



OLD MILL LANE, THURGOLAND.

OS REF: SE 29169 00047.

PRELIMINARY ECOLOGICAL APPRAISAL.

Ref No: 220850/2.

Date: 10th May 2023.

TABLE OF CONTENTS.

	Page Number
1. INTRODUCTION.	3
2. SURVEY METHODOLOGY.	4
3. SURVEY RESULTS.	7
4. EVALUATION OF FINDINGS.	20
5. RECOMMENDATIONS.	23
6. REFERENCES.	25
Appendix I. BAT INFORMATION.	26
Appendix II. NESTING BIRD INFORMATION.	28
Appendix III. REPTILE INFORMATION.	29
Appendix IV. INVASIVE SPECIES INFORMATION.	31
Appendix V. ANNOTATED MAP OF THE SURVEY AREA.	34
Appendix VI. TARGET NOTES.	35
TOOLBOX TALK: REPTILES	36

1. INTRODUCTION.

1.1. There are plans to develop land off Old Mill Lane, Thurgoland. The plans involve the demolition of a garage, creation of a new dwelling and garage. The plans also include retroactive permission for a gabion basket wall that has already been constructed.

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 initial site survey was carried out on 31st August 2022.

1.4. A dusk emergence survey was carried out by two surveyors on 3rd May 2023.

1.5. This report includes the results of these 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.

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 non-native 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 site survey was carried out by Sam White BSc ACIEEM. Sam has had experience in a professional capacity as an Ecologist focusing primarily on survey work for protected species and Phase 1 Habitat surveys. Sam has a BSc in Environmental Conservation from Sheffield Hallam University and Graduated in 2015. Sam joined Whitcher Wildlife Ltd in May 2018 as an Ecological Consultant. Sam holds a survey licence for Great Crested Newts (*Triturus cristatus*) and a Level 1 Class Licence for Bats. Sam is an Associate Member of the Chartered Institute of Ecology and Environmental Management.

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

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 survey 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 survey 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 survey area.
- Romticle Viaduct and Thurgoland Tunnels LWS – located 500m northwest of the survey area.
- Wharncliffe Chase and Wood LWS – located 1.25km southeast of the survey area.
- Mag Wood Meadow LWS – located 1.45km northeast of the survey area.
- Black Moor Common LWS – located 1.45km northwest of the survey area.

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

- Records of badgers throughout the area – the closest located approximately 500m from the survey area.
- Records of bats throughout the area, the closest records being Pipistrelle bats at Cherry Tree Cottages, 500m south of the survey area.
- Records of water voles along the River Don. Of the six records, all are historic and the closest record is over 700m west of the survey area.

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 survey area. The records in close proximity to the site comprise:

- Unidentified records of natterers and noctule bats at the River Don bridge approximately 80m east of the survey 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 Survey Area.

3.2.1. The survey area comprises land off Old Mill Lane, Thurgoland. The aerial photograph below shows the survey area highlighted in red.



3.2.2. The survey area itself comprises a garage and residential garden as well as a gabion basket wall on the banks of the River Don.

3.2.3. The surrounding area is largely residential with woodland and the River Don to the south.

3.3. Description of Habitats.

3.3.1. Appendix V of this report contains an annotated map marked up with the varying habitats present on the site. The habitats within the survey area are: -

- Improved Grassland.
- Dense Scrub.
- Scattered Tree.
- Hedgerow.
- Building.
- Bare Ground.
- Running Water.
- Wall.
- Historic Habitats.

3.3.2. **Improved Grassland:** The majority of the vegetation comprises a small garden, with an improved grassland lawn. Some of the species present include perennial ryegrass (*Lolium perenne*), cocksfoot (*Dactylis glomerata*), common bent (*Agrostis capillaris*), dandelion (*Taraxacum officinale*), ribwort plantain (*Plantago lanceolata*), annual meadow grass (*Poa annua*), herb Robert (*Geranium robertianum*), curled dock (*Rumex crispus*) greater plantain (*Plantago major*), common vetch (*Vicia sativa*), meadow foxtail (*Alopecurus pratensis*), red clover (*Trifolium pratense*) and dandelion (*Taraxacum officinale*).



3.3.3. **Dense Scrub:** There are introduced shrubs in the garden, which are becoming overgrown by scrub species. This has been mapped as dense scrub due to the dominance of the scrub species. Some of the species present in this habitat include stinking iris (*Iris foetidissima*), bramble (*Rubus fruticosus*), pendulous sedge (*Carex pendula*), beech (*Fagus sylvatica*), sycamore (*Acer pseudoplatanus*), Himalayan balsam (*Impatiens glandulifera*), nettle (*Urtica dioica*), curled dock (*Rumex crispus*) and snowberry (*Symphoricarpos* sp.).



3.3.4. **Scattered Tree:** There is a single copper beech (*Fagus sylvatica* f. *purpurea*) within the survey area.



3.3.5. **Intact Species-poor Hedgerow:** The northern and eastern boundaries of the survey area comprise managed hedgerows. The species within the hedgerows include Leyland cypress (*Cupressus x leylandii*), hawthorn (*Crataegus monogyna*) and beech (*Fagus sylvatica*). There are some of the introduced shrubs listed above at the base of the hedgerow, most prominently stinking iris (*Iris foetidissima*). Himalayan balsam (*Impatiens glandulifera*) is also present at the base of the hedgerow in the north-eastern corner of the garden.



3.3.6. **Building:** There are two permanent buildings within the survey area. These buildings comprise a garage and small shed. Both buildings are shown below. The garage comprises stone walls with a small timber section, interlocking tiles and a lined loft space. The shed has concrete walls, interlocking tiles and no loft space.



3.3.7. **Bare Ground:** The survey area has a tarmacked driveway and paved paths that have been mapped as bare ground.



3.3.8. **Running Water:** The River Don forms the southern boundary of the survey area. The river flows from west to east and has a visibly shallow depth through the survey area. The banks of the river within the survey area are formed by gabion baskets. There are some tall ruderal species present, which can not be mapped due to the small size of the habitat. These include common nettle (*Urtica dioica*) and Himalayan balsam (*Impatiens glandulifera*).



3.3.9. **Wall:** There are stone walls at the front of the survey area bordering Old Mill Lane and at the base of the hedgerow.

3.3.10. **Historic Habitats:** Barnsley Metropolitan Borough Council have requested that the area of the gabion baskets is to be mapped as Woodland. However, the below

photograph taken in 2019 shows the area to be covered by scrub species similar to those currently on the site and scattered sycamores (*Acer pseudoplatanus*). The photo below was taken by Whitcher Wildlife Ltd in 2019 whilst surveying the adjacent property.



3.4. Description of Fauna.

3.4.1. No badger setts or field signs were found within the survey area.

3.4.2. The River Don flows from west to east to the south of the survey area. This habitat was assessed for otter, water vole and white clawed crayfish.

3.4.2.1. The river provides suitable habitat for foraging otters. No holts were present within the survey area, where the banks are made up by gabion baskets. The survey could not extend further along the banks of the river as these comprises private gardens.

3.4.2.2. No water vole burrows, or field signs were found within the survey area, which is entirely unsuitable for the species. The survey could not extend further along the banks of the river as these comprise private gardens.

3.4.2.3. 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. However, the works will not impact on the bed of the river.

3.4.3. The garage within the survey area was assessed for potential for roosting bats.

3.4.3.1. The stonework of the garage is largely in good condition with no potential access points for roosting bats.



3.4.3.2. The above photograph also shows that the roof of the building is in a largely good condition, however, there are areas of missing mortar on each gable of the building, shown below. This will allow individual opportunistic bats to roost between the roofing felt and tiles.



3.4.3.3. The loft space is lined and was accessible during the survey. No light was visible from the internals of the loft suggesting any external access leads between the felt and tiles and not into the loft space. No bat field signs were found within the loft.



3.4.3.4. The garage does have suitable features for individual opportunistic bats but is not likely to support a substantial roost, therefore the building is assessed as low potential for roosting bats in accordance with the Bat Conservation Trust Good Practice Guidelines.

3.4.3.5. The small shed was in a good condition with no potential features for roosting bats. The concrete walls of the building and the roof are both in generally good condition. There is a single crack in the concrete of the building, shown below, but this are considered too small for roosting bats and was also visibly shallow. Therefore, the shed is assessed as providing negligible potential for roosting bats.



3.4.4. There are no trees within the survey area with potential features for roosting bats with the copper beech being assessed as providing negligible potential for roosting bats.

3.4.6. The site survey, review of aerial photography and Ordnance Survey maps found several ponds within 500m of the survey area. The closest pond is approximately 150m from the survey area, but all ponds are separated from the site by the River Don, a barrier to the movement of great crested newts. Therefore, it is assessed that great crested newts are absent from the survey area.

3.4.6. The vegetation and buildings within the survey area provide suitable habitat for nesting birds during the nesting bird season, which extends from March to September each year.

3.4.7. The survey area comprises a maintained garden and a steep gabion basket wall directly adjacent to the River Don. There is a rubble pile within the survey area, shown below that would be suitable for reptiles, however this pile is regularly disturbed, and the survey area is entirely fragmented from other suitable reptile habitat and therefore, it is highly unlikely that reptiles are present within the site.



3.4.8. The survey area lies outside of the known UK distribution for hazel dormice and there are no records of the species within 2km of the survey area.

3.4.9. The survey area is outside of the known UK distribution of red squirrel and there are no recent records of the species within 2km of the site.

3.4.10. Himalayan balsam is a non-native, invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 found within the survey area. The plant is located on the banks of the River Don and in the hedgerow forming the boundary of the garden to Old Mill Lane (T1 and T2 on the annotated map of the survey area).



3.5. Dusk Emergence Survey Results, 3rd May 2023.

3.5.1. Two surveyors carried out a dusk emergence survey on the evening of 3rd May 2023. One surveyor holds a current survey licence and one is an experienced assistant.

3.5.2. The evening was clear and bright with a light breeze from the southwest, 0 on the BWS and a temperature of 10°C at 20:00. Sunset was at 20:39 and the survey commenced at 20:00.

3.5.3. The two surveyors were each equipped with a Batbox Duet detector and a two way radio for communications and a static Anabat Express recorder was positioned by each surveyor to record bat activity for subsequent analysis using Analook software.

3.5.4. The surveyors were position as shown below in order to see all aspects of the building simultaneously.



3.5.5. The following are the observations of the two surveyors and the recordings on the Anabat recorder near to each person.

3.5.5.1. Surveyor 1.

20:45. Common Pipistrelle heard not seen.

20:46. Common Pipistrelle heard not seen.

20:56. Common Pipistrelle passed north to south over the site.
20:59. Common Pipistrelle heard not seen.
21:01. Common Pipistrelle passed north to south over the site.
21:13. Common Pipistrelle heard not seen.
21:15. Common Pipistrelle heard not seen.
21:17. Common Pipistrelle heard not seen foraging to the east of the site.

Anabat 23 with Surveyor 1 recorded Common Pipistrelles at 20:45, 20:56, 21:01, 21:29 and 21:30.

3.5.5.2. Surveyor 2.

20:45. Common Pipistrelle distant heard not seen.
20:48. Common Pipistrelle passed north to south, west of the garage.
20:49. Low, fast and quiet bat passed north to south over the site to the river.
20:56. Common Pipistrelle passed north to south high over the garage.
20:56. Common Pipistrelle passed north to south over the site.
21:26. Common Pipistrelle distant heard not seen.

Anabat 16 with Surveyor 2 recorded Soprano Pipistrelles at 20:48 and 20:49 and Common Pipistrelles at 20:56, 21:25, 21:29 and 21:30.

3.5.6. Survey Summary.

The site lies close to the River Don. Bat activity levels were very low and confined to Common Pipistrelles and Soprano Pipistrelles, generally flying from the north, across Mill Lane, towards the river. Bats were heard foraging over the river but this was very distant and faint. No bats emerged from the garage.

4. EVALUATION OF FINDINGS.

4.1. The survey area is not within or adjacent to any designated sites with the closest site being over 250m from the survey area. Therefore, the development will have no impact on such sites.

4.2. The survey area comprises a maintained garden, which will be reduced in size dramatically by the development. However, this garden largely comprises introduced shrubs and improved grassland, both of which offer little ecological value.

4.3. Biodiversity Net Gain has been excluded given the small size of the site and with agreement from Barnsley Metropolitan Borough Council.

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

4.5. The River Don borders the survey area and was assessed for water vole, otter and white clawed crayfish.

4.5.1. No otter holts, water vole burrows or field signs for either species were found within the survey area, therefore, the works will not have an impact on these species.

4.5.2. The works will not impact the bed of the river and will therefore, not impact on white clawed crayfish.

4.6. The garage was assessed to provide **low** potential for roosting bats with features that may be used by a very small number of opportunistic bats but that cannot support a more substantial roost. The subsequent bat dusk emergence survey did not identify any bats to emerge from the building therefore there will be no impact on roosting bats during the proposed works.

4.7. The only tree within the survey area has negligible potential for roosting bats and therefore, the works will have no impact on roosting bats within trees.

4.8. The survey area provides high potential for foraging and commuting bats. This potential is largely provided by the River Don and therefore, will not be fragmented by the works, which will have no impact on foraging and commuting bats providing a sensitive lighting plan is in place.

4.9. The site survey, review of aerial photography and Ordnance Survey maps found several ponds within 500m of the survey area. These ponds are separated from the site by the River Don and therefore, great crested newts are assessed as absent from the survey area and the proposed works will have no impact on the species.

4.10. The vegetation and buildings within the survey area are assessed as suitable for nesting birds during the nesting bird season, which extends from March to September each year. Therefore, any works within this period may have an impact on nesting birds if present.

4.11. The survey area has some potential features for reptiles but is largely isolated from other suitable habitats and is managed as a garden. There is a rubble pile that provides suitable habitat for reptiles, but the isolation of the site makes it unlikely reptiles will use this area. In addition, there are no recent records of reptiles within 2km of the site. Therefore, the proposed development will have no impact on reptile species if precautions are in place throughout the works.

4.12. The survey area is outside of the known UK distribution for hazel dormice and there are no records of the species within 2km of the site. Therefore, the proposed works will have no impact on hazel dormice.

4.13. The survey area is outside of the known UK distribution for red squirrels and there are no records of the species within 2km of the site. Therefore, there will be no impact on red squirrels by the proposed works.

4.14. Himalayan balsam (*Impatiens glandulifera*) is a non-native, invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 present within the survey area. Therefore, works within the survey area may have an impact on the spread of this species, which typically spreads by seed dispersal and seeds within the soil surrounding the plant.

5. RECOMMENDATIONS.

5.1. This Preliminary Ecological Appraisal report is designed to advise the client of the initial survey results so that they may be considered within the site development plan.

5.2. Once all surveys have been completed and the development plans have been finalised, the report must be converted into an Ecological Impact Assessment (EcIA) where details of further survey results, mitigation and biological enhancements are included, to arrive at an assessment of the residual impact of the proposed development. This format needs to include a final Biodiversity Net Gain calculation and will be suitable to submit to the Local Authority.

5.3. It is recommended that a detailed planting scheme is prepared for the site utilising native species.

5.4. It is recommended that all additional lighting faces directly downwards and at eaves height and is most importantly directed away from the river Don.

5.5. As the garage has been assessed as providing low potential for roosting bats in accordance with the Bat Conservation Trust Good Practice Guidelines, a single dusk emergence survey was recommended. That survey identified a low level of Common and Soprano Pipistrelle activity over the site but no bats emerging from the garage. No further surveys are recommended.

5.6. It is recommended that works are undertaken outside of the nesting bird season, which extends from March to September each year.

5.7. If any work commences between March and September, this should be immediately preceded by a thorough nesting bird survey carried out by a suitably experienced person. Any nests identified must remain undisturbed until the young have fledged from the nest.

5.8. When rubble is moved from the rubble pile due care should be taken by the workforce to prevent an impact on any fauna present. Any stones at floor level should be carefully checked by hand before being moved. The workforce should be briefed on the unlikely presence of reptiles within the rubble piles and if any reptiles are found

during the works, then the works should cease, and the undersigned contacted for further advice.

5.9. A precautionary method of working should be in place to prevent the spread of non-native, invasive species from the site. Himalayan balsam (*Impatiens glandulifera*) is present both in the hedgerow (T1) and on the banks of the river Don (T2). Any soil within 5m of the plant must be considered contaminated waste as it may contain seeds of the plant. If works will impact the areas within 5m of the plant, it is recommended that a method statement for the works is drawn up to show how the spread of the plant will be avoided.

5.10. It is recommended integrated bat boxes and bird boxes are included in the final designs of the buildings on site. This is in line with the National Planning Policy Framework (NPPF) to enhance the biodiversity of the site.

Prepared by:	
Sam White BSc. ACIEEM	Date: 17 th September 2022

Revised by:	
Derek Whitcher, BSc, MCIEEM, MCMI	Date: 7 th May 2023

Checked by:	
Ruth Georgiou. BSc, MCIEEM.	Date: 11 th May 2023

6. REFERENCES.

- Chartered Institute of Ecology and Environmental Management. 2017. **Guidelines for Preliminary Ecological Appraisal, Second Edition**. CIEEM, Hampshire.
- Chartered Institute of Ecology and Environmental Management. 2017. **Guidelines for Ecological Report Writing, Second Edition**. CIEEM, Hampshire.
1981. **Wildlife and Countryside Act**. <http://www.legislation.gov.uk/ukpga/1981/69> (accessed 18/02/16)
2000. **Countryside and Rights of Way Act**. <http://www.legislation.gov.uk/ukpga/2000/37/contents>.
2017. **The Conservation of Habitats and Species Regulations**. <http://www.legislation.gov.uk/uksi/2010/490/contents/made>.
2012. **National Planning Policy Statement**. <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Anon. 1995. **Biodiversity: the UK Steering Group report. Vol 2: Action Plans**. HMSO, London.
- Joint Nature Conservation Committee. 2004 (ed.). **Handbook for Phase 1 habitat survey: A technique for environmental audit**. JNCC, Peterborough.
1992. **Protection of Badgers Act**. <https://www.legislation.gov.uk/ukpga/1992/51/contents>.
- Harris S, Cresswell P and Jefferies D. 1989. **Surveying Badgers**. Mammal Society. London.
- 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
- Chanin P. 2003(a). **Ecology of the European Otter**. Conserving Natura 2000, Ecology Series No.10. English Nature, Peterborough.
- Chanin P. 2003(b) **Monitoring the Otter Lutra lutra**. Conserving Natura 2000 Rivers Monitoring Series No. 10. English Nature, Peterborough.
- Peay S. 2003. **Monitoring the White-Clawed Crayfish Austropotamobius pallipes**. Conserving Natura 2000 Rivers Monitoring Series No. 1. English Nature, Peterborough.
- English Nature. 2001. **Great Crested Newt Mitigation Guidelines**.
- Langton T, Beckett C, Foster J. 2001. **Great Crested Newt: Conservation Handbook**. Froglife, Suffolk.
- Oldham et al. 2000. **Great Crested Newt Habitat Suitability Assessment. ARG UK Advice Note 5, May 2010**.
- Collins J. (ed.) 2016. **Bat Surveys for Professional Ecologist: Good Practice Guidelines**. 3rd ed. The Bat Conservation Trust, London.
- English Nature. 2004. **Bat Mitigation Guidelines**. English Nature, Peterborough, UK.
- BTHK 2018. **Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-Care and Ecology Professionals**. Exeter: Pelagic Publishing.
- BOCC4 Eaton et al. 2015. **Birds of Conservation Concern 4: The Population Status of Bird's in the UK, Channel Islands and Isle of Man**.
- Joint Nature Conservation Committee. 2004. **Common Standards Monitoring Guidance for Birds**. 2004 ed. JNCC, Peterborough.
- Froglife. 1999. **Froglife Advice Sheet 10: Reptile Survey**. Froglife, London.
- Bright P, Morris P, Mitchell-Jones T. 2006. **The Dormouse Conservation Handbook** 2nd edition. English Nature, Peterborough.
- Joint Nature Conservation Committee. 2004 (ed.). **Common Standards Monitoring Guidance for: Reptiles and Amphibians**. JNCC, Peterborough.
- Joint Nature Conservation Committee. 1996. **UK Strategy for Red Squirrel Conservation**. JNCC, Peterborough.

Appendix I. BAT INFORMATION.

Ecology

There are currently 18 species of bat residing in Britain, 17 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 of 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. 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 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 III. 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 logs 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 IV. 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	<i>Smyrnium perfoliatum</i>	✓	
Algae, Red	<i>Grateloupia luxurians</i>	✓	
Archangel, Variegated Yellow	<i>Lamiastrum galeobdolon</i> subsp. <i>Argentatum</i>	✓	
Azalea, Yellow	<i>Rhododendron luteum</i>	✓	
Balsam, Himalayan	<i>Impatiens glandulifera</i>	✓	
Cotoneaster	<i>Cotoneaster horizontalis</i>	✓	
Cotoneaster, Entire Leaved	<i>Cotoneaster integrifolius</i>	✓	
Cotoneaster, Himalayan	<i>Cotoneaster simonsii</i>	✓	
Cotoneaster, Hollyberry	<i>Cotoneaster bullatus</i>	✓	
Cotoneaster, Small Leaved	<i>Cotoneaster microphyllus</i>	✓	
Creeper, False Virginia	<i>Parthenocissus inserta</i>	✓	
Creeper, Virginia	<i>Parthenocissus quinquefolia</i>	✓	
Dewplant, Purple	<i>Disphyma crassifolium</i>	✓	
False-acacia	<i>Robinia pseudoacacia</i>		✓
Fanwort	<i>Cabomba caroliniana</i>	✓	✓
Fern, Water	<i>Azolla filiculoides</i>	✓	✓
Fig, Hottentot	<i>Carpobrotus edulis</i>	✓	✓
Garlic, Three-Cornered	<i>Allium triquetrum</i>	✓	
Hogweed, Giant	<i>Heracleum mantegazzianum</i>	✓	✓
Hyacinth, water	<i>Eichhornia crassipes</i>	✓	✓
Kelp, Giant	<i>Macrocystis angustifolia</i>	✓	✓
Kelp, Giant	<i>Macrocystis integrifolia</i>	✓	✓
Kelp, Giant	<i>Macrocystis laevis</i>	✓	✓
Kelp, Giant	<i>Macrocystis pyrifera</i>	✓	✓
Kelp, Japanese	<i>Laminaria japonica</i>	✓	✓

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

Appendix V. ANNOTATED MAP OF THE SURVEY AREA.



Site: Old Mill Lane

Reference: 220850

Date: 16.12.2022

Produced by: Sam White



Appendix VI. TARGET NOTES.

T1 – Location of Himalayan Balsam

T2 – Location of Himalayan Balsam

T3 – Location of Rubble Pile.

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.



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 than 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.

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 black zigzag marking along the length of the back. As with all reptiles, colouration varies and becomes duller as sloughing (skin shedding) approaches.



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.

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.



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