Whitcher Wildlife Ltd.
Ecological Consultants.

WORSBOROUGH RESERVOIR.

OS REF: SE 3453 0353.

PRELIMINARY ECOLOGICAL APPRAISAL.

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1. INTRODUCTION.

1.1. There are plans to replace an existing retaining wall on the northern side of Worsborough Reservoir due to structural failures.

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 December 2021 and this report outlines the findings of that survey and makes appropriate recommendations.

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

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3. SURVEY RESULTS.

3.1. Data Search Results.

3.1.1. A desktop data searches were requested from Sheffield Biological Records Centre, South Yorkshire Bat Group and South Yorkshire Badger Group for records of protected species and designated sites within 2km of the survey area.

3.1.2. Sheffield Biological Records Centre.

3.1.2.1. There are no records of protected species specific to the survey area.

3.1.2.2. The nearest records are two records of otter 145m to the east of the site, one record of a dead otter from 1981 and one field record from 2015.

3.1.2.3. There are records of water vole within 2km, although all records are over 25 years old and over 500m from the site.

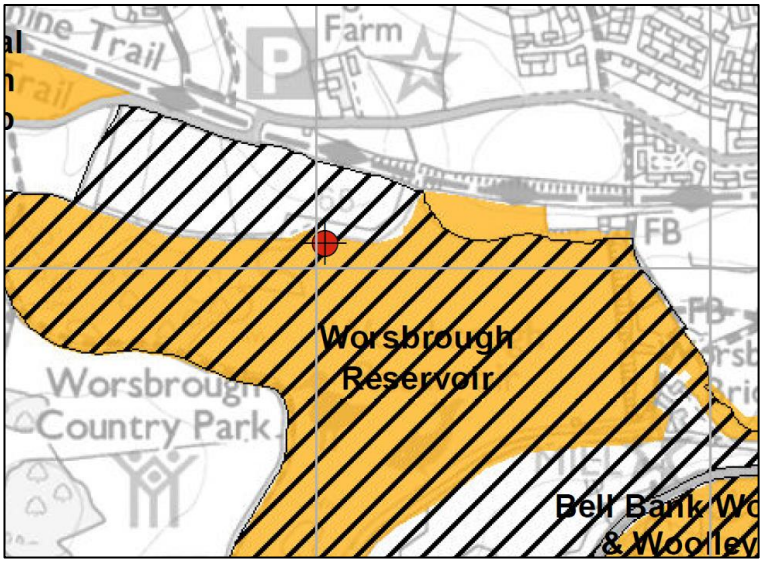
3.1.2.4. There are records of various species of bat within 2km, although the closest record lies over 150m from the site and most of the records are over 30 years old.

3.1.2.5. There are records of grass snake within 2km, although the nearest records lie over 650m from the site.

3.1.2.6. There are six records of great crested newt within 2km, although all records lie over 1.6km to the north.

3.1.2.7. Signal Crayfish are known to be present within Worsborough Reservoir.

3.1.2.8. Worsborough Reservoir is a Barnsley Wildlife Site and a Local Nature Reserve. The surveyed wall lies within both sites. The map below shows the Barnsley Wildlife Site in orange and the Local Nature Reserve as black hatching with the location of the wall as a red dot.



3.1.3. South Yorkshire Badger Group.

Worsborough Reservoir is located to the east of the M1 motorway. The M1 is a natural barrier between the mainly urban areas of Barnsley to the east and the open rural farmland on the western side of the motorway. There are no records of badgers in the area around the reservoir but there are abundant records to the west of the motorway.

3.1.4. South Yorkshire Bat Group.

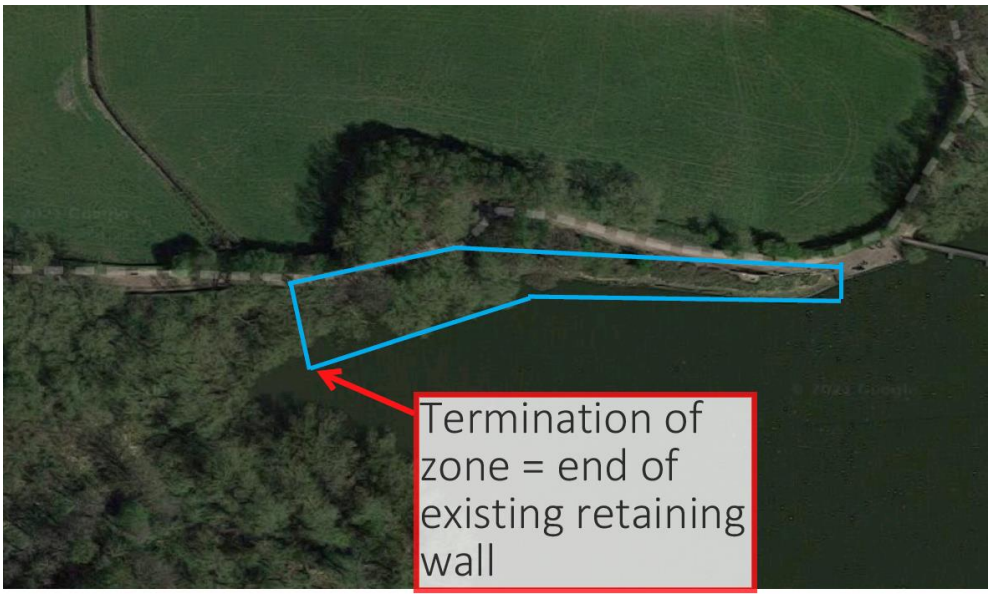
There are a large number of records of bats and bat roosts within 2km of the survey area. However, the nearest relevant records are historic records within Worsborough Country Park, recorded over 100m from the survey area. The nearest roost record is 250m from the survey area, recorded in 1997. All other roost records are over 750m from the survey area.

3.1.5. The full data searches are available to the client on request but must not be placed in the public domain.

3.2. The Surveyed Area.

3.2.1. The survey area is a retaining wall along part of the north shore of Worsborough Reservoir. The wall is a stone wall and is collapsing due to structural failure.

3.2.2. The aerial photograph below shows the location of the wall and the survey area.



3.2.3. The wall is a low stone wall with most of the wall under water and only the top layer of stone above water. There is a footpath along the bank above the wall and there are large cracks in the bank where the wall is failing.








3.2.4. Access to the site is along existing hardstanding public access routes.






3.3. Description of Habitats.

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

- Standing Water
- Improved Grassland
- Dense Scrub
- Woodland
- Bare Ground
- Wall
- Fence

3.3.2. Standing Water

Worsborough Reservoir is a large reservoir, and the retaining wall forms part of the northern bank. To the west of the survey area the bank is shallow and to the east of the survey area the bank is a concrete wall with a low metal railing along the top.





3.3.3. Improved Grassland

Along the top of the wall there is a footpath, which is covered with a short sward of cocks foot *(Dactylis glomerata)*, annual meadowgrass *(Poa annua)*, meadowsweet *(Filipendula ulmaria)*, nettle *(Urtica dioica)*, dandelion *(Taraxacum officinale)*, ribwort plantain *(Plantago lanceolata)*, dock *(Rumex sp.)*, hogweed *(Heracleum sphondylium)*, thistle *(Cirsium sp(p))*, ragwort *(Senecio jacobaea)* and sapling alder *(Alnus glutinosa)*.




3.3.4. Dense Scrub

Along the bank above the wall there is an area of dense scrub, which is mainly bramble *(Rubus fruticosus)* with nettle *(Urtica dioica)*, thistle *(Cirsium sp(p))*, sapling hawthorn *(Crataegus monogyna)*, sapling crack willow *(Salix fragilis)* and sapling oak *(Quercus sp(p))*.



3.3.5. Woodland

At the western end of the survey area there is woodland on the bank of the reservoir. The main species present within the survey area are mature and semi-mature oak *(Quercus sp(p))*, crack willow *(Salix fragilis)*, hawthorn *(Crataegus monogyna)* and alder *(Alnus glutinosa)* with an understory of bramble *(Rubus fruticosus)*, harts tongue fern *(Asplenium scolopendrium)*, nettle *(Urtica dioica)*, wood avens *(Geum urbanum)*, sapling hawthorn *(Crataegus monogyna)* and sapling elder *(Sambucus nigra)*.



3.3.6. Bare Ground

There is a public footpath along the top of the bank to the north of the survey area, which is hardstanding.



3.3.7. Wall

The wall is a low stone wall along part of the northern bank of the reservoir with most of the wall below water level and only the top layer of stone above the water level.





3.3.8. Fence

There is Heras fencing along the top of the bank to the north of the survey area to prevent access to the footpath above the wall.



3.4. Description of Fauna.

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

3.4.2. No watercourses were identified within the survey area. The banks of the reservoir within and to either side of the surveyed wall are unsuitable for water vole. Otter may be present within the reservoir, although no holt or field signs were identified within the surveyed area. The invasive signal crayfish are known to be present in the reservoir, therefore it is very unlikely that the native white clawed crayfish will be present.

3.4.3. Two ponds were identified within 500m of the survey area whilst on site or on an Ordnance Survey Map of the area. One is Worsborough Reservoir and the second lies in woodland 350m to the west of the survey area.

3.4.3.1. The reservoir is stocked with fish and has abundant water fowl present and is assessed as very low value habitat for great crested newts. The pond to the west was not visited but has large areas of suitable habitat between the pond and the survey area. There is also Brough Green Brook between the pond and the survey area, which will form a barrier to the movement of amphibians. There are no records of great crested newts within 1.5km of the survey area. Therefore, it is assessed that there will be no great crested newts within the survey area.

3.4.4. The wall is totally unsuitable for roosting bats as it is low and mainly below water level.

3.4.4.1. At the western end of the survey area, within the woodland, there are two mature trees near to the wall. One is a mature oak approximately 5m to the north of the wall and the other is a mature crack willow 6m to the west of the end of the wall. The crack willow contains numerous cracks and splits that may provide potential for roosting bats and the oak is of a size that it could contain suitable features that could not be seen from ground level.

3.4.5. The survey area appears to provide high potential for foraging and commuting bats over the reservoir and the adjacent woodland. However, a thorough evaluation of bat activity could not be made during a daytime survey of the site.

3.4.6. The vegetation within the survey area provides opportunities for nesting birds during the nesting season, which extends from March to September each year. However, no active nests were identified during this survey as the survey was carried out outside the nesting season.

3.4.7. The survey area provides potential limited habitat for reptiles due to the reservoir and the busy public footpath adjacent. No reptiles were identified during this survey.

3.4.8. No suitable dormouse habitat was identified during this survey. The survey area is also outside the natural range of this species.

3.4.9. No red squirrels or red squirrel field signs were identified during this survey and there is no suitable habitat within the survey area. The survey area is also outside the natural range of this species.

3.4.10. No non-native invasive species of plant listed under Schedule 9 of The Wildlife and Countryside Act 1981 were identified within the survey area.

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4. EVALUATION OF FINDINGS.

4.1. Worsborough Reservoir is a Barnsley Wildlife Site and a Local Nature Reserve. The surveyed wall lies within both sites. The nature of the works to replace a retaining wall due to structural failure will have a temporary minimal impact on these designated sites.

4.2. The survey area is of high ecological value due to the reservoir and woodland. However, the works will be localised to the wall and will have a very minimal temporary impact on the ecological value of the site.

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

4.4. No watercourses were identified within the survey area. The banks of the reservoir within and to either side of the surveyed wall are unsuitable for water vole. Therefore, there will be no impact on water voles during the proposed works.

4.4.1. Otter may be present within the reservoir, although no holt or field signs were identified within the surveyed area. Therefore, there will be no impact on otters during the proposed works.

4.4.2. The invasive signal crayfish are known to be present in the reservoir, therefore it is very unlikely that the native white clawed crayfish will be present. Therefore, there will be no impact on white clawed crayfish during the proposed works.

4.5. Two ponds were identified within 500m of the survey area whilst on site or on an Ordnance Survey Map of the area. One is Worsborough Reservoir and the second lies in woodland 350m to the west of the survey area. The reservoir is stocked with fish and has abundant water fowl present and is assessed as very low value habitat for great crested newts. Between the pond to the west and the survey area is Brough Green Brook which will form a barrier to the movement of amphibians. There are no records of great crested newts within 1.5km of the survey area. It is assessed that there will be no great crested newts within the survey area. Therefore, there will be no impact on great crested newts during the proposed works.

4.6. The wall is totally unsuitable for roosting bats as it is low an mainly below water level.

4.6.1. At the western end of the survey area within the woodland there are two mature trees near to the wall. One is a mature oak that is of a size that it could contain suitable features that could not be seen from ground level.

4.6.2. The other is a mature crack willow which contains numerous cracks and splits that may provide potential for roosting bats.



4.6.3. If works will have any impact on either of these trees there could be a high impact on roosting bats if they are present.

4.7. The survey area provides high foraging potential for bats. The proposed works will impact a small area of vegetation and will not fragment any foraging habitat and will therefore have no impact on foraging or commuting bats.

4.8. The vegetation within the survey area provides opportunities for nesting birds during the nesting season, which extends from March to September, inclusive, each year. Vegetation clearance within the nesting bird season will have an impact on any birds nesting within the work site.

4.9. The survey area provides limited habitat for reptiles due to the reservoir and adjacent busy public footpath. The works will have a low impact on any reptiles within the area.

4.10. No suitable dormouse habitat was identified during this survey. The survey area is also outside the natural range of this species. Therefore, there will be no impact on dormice during the proposed works.

4.11. No red squirrels or red squirrel field signs were identified during this survey and there is no suitable habitat within the survey area. The survey area is also outside the natural range of this species. Therefore, there will be no impact on red squirrels during the proposed works.

4.12. No non-native invasive species of plant listed under Schedule 9 of The Wildlife and Countryside Act 1981 were identified within the survey area. Therefore, there will be no impact on the proposed works.

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5. RECOMMENDATIONS.

5.1. Before any works are carried out within the LWS and Barnsley WS the local authority must be contacted.

5.2. It is recommended that the mature trees at the western end of the survey area with features suitable for roosting bats remain unaffected by the proposed works. If either of these trees are to be affected a further bat aerial inspection survey must be carried out by a bat licenced ecologist to determine whether bats use these trees to roost.

5.3. If a bat roost is found in the trees a Natural England EPS licence and mitigation strategy will be required before works can affect the trees.

5.4. Any vegetation clearance should be carried out outside the nesting bird season, which extends from March to September each year.

5.5. If any vegetation clearance is to be carried out during the nesting bird season a thorough nesting bird survey must be carried out by a suitably experienced person immediately prior to works commencing. If any active nests are found during this survey, they must be left undisturbed until the young have fledged. This could put a considerable delay on proposed works.

5.6. In the unlikely event that any reptiles are found during the works they must be left to safely move away of their own accord. If large numbers of reptiles (5+) are found works must stop and Whitcher Wildlife Ltd contacted for further advice.

5.7. The reservoir is known to contain a population of the invasive signal crayfish and it is likely these will be found during the works to repair the wall. Because these are an alien invasive species, it is illegal to introduce these into the wild. Therefore, any signal crayfish found during draining down operations must be removed from the site and humanely despatched. A Toolbox Talk is appended to this report to assist with identification.

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Derek Whitcher, BSc, MCIEEM, MCMI	Date: 28th January 2022.

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.

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 of which are known to breed here. They are extremely difficult to identify in the hand and even more so in flight.

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

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

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

Surveys

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

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

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

Legislation

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

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

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

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

Appendix II. 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 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 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

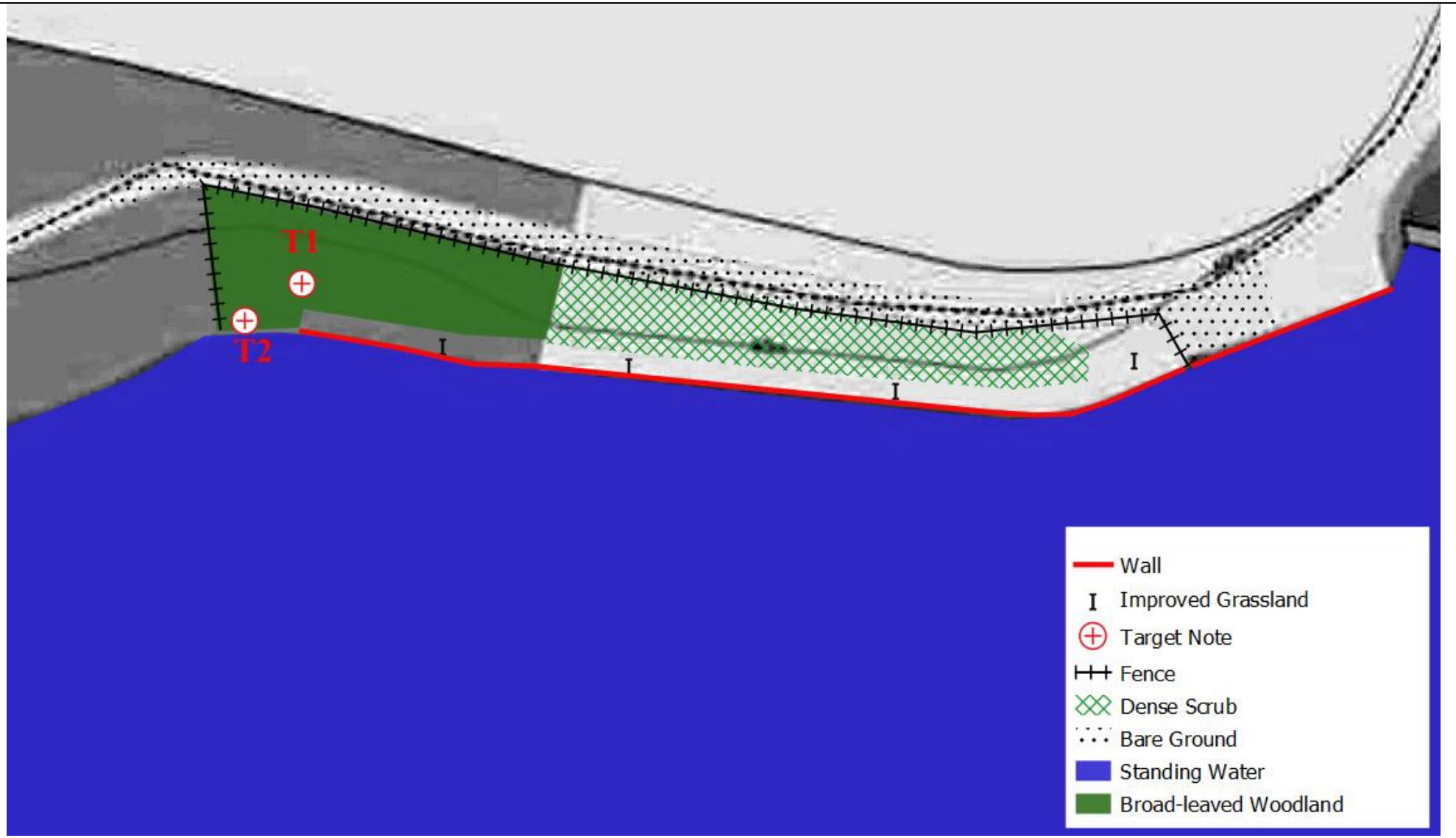
Reptile surveys involve the searching of refuge such as logs and stones for any animal sheltering below. Artificial refuge may be laid out on site for the purpose of reptile surveys.

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 IV. ANNOTATED MAP OF THE SURVEY AREA.



Reference:	211146	Prepared by:	Whitcher Wildlife Ltd
Site:	Worsborough Reservoir	Date:	2nd December 2021

Appendix V. TARGET NOTES.

T1 – The mature oak tree that may contain features suitable for roosting bats.

T2 – The mature crack willow tree with features suitable for roosting bats.

Toolbox Talk: Crayfish

Whitcher Wildlife Ltd

Ecological Consultants

The White Clawed Crayfish is the UK's only native freshwater crayfish. The White Clawed Crayfish has suffered a severe decline in numbers due to pollution incidents within their habitat and also from the introduction of the larger non-native Signal Crayfish.

Identification: White Clawed Crayfish

White Clawed Crayfish are usually quite small, up to 12cm in length. They are brown to olive in colour with the underside of the cheliped (claw) showing a dirty pink or white. A distinct way of identifying White Clawed Crayfish is the presence of sharp spines on the shoulder of the thorax.





Identification: Signal Crayfish

Signal Crayfish are larger than the native White Clawed Crayfish, around 15cm in length. They are reddy brown with the underside of the cheliped (claw) being red. There is also a distinct white patch on the upper side of the claw joint.





Habitat

White Clawed Crayfish habitats are watercourses or waterbodies containing fresh, well oxygenated and preferably slightly alkaline water. They will live in watercourses of all sizes as long as the watercourse provides, rocks, submerged plants or roots for shelter from predators.

They are bottom feeders and will feed on all kinds of live or dead matter from rotting vegetation to small fish or even other crayfish.





Legislation

The White Clawed Crayfish is endangered across most of its range and has been given protection under both European and UK legislation.
The White Clawed Crayfish is listed on Annex V of the Habitats Directive (EEC 1992), which means that Member States should take measures to ensure that the taking of White Clawed Crayfish in the wild is compatible with their being maintained at a favourable status.

In 1998, the White Clawed Crayfish was added to Schedule 5 of the Wildlife and Countryside Act giving it partial protection in relation to Section 9(1) as far as it relates to taking and in respect of Schedule 9(5). It is therefore an offence to intentionally take any White Clawed Crayfish from the wild and an offence to sell wild crayfish.

Non indigenous crayfish species are also covered under the Wildlife and Countryside Act 1981. Section 14 makes it an offence for any person to (a) release or allow to escape, any wild animal which is of a kind not ordinarily resident in or a regular visitor to Great Britain in a wild state or; (b) is included in Schedule 9 of the Wildlife and Countryside Act.

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