
Reptile Survey

Monckton Coke Works

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Field Investigations and Data

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1.0 Introduction

- 1.1 The site is located north east of the town of Royston. The B6428 runs immediately adjacent to the eastern most boundary of the site and the western boundary is a railway lane which is in use on a weekly basis. The southern boundary of the site is Monckton Coke Works whilst to the north there is a mix of industrial works, woodland and grassland.
- 1.2 A train link and associated infrastructure to facilitate coal haulage to the Monckton Coke Works (Approximate Central OS Grid Ref: SE 372 123) is proposed. The proposed work will require the removal of several juvenile trees and an area of grassland within which an ephemeral pond is situated. Extended Phase 1 Habitat Surveys undertaken on the site recorded habitats deemed suitable for supporting reptile species. These habitats included railway embankments, standing water, south facing slopes and riparian habitats. These habitats supported suitable interfaces between scrub / rank grassland and between woodland / scrub and long grassland, along with southern slopes and along woodland edge. All of these habitat features are suitable for supporting reptile species.
- 1.3 There are six reptile species native to Britain these include common lizard, sand lizard, slow worm, smooth snake, grass snake and adder. Smooth snake and sand lizard are rare and have a limited distribution in the UK being mainly confined to the south and to the south and northwest of England, respectively. Adder, grass snake, slow worm and common lizard have a wider distribution in the UK and are recorded in northern England.
- 1.4 Presence / absence of reptile species within suitable habitats in and adjacent to the proposed development site; and (2) to assess the potential for suitable mitigation if required.

2.0 PROTECTION AND LEGISLATION

- 2.1 The smooth snake and sand lizard are fully protected under the Conservation (Natural Habitats & c.) Regulations 1994 and the Wildlife and Countryside Act 1981 (as amended). The sand lizard is a priority species in the UK Biodiversity Action Plan. This species is also considered to be a *Species of Principal Importance* for the Conservation of Biodiversity in England under section 74 of the Countryside and Rights of Way Act 2000. The adder, grass snake, common lizard and slow worm are perceived as more common species when compared to smooth snake and sand lizard but they are still at risk and consequently receive some protection, including from killing and injury, under the Wildlife and Countryside Act 1981 (as amended).

3.0 METHODS

DESKTOP ASSESSMENT

- 3.1 A data search for all reptile species records, and statutory and non-statutory sites within a 2km radius of the site boundary was requested from BBRC (Barnsley Biological Records Centre) and WYJS (West Yorkshire Joint Services). The aim of this exercise was to supplement the field survey results by collating and reviewing ecological information relevant to the site and the local area.

FIELD SURVEY

- 3.2 Survey criteria followed the methodology for 'tinning' (artificial refuges) described by Froglife (1999), and in the Herpetofauna Workers Manual (2003), updated by the National Amphibian and Reptile Recording Scheme (NARRS) Reptile Survey Guide, developed by the Herpetological Conservation Trust ((HCT 2006) (www.narrs.org.uk)). Methods were amended to suit those specific conditions found in the site. Initially potential suitable habitats were identified through the Extended Phase 1 Habitat Survey undertaken in May 2013. Field surveys were undertaken in July and September, September being one of the optimum periods for surveying reptile species. A walkover of the study area was undertaken on the 20th June 2013 prior to the onset of the actual surveys to identify potential basking sites and other suitable habitat for reptiles. Reptile surveys combined two techniques: visual searches and the placing of artificial refugia, in addition pre-existing materials were subjected to survey. Eight visits were made to the Monckton site, one in July and

seven in September 2013, in suitable weather conditions for conducting reptile surveys. Surveys were undertaken by Christopher Madine.

- 3.3 Survey visits were made between 0800 and 1100; evening visits were made between 1700 and 1900 during suitable weather conditions. NARRS define suitable weather conditions as being when the air temperature ranges from 9 C – 18 C with sunshine or light cloud; surveys should avoid days with strong winds or rainfall. Bitumen roofing felt were used as artificial refugia.
- 3.4 A total of 170, 0.5m² sections of roofing felt were distributed across the Monckton site within suitable habitat. 50 refugia were placed on the 15th May 2013 in the area of unimproved grassland and scrub habitat shown in red on the Reptile Survey Plan (see Figure 1), this area has an ephemeral pond within it and the mats were also used as an aid to locate any Great Crested Newt. 120 refugia were distributed along and adjacent to the proposed rail link and pre-existing ballast material shown in blue on the Reptile Survey Plan (see Figure 1) on the 20th June 2013. Each of the artificial refugia were individually numbered for reference and left in situ for a minimum of two weeks prior to checking to allow reptiles to become habituated to their presence. Artificial refugia were not placed within the Monckton Coke Works site, shown in black on the Reptile Survey Plan as habitat in this area was not deemed suitable to support reptiles.



Figure 1, Reptile Survey Plan showing unimproved grassland and scrub habitat in red, Monckton Coke Works site in black, and proposed rail link and pre-existing ballast material shown in blue.

- 3.5 Eight visits were made to the site in suitable weather conditions to survey for the presence of basking, sheltering and/or mobile reptiles. The black bitumen roofing felt refugia attract reptiles as they absorb and retain heat quicker than the surrounding habitat. All visits were conducted at a time when the bitumen refugia were likely to be either warming up in the morning or remaining warmer than the ambient temperature later in the afternoon. Bitumen sheets warm quicker on a morning and loose heat more slowly on an evening. The time and weather conditions on each survey visit were noted and were considered suitable on each occasion.
- 3.6 In addition to undertaking the specific refugia searches, visual transects were carried out on each survey visit, concentrating on areas between the artificial refugia and any other areas considered to be suitable for basking reptiles. Visual checks involved walking slowly and meticulously through habitat with a “look see”, method of searching for and recording reptiles.

SURVEY CONSTRAINTS

- 3.7 A small number (5) of the artificial refugia were also disturbed by members of the public, this occurred in the north west of the site close to a footpath area. The disturbed artificial refugia were relocated close to their original positions and the disturbance was halted. It is our opinion that the results of the surveys were not affected by the small scale and localised disturbance events.

4.0 RESULTS

SITE DESCRIPTION

- 4.1 The proposed site exists in three distinct habitat types and areas, shown in Figure 1: Reptile Survey Plan. The first is unimproved grassland, with scrub and a pond located within it (shown in red). The proposed rail link would then pass through Monckton Coke Works (shown in black). The site then moves into the third area which had been a rail siding until the 1980's, it currently exists as an area of ballast material bordered either side with regenerated juvenile trees and scrub (shown in blue). The southern boundary of the site is Monckton Coke Works whilst to the north there is a mix of industrial works, woodland and grassland. The B6428 runs immediately adjacent to the eastern most boundary of the site and the western boundary is a railway lane which is in use on a weekly basis.

DESK STUDY

DESIGNATED SITES

INTERNATIONAL & NATIONAL DESIGNATED SITES

- 4.1 There are no sites of International Nature Conservation within 10km of the study area.
- 4.2 There are no Nationally Designated Sites within 2km of the study area

LOCALLY DESIGNATED SITES

- 4.3 One Site of Scientific Interest (SSI) is located within 2km of the survey area and is summarised below in Table 1.
- 4.4 Three Wakefield Nature Area's (WNA) are located within 2km of the survey area and are summarised below in Table 2.

Table 1: Site of Scientific Interest (SSI) located within 2km of the survey Site

Site Name	Feature of Interest	Area (km)	Distance from Survey Area
Barnsley Canal	Wetland, grass snake	5	65m to the west of survey area

Table 2: Wakefield Nature Area (WNA) located within 2km of survey site

Site Name & Ref.	Feature of Interest	Distance from Survey Area
Ellis Laithe, Cold Hiendley	Grassland, scrub, woodland features, yellow meadow ant, dingy skipper, hare	Located immediately north and east of survey site
Barnsley Canal Royston	No information available	
Barnsley Canal, Cold Hiendley	Wetland, grass snake	1.8km north of survey area

REPTILE RECORDS

- 4.4 Five records of grass snake *Natrix natrix*, were provided for the 2km search area. The records covered the period 2000 to 2012. Three of the records were from the Rabbit Ings area to the east of the site recorded on the 23rd September 2012, 23rd April 2007 and the 1st January 2001. One of the records was from the Barnsley Canal (Royston) recorded on the 1st January 2001. One of the records was from the Carlton Marsh (LWS) > 2km south of the survey area recorded on the 1st July 2001.

OTHER OBSERVATIONS

- 4.5 A grass snake was observed by Christopher Madine on the 7th June 2013 basking under a roof felt refugia mat placed as part of a Great crested newt (*Triturus cristatus*) survey on the Monckton site, grid reference SE 37552 12315. The observation was made in the northern section of the unimproved grassland area shown in red on the Reptile Survey Plan.

SURVEY RESULTS

- 4.6 No reptiles were observed on any of the eight site visits or the one pre-survey visit.

5.0 DISCUSSION

- 5.1 No reptile species were recorded during the dedicated reptile survey, however one grass snake was observed earlier in the year (June 2013) whilst conducting a great crested newt survey on the site. It was located under one of the tiles within the unimproved grass / scrub habitat (red on Figure 1). The data derived from the desk top study also indicates the presence of grass snake in areas adjacent to the site. Barnsley Canal SSI is located within 65 metres of the proposed site, and grass snake is listed as being a feature of interest of this area.
- 5.2 Grass snake are listed as a priority species on the Wakefield Biodiversity Action Plan, but not on the Barnsley Biodiversity Action Plan. They are widespread throughout Britain but locally can have a patchy distribution. There are three known populations within the local area, one of them being Barnsley Canal.
- 5.3 The Grass Snake is protected against killing, injuring and sale etc. under Schedule 9 of the Wildlife and Countryside Act. Its habitat is not protected. The implications of the above for the proposed development are that construction activities should not result in the death of individual reptiles where they are known to occur. Measures should be put in place in areas where they are present to provide for their individual protection.
- 5.4 If planning permission is to be granted for the current project a method statement will be prepared detailing any reptile clearance works that are deemed necessary. A toolbox talk will also be given to contractors working on site.
- 5.5 Any limbs from felled trees will be retained onsite to act as hibernacula for reptile species. Preliminary discussions have also taken place with Mick Birkinshaw (Groundwork Dearne Valley) and Ian Kendal (The Land Trust) for offsite Mitigation on the adjacent Rabbit Ings Country Park.

REPTILE RECORDING FORM

Date	Temp (°C)	Weather conditions	Methods used			Species observed & number			
			Artificial refugia	Litter search	Visual searches	Adder	Grass snake	Common lizard	Slow worm
June 20 th 2013	13 ⁰ C	Overcast / light rain	Place artificial refugia in situ	✓	✓	0	0	0	0
July 5 th 2013	14 ⁰ C	Sunny	✓	✓	✓	0	0	0	0
Sept 5 th 2013	15 ⁰ C	Sunny	✓	✓	✓	0	0	0	0
Sept 10 th 2013	15 ⁰ C	Overcast / light wind	✓	✓	✓	0	0	0	0
Sept 13 th 2013	11 ⁰ C	Overcast / light wind	✓	✓	✓	0	0	0	0
Sept 16 th 2013	9 ⁰ C	Overcast / light wind	✓	✓	✓	0	0	0	0
Sept 20 th 2013	10 ⁰ C	Sunny	✓	✓	✓	0	0	0	0
Sept 23 rd 2013	12 ⁰ C	Overcast	✓	✓	✓	0	0	0	0
Sept 25 th 2013	13 ⁰ C	Overcast	✓	✓	✓	0	0	0	0