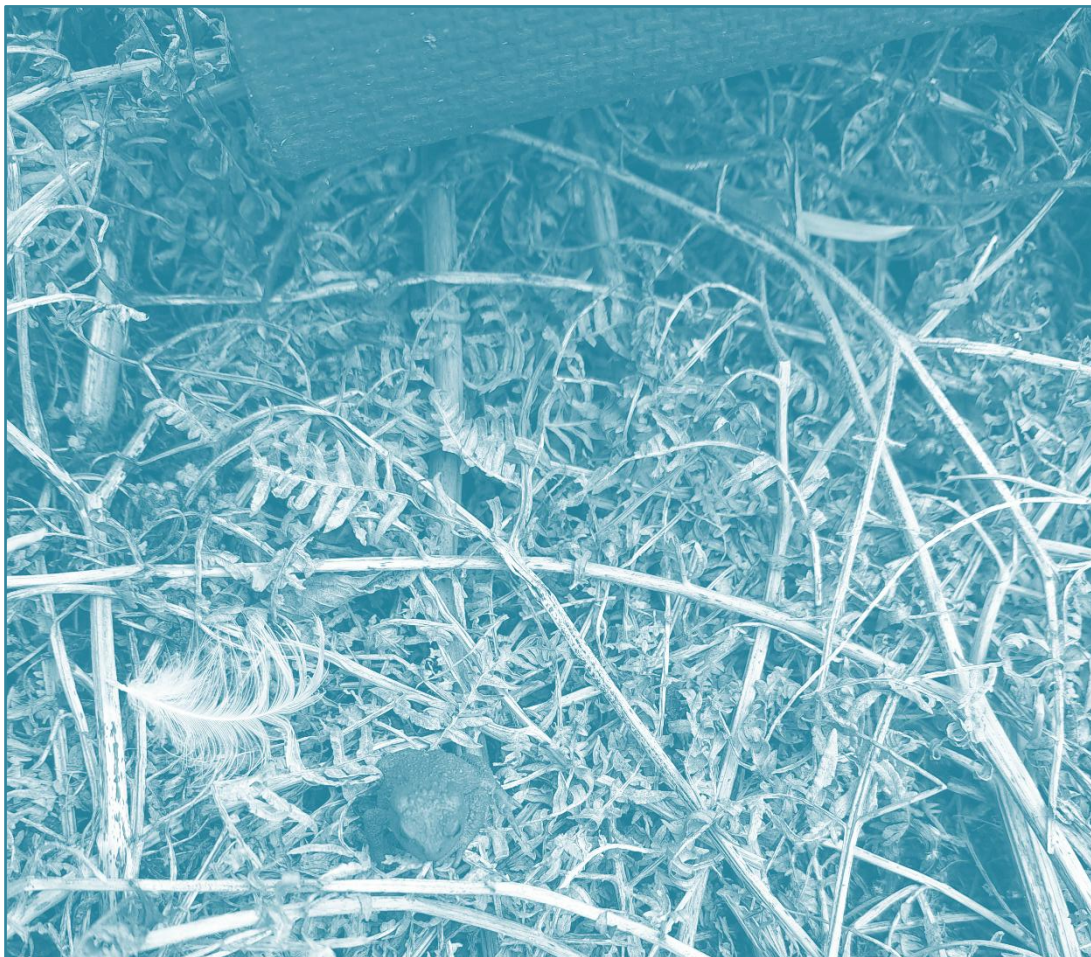


Harras Moor, Whitehaven

Reptile Population Survey



Document Information

Project Title:	Harras Moor, Whitehaven
Report Type:	Reptile Population Survey
Report Date:	09/09/2026
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Client:	Gleeson
PBA Ref:	PC25055/RPS/1.0

Quality Control

Version	Status	Originated/Revised	Checked	Approved	Date
1.0	Submission	NF & AM	H. Murfin & L. Pickles	A. Macaulay	09/09/2026

Declaration of Compliance

This Reptile Translocation has been undertaken in concordance with the Natural England Technical Information Note 102 – Reptile Mitigation guidelines. The information has been prepared and provided in compliance with the CIEEM's Code of Professional Conduct (CIEEM 2019) and Guidelines for Ecological Report Writing (CIEEM 2017b).

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CONTENTS

Key Findings	1
1. Introduction.....	2
1.1. Terms of reference	2
1.2. Site location and context	2
1.3. Legislation	3
2. Approach.....	3
2.1. Number of survey days	3
2.2. Reptile refuges	3
2.3. Refuge placement	4
2.3.1. Survey dates and conditions	7
3. Field Survey Results.....	7
3.1. Reptile population results	7
3.2. Non-target species	7
4. Evaluation and Recommendations	7
References	8
Appendices	9
Appendix A – Photographs and descriptions.....	10

FIGURES

Figure 1: <i>Site location (OpenStreetMap, 2026. Made available under the Open Database License). Red circle shows the approximate location of the survey site.</i>	2
Figure 2: <i>Site context (Google Maps, 2025). Red circle indicates approximate location.</i>	3
Figure 3: <i>Map of habitats from the 2026 PEA report conducted by PBA. Shows area within the site boundary.</i>	5
Figure 4: <i>Reptile refuge cluster locations, refuges were clustered in a minimum of 5 refugia in moderate suitability reptile habitat.</i>	6

TABLES

Table 1: <i>Survey dates and conditions.</i>	7
Table 2: <i>Table showing the days on which reptiles were recorded on site under the refuges.</i>	7

KEY FINDINGS

This report summaries the results of a Reptile Population Survey (RPS) undertaken at a site at Harras Moor (NX 98657 18111), near Whitehaven.

Target species

A single common lizard *Zootoca vivipara* was seen through direct observation,

No reptiles were recorded under artificial refugia.

Non-target species

Non-target species including amphibians and terrestrial mammals were recorded during the RPS, specifically:

- Amphibian species: common toad *Bufo bufo*.
- Terrestrial mammal species: wood mouse *Apodemus sylvaticus*, and brown rat *Rattus norvegicus*.

Recommendations

Only a single common lizard has been recorded on site throughout the entire survey period (June 2026). The reptile population on site is very low, likely due to the management of the site and regular farming practices which reduce the habitat suitability. Reptiles, if present, are at a low density and in areas with more habitat suitability such as areas of rough grassland, scrub, and wetter section of the site.

It is deemed sufficient that the development can proceed with caution and should not require a reptile translocation. Rather, vegetation should be removed in areas of the site with moderate reptile suitability following a Precautionary Working Method Statement for reptiles, this is as follows:

- Dense vegetation should be cleared down to a minimum of 150 mm, it should then be left for a minimum of 24 hours, after which the vegetation can be cut to ground.
- Any woody vegetation or areas of the site with suitable refugia such as log pile, rocks, suitable basking areas should be hand-searched by an ecologist prior to being removed from the site.
- If any reptiles are seen during the development, works should stop and a suitably qualified ecologist should be contacted.

1. INTRODUCTION

1.1. TERMS OF REFERENCE

PBA Applied Ecology Ltd was commissioned by Gleeson to undertake a Reptile Population Survey (RPS) at Harras Moor, Whitehaven. This report details the results of the RPS which has been conducted at the site.

The aim of the survey was to determine the presence of any species of reptile on the site. And approximate their population size. Non-target species, including small mammals and amphibians, were also recorded.

The level of detail in this appraisal and report is intended to be proportionate to the scale of the potential development and complexity of its potential impacts.

Unless stated otherwise, the information provided within this report is valid for a maximum period of 24 months from the date of survey. If works at the site have not progressed by this time an updated site visit may be required to determine any changes in site composition and ecological constraints.

1.2. SITE LOCATION AND CONTEXT

The survey site is located within an area of pastoral fields and woodland patches at Harras Moor on the eastern side of the town of Whitehaven, Cumbria (NX 98657 18111, Figures 1 & 2), approximately 1.4 km east of Whitehaven town centre. The wider landscape is dominated by the town of Whitehaven, pasture fields, and the Lake District National Park to the east.

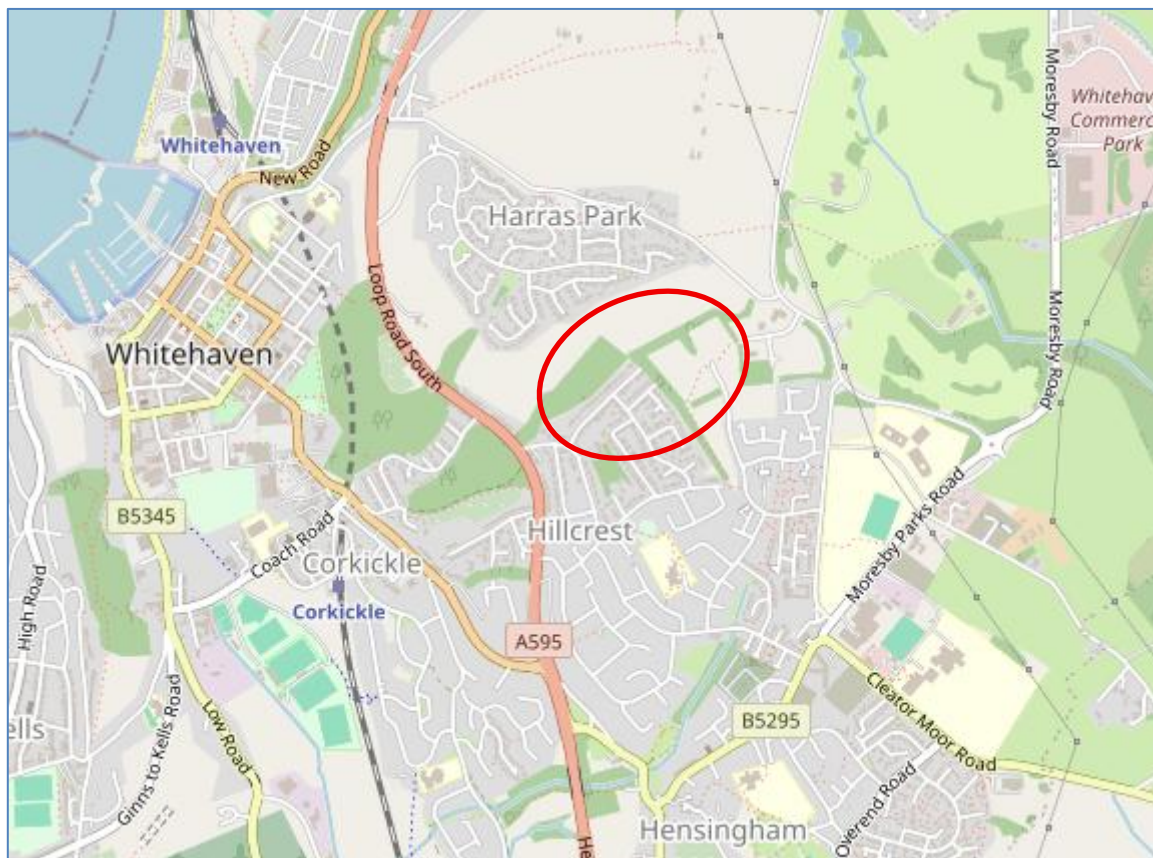


Figure 1: Site location (OpenStreetMap, 2026. Made available under the Open Database License). Red circle shows the approximate location of the survey site.



Figure 2: Site context (Google Maps, 2025). Red circle indicates approximate location.

1.3. LEGISLATION

The reptile survey was conducted in accordance with all relevant wildlife legislation and policy, as well as governmental and industry guidance and best practice.

All native UK reptile species (common lizard *Zootoca vivipara*, slow worm *Anguis fragilis*, sand lizard *Lacerta agilis*, adder *Vipera berus*, grass snake *Natrix natrix* and smooth snake *Coronella austriaca*) are protected under Schedule 5, Section 9 of the Wildlife & Countryside Act 1981 (as amended). This makes it an offence to intentionally or recklessly kill or injure any reptile species.

2. APPROACH

2.1. NUMBER OF SURVEY DAYS

The minimum number of survey days for this survey was calculated using the Natural England reptile mitigation guidelines (Technical Information Note TIN102). As these surveys will be carried out during early summer (June), seven surveys were deemed to be sufficient to detect reptiles on site given the amount of suitable reptile habitat on site.

2.2. REPTILE REFUGES

The artificial refugia used at Harras Moor are black Onduline bitumen roofing sheets (approximately 0.5 m²). This material is known to be favoured by reptiles.

2.3. REFUGE PLACEMENT

Refugia were placed in clusters of five with the central location recorded on QField (Figure 4). Ideally these clusters were predominately concentrated on areas with a high or moderate suitability for reptiles. The suitability for reptiles was based on a habitat survey conducted as part of a 2026 Preliminary Ecological Appraisal conducted by PBA (PBA, 2026a).

The refugia were therefore placed as evenly as possible whilst making sure they were adjacent to vegetation cover but would still be directly irradiated by the sun for part of the day.

In total 40 clusters were installed across the site (200 refugia in total). The number of refugia needed was based on the area covered by reptile-suitable habitat on the site, which included habitats such as false-oat *Arrhenatherum elatius* grassland, bracken *Pteridium aquilinum*, scattered scrub, tall unmanaged grassland, and woodland. The area covered by these habitats was approximately 2 ha. As such, the recommended refugia density of 100 refuges per hectare was followed, to ensure the guidance provided by Natural England (NE TIN 102, 2011) has been satisfied.

The artificial refugia were deployed on the 21st May 2026, ensuring refugia were in-situ for a couple of weeks before surveys began in June.

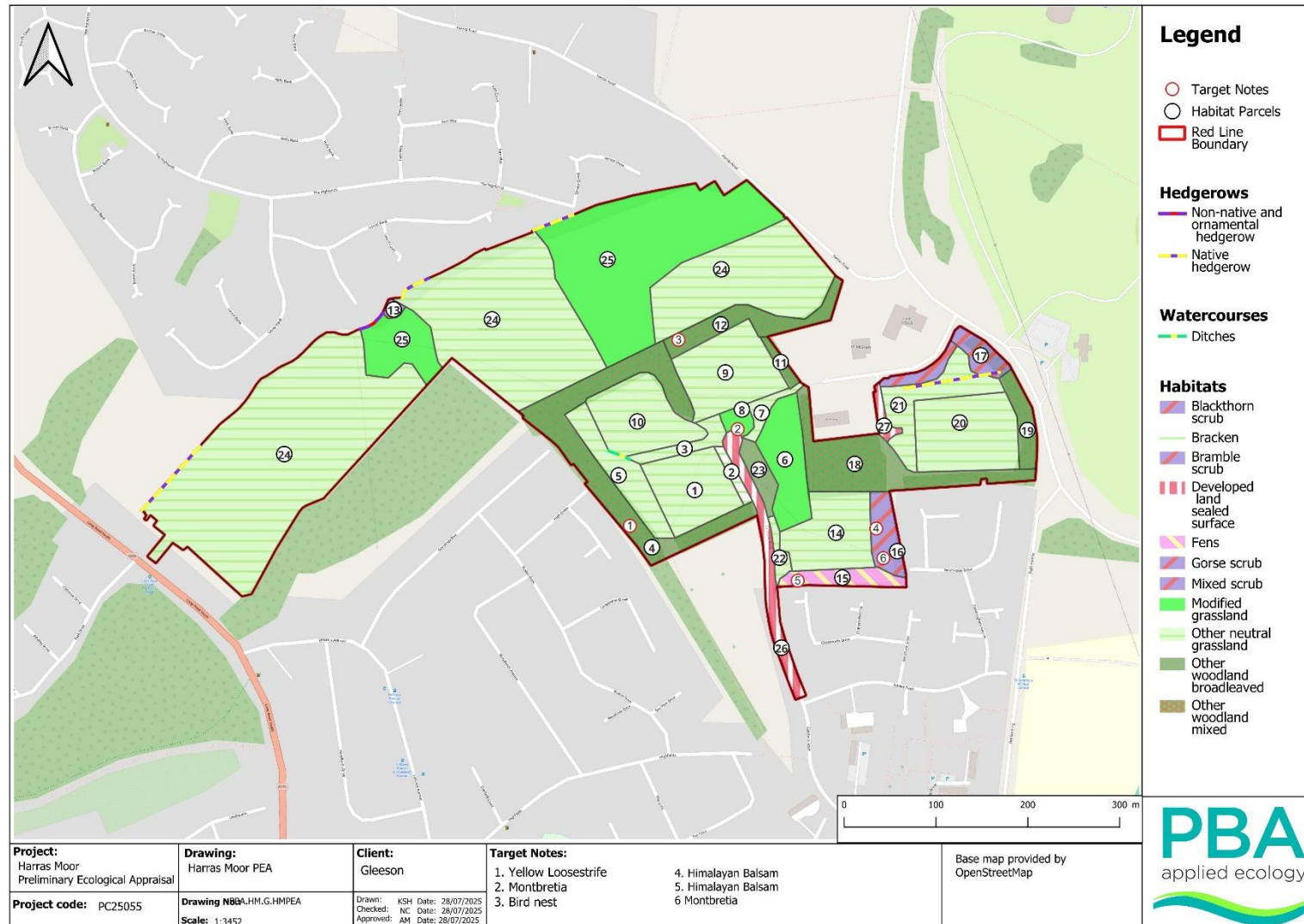


Figure 3: Map of habitats from the 2026 PEA report conducted by PBA. Shows area within the site boundary.



Figure 4: Reptile refuge cluster locations, refuges were clustered in a minimum of 5 refugia in moderate suitability reptile habitat.

2.3.1. SURVEY DATES AND CONDITIONS

Table 1 gives a record of survey dates and times along with environmental conditions.

Table 1: Survey dates and conditions.

Capture day	Date	Start/end time	Surveyors	Temperature (°C)	Cloud cover (%)	Rain	Beaufort wind scale
1	10/06/2026	11:22 – 13:51	TB, DG	14	25	none	2
2	12/06/2026	11:54 – 14:49	OW, HAP	17	50	Light drizzle	4
3	16/06/2026	10:39 – 13:28	DG, WB	17	25	None	3
4	18/06/2026	11:13 – 14:08	TB, HAP	17	20	none	1
5	23/06/2026	11:26 – 13:25	OW, HM	18	75	None	2
6	25/06/2026	11:33 – 14:09	SY, HEP	17	50	None	4
7	30/06/2026	11:04 – 12:34	OW, HEP	16	80	light drizzle	3

3. FIELD SURVEY RESULTS

3.1. REPTILE POPULATION RESULTS

Throughout the surveys, no reptiles were seen to be using the refugia on site, however during a bat scoping survey carried out by PBA in May 2026 (PBA, 2026b) , a common lizard was seen on site. The common lizard was seen in the northern most section of moderate reptile suitable habitat marked in Figure 4.

Table 2: Table showing the days on which reptiles were recorded on site under the refuges.

Capture day	Date	Surveyors	Reptiles recorded
1	10/06/2026	TB, DG	0
2	12/06/2026	OW, HAP	0
3	16/06/2026	DG, WB	0
4	18/06/2026	TB, HAP	0
5	23/06/2026	OW, HM	0
6	25/06/2026	SY, HEP	0
7	30/06/2026	OW, HEP	0

3.2. NON-TARGET SPECIES

Whilst completing the reptile survey, there were a number of other species found that used the refugia. These were as follows: multiple common toad *Bufo bufo*, wood mouse *Apodemus sylvaticus*, and brown rat *Rattus norvegicus* were seen repeatedly under the refuges.

4. EVALUATION AND RECOMMENDATIONS

Only a single common lizard has been recorded on site throughout the entire survey period carried out by PBA in 2026. The reptile population on site is very low, likely due to the management of the site and regular farming practices reducing the habitat suitability. Reptiles if present are at a low density and in areas with more habitat suitability such as areas of rough grassland, scrub, and wetter section of the site.

It is deemed sufficient that the development can proceed with caution and should not require a reptile translocation. Rather, vegetation should be removed in areas of the site with moderate reptile suitability following a Precautionary Working Method Statement for reptiles, this is as follows:

- Dense vegetation should be cleared down to a minimum of 150 mm, it should then be left for a minimum of 24 hours, after which the vegetation can be cut to ground.
- Any woody vegetation or areas of the site with suitable refugia such as log pile, rocks, suitable basking areas should be hand-searched by an ecologist prior to being removed from the site.
- If any reptiles are seen during the development, works should stop and a suitably qualified ecologist should be contacted.

REFERENCES

Natural England (2011) Reptile mitigation guidelines: Natural England Technical Information Note TIN102.

PBA Applied Ecology Ltd. (2026a). Preliminary Ecological Appraisal – Harras Moor – 2026 v1.1

PBA Applied Ecology Ltd. (2026b). Ground-level Tree Assessment – Harras Moor – 2026 v1.0

APPENDICES

Appendix A – Photographs and descriptions

Photograph	Notes
	Refuge example.
	Common toad found under one of the refuges on site.



Drinker moth caterpillar *Euthrix potatoria* found on the refugia on site at Harras Moor.