

CLEVE HILL SOLAR PARK

ENVIRONMENTAL STATEMENT
VOLUME 4 - TECHNICAL APPENDIX A8.6
REPTILE SURVEY

November 2018 Revision A

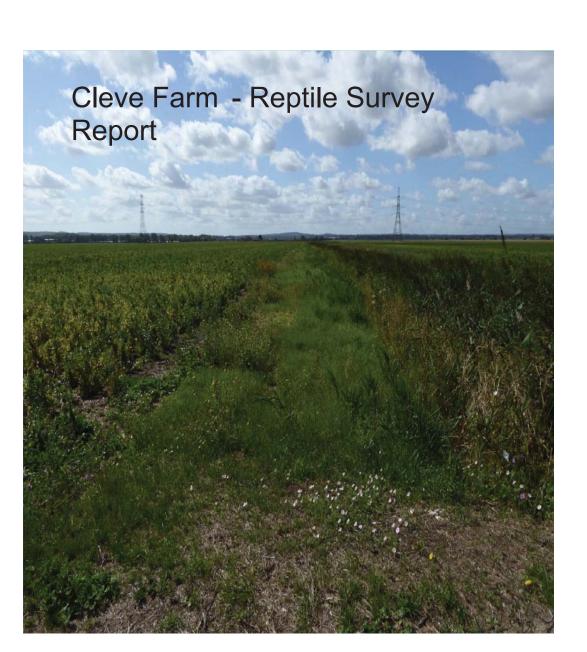
Document Reference: 6.4.8.6 APFP Regulation: 5(2)(a)

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Rev No	Comments		Approved	Date
		by	by	
1	Draft for Client Comment		MW	April 2016
2	Final following Comments		JR	July 2016

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Job No: 60470538 Date Created: January 2016

documentv1

Reptile Survey report April 2016

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1 Summary

AECOM was commissioned by Hive Energy in September 2015 to undertake a series of reptile surveys at Cleve Farm, Graveney, Kent (hereafter referred to as the Site). The purpose of this was to identify any potential constraints to proposed development works related to the presence of any reptile species within the Site boundary.

It is understood that the Site is to be developed for sustainable solar energy. The Site consists of large arable fields surrounded by a network of drainage ditches. The Swale Special Protection Area (SPA), Site of Special Scientific Interest (SSSI) and Ramsar site surrounds the Site to the north, east and west.

The four widespread species of reptile, namely grass snake (*Natrix natrix*), common lizard (*Zootoca vivipara*), slow worm (*Anguilis fragilis*) and adder (*Vipera berus*), are afforded protection under the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is an offence to intentionally kill or injure these species. It should be noted that, where it is predictable that reptiles are likely to be killed or injured by an activity (such as site clearance or any development related works) this could legally constitute "intentional killing or injuring", even if that was not the intention of the activity.

A suite of seven surveys were conducted during September and October 2015 to assess the presence of widespread reptiles within suitable areas of habitat located within the Site boundary.

A small population of common lizard and a small population grass snake were recorded during this time, along the rough grassland habitat associated with the network of drainage ditches scattered throughout the Site.

At the time of writing the detailed design regarding the scale and layout of the proposed development has not been determined. Providing that all works associated with the development at the Site is to be conducted away from areas of habitat considered suitable to support widespread species of reptile, no further mitigation will be required. However, where works impact on habitat suitable to support widespread species of reptiles, further update surveys and/or mitigation in the form of habitat manipulation and/or trapping and relocating and replacement habitat considered suitable to support reptiles, may be required.

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2 Introduction

An extended Phase 1 habitat survey of the Site in August 2015 identified areas of habitat as having potential to support the widespread species of reptile, slow worm, adder, common lizard and grass snake. A juvenile grass snake was also observed on Site. A desk study of the Site found records for grass snake and common lizard within the Site in 2014, and slow worm recorded within 2km in 2013.

As a consequence of the above findings, the conclusions of the Phase 1 Habitat Survey Report included a recommendation for a reptile survey to be undertaken within areas of habitat considered suitable to support these species, namely the habitats associated with the network of ditches surrounding the fields.

The aim of the reptile survey is to determine the presence/absence of these species, together with the number and distribution of reptiles present throughout the Site.

In September 2015, AECOM were commissioned by Hive Energy to conduct reptile surveys at the Site, to confirm the presence/absence of reptiles.

Section 2 of the following report summaries legislation relevant to reptiles. Section 3 details the methodologies utilised and Sections 4 and 5 respectively contains the results and conclusions.

3 Legislation

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There are four widespread species of reptile in the UK, namely grass snake, slow worm, common lizard and adder. All of these species are protected under the Wildlife and Countryside Act 1981 (as amended).

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Under this legislation it is an offence to intentionally kill or injure these species. It should be noted that, where it is predictable that reptiles are likely to be killed or injured by an activity (such as site clearance) this could legally constitute "intentional killing or injuring", even if that was not the intention of the activity.

All four widespread reptile species are listed as priority species under Section 41 of the 2006 Natural Environment and Rural Communities Act (NERC s41). As such, they are stipulated as a material consideration during the planning process.

In addition to the four widespread reptiles species of the UK, there are two rarer reptile species, the smooth snake (Coronella austriaca) and the sand lizard (Lacerta agilis). These species receive full protection under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2010 (as amended) making them European Protected Species.

However, these species have very specific habitat requirements to survive and thrive, namely dry heathland, and as such would not be present on farmland, or at this Site.

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4 Methodology

To provide baseline data regarding the presence or likely absence of reptile species at the Site, a survey was conducted following the standard best practice guidelines, namely The Reptile Survey Guidelines as set out by the nature conservation organisation Froglife, in their Advice Sheet 10 (Froglife, 1999) and also the Herpetofauna Workers' Manual (Gent & Gibson, 2003).

In communication with the farm operators over the suitable habitat areas for the refugia to be placed and also avoiding farm machinery, a total of 413 artificial refugia were placed at the Site during early September 2015. They comprised few corrugate metal tins and majority roofing felt cut into approximate 1m² squares, laid flush to the ground within suitable habitat, in order to attract reptiles to bask on or shelter under these refugia. Additionally, any existing features found on Site that could also be used by reptiles to bask/shelter were also mapped and checked. Refugia were placed along field boundaries, none being placed within fields both to avoid interference with farming activities and because reptiles are very unlikely to use in field habitat. A map of the distribution of artificial and existing refugia is provided in Figure 1.

A period of 10 days was allowed in order for the refugia to settle and reptiles to become habituated to them. Following this period, survey visits were conducted on a total of 7 occasions between 23rd September 2015 and 9th October 2015. All survey visits were conducted in suitable weather conditions, avoiding extremes of temperature, heavy rain or windy conditions.

During each survey visit, refugia were examined for reptiles either basking on or sheltering underneath. Where reptiles were found to be present, the species, life-stage and location of each individual was recorded.

The population size of reptiles was then estimated based on the Froglife Advice Sheet 10 methodology (Froglife, 1999). This classifies population size based on the maximum number of adults seen by observation and/or under refugia (placed at a density of up to 10 per hectare) in one day (See Table 4-1. Estimate of reptile population size, based on peak adult counts, as per Froglife Advice Sheet 10 (1999).).

Table 4-1. Estimate of reptile population size, based on peak adult counts, as per Froglife Advice Sheet 10 (1999).

	Low population	Good population	Exceptional population
Grass snake	<5	5-10	>10
Common lizard	<5	5-20	>20
Slow worm	<5	5-20	>20
Adder	<5	5-10	>10

4.1 Constraints

Despite prior communication with the farm operators, on arrival to the Site on the first survey visit, farm activities including field ploughing and strimming of field verges together with a series of dredging activities along sections of the ditch network, resulted in approximately 50 felts being destroyed.

However, based on the small number of felts that were disturbed, compared with those as set out, it is considered that on balance, a thorough and valid survey of the ditch habitats was conducted and this is therefore not considered to be a major constraint to the survey effort. Artificial refugia remained distributed across the site in all relevant habitats, to gain baseline data from its whole area.

Two of the four widespread reptile species were recorded across the site during the surveys and are therefore deemed to be present at the site within suitable habitat. Common lizard and grass snake were recorded, however it is considered that there may in the future also be the potential for slow worm and/or adder to also be present, dependant on land management conditions.

5 Results

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During the badger survey in May 2014 an adult grass snake was observed basking along one of the ditches that runs north to south through the centre of the Site.

A juvenile grass snake was observed in the south east corner of the Site basking along one of the ditches, during the Phase 1 Habitat survey in August 2015.

Two of the four widespread reptile species, common lizard and grass snake, were recorded across the site during the surveys and are therefore deemed to be present at the Site within suitable habitat. There may in the future also be the potential for slow worm and/or adder to also be present, dependant on land management conditions, due to suitable habitat being present.

Table 5.1 below contains a summary of the survey visits conducted, including the date, time, temperatures and weather conditions of each visit. The details of reptile species recorded during each visit are presented in Table 5.2.

Table 5-1. Summary of reptile survey visits undertaken during September and October 2015.

Date of survey visit	Time of survey	Temperature (C)	Weather conditions
23/09/2015	08.30- 15.00	12	Light showers with sunny spells
25/09/2015	09.00 – 15.30	14	Dry, part cloud and sunny
28/09/2015	09.00 – 15.15	15	Dry, part cloud and sunny
30/09/2015	09.00 – 15.00	13	Dry, part cloud and sunny
02/10/2015	09.00 - 15.00	14	Dry, part cloud and sunny
07/10/2015	09.00 - 15.00	13	Dry, part cloud and sunny
09/10/2015	09.00 - 15.00	14	Dry, part cloud and sunny

Table 5-2. Reptile species recorded across the Site as a whole during autumn 2015.

Date	Common lizard		Grass snake	
	l Adult/sub-adult	Juvenile	l Adult/sub-adult	Juvenile
23/09/2015	3	4	-	1
25/09/2015	8	7	-	-
28/09/2015	5	1	-	-
30/09/2015	5	-	-	-
02/10/2015	2	-	-	-
07/10/2015	7	1	-	-

09/10/2015	3	-	-	1
Peak adult count	8	3		-

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6 Discussion and Recommendations

Survey visits identified that the Site supports two species of widespread reptile, namely common lizard and grass snake. The maximum adult count for common lizard was eight recorded on the 25th September 2015 and the maximum adult count for grass snake was zero, although a juvenile grass snake was recorded on two separate occasions namely on the 23rd September 2015 and the 9th October 2015.

The distribution of the records of common lizard and grass snake from the surveys is shown in Figure 2. Generally reptiles were recorded from within the majority of field boundaries to the north and west of the Site. The reptiles recorded were observed along the ditch habitats within these areas of the Site. Common lizard were distributed evenly along the ditch habitats, while the observations of grass snake, namely two records of juveniles, were noted along a ditch habitat to the west of the Site. No records of reptile species were recorded from within the field margins to the south of the Site.

Based on the advice published by Froglife (1999,) the Site is considered to support a good population of common lizard and based on the presence of a juvenile, a low population of grass snake (see Table 6.1).

Table 6-1. Estimated population size classes present at the Site

Species	Peak adult count	Population size
Common lizard	8	Good
Grass snake	0 (2 juvenile)	Low

The relatively low numbers of individuals for such as large site and survey effort is likely to be a result of the land management operations as both an active intensive arable farm and also a heavily managed drainage network for this part of North Kent. If management altered or land use became different in the future, it is considered highly likely that more reptiles would move in to the Site boundary and there would also be the potential for slow worm and possibly adder to also move into the area.

7 References

Froglife (1999). Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation; Froglife Advice Sheet 10. Froglife, Halesworth.

Gent, T & Gibson, S. (2003). Herpetofauna Workers' Manual. JNCC, Peterborough.

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