Whitcher Wildlife Ltd.
Ecological Consultants.

LAND ADJACENT TO HOLLY COTTAGE, THURGOLAND.

OS REF: SE 291-000.

PRELIMINARY ECOLOGICAL APPRAISAL (PEA).

Ref No: **190781.**

Date: **15th August 2019.**

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1. INTRODUCTION.

1.1. Plans are being drawn up for the development of an area of land adjacent to Holly Cottage on Old Mill Lane in Thurgoland. Appendix XIII shows the proposed site layout.

1.2. Whitcher Wildlife Ltd has 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.

1.3. The site survey was carried out on 2nd August 2019. This report outlines the findings of that survey and makes appropriate recommendations.

1.4. Appendices I to IX 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.

2.8. 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. This survey was carried out by Steven Whitcher MCIEEM. Since 2002 Steven has gained extensive experience in a professional capacity as an ecological consultant carrying out ecology, protected species and Extended Phase 1 Habitat surveys. Steven's knowledge has been supplemented through the attendance of a variety 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 Extended Phase 1 Habitat Surveys. Steven holds Natural England Survey Licences in respect of bats, great crested newts, hazel dormice, crayfish and barn owls, NRW Survey Licences in respect of bats and great crested newts and an SNH Survey Licence in respect of bats. Steven is also a Registered Consultant with Natural England and is confined spaces trained and qualified in tree climbing and aerial rescue.

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3. SURVEY RESULTS.

3.1. Data Search Results.

3.1.1. A desktop data search for existing records of protected species or designated sites within 2km of the surveyed area was submitted to Sheffield Biological Records Centre, South Yorkshire Bat Group and South Yorkshire Badger Group.

3.1.2. Sheffield Biological Records Centre do not hold records of any designated sites within or adjacent to the surveyed area although there are records of five sites within 2km of the surveyed area. The sites comprise:

- Forge Rocher and Tin Mill Rocher Local Wildlife Site (LWS) – located 250m south of the surveyed area.
- Romticle Viaduct and Thurgoland Tunnels LWS – located 550m northwest of the surveyed area.
- Wharncliffe Chase and Wood LWS – located 1.2km southeast of the surveyed area.
- Mag Wood Meadow LWS – located 1.4km northeast of the surveyed area.
- Black Moor Common LWS – located 1.5km northwest of the surveyed area.

3.1.3. Sheffield Biological Records Centre hold abundant records of protected or notable species within 2km of the surveyed area. The notable records comprise:

- Records of common frogs and common toads in Wortley Top Forge, Tin Mill Dam, Wharncliffe Wood and Mag Wood Meadow LWS.
- Records of badgers throughout the area – the closest located approximately 500m from the surveyed area.
- Records of bats throughout the area, the closest records being Pipistrelle bats at Cherry Tree Cottages, 500m south of the surveyed area.
- Records of water voles along the River Don.
- Records of hedgehogs within Thurgoland and Wortley villages.
- Records of grass snakes throughout the surrounding area, including Wortley Top Forge and Tin Mill Dam.

3.1.4. Sheffield Biological Records Centre also hold abundant records of common plant, bird and insect species throughout the area.

3.1.5. South Yorkshire Bat Group hold abundant records of bats and bat roosts within 2km of the surveyed area. The records in close proximity to the site comprise:

- Unidentified records of natterers and noctule bats at the River Don bridge approximately 50m east of the surveyed area.
- Records of bats foraging and a single bat in the gutter approximately 100m to the north on Huthwaite Lane.
- Records of a single Pipistrelle bat under a fascia approximately 250m northwest on Leech Row.
- Records of several bat species foraging and roosting at Wortley Forge approximately 350m to the southeast. The roosts include a Pipistrelle maternity roost with a count of 218 bats and a large Brown Long Eared bat roost with a count of 78 bats.

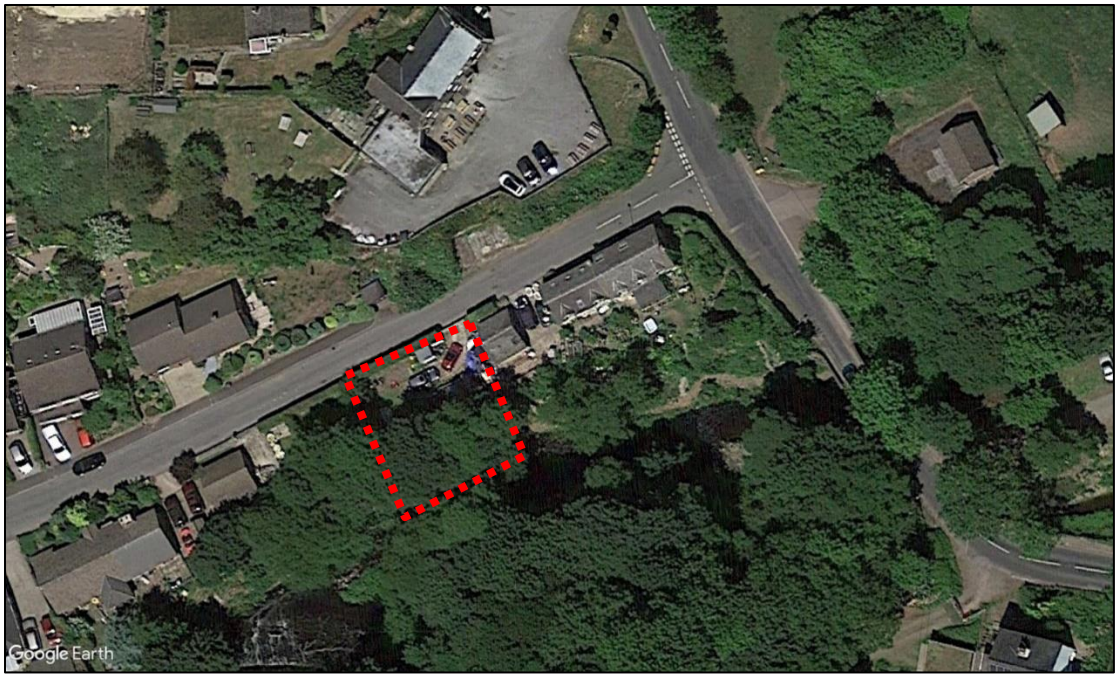
3.1.6. South Yorkshire Bat Group also hold several other records of bats and bat roosts although the remaining records lie over 500m from the surveyed area.

3.1.7. South Yorkshire Badger Group hold records of badgers within 2km of the surveyed area although none within the surveyed area or immediately surrounding area.

3.1.8. A full copy of the data search results can be provided on request.

3.2. The Surveyed Area.

3.2.1. The surveyed area was a small area of land located adjacent to Holly Cottage on Old Mill Lane in Thurgoland, as shown below.



3.2.2. The surveyed area currently comprises part of the garden associated with Holly Cottage.

3.2.3. The surveyed area is immediately bordered by Old Mill Lane to the north with Holly Cottage to the south and other residential properties and a public house to the north and west. To the south the site is bordered by the River Don extending to woodland beyond.

3.2.4. The further surrounding area comprises a mixture of open farmland and areas of woodland with the River Don passing through the area. The village of Thurgoland lies to the north.

3.3. Description of Habitats.

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

- Other Habitat – Garden.
- Ephemeral/short perennial.
- Buildings.
- Scattered Trees.
- Running Water.
- Dense/Continuous Scrub.
- Semi Natural Broad Leaf Woodland.
- Other Habitat – Hard Standing.
- Species Poor Intact Hedgerows.
- Walls.
- Fences.

3.3.2. Other habitat – garden: The site predominantly comprises an area of garden associated with Holly Cottage. The area lies outside the decorative gardens for the property and is used for general storage of wood and stone and for parking vehicles.

3.3.2.1. The vegetation within the area was sparse and predominantly appeared to be natural re-growth of grass and herb species including dock (*Rumex sp*), creeping buttercup (*Ranunculus repens*), common bent (*Agrostis capillaries*), cocks foot (*Dactylis glomerata*), annual meadow grass (*Poa annua*), dandelion (Taraxa*cum officinale*), broad leaved willowherb (*Epilobium montanum*), clover (*Trifolium sp*), perennial rye grass (*Lolium perenne*), herb Robert (*Geranium robertianum*), mullein (*Verbascum thapsus*), pineappleweed (*Matricaria discoidea*), greater plantain (*Plantago major*) and lady's mantles (*Alchemilla mollis*) with abundant areas of disturbed bare ground.

3.3.3. Ephemeral/short perennial: A steep bank extends down from the garden to the River Don below. The bank displayed very sparse vegetation at the time of this survey and was therefore assessed as ephemeral/short perennial.

3.3.3.1. The vegetation on the bank comprised dock (*Rumex sp*), hogweed (*Heracleum sphondylium*), tormentil (*Potentilla erecta*), bittercress (*Cardamine sp*), perennial rye grass (*Lolium perenne*), nettle (*Urtica dioica*), bramble (*Rubus fruticosus*), goosegrass (*Galium aparine*), lesser celandine (*Ranunculus ficaria*), ivy

(*Hedera helix*), herb Robert (*Geranium robertianum*), wood avens (*Geum urbanum*), creeping buttercup (*Ranunculus repens*) and sapling sycamore (*Acer pseudoplantus*).

3.3.4. Buildings: There are several buildings within and immediately adjacent to the surveyed area including the stone garage associated with Holly Cottage, a shed, log store, green house and area of decking/playhouse. The buildings are covered in more detail in section 3.4.5 of this report.

3.3.5. Scattered trees: Several semi mature trees extend along the bank adjacent to the River Don. The trees comprise sycamore (*Acer pseudoplantus*), elm (*Ulmus sp*) and alder (*Alnus glutinosa*).

3.3.6. Running water: The River Don flows along the southern boundary of the surveyed area. The river is wide, shallow and moderately fast flowing where it flows adjacent to the surveyed area with a weir located a short distance upstream.

3.3.6.1. The northern bank of the river is lined with gabion baskets along the edge of the surveyed area and along the neighbouring properties in both directions from the site with little or no vegetation growing along the banks.

3.3.6.2. The southern bank comprises a shallow wooded bank immediately adjacent and in both directions from the site.

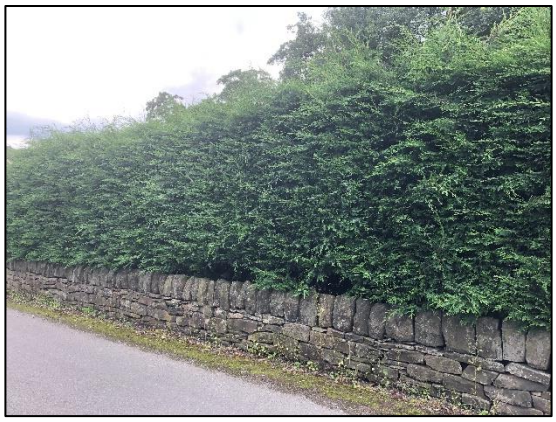
3.3.7. Dense/continuous scrub: Immediately to the east of the surveyed area, behind Holly Cottage, the bank to the river comprises dense scrub including ash (*Fraxinus excelsior*), herb Robert (*Geranium robertianum*), bramble (*Rubus fruticosus*), goosegrass (*Galium aparine*), sycamore (*Acer pseudoplantus*), ivy (*Hedera helix*), alder (*Alnus glutinosa*), hawthorn (*Crataegus monogyna*) and fern (*Dryopteris sp*).

3.3.8. Semi natural broad leaf woodland: To the west of the surveyed area, behind the adjacent property, the bank to the river comprises broad leaf woodland. The woodland was dominated by alder (*Alnus glutinosa*) with the visible understory comprising nettle (*Urtica dioica*), pendulous sedge (*Carex pendula*) and elder (*Sambucus nigra*).

3.3.9. Other habitat – hard standing: There are several areas of hard standing tarmac or paving within and around the surveyed area. These areas comprise Old Mill Lane, a small public road immediately to the north, and the driveway associated with Holly Cottage.


3.3.10. Species poor intact hedgerows: Several hedgerows extend around the surveyed area.

3.3.10.1. A 3m high conifer (*Cupressus x leylandii*) hedge extends along the northern boundary of the surveyed area. This hedge continues into a beech (*Fagus sylvatica*) hedge along the adjacent property.




3.3.10.2. A further short section of hedgerow separates the surveyed area from the adjacent residential garden. The hedgerow is 1.5 to 2m high and comprises predominantly hawthorn (*Crataegus monogyna*).

3.3.11. Walls: Wall extend along the northern and southern boundaries of the surveyed area.

3.3.11.1. To the south a 2m+ high gabion basket stone wall extends along the bank of the River Don. The wall extends along the boundary of the surveyed area and the adjacent properties on both sides of the surveyed area.

3.3.11.2. To the north a low level dry stone wall extends along the site boundary underneath the hedgerow.

3.3.13. Fences: A short section of mesh fencing extends along the boundary between the surveyed area and the property to the west.

3.4. Description of Species.

3.4.1. No badger setts or other badger field signs were identified within the surveyed area.

3.4.2. No water vole field signs were identified along the bank of the River Don adjacent to the surveyed area and the river was assessed as a sub-optimal habitat for the species within the immediate area. A detailed survey of the riverbanks to either side of the surveyed area was not possible due to the adjacent private land and the size of the river although a survey was carried out where access was possible and no water vole field signs were identified.

3.4.3. No otter field signs were identified within the surveyed sections of the River Don although the river was assessed as providing a suitable habitat for the species.

3.4.4. The River Don provides a suitable habitat for white clawed crayfish although a thorough invasive search of the river was not possible during this survey due to the safety implications of entering the river.

3.4.5. Several buildings were identified within the surveyed area, including the garage associated with Holly Cottage and several smaller garden buildings throughout the surveyed area.

3.4.5.1. The garage of Holly Cottage (T4) comprises a single storey stone building with a tiled pitched roof. The garage is currently in use and backs on to the eastern end of the surveyed area.

3.4.5.2. A thorough survey of the garage was not carried out as part of this survey because the garage will remain unaffected by the works. However, the areas of the building located immediately adjacent to the surveyed area were inspected.

3.4.5.3. The western elevation of the building that lies on the boundary of the surveyed area was found to be in a very good condition with no voids in the stonework or gaps around the verge. Occasional gaps were identified along the eaves on the northern and southern elevations of the building. The eaves provide suitable opportunities for bats although no bat field signs were identified during this survey.

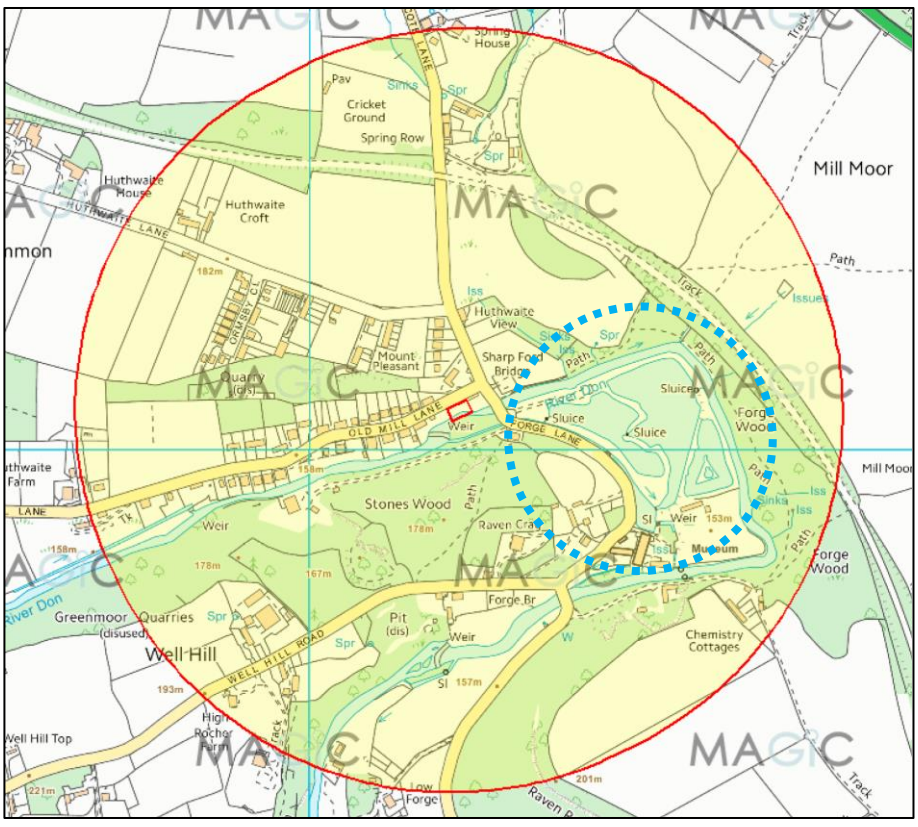
3.4.5.4. The remaining buildings were all identified to be small garden storage buildings that displayed a negligible potential to support roosting bats with no bat field signs identified during this survey of the site.

3.4.6. The trees located within the surveyed area were all inspected from ground level and no Potential Roost Features (PRF) were identified. The trees were therefore assessed as displaying a negligible potential to support roosting bats.

3.4.7. Further buildings and trees that may provide suitable opportunities for roosting bats are located in the immediate surrounding area although these will remain unaffected and therefore a thorough inspection was not carried out.

3.4.8. The surveyed area and immediate surrounding area were assessed as providing a high value foraging and commuting habitat for bats due to the presence of the River Don and adjacent woodland. A thorough assessment of the foraging and commuting activity within and around the surveyed area was not possible during this daytime survey of the site.

3.4.9. Several ponds were identified within 500m of the surveyed area on a map of the area. The ponds are all large fishing ponds located within Wortley Top Forge.



3.4.10. The ponds lie 120m from the surveyed area at their closest but are all located on the opposite side of the River Don, a barrier to amphibian movements, to the surveyed area.

3.4.11. The surveyed area displays abundant areas of suitable refugia in the form of large piles of stored wood and stone (T3) located within the surveyed area. No amphibians were identified during this survey of the site.

3.4.12. The surveyed area provides an abundance of suitable nesting opportunities for birds within the buildings and vegetation on the site. No nests were identified during this survey although nest boxes were identified as being present on the trees on site (T2) and a wren was regularly seen feeding around the stored wood.

3.4.13. The surveyed area provides an abundance of suitable refugia for reptiles within the piles of stored wood and stone (T3) although no reptiles were identified within the surveyed area during this survey of the site.

3.4.14. The site lies outside the known UK range for hazel dormice and red squirrels.

3.4.15. Several invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 were identified within the surveyed area or immediately surrounding area.

3.4.15.1. Himalayan balsam was identified growing extensively along the River Don and where it flows adjacent to the surveyed area (T1). The plant was identified occasionally along the base of the gabion baskets on the northern bank with extensive areas of the plant visible along the southern bank and throughout the surrounding area.


3.4.15.2. Montbretia (T6) and Virginia creeper (T7) were both identified growing within the decorative gardens around Holly Cottage.


3.4.16. The site was assessed as providing some habitat suitable for hedgehogs although no hedgehogs or hedgehog field signs were identified during this survey of the site.

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4. EVALUATION OF FINDINGS.

4.1. No designated sites were identified within the surveyed area with the closest located 250m to the south. Therefore, there will be no direct impact on designated sites during the development and the development will not cause a significant increase in pedestrian access to the sites.

4.2. The site comprises an area of garden associated with Holly Cottage and used for general storage. The main habitats identified during this survey were classified as the garden areas, which display minimal vegetation and high levels of disturbance, and the bank to the River Don, which displayed sparse low lying vegetation. These areas therefore display minimal ecological value.

4.3. The scattered trees identified within the surveyed area provide opportunities for a range of species and form part of the structure along the adjacent river. The trees were therefore assessed as providing a moderate to high ecological value.

4.4. The hedgerows that extend along the northern and western boundaries of the site are species poor but do provide opportunities for some species. The hedges were therefore assessed a providing a low to moderate ecological value. Hedgerows are also a Habitat of Principal Importance under the NERC Act 2006.

4.5. The River Don and the surrounding habitats, dense scrub and woodland, provide a corridor along the southern boundary of the survey area with a high ecological value. The river and surrounding vegetation will support abundant species and provide a suitable corridor for species passing throughout the area.

4.6. The remaining habitats are man-made habitats associated with the public road and site boundaries and provide a very low ecological value.

4.7. Overall the surveyed area provides a limited ecological value with the ecological value provided by the River Don and its corridor to the south.

4.8. The proposed development will only impact on the garden and ephemeral habitats. The development will use the existing entrance through the hedgerow and will retain the trees and leave the River Don completely unaffected. Therefore, the development will have little or no impact on the ecological value of the site with sensitive lighting schemes and biodiversity enhancements further reducing the impact.

4.9. No badger setts or other badger field signs were identified within the surveyed area. Therefore, although there are records of badgers within the area of the site there will be no impact on badgers during the proposed development.

4.10. Although no existing field signs were identified during this survey the River Don provides a suitable habitat for water voles, otters and crayfish with existing records of water voles along some sections of the river. The proposed development will not impact on the river or the existing gabion basket wall along the riverbank. Therefore, given that the river is already bordered by residential properties to either side of the site the additional property will have little or no additional impact on the river or any species present.

4.11. The garage associated with Holly Cottage was assessed as providing some potential for roosting bats along the eaves to the north and south of the building although a thorough assessment of the building was not carried out because the building will remain completely unaffected by the proposed development. There are also no existing records of bats within the buildings immediately surrounding the surveyed area. Therefore, if a sensitive lighting scheme is implemented during the development there will be no impact on any bats utilising the building.

4.12. The additional buildings and trees within the surveyed area were all assessed as providing a negligible potential to support roosting bats. Therefore, there will be no additional impact on roosting bats during the development and a sensitive lighting scheme will avoid impact on any bats roosting in the surrounding area.

4.13. The surveyed area and immediately surrounding area, predominantly the River Don, provide a high value foraging and commuting habitat for bats although a thorough assessment of the foraging and commuting activity could not be carried out during this daytime survey of the site.

4.14. There will be no requirement to clear vegetation during the works and therefore the development will not cause the loss or fragmentation of suitable foraging or commuting habitats and a sensitive lighting scheme will avoid impact on bats passing along the river corridor.

4.15. Several ponds were identified within 500m of the surveyed area, all associated with Wortley Top Forge, and there are existing records of common amphibians within the ponds. However, the ponds lie on the opposite side of the River Don to the

surveyed area and therefore it is assessed as highly unlikely that the proposed works will have an impact on any amphibians present within the area.

4.16. The surveyed area provides suitable nesting opportunities for various bird species although no active nests were identified during this survey of the site.

4.17. Any site or vegetation clearance carried out during the nesting season, which extends from March to September each year, will potentially have a high impact on any birds present on the site at that time.

4.18. The surveyed area provides some habitat suitable for reptiles and there are existing records of grass snakes throughout the surrounding area. However, no reptiles were identified during this survey of the site.

4.19. The proposed works may have some impact on individual reptiles if they seek refuge in the refugia on site although the works will not destroy or fragment large areas of suitable habitat. Therefore, if suitable precautionary working methods are implemented, predominantly during the site clearance, the impact on reptiles will be minimal.

4.20. The site lies outside the known UK range for hazel dormice and red squirrels and therefore there will be no impact on these species during the proposed development.

4.21. Several invasive non-native plant species were identified within the surveyed area during this survey, those being Himalayan balsam, montbretia and Virginia creeper. However, none of the species lie within the development footprint. Therefore, the species will not be spread during the proposed development.

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5. RECOMMENDATIONS.

5.1. It is recommended that a sensitive lighting scheme is implemented during the development with no lighting directed towards the River Don to ensure that the development does not impact on the river corridor or any species that use it.

5.2. As a precaution it is recommended that all personnel working on the site are briefed on the potential presence of common amphibians and reptiles on the site. Toolbox talks on amphibians and reptiles have been included at the end of this report to aid in the briefing.

5.3. It is then recommended that the following precautionary working methods are implemented during the development.

- Any materials moved from the site should be carefully lifted and the area underneath inspected.
- Any excavations should have a sloped end to allow animals to escape and pipe ends should be blocked overnight.
- Materials stored on the site should be placed on pallets or batons to prevent animals from seeking refuge underneath.

5.4. If any great crested newts are encountered during the development all works should cease immediately and further advice should be sought. If individual common amphibians or reptiles are encountered they should be moved to a suitable area of refugia outside the worksite. In the event that large numbers of amphibian and reptiles (5+) are encountered all work in that area should cease and further advice should be sought.

5.5. Ideally it is recommended that any site or vegetation clearance works are carried out outside the nesting season, which extends from March to September each year.

5.6. Any site or vegetation clearance work carried out during the nesting season must be immediately preceded by a thorough nesting bird survey carried out by a suitably experienced surveyor. Any nests identified must remain undisturbed until the young have fledged from the nest.

5.7. In line with NPPF it is recommended that the following biodiversity enhancements are considered as part of the development.

- Using large natural stone fill within any additional gabion baskets used to create terracing on the site creating areas of suitable refugia within the baskets.
- The installation of a single bat brick of a suitable incorporated design in the building.
- The installation of a single bird box suitable for threatened urban species, such as house sparrow, within the building.
- The use of native fruit and berry bearing tree and shrub species in any landscaping.

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Prepared by:	
Steven Whitcher, MCIEEM.	Date: 15th August 2019.

Checked by:	
Derek Whitcher. BSc, MCIEEM, MCMI	Date: 16th August 2019.

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Appendix I. WATER VOLE INFORMATION.

Ecology

The Water Vole is the largest of the British voles. It lives in a series of holes or burrows at the water's edge and can be found along the banks of ditches, streams, rivers, lakes and canals. Although Water Voles live in colonies, the breeding females are territorial, each defining their contiguous territory with latrines during the breeding season. This lasts from March to October.

The Water Vole is herbivorous, feeding primarily on the lush aerial stems and leaves of waterside plants growing alongside the watercourse. Its activity is normally confined to the area within two metres of the watercourse. Bankside vegetation in this area is not only essential for food but also for cover from predators.

The Water Vole population has been on the decline in recent years. This is partly due to loss of suitable riverside habitats but also due to the increasing population of predators, particularly the escaped American Mink. Population decline has been dramatic and has accelerated over the last seven years. Surveys carried out by the Vincent Wildlife Trust show a loss of 67% of occupied sites and of 88% of the remaining population in the last seven years.

Surveys

Water Vole surveys will look for any signs of burrows, latrines, tracks and feeding signs along watercourse banks.

Legislation

Water Voles are protected under Schedule 5 of the Wildlife and Countryside Act (1981) 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 Water Vole, to interfere with any place used for shelter or protection, or to intentionally disturb any animal occupying such a place.

Appendix II. OTTER INFORMATION.

Ecology

Otters are nocturnal, are active all year around and live by undisturbed waters where there is plenty of cover; mostly by freshwater lakes, rivers and small streams as well as some coasts.

Fish are the otter's main source of food, especially eels and they therefore rely on good fish populations. They also eat amphibians and the occasional birds and small mammals.

An otter may use over 40km of river and needs many resting places throughout this range. A female otter will give birth to 1 to 3 cubs in a natal holt which is often away from the main river and must be completely undisturbed.

Surveys

Generally, the only evidence seen of the otter is its faeces or 'spraint', which are deposited along a watercourse in prominent positions. Surveys will look for the presence of these spraints, along with any tracks or potential holts or other resting places which may be used by otters.

Legislation

Otters are protected under Appendix II of the BERN Convention Act (1981), partly covered by Schedule 5 of the Wildlife and Countryside Act (1981), Schedule 6 of the Wildlife and Countryside Act (1981), Annex II and IV of the Habitats Directive, Annex II of the Conservation and Habitats Regulations (2010), Appendix I of the CRoW Act (2000) and are listed under section 41 of the Natural Environment and Communities Act (2006) making them a species of principal importance. Otters are considered to be 'Near Threatened' by the IUCN Red list.

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

Appendix III. CRAYFISH INFORMATION.

Ecology

Crayfish are the largest and most mobile freshwater invertebrate. The White Clawed Crayfish *(Austropotamobius pallipes)* is the only native crayfish and this is protected under European and UK legislation.

White Clawed Crayfish are generally found in areas with relatively hard, mineral rich waters on calcareous and rapidly weathering rocks. They can be found in a wide variety of environments including canals, streams, rivers, lakes reservoirs and water-filled quarries.

White Clawed Crayfish are typically found in water between 0.75 and 1.25m deep but can occur in very shallow streams with as little water as 50mm and in deeper, slow flowing rivers. They are typically found under rocks and submerged logs, among tree roots and in river-banks. White Clawed Crayfish are omnivorous but primarily carnivorous eating macro invertebrates and carrion when available. They will also eat worms, insect larvae, snails, small fish, macrophytes, algae and calcified plants.

Crayfish can live for up to ten years and generally reach sexual maturity after three to four years. Breeding takes place between September and November when the water temperature drops consistently to below ten degrees centigrade. Over winter females will hold a clutch of eggs (between twenty and one hundred and twenty) beneath their tail. The juveniles are released from the mother from June in the south to August in the north.

The main threat to the indigenous White Clawed Crayfish is the spread of introduced non-indigenous species, particularly the larger, faster growing and aggressive North American Signal Crayfish *(Pacifastacus leniusculus).* They are also vulnerable to disease, particularly porcelain disease and crayfish plague, and the latter carried by the Signal Crayfish.

Crayfish are also extremely vulnerable to pollution incidents, particularly those involving biocides, silage and sheep dip.

As a result, White Clawed Crayfish are endangered across most of its range and has been given protection under both European and UK legislation.

Surveys

Walkover surveys will assess the potential habitat within a watercourse for Crayfish. If safe to do so and within the correct time of year, surveys can be conducted which involves the invasive search of the watercourse bed and banks for Crayfish. Torch surveys can also be conducted at dusk which will identify any active Crayfish at that time.

Trapping surveys can be carried out but require permission being sought to place traps in the watercourse.

Legislation

White Clawed Crayfish are protected under Appendix III of the BERN Convention (1982), Schedule 5 of the Wildlife and Countryside Act (1981), Annex II and V of the Habitats Directive, Annex II of the Conservation of Habitats and Species Regulations (2010) and are listed under Section 41 of the Natural Environment and Rural Communities Act (2006) making them a species of principal importance. White Clawed Crayfish are considered to be Endangered by the IUCN red list.

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

It is an offence to release or allow to escape any Crayfish species which is not ordinarily resident in the UK or is listed on Schedule 9 of the Wildlife and Countryside Act (1981). These include North American Signal Crayfish, Noble Crayfish and Turkish Crayfish.

Licenses are available from Natural England to allow the taking of White Clawed Crayfish for certain specified purposes, including scientific or educational purposes and for conservation purposes. A Natural England Conservation License is also required for the purpose of conserving White Clawed Crayfish or introducing them to particular areas.

Appendix IV. 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 V. 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 a 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 VI. 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 VII. 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 VIII. INVASIVE PLANT SPECIES INFORMATION.

Ecology

The Government has acknowledged the problems that can be caused by non-native invasive species. In 2008 the Government launched "The Invasive Non-Native Species Framework Strategy for Great Britain". The strategy provides a framework for a more co-ordinated approach to invasive species management. It seeks to create a stronger sense of shared responsibility across government, key organisations, land managers and the public.

The Non-Native Species Secretariat has been established to oversee the implementation of the strategy. Details of the secretariat including risk assessments and action plans for some species are available at www.nonnativespecies.org.

In general, there are four basic methods of controlling weeds; mechanical, chemical, natural and environmental.

- ***Mechanical control*** *includes cultivation, hoeing, pulling, cutting, raking, dredging or other methods to uproot or cut weeds.*
  Where this method is used all plant material must be considered "controlled waste" and must be disposed of properly.
- ***Chemical control*** *uses approved herbicides.*
- ***Natural control*** *uses pests and diseases of the target weed to weaken it and prevent it from becoming a nuisance.*
- ***Environmental control*** *works by altering the environment to make it less suitable for weed growth, for example by increasing or decreasing water velocity.*

Surveys

A site will be searched for invasive plant species growing on site, from mature plants to new shoots. A site will also be searched for dead stems indicating that plants that may have seasonally died back are present.

Legislation

Invasive species listed under Schedule 9 are prohibited from release into the wild. Schedule 9, Section 14(2) prohibits 'planting' or 'causing to grow' in the wild of any plant listed in Part 2 of Schedule 9.

The following is a list of all the species of plant listed under Schedule 9 of The Wildlife and Countryside Act 1981.

Common Name	**Scientific Name**	**England & Wales**	**Scotland**
Alexanders, Perfoliate	*Smyrnium perfoliatum*	✓	
Algae, Red	*Grateloupia luxurians*	✓	
Archangel, Variegated Yellow	*Lamiastrum galeobdolon subsp. Argentatum*	✓	
Azalea, Yellow	*Rhododendron luteum*	✓	
Balsam, Himalayan	*Impatiens glandulifera*	✓	
Cotoneaster	*Cotoneaster horizontalis*	✓	
Cotoneaster, Entire Leaved	*Cotoneaster integrifolius*	✓	
Cotoneaster, Himalayan	*Cotoneaster simonsii*	✓	
Cotoneaster, Hollyberry	*Cotoneaster bullatus*	✓	
Cotoneaster, Small Leaved	*Cotoneaster microphyllus*	✓	
Creeper, False Virginia	*Parthenocissus inserta*	✓	
Creeper, Virginia	*Parthenocissus quinquefolia*	✓	
Dewplant, Purple	*Disphyma crassifolium*	✓	
False-acacia	*Robinia pseudoacacia*		✓
Fanwort	*Cabomba caroliniana*	✓	✓
Fern, Water	*Azolla filiculoides*	✓	✓
Fig, Hottentot	*Carpobrotus edulis*	✓	✓
Garlic, Three-Cornered	*Allium triquetrum*	✓	
Hogweed, Giant	*Heracleum mantegazzianum*	✓	✓
Hyacinth, water	*Eichhornia crassipes*	✓	✓
Kelp, Giant	*Macrocystis angustifolia*	✓	✓
Kelp, Giant	*Macrocystis integrifolia*	✓	✓
Kelp, Giant	*Macrocystis laevis*	✓	✓
Kelp, Giant	*Macrocystis pyrifera*	✓	✓
Kelp, Japanese	*Laminaria japonica*	✓	✓

Knotweed, Giant	*Fallopia sachalinensis*	✓	
Knotweed, Hybrid	*Fallopia japonica x Fallopia sachalinensis*	✓	
Knotweed, Japanese	*Fallopia japonica*	✓	
Knotweed, Japanese	*Polygonum cuspidatum*		✓
Leek, Few-flowered	*Allium paradoxum*	✓	✓
Lettuce, water	*Pistia stratiotes*	✓	✓
Montbretia	*Crocosmia x crocosmiiflora*	✓	
Parrot's-feather	*Myriophyllum aquaticum*	✓	
Pennywort, Floating	*Hydrocotyle ranunculoides*	✓	
Potato, Duck	*Sagittaria latifolia*	✓	
Primrose, Floating Water	*Ludwigia peploides*	✓	
Primrose, Water	*Ludwigia grandiflora*	✓	
Rhododendron	*Rhododendron ponticum*	✓	
Rhubarb, Giant	*Gunnera tinctorial*	✓	
Rose, Japanese	*Rosa rugosa*	✓	
Salvinia, Giant	*Salvinia molesta*	✓	✓
Seafingers, Green	*Codium fragile*	✓	
Seafingers, Green	*Codium fragile tomentosoides*		✓
Seaweed, Californian Red	*Pikea californica*	✓	✓
Seaweed, Hooked Asparagus	*Asparagopsis armata*	✓	✓
Seaweed, Japanese	*Sargassum muticum*	✓	✓
Seaweeds, Laver (except native species)	*Porphyra sp. except -* *P. amethystea* *P. leucosticta* *P. linearis* *P. miniata* *P. purpurea* *P. umbilicalis*	✓	✓
Shallon	*Gaultheria shallon*		✓
Stonecrop, Australian swamp	*Crassula helmsii*	✓	✓
Wakame	*Undaria pinnatifida*	✓	✓
Waterweed, Curly	*Lagarosiphon major*	✓	✓
Waterweeds	*All species of the genus Elodea*	✓	

Appendix IX. HEDGEHOG INFORMATION.

Ecology

The hedgehog was a common species once widespread throughout the country but it has suffered a major decline due to loss of habitat. They are now found distributed across the UK, but the population increases to the south and east. Hedgehogs are rare in Scotland, Wales and Northern Ireland.

The hedgehog is a small, spiny mammal around 20cm long with a long snout. The back and sides of the hedgehog are covered in 25mm (1") long spines. These are absent from the face, legs and underside, which are covered with coarse, grey-brown fur.

Hedgehogs are highly active and range widely. They need to be able to move freely through a well-connected range of habitats to find food, mates and areas to nest. Studies show that hedgehogs can travel around 2km in a night in urban areas and 3km a night in rural landscapes. A viable population of urban hedgehogs is thought to need 0.9km^2 of well-connected habitat.

Hedgehogs nest year-round and produce different types of nest for daytime resting, breeding and hibernation. Daytime nests are a retreat during the active season, and are often temporary, flimsy and found in areas of rough grassland, loose leaf piles or garden vegetation. Breeding nests are made by females and are used to raise young. They tend to be more robust, like hibernation nests. Winter nests can be used for several months to hibernate through periods of cold weather and low food availability. The sturdiest nests rely on medium-sized deciduous leaves and a structure to hold the leaves in place. Bramble patches, log piles and open compost heaps are common locations for breeding and hibernation.

Hedgehogs are omnivores, but the bulk of their diet consists of macro-invertebrates such as beetles, worms, slugs, earwigs, caterpillars and millipedes. In urban areas, supplementary food in the form of cat, dog or formulated hedgehog food can make up a significant part of their diet. Access to water is also very important.

Surveys

Hedgehogs are nocturnal animals, so despite their spiny appearance they are often difficult to find.

All surveys should be conducted between May and November when hedgehogs are active.

Droppings can be found in grassland, farmland and in gardens. The droppings are crinkly, often studded with shiny fragments due to their diet of insects. They are variable in size, 15-50mm long and 8-10mm thick, blue/black in colour and sweet smelling with a hint of linseed oil.

Footprint tunnels and camera traps can also be used to survey for hedgehogs.

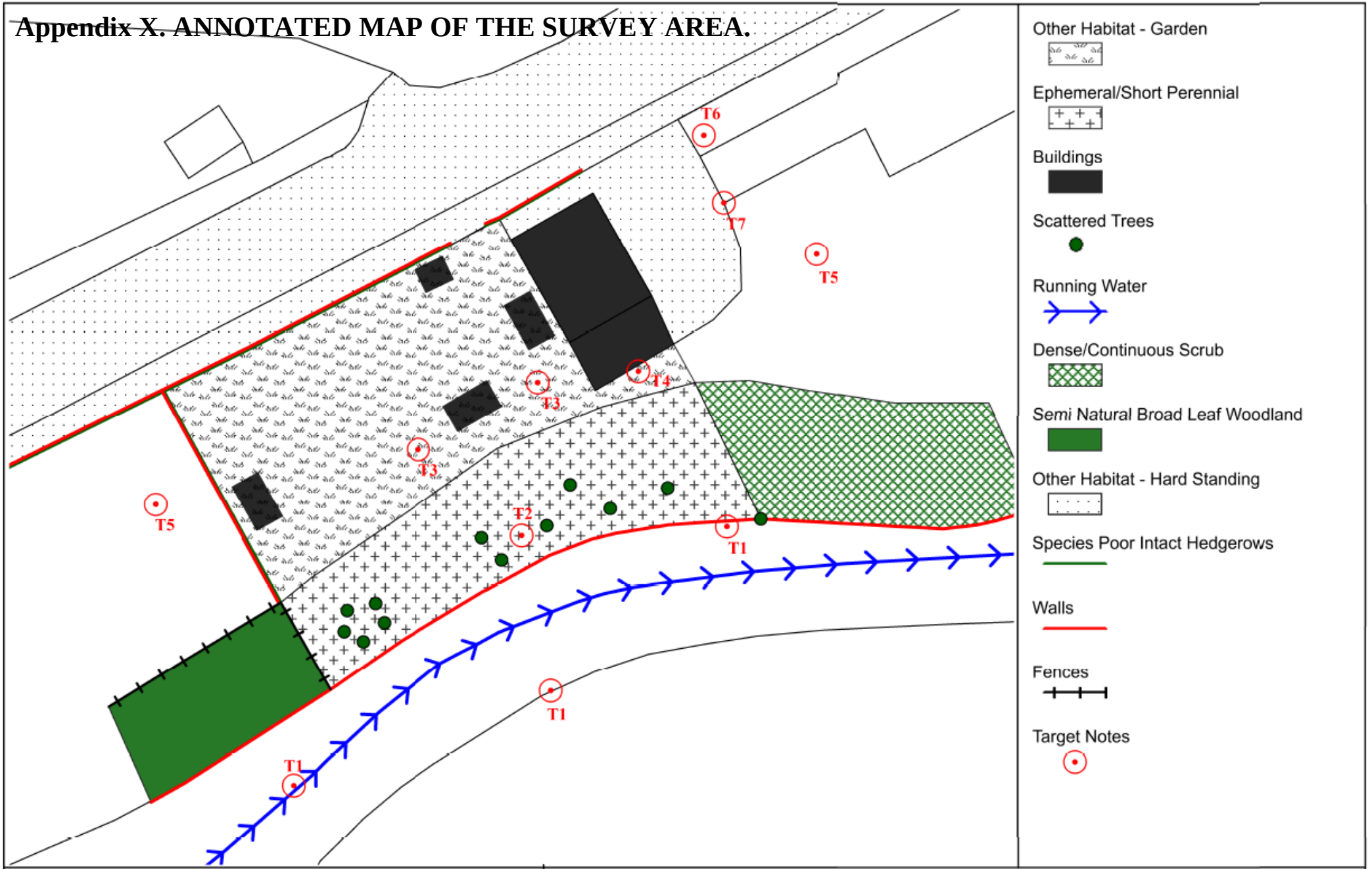
Further survey techniques can also be used to survey for hedgehogs, but these require a survey licence to carry out surveys involving trapping and torch or spotlight searches.

Legislation

The hedgehog is considered an endangered species, but it benefits only from general protection under the Wildlife and Countryside Act 1981. They are listed under Schedule 6 of the Act, which makes it illegal to kill, trap or capture wild hedgehogs, with certain methods listed. They are also listed under the Wild Mammals Protection Act (1996), which prohibits cruel treatment of hedgehogs and they are a species of 'principal importance' under the NERC Act, which confers a 'duty of responsibility to public bodies'.

However, none of these deal with the issues that are a threat to the hedgehog. The main threat is the increasing loss of habitat, the increasing traffic on our roads and the increasing use of herbicides, in particular those used to kill garden slugs.

Appendix X. ANNOTATED MAP OF THE SURVEY AREA.



Site: Holly Cottage, Thurgoland

Reference: 190781

Prepared by: Steven Whitcher

Date: 7th August 2019

Appendix XI. TARGET NOTES.

T1: Himalayan balsam.

T2: Existing bird boxes located on the trees on site.

T3: Piles of stored wood and stone that provide suitable refugia for amphibians and reptiles.

T4: The garage associated with Holly Cottage displays occasional voids suitable for roosting bats.

T5: Adjacent residential gardens, not accessible during this survey.

T6: Montbretia.

T7: Virginia creeper.

Appendix XII. SPECIES LISTS.

1. Other Habitat – Garden.

Species.	DAFOR Assessment.
Dock (*Rumex sp*)	A
Creeping buttercup (*Ranunculus repens*)	A
Common bent (*Agrostis capillaries*)	O
Cocks foot (*Dactylis glomerata*)	O
Annual meadow grass (*Poa annua*)	O
Dandelion (Taraxa*cum officinale*)	F
Broad leaved willowherb (*Epilobium montanum*)	F
Clover (*Trifolium sp*)	O
Perennial rye grass (*Lolium perenne*)	F
Herb Robert (*Geranium robertianum*)	O
Mullein (*Verbascum thapsus*)	R
Pineappleweed (*Matricaria discoidea*)	O
Greater plantain (*Plantago major*)	O
Lady's mantles (*Alchemilla mollis*)	R

2. Ephemeral/Short Perennial.

Species.	DAFOR Assessment.
Dock (*Rumex sp*)	O
Hogweed (*Heracleum sphondylium*)	R
Tormentil (*Potentilla erecta*)	O
Bittercress (*Cardamine sp*)	R
Perennial rye grass (*Lolium perenne*)	O
Nettle (*Urtica dioica*)	F
Bramble (*Rubus fruticosus*)	O
Goosegrass (*Galium aparine*)	O
Lesser celandine (*Ranunculus ficaria*)	F
Ivy (*Hedera helix*)	O
Herb Robert (*Geranium robertianum*)	F
Wood avens (*Geum urbanum*)	O
Creeping buttercup (*Ranunculus repens*)	F
Sycamore (*Acer pseudoplantus*)	O

3. Scattered Trees.

Species.	DAFOR Assessment.
Sycamore (*Acer pseudoplantus*)	O
Elm (*Ulmus sp*)	O
Alder (*Alnus glutinosa*)	O

4. Dense/Continuous Scrub.

Species.	DAFOR Assessment.
Ash (*Fraxinus excelsior*)	O
Herb Robert (*Geranium robertianum*)	F
Bramble (*Rubus fruticosus*)	O
Goosegrass (*Galium aparine*)	O
Sycamore (*Acer pseudoplantus*)	O
Ivy (*Hedera helix*)	F
Alder (*Alnus glutinosa*)	O
Hawthorn (*Crataegus monogyna*)	O
Fern (*Dryopteris sp*)	O

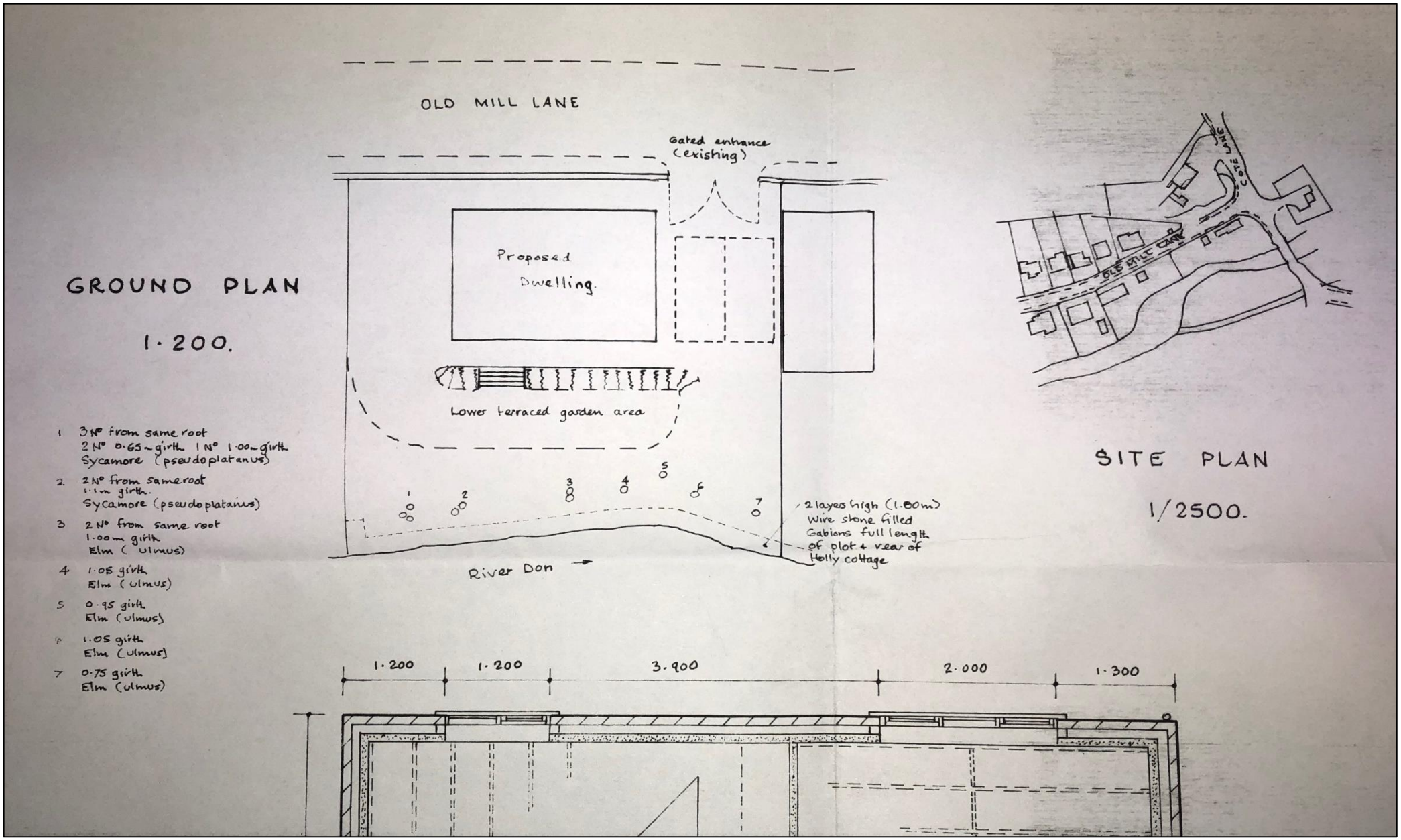
5. Semi Natural Broad Leaf Woodland.

Species.	DAFOR Assessment.
Alder (*Alnus glutinosa*)	D
Nettle (*Urtica dioica*)	F
Pendulous sedge (*Carex pendula*)	O
Elder (*Sambucus nigra*)	R

6. Species Poor Intact Hedgerow.

Species.	DAFOR Assessment.
Conifer (*Cupressus x leylandii*)	A
Beech (*Fagus sylvatica*)	F
Hawthorn (*Crataegus monogyna*)	O

Appendix XIII. DEVELOPMENT PLAN.



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: Amphibians

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Identification: Smooth Newts.

Smooth newts can grow to around 10cm in length. They are usually brown in colour, often with visible black spots on the upper body. Their belly is pale orange with black spots fading away to the sides. The males have a wavy crest running from head to tail, although this can sometimes only be visible in water.

Identification: Palmate Newts.

Palmate newts are very similar to smooth newts but are usually smaller, to around 9cm. Their throat is usually pink and unspotted. The males often have webbed back feet and a fine filament at the end of the tail during the breeding season.

Identification: Common Frogs.

Common frogs are one of the more common amphibians in the UK. They have smooth skin with a distinctive patch behind their eyes. They are predominantly green or brown with black patches although their colour can vary through orange, red or black.

Identification: Common Toads.

Common toads are a Species of Principal Importance in the UK.

Common toads have rough warty skin with two distinctive lumps behind the eyes. When disturbed they have a tendency to remain still, when moving they crawl rather than hopping.

Other Amphibians.

In addition to the common amphibians listed adjacent there are also three other species present in the UK, those being great crested newts, natterjack toads and pool frogs. These species are less common.

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

Habitat.

Amphibians predominantly live on land but breed in ponds. The aquatic requirements for each species vary slightly although the presence of one species does not rule out the potential presence of the other species.

When not in their ponds amphibians require a variety of refugia for shelter and can therefore be found under log piles, in rubble, under tree roots or within areas of scrub or rough grassland. Amphibians hibernate, spending the winter in burrows or under logs protected from the cold and predators.

Legislation.

The common amphibians listed above are protected only by Section 9(5) of the Wildlife and Countryside Act 1981. This section prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy. Collection and keeping of these amphibians is not an offence.

The common toad is also listed as a Species of Principal Importance in the UK.

If amphibians are identified during works, allow them to move away of their own accord.
If large numbers or amphibians (5+) are identified stop 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. Background 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