REPTILE REPORT

PRINCES PARADE, HYTHE

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1. EXECUTIVE SUMMARY

S.1 Lloyd Bore Ltd conducted a reptile presence / likely absence survey of land adjacent to the northern bank of the Royal Military Canal, between the application site and Twiss Road, in May 2018.

S.2 The survey area has been selected as a suitable receptor site for the proposed development at the eastern end of Princes Parade.

S.3 An estimated 'low' population of grass snake was recorded during the survey. The peak number of adult grass snake recorded was three.

S.4 Based on the survey results, the survey area is of 'local' importance for grass snake.

2. INTRODUCTION

INSTRUCTION

2.1 Lloyd Bore Ltd was instructed to undertake a reptile survey of land at land adjacent to the northern bank of the Royal Military Canal, between the application site and Twiss Road, Hythe, Kent, (approximate centre: TR 1737 3475).

SURVEY OBJECTIVES

2.2 The objectives of the survey and report are to: -

- Determine whether reptiles are present on the proposed receptor site;
- If reptiles are present, determine what species are present and estimate the associated population size class; and
- Assess the importance of on-site habitats for reptiles.

3. METHOD

DESK STUDY

3.1 Data was obtained from the Kent and Reptile Amphibian Group (KRAG) in September 2015 to inform the Environmental Statement. The data obtained through this search includes records of reptiles. The search radius was 2 km, measured from the Prince's Parade proposed development.

3.2 Records obtained within the ten-year period prior to the date of the record search are considered 'recent.' Records older than this are considered 'historic.'

HABITAT ASSESSMENT

3.3 An initial ecological assessment of the site was conducted by Samuel Durham BSc (Hons) MCIEEM in winter 2017. A second visit was conducted by John Young on 20th April 2018. This visit included an assessment of the site's suitability for reptiles.

3.4 There is no published method for objective assessment of the quality of habitat for reptiles, or the likelihood of reptile presence within habitats. However, certain habitat characteristics are known to influence the suitability of habitats for reptiles. These comprise: -

- Location of site in relation to species geographic range of species;
- Vegetation structure and type;
- Habitat management;
- Insolation (sun exposure);
- Aspect;
- Topography;
- Surface geology;
- Connectivity to nearby good quality habitat;
- Prey abundance;
- Refuge opportunity;
- Presence or absence of suitable hibernation habitat;
- Presence or absence of predators such as domestic cats and pheasant (*Phasianus colchicus*);
- Disturbance levels; and
- Availability of suitable egg laying sites (egg laying reptile species only).

3.5 The above factors were used to assess the suitability of the site for reptiles and the likelihood of reptile presence.

PRESENCE / LIKELY ABSENCE SURVEY

3.6 A reptile presence / likely absence survey was undertaken by Emily Cummins BSc (Hons), Grad CIEEM between 9th May and 29th May 2018 - to establish whether reptiles are present on site.

3.7 Given that reptiles were recorded, the survey also aimed to determine the species present and estimate the associated population size class.

3.8 Artificial Cover Objects (ACOs) were used to determine the presence / likely absence of reptiles on the survey site. The ACOs (roofing felt, corrugated tin and corrugated onduline sheets) were placed in areas suitable for reptiles.

3.9 The area being considered for the receptor site is *c.*1.4ha with the majority of this area containing suitable reptile habitat. 26 ACOs were placed across the site, within areas of suitable reptile habitat, on 2nd May 2018. See Appendix 2 for locations of ACOs.

3.10 The ACOs were left to 'bed-down' for seven days, to allow time for any reptiles present to discover and use the materials.

3.11 The ACOs and other suitable basking areas were then periodically checked for reptiles on seven occasions during May 2018.

3.12 This survey approach follows good practice recommendations for reptile presence / likely absence surveys (Froglife, 1999).

3.13 ACOs were checked during suitable reptile basking conditions, when the temperature was between 12ºC and 17ºC. Survey visits were not conducted at temperatures below 12ºC or during periods of rain or strong wind.

3.14 The timing of survey visits was varied - to ensure that, during the survey period, all ACOs were checked when they were in full sun or only partial shade.

3.15 The survey results were used to estimate population size classes.

Table 1 Time and associated weather conditions of reptile survey visits

Visit	Date	Start / stop time	Temp start/stop (°C)	Percentage cloud cover	Precipitation / ground conditions	General weather conditions
1	09/05/2018	10:00 / 10:34	15 / 16	30	None / dry	Sunny and warm
2	11/05/2018	09:30 / 10:30	13 / 15	0	None / dry	Sunny with a light breeze
3	14/05/2018	09:15 / 09:42	12 / 13	50	None / light dew	Cloudy with sunny spells
4	18/05/2018	18:00 / 18:16	12 / 12	5	None / dry	Sunny and warm
5	23/05/2018	11:00 / 11:30	15 / 15	10	None / dry	Sunny and warm
6	25/05/2018	08:30 / 09:00	15 / 15	100	None / dry	Cloudy and humid
7	29/05/2018	15:30 / 16:00	17 17	100	None / dry	Cloudy and humid

ASSESSMENT AND EVALUATION

3.16 The presence / likely absence survey methodology was based on guidance contained in Froglife *Advice Sheet 10* (Froglife, 1999).

3.17 Gent and Gibson (2003) indicate that surveys for common lizard (*Zootoca vivipara*) and slow worm (*Anguis fragilis*) can be conducted between 9ºC and 18ºC and surveys for grass snake (*Natrix helvetica*) between 12ºC and 20ºC.

3.18 Froglife *Advice Sheet 10* recommends surveys should be conducted between 9ºC and 18ºC (Froglife, 1999).

3.19 During survey work at other sites, reptiles have been recorded in temperatures exceeding 20ºC.

3.20 For the purposes of this assessment, survey visits were conducted between 12ºC and 17ºC.

3.21 The terminology used within Froglife *Advice Sheet 10* (Froglife, 1999) has been used to describe the estimated population size classes for grass snake.

3.22 Population size class estimates for reptiles are based on the 'peak count' recorded for each species during a presence / likely absence survey. The 'peak count' for a species is the maximum number of adult animals recorded during a single survey visit.

ZONE OF INFLUENCE (ZOI)

3.23 Changes in habitat management within an area may have the potential to impact on ecologically important sites, habitats or species beyond the site boundaries.

3.24 The area over which important ecological features may be impacted is known as the Zone of Influence (ZoI).

3.25 The ZoI is determined by the source / type of impact, the potential pathway(s) for that impact and the location and sensitivity of the ecologically important feature(s) beyond the boundary.

3.26 The receptor site lies within the Royal Military Canal Local Wildlife Site. Habitat improvements for reptiles will be undertaken in a manner that is sensitive to reptiles.

3.27 For this reason, the ZoI, which was used to determine the extents of the reptile survey area, is likely to be limited to the survey site and those areas located just beyond.

SURVEY LIMITATIONS

3.28 The total number and density of ACOs used during the survey exceeded that recommended by Froglife Advice Sheet 10 (1999). Therefore, the survey effort is appropriate.

3.29 The survey was undertaken within a single month. It is acknowledged that this may constitute a minor (non-material) limitation. However, May is considered an optimal month for reptile survey (Froglife, 1999) and the survey visits were conducted during suitable weather conditions. For this reason, the timing and spacing of survey visits is not considered a material limitation to the validity or usefulness of the survey data.

3.30 There were no material constraints to the reptile survey. This report provides an assessment of the site's importance for reptiles and is suitable to fulfil the objectives of the survey.

4. RESULTS

DESK STUDY

4.1 The data search returned recent records (2008 - 2013) of slow worm and viviparous lizard within 2km of the proposed receptor site. The data search also returned historic records (1984-2005) of grass snake within 2km of the proposed receptor site.

HABITAT ASSESSMENT

4.2 Areas of tall ruderal vegetation,' low scrub and long grass within the survey area provide habitat suitable for reptiles. These habitats provide foraging and shelter opportunities for reptiles. The proximity of the proposed receptor site to Hythe canal also provides good foraging opportunities for grass snake. Dense scrub areas and mammal burrows also provide hibernation opportunities.

4.3 Further details on the proposed receptor site can be found in the Ecological Mitigation Strategy (Lloyd Bore, 2018).

SURVEY RESULTS

4.4 Grass snake are present within the proposed receptor site. Figure 1 shows the location where grass snake was recorded.

4.5 A summary of the peak count for adults of each species is provided in Table 2.

4.6 Detailed survey results are provided in Appendix 3.

Table 2 Peak counts of adult reptiles, and associated population size class estimate.

	Grass snake
Peak count	3 adults
Population size class estimate	'Low' population

4.7 No amphibians were recorded during the survey visits.

5. REPTILE DISTRIBUTION AND HABITAT MAP

Figure 1 Reptile distribution plan. Plan shows locations where grass snakes were recorded on / under ACOs (green circles) in May 2018. Unoccupied ACOs are denoted by blue circles. Suitable reptile habitat is indicated in yellow.

6. EVALUATION

6.1 A 'low' population of grass snake is present on the proposed receptor site.

6.2 The proposed receptor site is of 'local' importance for grass snake.

6.3 Details of how the survey area will be enhanced and managed for reptiles are provided in the Ecological Mitigation Strategy (Lloyd Bore, 2018).

7. REFERENCES

CIEEM (2016). *Guidelines for ecological impact assessment in the United Kingdom and Ireland: Terrestrial, Freshwater and Coastal*. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.

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. and Gibson, S (2003). *Herpetofauna Workers Manual*. JNCC, Peterborough.

Lloyd Bore (2018). *Ecological Mitigation Strategy: Princes Parade, Hythe, Kent*. Lloyd Bore Ltd, Canterbury, Kent.

8. APPENDIX 1: LEGISLATION AND PLANNING POLICY

8.1 The specific legal protection afforded to reptiles can be found within the Sections and Schedules of the relevant legislation and relevant case law.

8.2 Slow worm (*Anguis fragilis*), common lizard (*Zootoca vivipara*), grass snake (*Natrix natrix)* and adder (*Vipera berus*) are the four most common reptile species in the UK. These species are protected from intentional and reckless killing and injury under the Wildlife and Countryside Act 1981 (as amended).

8.3 The habitat of slow worm, common lizard, grass snake and adder is not legally protected. However, if great crested newts (*Triturus cristatus*) are present, the habitat supporting reptiles might be protected because of the legal protection afforded to great crested newts.

8.4 Actions affecting multiple animals can be construed as separate offences and therefore penalties can be applied per animal impacted.

8.5 The sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*), including their habitat, are fully protected by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. However, these species are restricted to narrow geographies and specific habitat types not found on or near the application site. Therefore, they are not considered further in this assessment.

8.6 All reptiles and amphibians held in captivity are legally protected by the Protection of Animals Act 1911 (as amended) and adder is listed by the Dangerous Wild Animals Act 1976 (as amended). This may be of relevance during reptile translocation works.

8.7 Licences to capture and move the four most common UK reptile species are not required.

8.8 The Wildlife and Countryside Act (1981) as amended, includes certain defences that may apply in some specific circumstances.

8.9 All native UK reptile species are listed as Species of Principal Importance.

9. APPENDIX 2: LOCATION OF ARTIFICIAL COVER OBJECTS (ACOS)

Figure 2 Location of 26 ACOs shown as blue circles.

10. APPENDIX 3: DETAILED SURVEY RESULTS

Visit	Date	Species	
		Adult	**Non-adult**
1	09/05/2018	0	1
2	11/05/2018	0	0
3	14/05/2018	0	0
4	18/05/2018	0	0
5	23/05/2018	3	0
6	25/05/2018	1	0
7	29/05/2018	0	0