



envirotech

Ecological Consultants
Environmental and Rural Chartered Surveyors

Ecological Appraisal

LAND OFF WENTWORTH INDUSTRIAL ESTATE, TANKERSLEY



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PROFESSIONAL RESPONSIBILITY

This report has been commissioned and the actions of the surveyor have been made in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management. (www.cieem.org.uk) and the Royal Institution of Chartered Surveyors (www.rics.org.uk)

ACCURACY OF REPORT

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed. If in doubt, stop work and seek further professional advice.

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1. INTRODUCTION

1.1 *Background*

1.1.1 In November 2015 Envirotech NW Ltd were commissioned by Barmston Developments Limited to carry out an Ecological Appraisal of land off Wentworth Industrial Estate, Tankersley, South Yorkshire, central grid reference SK 33317 99814. A site investigation was undertaken and a report compiled which includes recommendations for any future actions and or mitigation required.

1.1.2 The survey was requested in connection with the proposed construction of new industrial units.

1.2 *Objectives*

1.2.1 The main objectives of the study were:

- The completion of a Phase 1 Habitat Survey including the preparation of a vegetation and habitat map of the site and the immediate surrounding area.
- The survey and assessment of all habitats for statutorily protected species.
- An evaluation of the ecological significance of the site.
- The identification of any potential development constraints and the specification of the scope of mitigation and enhancement required in accordance with wildlife legislation, planning policy and other relevant guidance, and;
- The identification of any further surveys or precautionary assessments that may be required prior to the commencement of any development activities.

2. METHODOLOGY AND SOURCES OF INFORMATION

2.1 Data Search

- 2.1.1 The Sheffield Biological Records Centre “SBRC” and the Multi-Agency Geographic Information for the Countryside (MAGIC) were searched to establish the presence of any records of statutorily protected, notable or rare species, and any designated sites of international, national, regional or local importance within a 1.5km radius of the site boundary.
- 2.1.2 Google Earth and Google Street View were consulted to establish the presence of any features of ecological importance within the local area.

2.2 Vegetation and Habitats

- 2.2.1 A vegetation and habitat map was produced for the site and the immediate surrounding area. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC 2003).
- 2.2.2 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act (1981) and indicators of important and uncommon plant communities. All plant nomenclature follows Stace (1991).
- 2.2.3 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act (1981), namely Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) on terrestrial habitat and aquatic species such as floating pennywort (*Hydrocotyle ranunculoides*), water Hyacinth (*Eichhornia crassipes*) and New Zealand pygmyweed (*Crassula helmsii*).
- 2.2.4 The survey was also informed by questioning the landowner/site agent to ascertain the recent history of the site.
- 2.2.5 During the course of the survey, evidence was found of previous work undertaken at the site by another ecological consultancy - Argus Ecology. Consultation was sought with this company regarding their survey findings and subsequent involvement.
- 2.2.6 Freedom of information requests were made to Natural England for details of previous European Protected Species (EPS) and Badger licences pertaining to the site and immediate surroundings.

2.3 Timing and Constraints

- 2.3.1 The site and surrounding land was visited on the 1st December 2015 by Andrew Gardner ^{BSc} (Hons), MSc, CEnv, MCIEEM, MRICS, Dip NDEA and Chris Arthur ^{BSc} (Hons), MSc, Grad CIEEM.
- 2.3.2 During the visit, weather conditions were suitable for the survey types undertaken being warm and dry.
- 2.3.3 Full access to the site was possible. The habitats present could be adequately assessed at the time of year the survey was undertaken.

3. PHASE 1 SURVEY RESULTS

3.1 *Habitat Results*

- 3.1.1 The site is a large brownfield site composed of bare ground, hardstanding, grassland and ephemeral/short perennial vegetation. An earth bank with a thin corridor of scrubby woodland forms the North, East and West boundaries of the site, with the Southern boundary marked only by a metal fence which separates it from the adjacent industrial park.
- 3.1.2 The site abuts a public highway to the North, residential dwellings to the East and a small parcel of woodland to the West.
- 3.1.3 See Figure 1 for the Phase 1 Habitat Plan and Table 1 for the descriptive Botanical and Faunal Target Notes, hereafter referred to as BTN and FTN.

Target Note	Description	Comment
BTN1	Hardstanding	The site is accessed via a recently laid hardstanding and tarmac track which leads from the industrial estate to the South and contours along the Southern boundary of the site.
BTN2	Neutral grassland semi-improved/ Ephemeral/short perennial vegetation	<p>The majority of the site is a mosaic of disturbed land comprising rank grassland, ephemeral/short perennial vegetation, bare ground and ephemeral pools of standing water. Graminoids present comprise Yorkshire fog (<i>Holcus lanatus</i>), rough meadow grass (<i>Poa trivialis</i>) and bent (<i>Agrostis</i> sp.). The diversity of forbs across the site is high and consists of white clover (<i>Trifolium repens</i>), creeping buttercup (<i>Ranunculus repens</i>), common mouse-ear (<i>Cerastium fontanum</i>), selfheal (<i>Prunella vulgaris</i>), bird's foot trefoil (<i>Lotus corniculatus</i>), cinquefoil (<i>Potentilla reptans</i>), yarrow (<i>Acillea millifolium</i>), common vetch (<i>Vicia sativa</i>), ragwort (<i>Jacobeia vulgaris</i>), oxeye daisy (<i>Leucanthemum vulgare</i>), ribwort plantain (<i>Plantago lanceolata</i>), great burnet (<i>Sanguisorba officinalis</i>), common centaury (<i>Centaureum erythraea</i>), colt's foot (<i>Tussilago farfara</i>), common dog violet (<i>Viola riviniana</i>), lady's bedstraw (<i>Galium verum</i>), tansy (<i>Tanacetum vulgare</i>), smooth hawk's-beard (<i>Crepis capillaris</i>), creeping thistle (<i>Cirsium arvense</i>), sage (<i>Teucrium scorodonia</i>), nettle (<i>Urtica dioica</i>) and teasel (<i>Dipsacus fullonum</i>).</p> <p>Around wetter parts of the site are jointed rush (<i>Juncus articulatus</i>) and reedmace (<i>Typha latifolia</i>). There is a dense covering of bryophytes throughout much of the site.</p>
BTN3	Scrub dense/continuous	Parallel to the access track to the South is a small embankment containing dense scrub and other tall species. Bramble (<i>Rubus fruticosus</i> agg.) rose (<i>Rosa</i> sp.), hogweed (<i>Heracleum sphondylium</i>), great willowherb (<i>Epilobium hirsutum</i>), and many of the species listed in BTN2 are abundant here, along with young saplings of alder (<i>Alnus glutinosa</i>), silver birch (<i>Betula pendula</i>) and cherry (<i>Prunus</i> sp.).
BTN4	Bare ground	Whilst small patches of bare ground occur throughout the site, there is a substantial area in the centre which looks to have formerly been used as a site compound, as it was found to contain several shipping containers and scattered debris. Much of the area contained standing water at the time of the survey, though this is likely to be a result of heavy and prolonged rainfall in the preceding weeks.
BTN5	Broadleaf woodland semi-natural	Bounding the site to the North, East and West is a narrow band of broadleaf woodland. This is dominated by silver birch with alder, hawthorn (<i>Crataegus monogyna</i>) and oak (<i>Quercus</i> sp.), with a dense cover of bracken (<i>Pteridium aquilinum</i>) and bramble beneath.

BTN6	Scrub dense/continuous -	Dense scrub occurs in the centre of site as discreet parcels on areas of higher ground, possibly where cleared organic matter has been piled. Bramble, rose, buddleia (<i>Buddleia davidii</i>), goat willow (<i>Salix caprea</i>) and purple willow (<i>S. pupurea</i>) are prevalent, along with other species found elsewhere on site.
BTN7	Scrub - scattered	Scattered tree saplings occur in the South-east of the site adjacent to the access track. Unlike dense scrub elsewhere, the flora beneath is more typical of the grassland and ephemeral/short perennial vegetation of BTN2.
BTN8	Other habitat	Abutting the site to the South are existing industrial properties forming Wentworth industrial estate.
BTN9	Broadleaf woodland semi-natural -	The broadleaf woodland bounding the site continues to the West/South-west.
BTN10	Cultivated/disturbed land - arable	Arable fields lie to the North of the site.
FTN1	Badgers	An active badger sett with two entrances was found along the Northern site boundary. Recent latrines were also noted in this area.
FTN2	Badgers	Badger hairs were found around a small breach in the perimeter fencing in the South-west area of the site. Badger runs were identified in the woodland to the West.
FTN3	Amphibians	Temporary Amphibian Fencing (TAF) is present around parts of the North and South, and the entirety of the Western boundary of the site. This has been left in place from licenced great crested newt works in 2008 and remains in good condition. Pitfall traps were still present, many were open, containing water following recent rains and would be dry during summer where they would continue to trap amphibians, reptiles and small mammals.
FTN4	Reptiles	Grass snakes have previously been recorded on the site. The habitats contained on site are suitable for use by common reptile species. Artificial refugia are present throughout the site, presumed to be discarded after previously undertaken reptile surveys. As with FTN3 pitfall traps were still present, many were open, containing water following recent rains and would be dry during summer where they would continue to trap reptiles, amphibians and small mammals.
FTN5	Birds	The open ground within the site may be suitable for ground nesting birds, but the high disturbance levels locally and lack of foraging opportunities due to the compacted ground limit the value of the site.

Table 1 - Details of Botanical and Faunal Target Notes



Figure 1
 Results* of Extended
 Phase 1 Habitat Survey

*Habitats outside the site boundary are indicative only and have been mapped from within the site boundary or from publicly accessible land



The majority of the development area comprises grassland and ephemeral/ short perennial vegetation on ground which appears compacted (BTN2).

The vegetation cover is very short, there is no indication of recent management.



Areas of the site were severely waterlogged at the time of the survey, but considering the exceptional wet weeks preceding the visit, this is not likely to be representative of normal conditions.



No bodies of permanent standing water exist within the site.



Recently constructed hardstanding to the South and West of the site to facilitate vehicular movement (BTN1).



Parcels of dense scrub occur in various locations within the site, predominantly brambles (BTN6).



Scrubby woodland bounds the site to the North, East and West (BTN5). Black TAF Fence still standing.



Temporary Amphibian Fencing (TAF) has been installed around much of the site in relation to a previous EPS licence which involved the trapping and removal of great crested newts from the site. This fence remains in good condition, providing an effective barrier against their ingress (FTN3).



Pitfall traps are still present against the perimeter fence and are open such that they would catch reptiles, amphibians and small mammals. These appear to no longer be checked and emptied. We consider they will significantly reduce, via killing, the any population of reptiles, amphibians and small mammals on the site.



On the Northern boundary of the site a small outlier badger sett was located (FTN1).

This is shielded from the construction area by a wooded earth bank.

Fresh badger latrines were noted

Table 2 - Photographs

4. SPECIES SURVEY METHODOLOGY

4.1 Amphibian

- 4.1.1 Great crested newts (*Triturus cristatus*) are listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. It is protected under Schedule 2 of the Conservation (Natural Habitats) Regulations (2010) and Schedule 5 of the Wildlife & Countryside Act (1981).
- 4.1.2 The great crested newt baseline survey involved a pond screening assessment to determine the presence and suitability of ponds located within the study area using a Habitat Suitability Index.
- 4.1.3 Water-bodies located within or adjacent to the study area were identified and where access was possible were assessed for their potential to support great crested newts. The criteria used in the assessment are based on those contained in the Herpetofauna Workers Manual and Oldham et al, 2000, and in applying these criteria a precautionary approach was adopted. The pond assessment was undertaken in order to determine which water-bodies, based on their potential to support Great crested newts, should be subject to presence/absence surveys.
- 4.1.4 Two small ponds occur to the West of the site. These could not be accessed for assessment, but are known to have been created as part of a great crested newt mitigation scheme in c.2008. As such, they are presumed to support this species.
- 4.1.5 Terrestrial refuge searches were undertaken around the site at the same time as the walkover survey. This involved carefully lifting items under which amphibians could be hiding before replacing them. Temperatures had been significantly above the 7 degrees Celsius for several weeks prior to survey.
- 4.1.6 Pitfall traps and the TAF fence were inspected to determine their integrity.

4.2 Badger

- 4.2.1 Badgers (*Meles meles*) and their setts are protected under the Protection of Badgers Act (1992). This legislation arises from animal welfare issues (rather than on the basis of nature conservation grounds) and essentially protects badgers from killing, injuring or disturbance. The main issue on proposed development sites tends to be the potential disturbance of badgers in their setts as a result of construction operations. Natural England recommends that the use of heavy machinery in proximity of a sett entrance should be avoided, with a 'disturbance free-zone' being established. The degree of disturbance attributed to construction activity is a function of the background level of activity badgers are accustomed to and that which will be attributed to a proposed activity. The "disturbance free zone" is therefore site specific.
- 4.2.2 The survey for badgers comprised an assessment of all suitable habitat within and outside the study area boundary (where this was possible) for indications of use by badgers.

4.2.3 Signs of badgers which were searched for included:

- Setts - 'D' shaped entrances at least 25cms wide and wider than they are high with large spoil mounds
- Discarded bedding at sett entrances (this includes grass and leaves)
- Scratching posts on shrubs and trees close to a sett entrance
- The presence of badger hairs which are coarse, up to 100mm long with a long black section and a white tip
- Dung pit latrines and footprints
- Habitual runs through vegetation and beneath fences
- Hedgehog carcasses

4.3 **Bats**

4.3.1 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981), and are included on Schedule 2 of the Conservation (of Natural Habitats) Regulations (2010), as European Protected Species. Taken together, these pieces of legislation make it an offence to:

- Intentionally or recklessly kill, injure or capture bats;
- Deliberately or recklessly disturb bats (whether in a roost or not);
- Damage, destroy or obstruct access to bat roosts.

4.3.2 The Bat Conservation Trust (Hundt (2012)) issued guidelines on bat survey methodology, a key feature of their recommendation is for the undertaking of a pre-survey assessment - an initial desk-study and a walkover assessment of the survey area and its surrounding area to identify the relative value of the habitats present for bats and likely commuting routes. This is to be followed by a survey program that is appropriate to the likely level of bat activity within the survey area to be determined by and based on the experience of the surveyor.

4.3.3 The potential value of the survey area for foraging bats was assessed through consideration of two main factors: professional knowledge of bat ecology and foraging behavior in combination with the geographical location, topography and habitats present within the survey area and surrounds. This resulted in the production of a map showing habitat quality both on and adjacent to the site.

4.3.4 Trees within the survey area boundary were assessed for their potential to support roosting or hibernating bats. This comprised a close inspection of all trees on site and an assessment of their potential to be used by bats by a licensed surveyor.

4.4 **Birds**

4.4.1 All breeding birds, other than pest species, are protected under the Wildlife and Countryside Act of 1981 when building a nest, rearing young or sitting on eggs. Some

bird species, such as barn owl (*Tyto alba*), are protected when near an active nest site. Several birds are listed as UK and or County BAP species.

4.4.2 Bird species and behavior was noted during the other field surveys. All areas are covered equally, in order to avoid the subjective survey of better quality 'bird habitat'.

4.5 Brown Hare

4.5.1 The brown hare (*Lepus europaeus*) is a UK BAP species.

4.5.2 The survey method involved walking boundaries and surveying with binoculars. The survey was conducted at a suitable distance to ensure that the hares were not disturbed. Generally, surveys were undertaken throughout the early afternoon and evening when hares are thought to be most active and feeding.

4.5.3 Where present the number of brown hares in each field or hedgerow was recorded, together with the nature and use of the field, climatic conditions and time of day. The presence of forms and faeces where present were also recorded.

4.6 Invertebrates

4.6.1 A general assessment was made of the study area's suitability for supporting invertebrates during the phase 1 survey.

4.6.2 The presence of invertebrates was noted during the other surveys which were undertaken. The extent of sampling was limited in that it could be confirmed that no priority or BAP species would be likely to be affected by the proposal.

4.7 Reptiles

4.7.1 All native reptiles are protected in Britain under the Wildlife and Countryside Act of 1981. It is an offence to intentionally kill, injure, sell or advertise to sell any of the six native species.

4.7.2 The survey for these species was based on assessing the habitat type and suitability of the site. This comprised an assessment of satellite imagery for the site and surrounding area as well as comparison of the results from the records searches with habitat types. The general habitat at the site was evaluated in terms of its suitability to reptiles for foraging or breeding.

4.7.3 Terrestrial refuge searches were undertaken around the site at the same time as the walkover survey. This involved carefully lifting items under which reptiles could be hiding before replacing them.

4.7.4 Pitfall traps and the TAF fence were inspected to determine their integrity.

4.8 Survey limitations

- 4.8.1 The survey was undertaken in early winter period. At this time of year plant species are less easily identified and the activity of some species is reduced.
- 4.8.2 The survey was undertaken outside of the optimum survey periods for great crested newts and reptiles, and so the presence or absence of these species cannot be adequately determined based on field work. However, from historical records and anecdotal evidence pertaining to the site, an assessment of the likely occurrence of these species can be made.

5. RESULTS

5.1 Data Search

- 5.1.1 Envirotech and SBRC hold records of protected or notable species within the site. There are also numerous records of protected or notable species within 2km (Figure 2). These are discussed in the relevant sections below.
- 5.1.2 The nearest non-statutory designated site is Sowell Pond Local Wildlife Site, c.300m to the South.
- 5.1.3 The only statutory designated site within 2km is Potter Holes Plantation Local Nature Reserve, c.520m to the East (Figure 4).

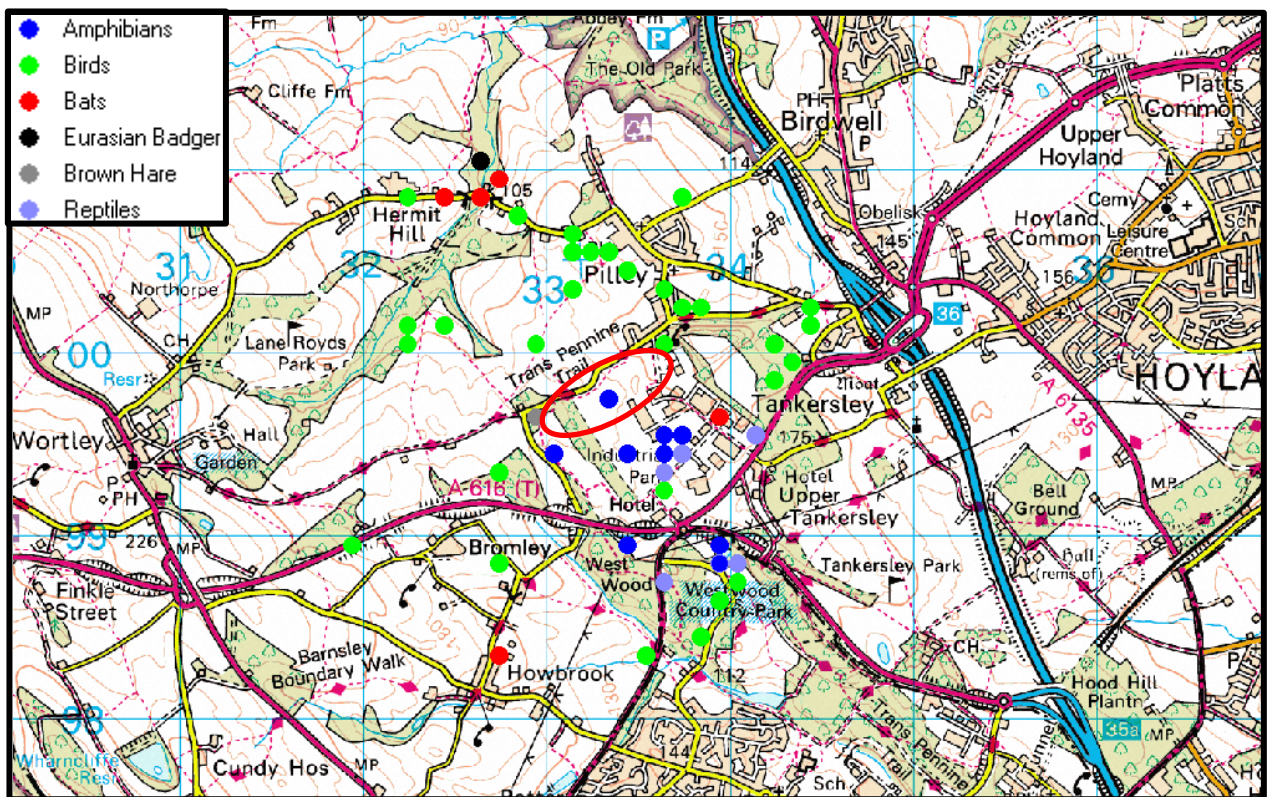


Figure 2 - Notable species; site circled in red