Four Oaks,

Headcorn, Kent

Reptile Survey Report
and
Reptile Mitigation Strategy

Date of report	2nd September 2020
Date of surveys	July – August 2020
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Reviewer(s)	Alexander Watkinson
Client name	DHA
Corylus reference	20056

CONTENTS

1.0 INTRODUCTION

1.1 Corylus Ecology has undertaken a number of specific protected species surveys to inform a planning application for land at Four Oaks in Headcorn, Kent, hereinafter referred to as 'the Site'. These surveys are in relation to recommendations made by the Preliminary Ecological Appraisal (PEA) (Corylus Ecology, May 2020). This initial assessment of the Site recommended specific surveys to establish the presence of great crested newt (GCN) *Triturus cristatus*, reptiles and bats.

1.2 The GCN, first five reptile visits and bat surveys were undertaken by Corylus Ecology between June and August 2020 and were described in the Protected Species Report (Corylus Ecology, August 2020). The final two reptile visits were undertaken in August 2020 and are reported here and this report should be in read in conjunction with the PEA report (Corylus Ecology, May 2020) and Protected Species Report (Corylus Ecology, August 2020). The Protected Species Report included an outline mitigation strategy for reptiles, based on the results of the first five reptile visits. The final two visits were undertaken to comply with guidelines and to enable an accurate population estimate to be made. A detailed mitigation strategy for reptiles has been provided in this report.

1.3 The Site is located at OS Grid Reference TQ 81246 4547 and the areas of suitable reptile habitat include the small areas of tussocky grassland, overgrown vegetation and spoil piles.

2.0 METHODOLOGY

2.1 For a presence/likely absence reptile survey, Froglife recommend that a minimum of seven survey visits are undertaken in favourable weather conditions. To achieve a satisfactory degree of confidence in a negative result, the surveys are spread over a minimum of 30 days to demonstrate an appropriate level of effort has been achieved (Froglife, 1999).

2.2 Reptile surveys are, as a matter of good practice, undertaken between the months of March and October, with the best results tending to be achieved during April, May and September (Froglife, 1999). The Herpetofauna Groups of Britain and Ireland (HGBI) guidance suggests that optimum survey conditions are when temperatures are between 9°C and 18°C, with an absence of wind and rain. These conditions tend to coincide with surveys being conducted between 8.30am and 11.00am and between 4.00pm and 6.30pm. Optimal survey periods can, however, vary depending on the prevailing weather with. peak counts often occurring outside the above times, particularly immediately after rain. The surveys were therefore timed to utilise the best available weather conditions for each survey event.

2.3 The standard survey guidance for reptiles (Froglife, 1999) recommends ten heat traps per hectare. For this survey, a total of 18 heat traps were placed throughout the Site in areas considered suitable for reptiles, these being the long grass in the north-eastern corner and the overgrown areas of vegetation and areas of spoil along the northern and western boundaries of the Site (see Figure 1). The Site area is approximately 0.53ha, therefore a density of greater than ten heat traps per ha was achieved. Heat traps consisted of heavy gauge green mineral roofing felt cut into approximately 0.7m x 1m rectangles which were placed following linear margins and orientated to receive the maximum amount of sunshine.

2.4 Seven visits were undertaken between 1st July and 28th August 2020; the time and conditions of each visit are set out in Appendix 1.

Reptile Evaluation Methodology

2.5 Froglife has established criteria for identifying Key Reptile Sites and the criteria is also used in the designation process for Local Wildlife Sites, see Table 1 below. The scoring system is based upon the maximum number of adult animals (all animals recorded excluding hatchlings and juveniles), seen under artificial refugia (placed at a density of a minimum of 10 per hectare) or by general observation by one person, during a single survey event.

Table 1 – Evaluation of Reptile Population Status

Species	Low Population Score 1	Good Population Score 2	Exceptional Population Score 3
Adder	<5	5-10	>10
Grass Snake	<5	5-10	>10
Common Lizard	<5	5-20	>20
Slow Worm	<5	5-20	>20

2.6 A Key Reptile Site is identified when a site meets any of the following thresholds:

- Supports three or more reptile species; or
- Supports two snake species; or
- Supports an exceptional population of any one species; or
- Supports an assemblage of species scoring ≥4 points using the above system; or,
- Supports a population of adder scoring >1.

2.7 Any other species noted under the refugia were also recorded, principally any amphibian species in terrestrial phase.

3.0 RESULTS

3.1 The final two visits were undertaken on 26th and 28th August 2020 and no reptiles were recorded. The full data including weather conditions is included in Appendix 1.

4.0 EVALUATION

4.1 A reptile presence / likely absence survey has been carried out of land at Four Oaks, Oaks Road, in Headcorn between July and August 2020.

4.2 One species of reptile, grass snake, *Natrix natrix Helvetica*, has been recorded within the Site during the reptile surveys completed between July and August 2020. A peak of one adult grass snake was recorded on one occasion, in the north-east of the Site which supports tall grassland (see Figure 1 and Appendix 1). The peak count is equivalent to a 'Low' population of grass snake, scoring one point. A total of one point does not qualify the Site for consideration as a Key Reptile Site.

Grass Snake Ecology

4.3 Grass snakes have an estimated average population density of around three per hectare and the home range of grass snake has been recorded at up to 33ha (*Beebee and Griffiths, 2000*). A single grass snake was recorded on one occasion during the surveys and, taking into account the home range of grass snake and the small amount of suitable habitat present in the Site, it is considered likely that the species may therefore be present within the Site occasionally as it moves throughout its home range.

Impact Assessment

4.4 The proposals will result in the permanent loss of the tussocky grassland in the north-east and areas of overgrown scrub and spoil piles around the boundaries to allow for the development of the residential houses with surrounding gardens. The Site covers 0.53ha however 0.2ha of the Site is not suitable habitat for reptiles consisting of buildings and an access road. The latest proposed site layout plan (dated April 2020) shows that suitable reptile habitat will be retained through the development; in the south-west there will be an area of species-rich, tussocky grassland (wildlflower meadow) and the margins of the pond P1 will be retained and enhanced (see Figure 2). The proposals will therefore result in the permanent loss of *circa.* <0.33ha of reptile habitat.

4.5 As reptile habitat will be lost to the development and all common reptile species are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) against intentional death or injury then a reptile mitigation strategy is required. This would follow best practice guidance and would need to tie in with the programme for the scheme. A detailed mitigation strategy has been provided in Chapter 5.0 of this report and this is based on the outline mitigation strategy provided in the Protected Species Report (Corylus Ecology, August 2020). The detailed mitigation strategy for reptiles should also consider the mitigation strategy that has been provided for GCN in Chapter 5.0 of the Protected Species Report.

5.0 REPTILE MITIGATION STRATEGY

5.1 From this point on the reptile habitats will be referred to as two separate areas: the 'development site' and the 'receptor site'. The 'development site' refers to the majority of the Site which will be cleared of vegetation, and the 'receptor site' is the wildflower meadow and margins of the pond in the south-west, which will be retained and enhanced.

5.2 The following measures incorporate Natural England's Risk Avoidance Measures for GCN, which have been detailed in the Protected Species Report (Corylus, August 2020). It should be noted that in the unlikely event that a GCN is found during any part of the scheme then works should stop and the project ecologist notified; a Natural England Licence may be required to continue.

Timings

5.3 The works should take place during the active season for amphibians and reptiles, avoiding the hibernation period between mid-November and the end of February.

5.4 The reptile mitigation strategy will involve the following steps:

1. Receptor site preparation
2. Habitat Creation and Connectivity
3. Site Induction
4. Reptile translocation
5. Conduct a destructive search of development site
6. Design of Construction Zone
7. Management

1. Receptor site preparation

The receptor site already contains suitable reptile and amphibian habitat in the form of tussocky grassland. Areas of tall, species-rich grassland should be allowed to develop in the identified receptor site to create high quality commuting, foraging and sheltering reptile and amphibian habitat. These habitats would be managed on rotation and annually, to a height of 150mm. The surrounds of the pond will be enhanced through the installation of two log piles to provide places for refuge. They should be constructed using logs with a maximum diameter of 20cm and each log pile secured with stakes to prevent collapsing and with wire to prevent removal or dismantling.

2. *Habitat Creation and Connectivity*

In addition to the receptor area described above, native hedgerows are proposed around the development and a margin of tussocky grassland will be provided at the base of these hedgerows to create habitat corridors for newts and reptiles moving around the development and through the landscape. One log pile and one hibernacula should be created in the north-western corner of the Site where new tree planting is proposed.

Figure 3 shows the location of the receptor site and other enhancements for biodiversity that will be provided through the development.

3. *Site Induction*

All contractors working on the project will be briefed on the potential presence of reptiles and GCN by the Site manager prior to work commencing. A copy of the reptile and amphibian ID Card, Appendix 3, with the project ecologist's contact details will be left on-Site. Should any reptiles or amphibians including GCN be found then the project ecologist will be contacted immediately.

4. *Reptile translocation*

The relocation exercise for reptiles will include habitat manipulation to encourage animals to move out of those areas of suitable habitat which is to be lost. Habitat manipulation will involve two a two-step cutting process: the first cut will be to a minimum height of 150mm and then 100mm seven days later. The cutting process will be supervised by a suitably experienced ecologist. A sustained period of cutting pressure should be maintained until the ground works start to ensure animals are displaced from the affected areas.

5. *Conduct a destructive search of the development site area*

Once the habitat manipulation is complete, a destructive search of suitable GCN and reptile habitat will be undertaken; the spoil piles (S1 – S6 on Figure 1) and areas of dense scrub (see Figure 1). This would involve an ecologist supervising a 360° excavator machine with a toothed bucket to clear the development site, with any remaining reptiles which are found being moved to the receptor site. Other animals, such as amphibians or small mammals, will also be moved to safety. Once the Site has been cleared, development can commence.

6. *Careful Design of Construction Zone*

The Site compound and construction zone itself should be kept as small as possible and located on hardstanding where possible. During the demolition and construction period, care should be taken to avoid creating artificial habitats and temporary resting places within works areas, such as turf, spoil and

rubble piles. Stored materials will need to be isolated from areas of vegetation by locating them on hardstanding or bare ground and raising them off the ground by using storage bags on pallets. Before moving materials which have been stored on the ground, the area should be carefully checked for animals. Any waste piles should be moved off site, stored in skips or temporarily stored on areas of isolated hardstanding / bare ground.

Any trenches which are left open overnight during construction works should have planks of wood placed in them to provide an exit ramp for any animals which may fall into them. As a precaution each morning any ditches or holes will be checked by the site manager. Trenches should be checked for animals before they are infilled.

7. Management

Vegetation management – The receptor site and margins of the boundary features should be managed on an infrequent basis, being cut in August/September, to no lower than 150mm. Arisings can be used to create small piles of cut grass suitable for refuge

Log Piles - It is recommended that the log piles and hibernacula are checked every five years and replenished, if required.

6.0 CONCLUSIONS

6.1 A presence / likely absence survey has been undertaken of land at Four Oaks in Headcorn, Kent to inform mitigation or management that may be required. A Low population of grass snake has been identified and the Site does qualify for consideration as a Key Reptile Site under the Froglife criteria.

6.2 An impact assessment has been provided in Chapter 4.0 of this report and a detailed reptile mitigation strategy has been provided in Chapter 5.0.

References

Beebee, T. & Griffiths, R. 2000. *Amphibians and Reptiles.* Harper Collins Publishers, Hammersmith, London.

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Froglife. 1999. *Froglife Advice Sheet 10: Reptile Survey*. Froglife, London.

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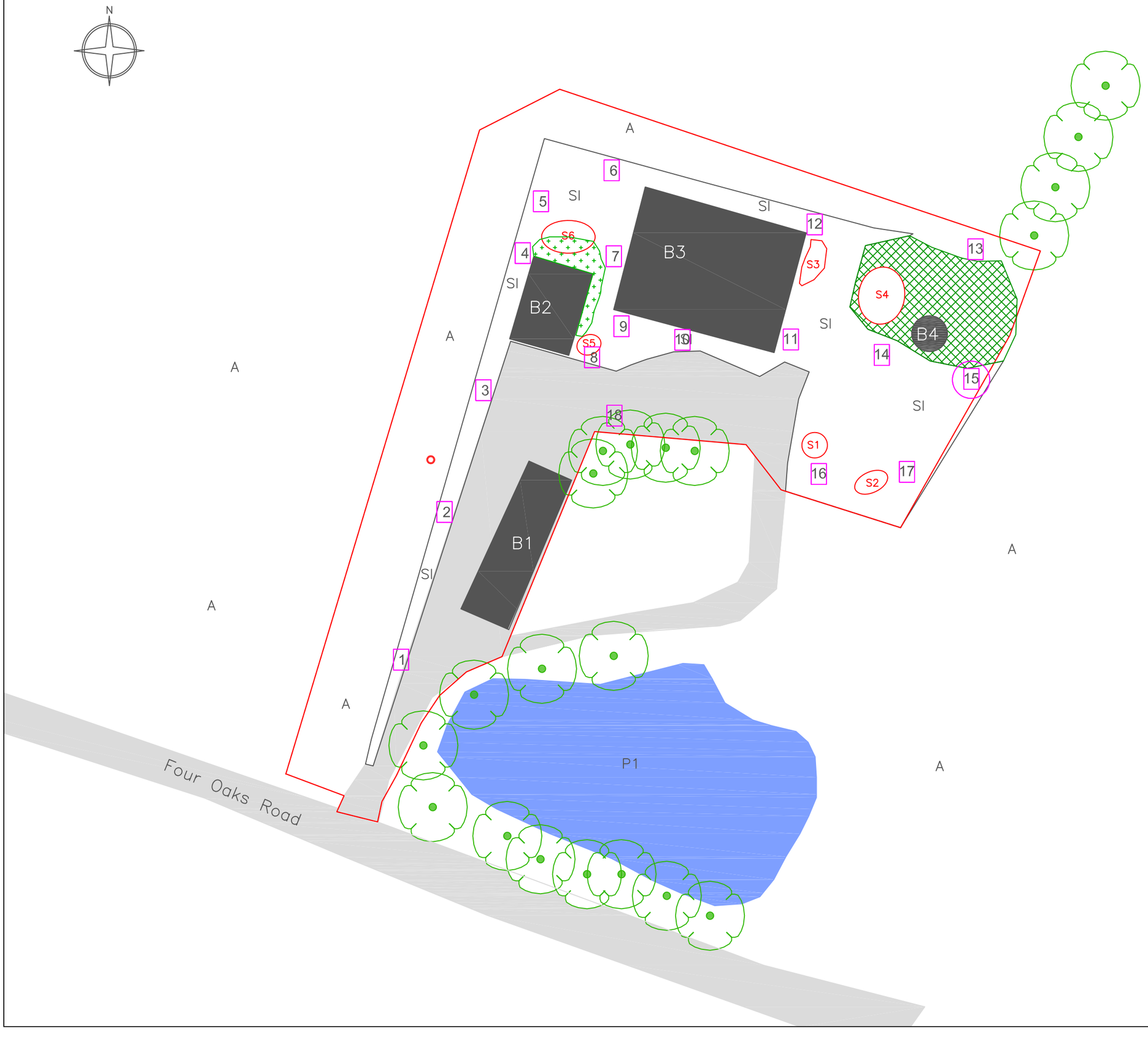

Key

- Site Survey Area
- Tree
- Dense Scrub
- Scattered Scrub
- SI — Semi-Improved Grassland
- Waterbody
- S — Spoil
- A — Arable Field
- Building
- Hard Standing
- 14 — Reptile Felt
- 14 — Reptile Record

revision	description	date	checked by

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Project:
18056 Four Oaks Road, Headcorn

Title:
Reptile Plan

status	drawing no.			
	Figure 1			
scale	size	date	drawn	checked
NTS	A3	13.08.2020	LR	AW

CAD filename
Figure_1.dwg

Figure 2. Mitigation Plan for Reptiles, GCN and Bats

Proposed Site Layout Plan
1:500 @ A3

0 5 10 15 20 25
Metres (1:500)

Key Plan

N

PLOT 1...3 Bed semi detached cottage
(2 No car spaces incl car barn)
PLOT 2...3 Bed semi detached cottage
(2 No car spaces incl car barn)
PLOT 3...4 Bed stables
(2 No car spaces incl car barns)
PLOT 4...4 Bed barn
(2 No car spaces incl car barn)
PLOT 5...4 Bed oast house
(2 No car spaces incl car barns)

EXISTING AGRICULTURAL BUILDINGS TO BE DEMOLISHED

Rev:	Reason:	Date:
B	Revisions at LPA request	JULY 2020
A	Access verge reduction	21.05.2020

Client:
MR R HAWKES & MS L ALEXANDER

Project:
FOUR OAKS, FOUR OAKS ROAD, HEADCORN, KENT, TN27 9PB

Title:
PROPOSED SITE LAYOUT PLAN

Drawing No:	Rev:	Scale:	Date:
DHA/14140/11	B	1:500	APR 2020

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CAD Reference: DHA_13771_FOUR OAKS ROAD_CF08 A3

Appendix 1 - Reptile Survey Results

Date	Species	Slow worm	Common Lizard	Grass Snake	Other	Weather conditions	
01/07/2020	Male					Time	15:00
	Female					Temp	19
	Adult Unknown					Cloud %	50%
	Sub					Rain	Dry
	Juv					Wind	BF2
	TOTAL	0	0	0			
	PEAK	0	0	0			
06/07/2020	Male					Time	15:10
	Female					Temp	18
	Adult Unknown					Cloud %	80%
	Sub					Rain	Dry
	Juv					Wind	BF1
	TOTAL	0	0	0			
	PEAK	0	0	0			
10/07/2020	Male					Time	15:40
	Female					Temp	18
	Adult Unknown					Cloud %	50%
	Sub					Rain	Dry
	Juv					Wind	BF1
	TOTAL	0	0	0			
	PEAK	0	0	0			
21/07/2020	Male					Time	09:45:00
	Female					Temp	17
	Adult Unknown					Cloud %	0%
	Sub					Rain	Dry
	Juv					Wind	BF0
	TOTAL	0	0	0			
	PEAK	0	0	0			
29/07/2020	Male					Time	10:20:00
	Female					Temp	17
	Adult Unknown			1		Cloud %	50%
	Sub					Rain	Dry
	Juv					Wind	BF2
	TOTAL	0	0	1			
	PEAK	0	0	1			
26/08/2020	Male					Time	10:20:00
	Female					Temp	17
	Adult Unknown					Cloud %	40%
	Sub					Rain	Dry
	Juv					Wind	BF4
	TOTAL	0	0	0			
	PEAK	0	0	0			
28/08/2020	Male					Time	10:40
	Female					Temp	16
	Adult Unknown					Cloud %	40%
	Sub					Rain	Light drizzle
	Juv					Wind	BF2
	TOTAL	0	0	0			
	PEAK	0	0	0			

Appendix 2 - Reptile Legislation

All British reptiles are afforded legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) largely as a consequence of a national decline in numbers due to habitat loss. Under the terms of the Act, it is an offence to intentionally kill or injure a reptile and accordingly in order to avoid committing an offence under the Act, appropriate mitigation techniques need to be incorporated for reptiles occurring within development sites. Mitigation methods for reptiles may include trapping and relocation of animals to a suitable receptor site, combined with the exclusion of the development site through the use of reptile fencing. Measures to enhance habitats for reptiles include the provision of hibernacula and appropriate management to improve foraging areas may also be required.

Mitigation for the more common British reptiles and amphibians does not require a licence from Natural England but would typically be agreed in consultation with the local planning authority.

Despite the range of their distribution and the diversity of habitats in which they may be found, the national status of the slow worm is not considered favourable. The slow worm is considered to have undergone a long term decline since the 1930's. Currently the largest threat has been identified as loss of habitat, in particular, due to a shift in planning policy towards the development of brown field sites (English Nature, 2004).