



TRUNCE FARM, GREEN MOOR.

OS REF: SK 27916 99802.

PRELIMINARY ECOLOGICAL APPRAISAL.

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1. INTRODUCTION.

1.1. There are plans to carry out works at Trunce Farm in Green Moor. Works will be carried out to all buildings on the site and will either be extensions and re-roofing works to create accommodation or will be demolition and replacement of existing buildings. A proposed development plan can be found in Appendix VIII of this report.

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 22nd June 2020 and this report outlines the findings of that survey and makes appropriate recommendations.

1.4. Appendices I to V 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 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.

3. SURVEY RESULTS.

3.1. Data Search Results.

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

3.2. Barnsley Biological Records Centre.

3.2.1. There are four protected species records at Trunce Farm.

- An unknown species of bat was recorded at the farm in 2000, the record does not state whether this was roosting.
- Two records of Common Pipistrelle, both recorded in 2000, neither was roosting.
- One record of a badger sett within the land owned by the farm, recorded in 2013. The location of this sett cannot be published in this report.

3.2.2. Other records include fresh badger field signs 350m from the site, recorded in 2019. Numerous field records of bats, the nearest is 415m from the site. There are records of water vole but all in excess of 600m from the site. There are records of grass snake but all in excess of 800m from the site. There are numerous other badger records in the surrounding area.

3.2.3. There are no designated sites within or adjacent to the survey area. The nearest site lies 775m to the north of the survey area. These sites include

- Hunshelf Bank Sheffield Wildlife Site
- Steel Valley Walk Sheffield Wildlife Site
- Knoll Top, Stocksbridge Sheffield Wildlife Site
- Old Haywoods Sheffield Wildlife Site
- Lower Little Don, Stocksbridge Sheffield Wildlife Site
- Black Moor Common Barnsley Wildlife Site
- Romticle Viaduct and Thurgoland Tunnels Barnsley Wildlife Site
- Glow Worm Silkstone Common Barnsley Wildlife Site
- Forge Rocher and Tin Mill Rocher Barnsley Wildlife Site

3.3. South Yorkshire Bat Group.

3.3.1. There are three records of bats at Truncheon Farm, all recorded in 2000.

- One record of a Common Pipistrelle feeding.
- Droppings on the farmhouse wall of an unknown species, no bat seen.
- One Pipistrelle and droppings at the farmhouse.

3.3.2. The nearest roost record is 585m from the site and is of a Pipistrelle roost recorded in 2011.

3.3.3. There are numerous other field and roost records but all in excess of 725m from the site.

3.4. South Yorkshire Badger Group.

3.4.1. This data search has not yet been received. Once this is received the report will be amended and re-sent.

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

3.2. The Surveyed Area.

3.2.1. The survey area is the buildings and immediate surrounding area at Trunce Farm in Green Moor. The site is on a hillside surrounded by grazing land and areas of woodland with the River Don to the north.

3.2.2. The aerial photograph below shows the survey area.



3.2.3. The aerial photograph below shows the survey area and wider surrounding area.



3.3. Description of Habitats.

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

- Improved Grassland
- Amenity Grassland
- Tall Ruderal
- Scattered Tree
- Introduced Shrub
- Bare Ground
- Wall
- Fence
- Building

3.3.2. Improved Grassland

3.3.2.1. There are a number of areas of improved grassland within and adjacent to the survey area.

3.3.2.2. At the southern side of the survey area is a large grazing field grazed by sheep. This is grazed short and the main species present are Yorkshire fog (*Holcus lanatus*), perennial rye grass (*Lolium perenne*), annual meadowgrass (*Poa annua*), cocks' foot (*Dactylis glomerata*), thistle (*Cirsium sp(p)*), nettle (*Urtica dioica*), creeping buttercup (*Ranunculus Repens*), speedwell (*Veronica persica*), and herb Robert (*Geranium robertianum*). This field extends up to the walls of the southern side of Building 1.



3.3.2.3. At the western end of the survey area there is an area of grassland, which has been fenced to keep out the sheep and this is being used as a garden and for growing vegetables. This appears to have been part of the large grazed field of sheep but has been recently fenced and now has a longer sward. The species present are the same as above but there is also rhubarb (*Rheum sp.*), dandelion (*Taraxacum officinale*), vetch (*Vicia sativa*) and foxglove (*Digitalis purpurea*) growing.



3.3.2.4. To the east of the grazed field is a large field, which appears to be a grazing field but at this time was not grazed and had a longer sward. The species in this field are the same as above but include some foxglove (*Digitalis purpurea*) and rosebay willowherb (*Chamerion angustifolium*).



3.3.3. Amenity Grassland

There are a few areas of grassland that are lawn but have not been mown for some time. The main species present in these areas are perennial rye grass (*Lolium perenne*), annual meadowgrass (*Poa annua*), dandelion (*Taraxacum officinale*), creeping buttercup (*Ranunculus Repens*), ragwort (*Senecio jacobaea*), white clover (*Trifolium repens*) and some foxglove (*Digitalis purpurea*).



3.3.4. Tall Ruderal

At either side of the entrance to the farm there is a narrow strip of tall ruderal species growing. The main species present are nettle (*Urtica dioica*), garlic mustard (*Alliaria petiolata*), wood avens (*Geum urbanum*), cleavers (*Galium aparine*), ragwort (*Senecio jacobaea*) with some cocks' foot (*Dactylis glomerata*).



3.3.5. Scattered Tree

There are a few trees growing within the survey area. There is a large mature sycamore (*Acer pseudoplatanus*) growing at the entrance to the farm, adjacent to Building 8. Within the garden area there are three apple (*Malus domestica*) trees, one semi-mature sycamore (*Acer pseudoplatanus*) and a small elder (*Sambucus nigra*).



3.3.6. Introduced Shrub

3.3.6.1. Around the area of amenity grassland at the front of the house, Building 1, there is a narrow border of plants forming a garden, although this is becoming overgrown. The main species present are box (*Buxus*), loosestrife (*Lysimachia punctata*), ferns (*Pteridophyte sp.*), foxglove (*Digitalis purpurea*), gooseberry (*Ribes uva-crispa*), rose (*Rosa sp.*), aquilegia (*Aquilegia canadensis*), flowering currant (*Ribes sanguineum*), chives (*Allium schoenoprasum*), bramble (*Rubus fruticosus*), cleavers (*Galium aparine*), ragwort (*Senecio jacobaea*) and nettle (*Urtica dioica*).



3.3.6.2. At the western end of the survey area there is a well-tended vegetable garden with a variety of young vegetatable plants growing, including runner bean, beetroot, broadbean and courgette plants.



3.3.7. Bare Ground

There is a large slab patio at the western end of the house, slab paths surrounding the house and a large concrete yard. The access track to the farm is bare hardstanding.



3.3.8. Wall

There are a number of walls within the survey area, most are dry stone walls. There is also a stone retaining wall below the patio at the western end of the house.



3.3.9. Fence

Around the garden area at the western end of the survey area there is a wooden post and rail fence with stock fencing attached. There are also areas of post and mesh stock fence.



3.3.10. Buildings.

3.3.10.1. Building 1. (T1)

3.3.10.1.1. This is the main house, which is a two-storey building constructed with stone walls and a pitched slate roof. There is a large conservatory on the western end of the building and the eastern end of the building is joined to Building 2. There is a

small single storey extension on the southern side of the building of the same construction with a pitched slate roof.

3.3.10.1.2. The walls of the building are generally in good condition although there are a few small gaps in the walls.

3.3.10.1.3. The roof has numerous slipped slates and internally there is no lining below the slates. Daylight can be seen in the loft space showing the gaps in the roof.

3.3.10.1.4. There are fascia boards on the front and rear and there are gaps under these, mainly due to the uneven nature of the stone walls.

3.3.10.1.5. Internally there is one loft space with a low stone wall across the centre. The floor of the loft is well insulated. Daylight can be seen through gaps in the unlined slate roof.



3.3.10.2. Building 2. (T2)

3.3.10.2.1. This is a single storey building constructed with stone walls and a pitched stone slate roof. The building is joined to Building 1 on the east and Building 3 on the west.

3.3.10.2.1. The building has cracks and gaps in the stone walls and gaps under roof slates due to the uneven nature of the slates and slipped slates.

3.3.10.2.2. Internally the building is one room open to the underside of the roof, which has a breathable membrane below the slates.

3.3.10.2.3. The doors and windows of the building are closed and sealed.



3.3.10.3. Building 3. (T3)

3.3.10.3.1. This is a two storey barn joined to Building 2 on the east side. The building is constructed from stone with a pitched corrugated sheet roof. There is a large open doorway on the southern side of the building.

3.3.10.3.2. Internally the building has a room at the eastern side forming a first floor above. The rest of the barn is one room open to the underside of the corrugated roof sheets, which have no lining.

3.3.10.3.3. The roof is in good condition with all roof sheets in place. The walls have numerous gaps and cracks internally and externally.



3.3.10.4. Building 4. (T4)

3.3.10.4.1. This is a single storey building constructed with stone walls and a pitched stone slate roof. Internally the building is one room open to the underside of the roof slates, which have no lining.

3.3.10.4.2. There are mesh windows and doors on the building and the building is not used. There are gaps under the stone roof slates due to the uneven nature of the slates and due to slipped and broken slates.



3.3.10.5. Building 5. (T5)

This is a single storey shelter with timber clad walls on three sides, an open front and a pitched felt covered roof.



3.3.10.6. Building 6. (T6)

This is a single storey building used to park cars and is open on the eastern side. The walls are a low stone wall with timber cladding above and a sloping corrugated tin roof.



3.3.10.7. Building 7. (T7)

This is a single storey building, which is open on the northern side. The walls are a low stone wall with timber cladding above and a sloping corrugated tin roof.



3.3.10.8. Building 8. (T8)

This is a single storey building, which is open on the western side. The walls are a low stone wall with timber cladding above and a sloping corrugated tin roof.



3.3.10.9. Building 9. (T9)

This is a small greenhouse used for growing plants.



3.4. Description of Fauna.

3.4.1. No badger setts or badger field signs were identified within the survey area. However, the data search has a record of a badger sett within the land owned by the farm. This sett was visited during the survey and is located over 50m from the survey area.

3.4.2. No watercourses were identified within the survey area. Therefore, there is no habitat for water voles, otters or white clawed crayfish within the survey area.

3.4.3. One pond was identified within 500m of the survey area on an Ordnance Survey Map of the area. The pond is shown in a grazing field 230m to the southeast of the survey area. This pond was not found during this survey. However, there are no other ponds within 500m of the survey area and no records of great crested newts within 2km of the survey area. Therefore, it is assessed that there will be no great crested newts within the survey area.

3.4.4. Nine buildings were identified within the survey area.

3.4.4.1. Building 1 is the main house and has numerous features suitable for roosting bats with a few gaps in the walls, slipped roof slates and gaps under the fascia boards.

3.4.4.1.1. No bats or bat field signs were identified around the interior or exterior of the building but due to the features present the building is assessed as providing **moderate** potential for roosting bats.

3.4.4.2. Building 2 is a single storey barn and has numerous features suitable for roosting bats with cracks and gaps in the walls and slipped and broken stone roof slates, although the roof lining is not ideal for roosting bats.

3.4.4.2.1. No bats or bat field signs were identified around the interior or exterior of the building but due to the features present the building is assessed as providing **moderate** potential for roosting bats.

3.4.4.3. Building 3 is a two storey barn and has numerous features suitable for roosting bats with cracks and gaps in the interior and exterior walls and gaps between roof beams internally.

3.4.4.3.1. During the survey two concentrations of bat droppings were found on the first floor of the building. One concentration was under the ridge and contained approximately fifty fresh and old droppings with numerous butterfly wings suggesting a feeding roost.



3.4.4.3.2. The second concentration was under a pair of double roof beams with a gap between. There were approximately eighty fresh and old droppings, suggesting a roost. No bats were seen in the gap between the beams during this survey.



3.4.4.3.3. As bat roosts were identified and due to the features present the building is assessed as providing **high** potential for roosting bats.

3.4.4.4. Building 4 is a single storey barn and has numerous features suitable for roosting bats with cracks and gaps in the walls and slipped and broken stone roof slates.

3.4.4.4.1. No bats or bat field signs were identified around the interior or exterior of the building but due to the features present the building is assessed as providing **low** potential for roosting bats.

3.4.4.5. Buildings 5, 6, 7 and 8 are small wooden buildings of an unsuitable construction for roosting bats. Therefore, these buildings are all assessed as providing **negligible** potential for roosting bats.

3.4.4.6. Building 9 is a greenhouse of an unsuitable construction for roosting bats. Therefore, the building is assessed as providing **negligible** potential for roosting bats.

3.4.4.7. No suitable trees that could provide bat roost potential were identified within the survey area. The trees within the survey area have no features suitable for roosting bats.

3.4.5. The survey area provides moderate potential for foraging and commuting bats along adjacent woodland and over the fields. However, a thorough assessment of bat activity could not be made during a daytime survey of the site.

3.4.6. The vegetation and buildings within the survey area provide opportunities for nesting birds during the nesting season, which extends from March to September each year. During the survey, an active swallow nest was identified in Building 3, other nests were identified in Buildings 3 and 8 and a wren carrying nesting materials was seen but the location of the nest was not identified.

3.4.6.1. The photograph below shows the swallow nest and a newly fledged swallow in Building 3.



3.4.7. The survey area provides low potential habitat for reptiles, although the site is surrounded by grazing fields, which are not ideal habitat. There are records of reptiles within the area, but in excess of 800m from the survey area. 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. One non-native invasive species of plant listed under Schedule 9 of The Wildlife and Countryside Act 1981 was identified within the survey area. This is a clump of montbretia (T10) located in the introduced shrub border at the southern side of Building 1.

4. EVALUATION OF FINDINGS.

4.1. There are no designated sites within the survey area. Therefore, there will be no impact on designated sites.

4.2. The main habitats on the site are grazed improved grassland and amenity grassland, which are low ecological value. The trees on the site provide moderate ecological value as they provide habitats and food.

4.3. No badger setts or badger field signs were identified within the survey area. A badger sett is known on the land owned by the farm but this will remain unaffected by works to the buildings on the site.

4.4. No watercourses were identified within the survey area. Therefore, there will be no impact on water voles, otters or white clawed crayfish during the proposed works.

4.5. One pond was identified within 500m of the survey area on an Ordnance Survey Map of the area. This is isolated from other ponds and there are no records of great crested newts within 2km of the survey area. Therefore, it is assessed that there will be no impact on great crested newts during the proposed works.

4.6. There are a number of buildings on the site with bat roost potential, Buildings 1 and 2 have **moderate** potential, Building 4 has **low** potential and a bat roost was identified in Building 3 which has **high** potential for roosting bats. Therefore, any works to these buildings could have a high impact on roosting bats.

4.6.1. Buildings 5, 6, 7, 8 and 9 are all of unsuitable constructed for roosting bats and have **negligible** bat roost potential. Therefore, works to these buildings will have no impact on roosting bats.

4.6.2. None of the trees on the site have any features that could provide potential for roosting bats.

4.7. The survey area provides moderate potential for foraging and commuting 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 and buildings within the survey area provides opportunities for nesting birds during the nesting season, which extends from March to September, inclusive, each year. Vegetation clearance and works to the buildings within the nesting bird season will have an impact on any birds nesting within the work site.

4.9. The survey provides low potential habitat for reptiles due to abundant refugia and basking sites. The works are mainly to the buildings and 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. One non-native invasive species of plant listed under Schedule 9 of The Wildlife and Countryside Act 1981 was identified within the survey area. This is a clump of montbretia (T10) located in the introduced shrub border at the southern side of Building 1. With precautions in place works can be carried out without causing the plants to spread into the wild.

5. RECOMMENDATIONS.

5.1. As a bat roost has been found in Building 3 and bat roost potential in Buildings 1, 2, 3 and 4, further bat activity surveys must be carried out of these buildings before any works can be carried out. These surveys must be carried out during the bat activity season, between May and August.

5.1.1. In line with the Bat Conservation Trust Good Practice Guidelines the following number of surveys are required.

- Building 3 has **high** potential and a bat roost present and requires three bat activity surveys, one bat dusk emergence survey, one dawn swarming survey and a third survey which can be either dusk or dawn, all at least two weeks apart.
- Buildings 1 and 2 have **moderate** potential and require two bat activity surveys, one bat dusk emergence survey and one dawn swarming survey at least two weeks apart.
- Building 4 has **low** potential and requires one bat dusk emergence or dawn swarming survey.

5.1.2. As bats have been found roosting in Building 3 a mitigation strategy must be prepared and submitted with the planning application once all surveys are complete. Once planning permission is granted a Natural England EPS licence is required before works can begin on any building with a bat roost present.

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

5.3. If any vegetation clearance or works to the buildings 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.

5.4. 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.

5.5. If the montbretia plant is to be affected by the works the plant must be carefully dug out making sure that all corms are removed from the ground. The plant must be either burned or disposed of as contaminated waste.

5.6. In order to provide biodiversity enhancements in line with the NPPF, it is recommended that nesting opportunities remain on the site for swallows to nest. Mitigation will be required for roosting bats but this mitigation will be determined once the activity surveys have been carried out and the species, number and type of roosts have been identified.

Prepared by:	
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Checked by:	
Derek Whitcher. BSc, MCIEEM, MCMI	Date: 24 th June 2020.

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Appendix I. BADGER INFORMATION.

Ecology

Badgers are territorial animals who live in social groups called 'clans'. The territory of these clans can vary in size from 0.2km² to 1.5 km² with anywhere between two and twenty Badgers present. In areas where two clans meet territorial boundaries become well-defined, marked by a series of dung pits called latrines. In areas with relatively low Badger populations there will be less competition for territory and the number of territorial markings will be low or even non-existent.

Badgers use paths around their territory repeatedly, following a scent trail from previous use; thus, Badger paths become well worn. These paths are important to the Badgers and obstruction to these paths will interfere with the Badger's movement around their territory.

Badger setts are any structure or place which displays signs of current or seasonal use by a Badger. Within a Badger clan territory there can be several Badger setts which are categorised in the following ways:

- **Main Sett.** *There will normally be one main sett in a territory. This will generally be the largest sett in the territory, typically with five or more entrances, will be permanently occupied throughout the year and used as the breeding sett.*
- **Outlying Sett.** *These are the smallest setts with generally only one or two entrances. They are intermittently occupied and there can be any number in a territory.*
- **Annex Sett.** *A sett of intermediate size, located close to the main sett and connected by well-defined paths. These are occupied for prolonged periods and may be used as a second breeding sett if there are two breeding sows in the clan.*
- **Subsidiary Sett.** *A sett of intermediate size, similar to an annex sett but located at some distance from the main sett and not connected to the main sett by defined paths.*

Badgers can mate at any time of year, but delayed implantation controls the time of birth. Most cubs are born between January and March, but they can be born at any time between December and June. An average of two to three Badger cubs are born to each sow and will initially be totally dependent on their mother. Cubs do not appear above ground until during April or May when they are 8 – 10 weeks old and are not fully weaned until at least June of each year.

Badgers are omnivorous, but their preferred food source is worms and insects. Worms are most abundant in well-grazed pastureland while mixed woodland is a good source of insects and grubs. Badgers have a soft and supple nose with which they snuffle into the ground to find insects. When they do this, they leave distinct round holes known as snuffle holes or grubblings. Badgers easily find worms on the surface of well-grazed pastureland and often leave no visible indications of this foraging.

Surveys

Walkover surveys can be conducted to identify the presence of Badgers within an area. This will identify the presence of any setts, dung pits, paths or foraging activity.

Bait marking techniques can be used to survey Badger territories. This involves feeding Badgers at each sett pellets of different colours over a period of at least two weeks. The colour of pellet found in dung pits and territorial latrines shows what areas each clan of Badgers is occupying.

Legislation

Badgers are protected under Schedule 6 of the Wildlife and Countryside Act (1981) and the Protection of Badgers Act (1992).

This makes it an offence to take, kill or injure a Badger, cruelly ill-treat a badger, use Badger tongs or firearms in the killing or taking (or attempt) of a Badger. It is also an offence to damage, destroy, obstruct access to, or any entrance of, a Badger sett, to cause a dog to enter a Badger sett or disturb a Badger while it is occupying a sett.

Appendix II. 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 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 III. NESTING BIRD INFORMATION.

Ecology

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

Surveys

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

Legislation

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

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

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

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

Appendix IV. REPTILE INFORMATION.

Ecology

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

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

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

Over winter reptiles will hibernate in burrows or under 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 V. 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

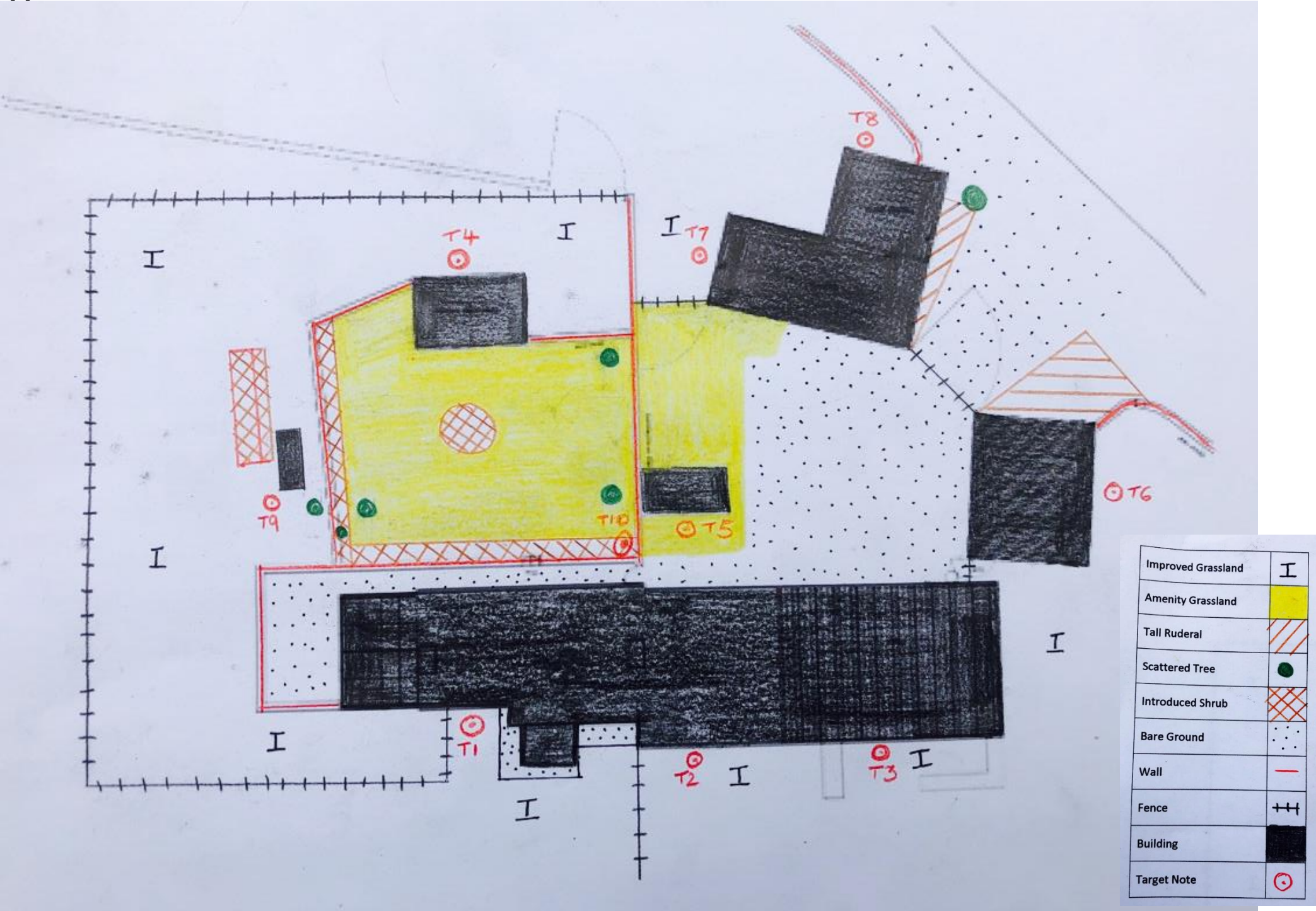
Invasive species listed under Schedule 9 are prohibited from release into the wild. Schedule 9, Section 14(2) prohibits ‘planting’ or ‘causing to grow’ in the wild of any plant listed in Part 2 of Schedule 9.

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>Lamium 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 x 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	<i>All species of the genus Elodea</i>	✓	

Appendix VI. ANNOTATED MAP OF THE SURVEY AREA.



Appendix VII. TARGET NOTES.

Target Note 1 – Building 1 with moderate bat roost potential.

Target Note 2 – Building 2 with moderate bat roost potential.

Target Note 3 – Building 3 with the bat roost present.

Target Note 4 – Building 4 with low bat roost potential.

Target Note 5 – Building 5.

Target Note 6 – Building 6.

Target Note 7 – Building 7.

Target Note 8 – Building 8.

Target Note 9 – Building 9.

Target Note 10 – The montbretia plant.

Appendix VIII. DEVELOPMENT PLAN.

