of the survey area.

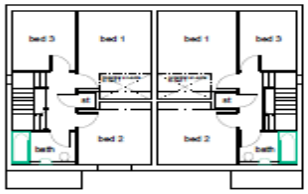
Appendix VII. DATA SEARCH RESULTS.

The data search results have been summarised above. However, a full copy of the data search can be provided on request. This should not be made available to the public domain.

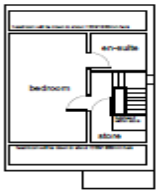
Appendix VIII. DEVELOPMENT PLAN.







first floor first floor



potential roof void plan
suggestion only



ground floor ground floor

alternative 1 alternative 2

suggested dwelling layouts

PETER DIMBERLINE Dip Arch, RIBA
CHARTERED ARCHITECT

2 TIPSEY COURT, STAINCROSS
BARNSLEY, S75 6FZ

tel/fax (01226) 390947
email: pdimberline@tiscali.co.uk

CLIENT
Darren Hewitt-Craft

PROJECT
Proposed residential development

LOCATION
Knowles Quarry, Barnsley Road,
Cudworth, Barnsley

DRAWING
Proposed site plan

SCALES 1:200 and 1:100 DATE Aug' '18

DRWG No. 2018/15/01 DRAWN BY PD

REV. A

Toolbox Talk: Great Crested Newts

Whitcher Wildlife Ltd

Ecological Consultants

The great crested newt population has suffered a major decline in Britain over the last century. Numerous ponds have been lost, unmanaged ponds have become silted up and over-shaded, development has destroyed ponds and associated terrestrial habitat and caused fragmentation of populations. The loss of grassland, scrub and woodland has resulted in fewer opportunities for foraging, dispersal and hibernation.

Identification: Great Crested Newts.

Great crested newts are dark, nearly black in colour with a speckled belly, distinctly orange in colour and with orange stripes across their toes. Great crested newts can grow up to 15cm in length.





Identification: Smooth and Palmate Newts.

Smooth newts are predominantly lighter in colour although their colour may vary from sandy coloured to very dark. Smooth newts also have a speckled orange belly but the orange colour fades to pale.





Palmate newts are similar to smooth newts but with a pinker belly and wedded feet.

Habitat.

Great crested newts live predominantly on land but breed in ponds between March and June.

Great crested newts may be found on land almost all year round. They spend the daytime under rocks or logs, in cracks, crevices or holes, or anywhere that is moist and cool and emerge at night to forage. During the winter months great crested newts hibernate deep down away from frost.

When disturbed in terrestrial habitats newts will usually be very sluggish and will take time to move away.

Legislation.

The great crested newt is listed on Schedule 5 of the Wildlife and Countryside Act 1981, recently modified by the Countryside Rights of Way Act 2000. The great crested newt is therefore subject to the provisions of Schedule 9, which make it an offence to:

- Intentionally kill, injure or take a great crested newt.
- Possess or control any live or dead specimen or anything derived from a great crested newt.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt.
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.

The great crested newt is also listed on Annex II and Annex IV of The Conservation (Natural Habitats & C) Regulations 1994. Regulation 39 makes it an offence to:

- Deliberately capture or kill a great crested newt.
- Deliberately disturb a great crested newt.
- Deliberately take or destroy the eggs of a great crested newt.
- Damage or destroy a breeding site or resting place of a great crested newt.

The legislation applies to all life stages of great crested newts.

The maximum fine on conviction of offences under Section 9 and Regulation 39 currently stands at £5,000. The CroW Act 2000 amendment also allows for a custodial sentence of up to six months instead of, or in addition to, a fine. In addition, items, which may constitute evidence of the commission of an offence, may be seized and detained.

If great crested newts are identified during works, stop all works and contact Whitcher Wildlife Ltd directly on 01226 753271 or at info@whitcher-wildlife.co.uk

Toolbox Talk: Bats

Whitcher Wildlife Ltd

Ecological Consultants

18 species of bat have been recorded in Britain, 17 of which are known to breed here.



Identification.

Some species can be extremely difficult to identify in the hand and even more so in flight.

Species such as the Brown Long Eared bat pictured above can be more easily identified in the hand. Whereas, the Common Pipistrelle and Soprano Pipistrelle are more difficult to identify.

Bats are more easily identified by field signs such as droppings or feeding remains.





Habitat.

Bats are highly specialised creatures and require a relatively narrow range of suitable conditions in order to sustain a viable population. Bats require an abundant supply of flying insect food in places where they can easily be caught and they need safe and reliable roosting sites, particularly during breeding and hibernation.

Bats are heavily dependent on buildings and trees for their roost sites and therefore extremely susceptible to disturbance from human activities. Development schemes can also isolate bat populations and sever roost sites from favoured feeding areas by removing hedgerows or other features used as commuting routes.

Bats are susceptible to disturbance and have been known to abandon roost sites after instances of disturbance. The effects of disturbance are more pronounced at different times of year. Serious disturbance during breeding can result in the breeding females being killed or the abandonment and subsequent starvation of dependant young. Repeated disturbance during winter hibernation can result in the death of adult animals from starvation.

The level of protection afforded to bats in the UK and European legislation reflects the fact that it is now generally accepted that bats have declined substantially, maybe by as much as 60%, over recent years. Most species are declining and vulnerable with all species being protected.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and occasionally the roofs of buildings.

Certain species, particularly Pipistrelle, can quickly adapt to manmade structures and will readily use these to roost and to rear their young.

Legislation.

Bats and their roosts are fully protected at all times (whether the bats are currently present or not). This protection comes from the Wildlife & Countryside Act 1981 (updated by the Countryside Rights of Way Act 2000) and the Habitats Regulations 1994. Under this legislation it is an offence to intentionally or recklessly kill, injure, capture or disturb bats or to damage, destroy or obstruct access to any place used by bats for shelter or protection.

Under the Habitats Regulations, where bats may be affected by development proposals, a licence is required from Natural England. Natural England's published guidelines on the licence procedure indicate that if, on the basis of survey information and specialist knowledge of the species concerned, the proposed activity is reasonably likely to result in an offence then a licence is required. If, on the other hand the proposed activity is reasonably unlikely to result in an offence, then a licence is not required.

If bats or bat field signs are identified during works, stop all works and contact Whitcher Wildlife Ltd directly on 01226 753271 or at info@whitcher-wildlife.co.uk

Toolbox Talk: Nesting Birds

Whitcher Wildlife Ltd

Ecological Consultants

The bird nesting season varies according to the weather each year but generally commences in March, peaks during May and June and continues until September.

A bird's nest is the place in which a bird lays and icubates its eggs. Some species build a nest structure while other species lay their eggs directly onto the ground or on a rocky ledge. Nests can be constructed from a variety of materials and are usually lined with feathers or fur.

Identification.

Some birds construct nests in an area where it can be seen while others construct nests that are hidden from view and are more difficult to identify.

The photograph to the right shows a Moorhen nest which can easily be seen.





Nests can also be identified from field signs without the necessity to see the nest itself. The presence of a nest can be identified by seeing the adult birds leaving and returning to the nest regularly with food to feed the chicks.

The photograph to the left shows a Wren's nest in overhanging tree roots, which is almost impossible to see.

Care should be taken at any time during the nesting season particularly when regular bird activity is seen, or birds can be heard calling.





Habitat.

Birds regularly nest in a variety of places with some species nesting in buildings or vegetation and others nesting on the ground or on water. However, birds may nest in any habitat or situation if they identify a suitable nest site.







Legislation.

Part 1. -(1) of the Wildlife and Countryside Act 1981 states that:

If any person intentionally or recklessly:

- Kills, injures or takes any wild bird.
- Takes, damages or destroys the nest of any wild bird while that nest is in use or being built, or
- Takes or destroys an egg of any wild bird.

He shall be guilty of an offence.

Part 1. -(5) of the Act states that:

If any person intentionally or recklessly:

- Disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young, or
- Disturbs young of such a bird.

He shall be guilty of an offence and liable to a special penalty.

If a nest or potential nesting activity is identified during works, stop all works and contact Whitcher Wildlife Ltd directly on 01226 753271 or at info@whitcher-wildlife.co.uk

Toolbox Talk: Reptiles

Whitcher Wildlife Ltd

Ecological Consultants

Identification: Grass Snakes.

The grass snake can be up to 120cm long. It is generally dark green in colour but may occasionally appear grey with vertical black bars and spots that run along its sides. There is usually a yellow marking around the neck.



Identification: Adders.

The adder is the only native species that is venomous, but it is rarely harmful to humans. Adult adders are generally up to 66cm long. Back ground colouration is a light shade of grey or brown with a back zig-zag marking along the length of the back. As with all reptiles, colouration varies and becomes duller as sloughing (skin shedding) approaches.



Identification: Slow Worms.

Slow worms grow to around 45cm in length. The males and females display a marked difference in colour when fully grown. In general the species displays colouring that varies from light brown, dark brown, grey, bronze or brick red with the females often displaying a dark vertebral stripe and both males and females displaying occasional markings on the flanks.



Identification: Common Lizards.

Common lizards grow to around 16cm. They are grey brown to dark brown, often with a darker streak that may run the entire length of the spine. A continuous dark band bordered by light yellow or white spots is often seen on either side of the body. The underside of the males is egg yolk yellow to orange spotted with black. Females are yellowish grey.



Other Reptiles.

In addition to the reptiles outlined on this document there are also two other reptile species in Great Britain, the smooth snakes and the sand lizard. These reptiles are a lot less common then the four species covered with the smooth snake being predominantly found on heathland in southern England and the sand lizard found throughout Great Britain in coastal dune areas.

These species are also afforded a higher level of protection because they are European Protected Species.

Habitat.

Maintaining the right body temperature is vital to reptiles' survival. In the morning they find a warm basking site to heat up their bodies and then later they may move back into the shade so as not to overheat. Hence, reptiles require a habitat that provides a range of suitable refugia for shelter such as dense vegetation, rubble or log piles, or crevices and open areas for basking such as bare ground, rocks or railway ballast shoulders. During hot summers reptiles may be found in damper, cooler sites. Reptiles hibernate, spending the winter in burrows or under logs protected from the cold and predators.





When disturbed in their natural habitat reptiles will usually move away quickly.

Legislation.

Reptiles are protected under Schedule 5 of the Wildlife and Countryside Act 1981. They received greater protection following reviews of the schedules published in 1988 and 1991. This means they are protected against intentional or recklessly killing and injuring and against sale or transporting for sale.

If reptiles are identified during works, stop all works and contact Whitcher Wildlife Ltd directly on 01226 753271 or at info@whitcher-wildlife.co.uk