REPTILE REPORT

KENT COUNTY COUNCIL

WALDERSLADE ROUND WOOD SITE
WALDERSLADE WOODS, BOXLEY, KENT

REF: 3478_RP_002_REVA

REVISION A: UPDATED PROPOSALS AND RED LINE BOUNDARY

STATUS: PLANNING

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1. EXECUTIVE SUMMARY

S.1 Proposals involve the redevelopment of the site to provide 12 residential units. The development will also fund the ongoing management of the remaining portion of Walderslade Round Woods, which is a Local Wildlife Site.

S.2 A 'moderate' population of slow worm are present within the site, with the maximum number of adults recorded on any one day being eight.

S.3 Without appropriate avoidance and mitigation measures the proposed development has the potential to directly impact on individual animals through killing or injury. Suitable reptile habitat will also be lost to facilitate development.

S.4 Mitigation and compensation will focus on the relocation of animals to a receptor site outside the red line boundary of the development but within the blue line ownership of the council and Walderslade Woods. In effect this will act as an on-site receptor because the habitats are part of the same habitat block. This is likely to be the most suitable option since animals would be retained within their local geographical population.

S.5 To enable the reptile translocation works, an Ecological Management and Enhancement Plan should be developed for habitats within Walderslade Woods, which will include the proposed reptile receptor area. This should detail how habitat management will improve and maintain habitats for reptiles.

S.6 Hazel dormice are present within land at Walderslade Woods. A European Protected Species Mitigation Licence will be required to facilitate development prior to works starting. See associated report for full details.

S.7 The measures included in the reptile Ecological Management and Enhancement Plan should also ensure they are compatible with the presence of hazel dormice.

S.8 The primary aim of habitat management with respect to reptiles should be to prevent bramble scrub encroachment onto open grassland habitats. Where appropriate the extent of grassland might be increased, but this will need to be sympathetic to other species groups present.

S.9 The main recommendations include:

- An Ecological Management and Enhancement Plan should be created for Walderslade Woods, which should include the on-site receptor. This should aim to prevent scrub encroachment in a reptile sensitive manner;
- The Ecological Management and Enhancement Plan for Walderslade Round Woods should detail how risks to botanical communities outside of the development zone, reptiles and dormice (amongst others) will be managed. The reptile element of this plan will primarily focus on a trapping and translocation programme, combined with long term measures to maintain and improve their habitats;
- The production of the Ecological Management and Enhancement Plan should be made a pre-commencement planning condition; and
- The inclusion of native trees and native mixed species hedges are recommended in the post-development planting plan. A species mix could include hawthorn (50%), field maple (30%), hornbeam (10%), guelder rose (3%), dogwood (3%), spindle (2%) and dog rose (2%). These will provide cover habitat for reptiles and other wildlife.

2. INTRODUCTION

INSTRUCTION

2.1. Lloyd Bore Ltd was instructed by Henry Clark of Kent County Council on 19th June 2015 to conduct a reptile survey associated with a proposed development at Walderslade Round Woods, Walderslade, Kent (approximate centre TQ 76978 61732).

DESCRIPTION OF PROPOSED DEVELOPMENT

2.2. Proposals involve the provision of 12 residential units, with associated road access, parking and landscaping.

2.3. The outline development plan is shown in drawing 'Cheney Thorpe & Morrison Site Location Plan & Proposed Site Plan 07.10.02' dated June 2007.

SCOPE OF WORKS

2.4. The instructed works included a site visit to lay artificial covering objects (ACOs) and then seven subsequent site visits to examine presence/likely absence of reptiles. These visits were undertaken between 20th July and 7th August 2015.

SURVEY OBJECTIVES

2.5. The objectives of the survey and report are to:-

- Assess the value of habitats on site for reptiles;
- Identify if reptiles are present within the development site;
- If reptiles are present, this assessment aims to determine what species are present and the associated population class size; and
- Make recommendations regarding appropriate avoidance measures, mitigation and compensation measures.

3. SITE LOCATION

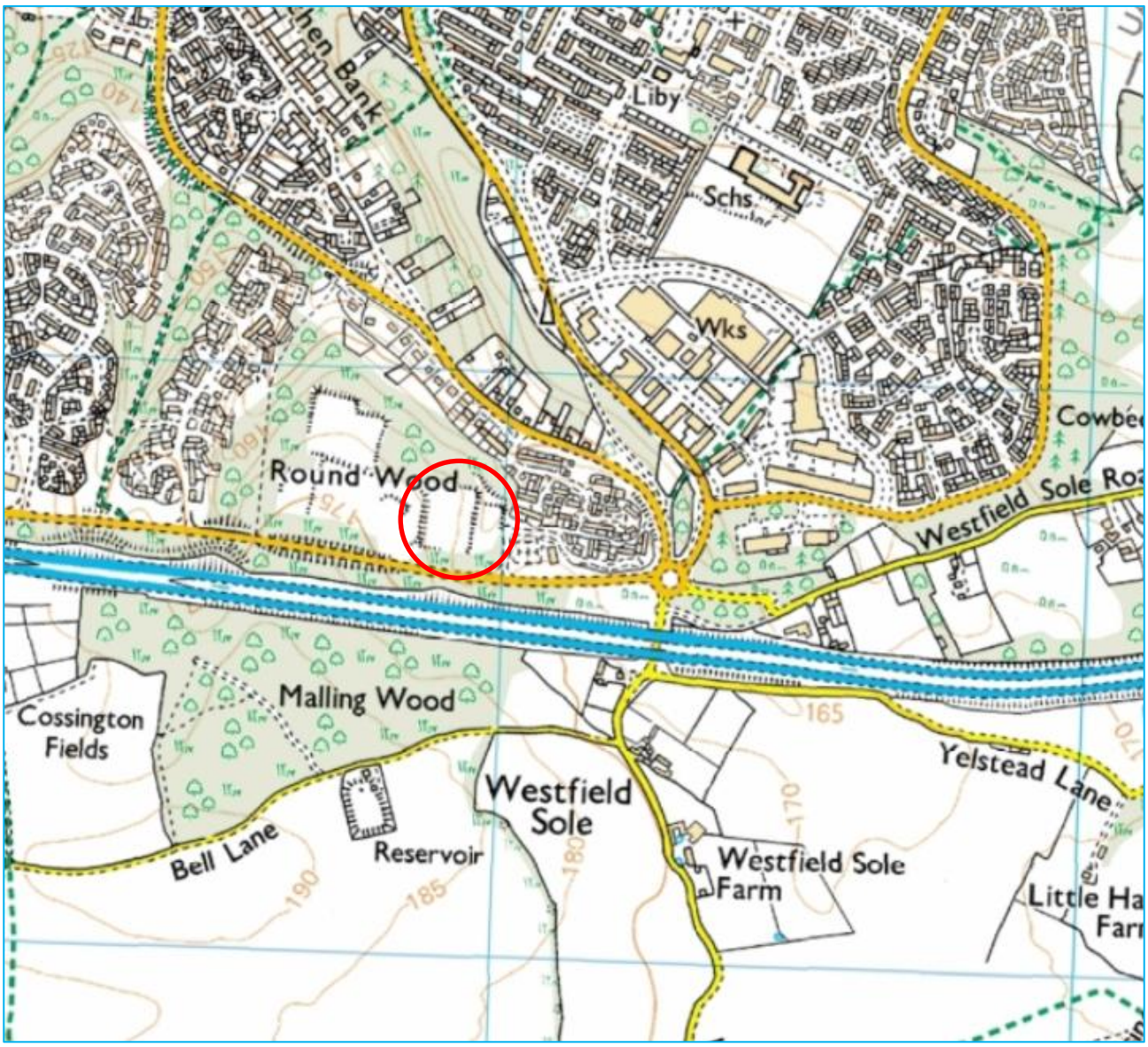

Fig. 1: Site location plan. Reproduced from (OS explorer 148, 1:25,000) by permission of Ordnance Survey. © Crown Copyright (2008), All rights reserved. AR 100029570.

4. RED LINE BOUNDARY OF SITE

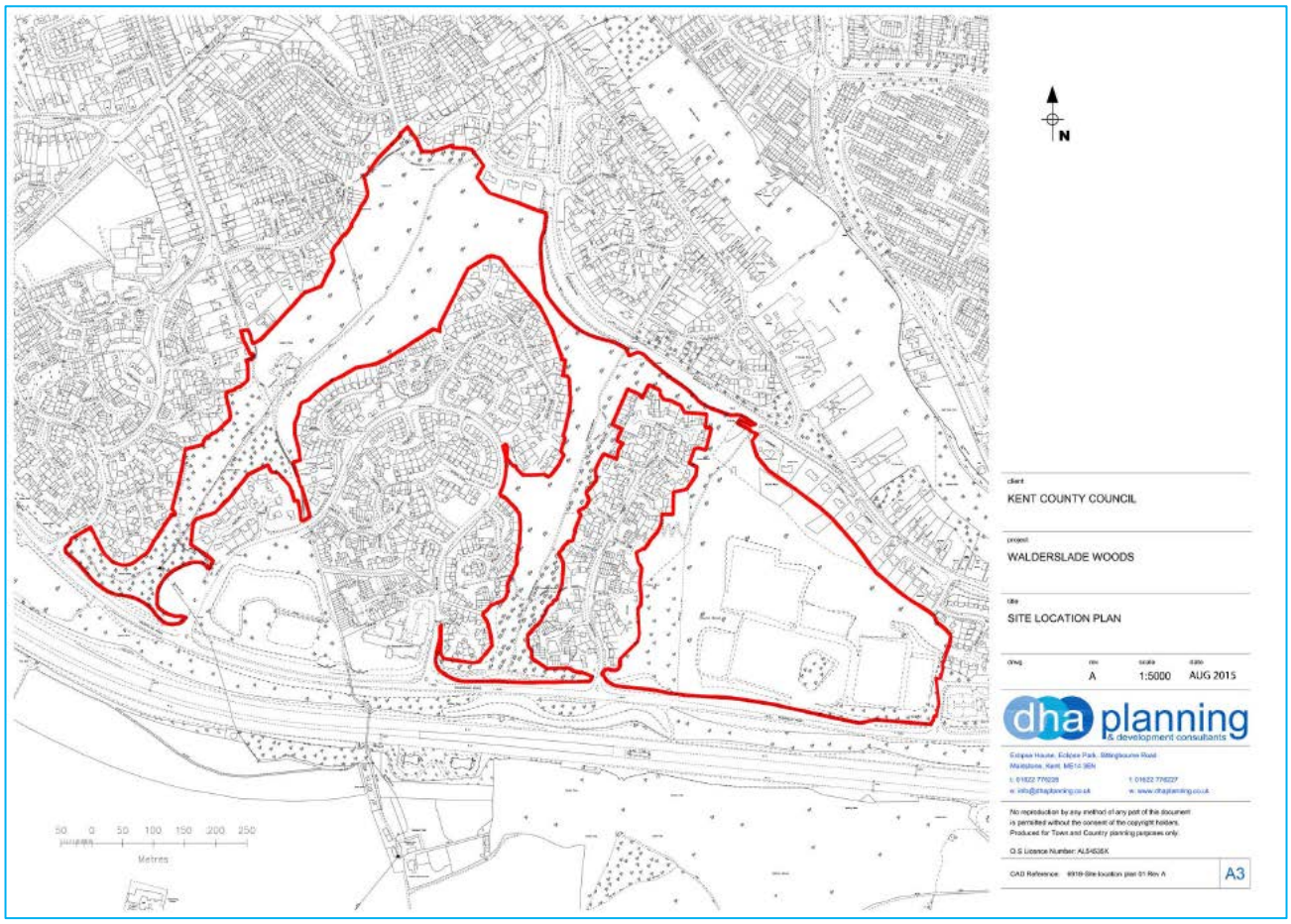

Fig. 2: Red line boundary of the site to include adjacent woodland habitats. The survey area comprises the plot present in the south-east corner (drawing 'DHA Planning Walderslade Woods Site Location Plan Revision A' dated August 2015').

5. PROPOSED DEVELOPMENT

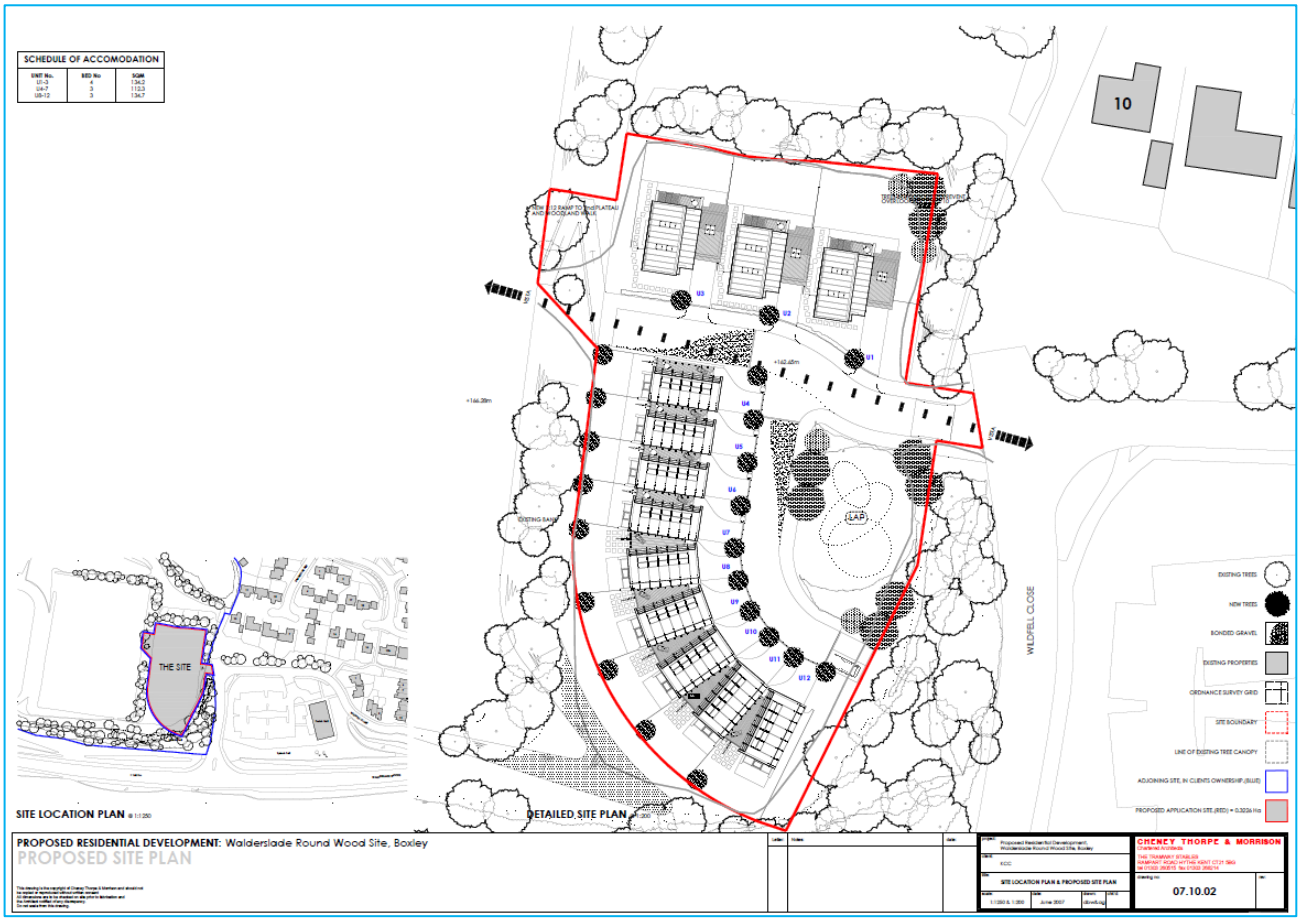

Fig. 3: Preliminary development proposals (Drawing 'Cheney Thorpe & Morrison Site Location Plan & Proposed Site Plan 07.10.02' dated June 2007).

6. METHOD

DESK STUDY

6.1. Data was obtained from the Kent and Medway Biological Records Centre (KMBRC) in April 2015. A 1km search radius was used.

HABITAT ASSESSMENT

6.2. An assessment of the habitat within the development site was conducted on 6th May 2015 by Kate Baldock BSc (Hons), MSc, MCIEEM to determine if the site held potential for reptiles.

6.3. There is no published method in which to objectively assess the quality of habitat for reptiles and the potential presence of them. However, there are habitat characteristics known to influence the suitability of habitats for reptiles, these comprise:-

- Location of site in relation to species geographic range;
- Vegetation structure and type;
- Insolation (sun exposure);
- Aspect;
- Topography;
- Surface geology;
- Connectivity to nearby good quality habitat;
- Prey abundance;
- Refuge opportunity;
- The presence of suitable hibernation habitat;
- Disturbance; and
- Egg laying site potential (egg laying reptiles only).

6.4. The above factors were used to assess the potential presence of reptiles within the site and the quality and distribution of suitable habitat.

PRESENCE/LIKELY ABSENCE SURVEY

6.5. A presence / likely absence survey for reptiles was undertaken by Kathryn Tennant BSc (Hons), MSc, Grad CIEEM between 20th July and 7th August 2015 to establish whether reptiles are present on site. If present, the survey aimed to identify which species are present and their associated population size.

6.6. ACOs were used to determine the presence or likely absence of reptiles. The ACOs (roofing felt and corrugated tin sheets) were deployed in areas considered to provide suitable reptile habitat.

6.7. ACOs were checked during suitable weather when the temperature was between 14ºC and 18ºC. When it was too cold, too hot, or if it was raining surveys were not conducted.

6.8. Twenty ACOs were distributed across the site on 26th June 2015. These included 16 roofing felts and four corrugated tins.

6.9. The ACOs were left to 'bed-down' for 24 days to encourage any reptiles present to discover and use the materials. The ACOs and other suitable basking areas were checked periodically for reptiles during July and August 2015.

6.10. In total seven survey visits were conducted, which is in line with recommendations included in Froglife Advice Sheet 10 (1999).

6.11. Any amphibians found under ACOs were also recorded.

Table 1: Time and associated weather conditions of reptile surveys

Date	Start/stop time	Temp start/stop (degrees)	Percentage cloud cover	Precipitation/ ground	Wind
20th July 2015	15:15 - 15:25	18°C	100%	None/damp	Light breeze
24th July 2015	09:40 - 09:50	15°C	100%	None/damp	Still - light breeze
28th July 2015	08:05 - 08:15	14°C	75%	None/damp	Moderate breeze
29th July 2015	16:50 - 17:00	18°C	90%	None/dry	Light breeze
31st July 2015	14:15 - 14:25	18°C	85%	None/dry	Light breeze
4th August 2015	09:20 - 09:30	17°C	10%	None/damp	Moderate breeze
7th August 2015	10:25 - 10:35	18°C	0%	None/damp	Light breeze

LEGISLATION AND ASSESSMENT

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

6.13. 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 are protected from intentional and reckless killing and injury by the Wildlife and Countryside Act 1981 (as amended).

6.14. The habitat of slow worm, common lizard, grass snake and adder is not legally protected.

6.15. Maximum penalties associated with reptiles are punishable with fines up to £5,000 per offence and up to 6 months imprisonment. Actions affecting multiple animals can be construed as separate offences and therefore penalties can be applied per animal impacted.

6.16. 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 2010 (as amended). However, these species are restricted to narrow geographies and specific habitat types. Therefore they are not considered further in this assessment.

6.17. 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.

6.18. Licences to capture and move the four most common UK reptile species is not required.

6.19. The Wildlife and Countryside Act (1981) includes certain defences that may apply in some specific circumstances.

ASSESSMENT AND EVALUATION

6.20. The presence / absence surveys followed guidance contained in Froglife Advice Sheet 10 (1999).

6.21. Gent and Gibson (2003) indicate that surveys for common lizard can be conducted between 9ºC and 18ºC and surveys for grass snake between 12ºC and 20ºC. Froglife Advice Sheet 10 (1999) recommends surveys should be conducted between 9ºC and 18ºC. During survey work at other sites, reptiles have been recorded in temperatures exceeding 20ºC. For the purposes of this assessment surveys were conducted between 14ºC and 18ºC.

6.22. Froglife Advice Sheet 10 (1999) in combination with Herpetofauna Groups of Britain and Ireland (1998) were used to determine the population class assessment.

6.23. This report uses the terms low, moderate and high to refer to population size.

ZONE OF INFLUENCE (ZOI)

6.24. The potential impact of a development is not always limited to the boundaries of the site concerned. The area over which a development may impact ecologically valuable receptors is known as the Zone of Influence (ZoI).

6.25. The ZoI is determined by the source/type of impact, a potential pathway for that impact and the location and sensitivity of the ecologically valuable receptor beyond the boundary.

6.26. Potential sources of impact associated with the proposed development include the potential loss of habitat and impacts on individual animals.

6.27. The zone of influence is likely to be confined to the red line boundary of the site and those areas just beyond.

SURVEY LIMITATIONS

6.28. One ACO was missing as of 20th July 2015. This was not replaced.

6.29. Froglife (1999) recommends five to ten refugia per hectare. The development site measures approximately 0.5ha. Therefore the loss of one ACO is not considered to be a significant limitation.

6.30. The use of approximately 38 to 40 ACOs per hectare is considerably over and above that recommended by guidance. As such, further surveys to establish a population class assessment are not required. Instead, the maximum count of adult reptiles, when using an increased density of ACOs, has been used.

6.31. Ten ACOs, which were located along the western and southern site boundaries, became overgrown with bramble scrub during the latter three surveys. Therefore, in order to ensure that this did not impact upon the survey, the scrub was carefully pushed back to uncover these. This is not considered to be a significant limitation because reptiles were found beneath these.

6.32. The boundary woodland meant that different portions of the site were shaded during the day. To ensure this did not bias survey results, survey visits were split between morning, midday and afternoon visits. This ensured each ACO was checked when it was both in the shade and in sunlight. Therefore, this is not considered to be a significant limitation.

6.33. This report provides an assessment of the site's value for reptiles and is suitable to fulfil the objectives of the report and the requirements of planning.

7. RESULTS

DESK STUDY

7.1. Data obtained from the Kent Reptile and Amphibian Group returned one record of grass snake within 1km of the site. Ten juvenile animals were recorded 0.82km west of the site in 2011.

HABITAT ASSESSMENT

7.2. An assessment conducted in 2012 by Lloyd Bore Ltd indicated the habitat within the site was managed fairly intensively and of limited potential for reptiles.

7.3. A repeat assessment conducted in 2015 indicated the habitats are no longer managed as intensively and as a consequence the site provides suitable habitat for reptiles. In particular, the ruderal vegetation, scrub and rough grassland around the periphery of the site provides suitable habitat.

SURVEY RESULTS

7.4. Slow worm are present on site. A peak count of eight adults was recorded on the 20th July 2015 (see Table 2).

Table 2: Peak count of adult reptiles and population class assessment.

	Slow worm
Peak count	Eight
Population class	Moderate

7.5. No other animals were recorded during the surveys.

8. REPTILE DISTRIBUTION MAPS

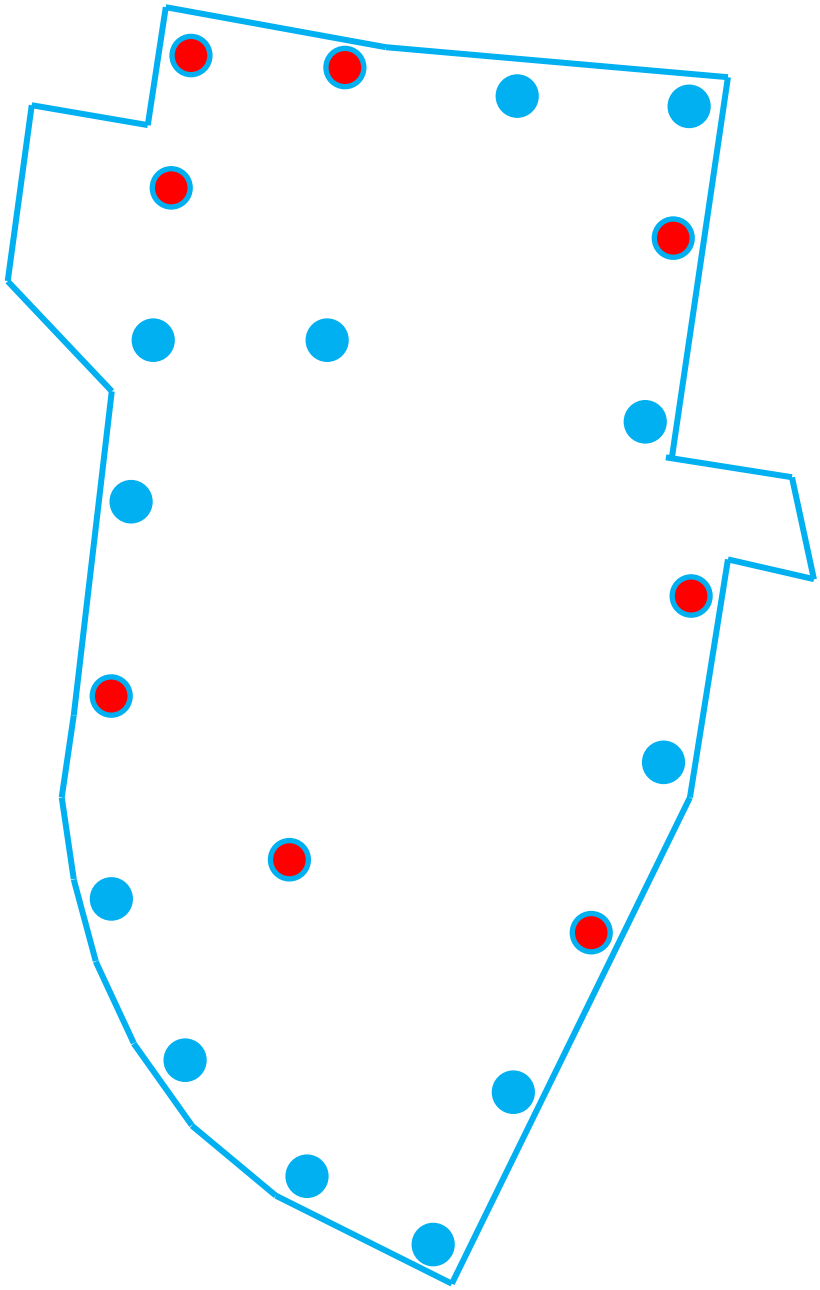

Fig. 4: Location representation of ACOS within the site. Slow worm were located beneath the refugia indicated in red.

9. EVALUATION AND RECOMMENDATIONS

EVALUATION

9.1. Slow worm are present within the long grassland habitats both around the edge and within the centre of the site.

9.2. There is a 'moderate' population of slow worm. A peak count of eight adults was recorded on 20th July 2015. The population is likely to be of local value.

9.3. Suitable habitat for reptiles will be lost to facilitate development. Therefore, without appropriate mitigation measures the proposed development is likely to impact on reptiles.

RECOMMENDATIONS

9.4. Mitigation and compensation will focus on the relocation of animals to a receptor site outside of the red line boundary of the development but within the blue line ownership boundary of Walderslade Round Woods. The habitats within and outside of the planning application boundary form one block and as such the receptor site will in effect be ensure on-site mitigation.

9.5. The habitats outside of the development footprint are suitable for reptiles and are in the ownership of Kent County Council. The habitats present to the west of the development site comprise a mix of ephemeral and short perennial vegetation, tall ruderal, bramble scrub and woodland. The walkways through and on the periphery of these habitats create structural diversity suitable for reptiles. Therefore, relocating animals to this area within the same habitat block is likely to be the most suitable mitigation option since animals would be retained within their geographical population.

9.6. An Ecological Management and Enhancement Plan should be developed for Walderslade Round Wood, which would incorporate the proposed reptile receptor area. This should detail management that will improve and maintain their suitability for reptiles. The primary aim should be to prevent bramble scrub encroachment upon open grassland habitats.

9.7. The measures included in the Ecological Management and Enhancement Plan should also ensure they are compatible with the presence of other protected species, such as hazel dormice (*Muscardinus avellanarius*) that are known to present within Walderslade Woods.

9.8. Hazel dormice are confirmed to be present within land at Walderslade Woods. Therefore, this is likely to be the key driver that will influence the development of the Ecological Mitigation and Enhancement Plan. However there is no reason to consider that the favourable conservation status of dormouse will not be impacted even if they are present within the red line planning application boundary because there is ample room to improve habitats within the blue line ownership boundary.

9.9. Within the site, suitable (cover) habitat for reptiles and dormice could be combined with the landscape buffer planting, which should use native tree and shrub species.

10. ECOLOGICAL ENHANCEMENT MEASURES

10.1. The proposed development provides an opportunity to enhance the quality and extent of habitat for within Walderslade Woods. These measures would also benefit other animal species.

10.2. The inclusion of native trees and native mixed species hedges are recommended in the post-development planting plan. A species mix could include hawthorn (50%), field maple (30%), hornbeam (10%), guelder rose (3%), dogwood (3%), spindle (2%) and dog rose (2%) (Smith and Day, 2012).

10.3. Where applicable, the emerging proposals should retain and enhance hedgerows. Where possible and where secure by design constraints allow fencing should be of such a design that it allows small animals to either pass under or through it. Examples of this might include the use of either double-sided hit and miss fencing or fencing that is raised c 5cm from the ground.

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

Herpetofauna Groups of Britain and Ireland (1998) Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth. Unpubl.

Lloyd Bore Ltd (2012) Ecology Scoping Report: Walderslade Woods, Walderslade, Kent. Ref: B320 / 02. Dated October 2012.

Lloyd Bore Ltd (2015). Dormouse Survey Report 3478_RP_00_revA, issued September 2015.

12. APPENDIX 1: DETAILED SURVEY RESULTS

Table 3: Detailed survey results for reptiles (Uid = Unidentified age).

Date	Slow Worm		
	Adult	**Sub-adult**	**Uid**
20th July 2015	8	0	0
24th July 2015	2	0	0
28th July 2015	0	0	0
29th July 2015	2	2	0
31st July 2015	2	0	0
4th August 2015	1	2	0
7th August 2015	0	1	0