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The report should be read in its entirety

Questions arising from the survey report should be directed to the author of the report who will be pleased to clarify any technical issues raised.

Whilst the surveyors make every reasonable effort, Greenscape Environmental Ltd cannot guarantee that all protected species have been identified and survey results are definitive. Many species are cryptic and transitional in habit.

Reports are considered valid for one year for planning purposes, after which time further survey information may be required.

Greenscape Environmental Ltd can provide advice and support for recommendations and planning conditions.

Greenscape Environmental

Table of Contents

1 EXECUTIVE SUMMARY 1
1.1 Purpose of the Report 1
1.2 Methodology 1
1.3 Key Impacts and Mitigation Measures 1
1.4 Conclusion 1
2 INTRODUCTION 2
2.1 Project Background 2
3 METHODOLOGY 3
3.1 Field Survey 3
3.2 Species Survey 3
3.3 Constraints of the Survey 3
4 PHASE 2 SURVEY RESULTS 4
4.1 Reptiles 4
4.2 Butterflies 7
5 IMPACTS, ENHANCEMENTS AND MITIGATION 8
5.1 Reptiles 8
5.2 Butterflies 8
5.3 Other Invertebrates 9
6 CONCLUDING REMARKS 10
APPENDIX A – SURVEYOR DETAILS 11
APPENDIX B – METHODOLOGY 12

Table of Figures

Figure 4.1. Reptile mat locations 4
Figure 4.2. Example of mats removed from original location during a site check 5
Figure 4.3. Vandalised mat remnant alongside bonfire pile 5
Figure 5.1. Invertebrate brick and bug house 9

Table of Tables

Table 3.1. Survey dates and conditions 3
Table 4.1. Reptile Mat Survey Results 6
Table 4.2. Butterfly survey results 7
Table 5.1. Core grass species 8
Table 5.2. Core forb species 8
Table A.1. Details of surveyors' experience and licences held 11

1 Executive Summary

1.1 Purpose of the Report

Greenscape Environmental Ltd was commissioned by Sean Caddick to understand a preliminary ecological appraisal of land at Wynnstay Park. This was conducted in October 2019, with information being found in Report 2298 1911R. A letter written in response to public consultation was dated 5th March 2020 and contained updated recommendations. The recommendations found in previous reports and letters are still valid unless specifically mentioned as superseded by this document.

In the time since this initial assessment, and in response to the public consultation for planning, reptile and butterfly surveys have been conducted.

1.2 Methodology

Phase 2 surveys for reptiles involved placing bitumen hessian mats around the site and visiting the site over several weeks, carefully lifting the mat and checking beneath for reptiles. There was a significant quantity of waste and detritus on site. Where possible these were checked too for any basking or sheltering reptiles.

During these visits, standard butterfly survey methodology was also conducted. This involved walking up and down the site, checking 2m either side of the surveyor, and noting all butterflies that were present in this space.

These surveys were conducted by B Jones and C Sheil.

1.3 Key Impacts and Mitigation Measures

Initially, 46 mats were placed around the site in suitable locations to detect any reptiles. It became clear after the first visit that public vandalism of the site included moving, destroying or removing some of these mats. Of the 46 put out an average of 26 mats were present during each survey. Occasionally these mats had to be moved and put back in place. On average, 15 mats were consistently found in the correct place.

No reptiles were found under either the intentionally placed mats or any other detritus around site. Results are confident that reptiles are not using the site.

Butterfly species found on site included large white (*Pieris brassicae*), small tortoiseshell (*Aglais urticae*), comma (*Polygonia c-album*), ringlet (*Aphantopus hyperantus*), meadow brown (*Maniola jurtina*) and orange-tip (*Anthocharis cardamines*). Butterfly sightings peaked on 22nd June, with all species (except orange-tip) found in one visit. All other visits were limited to large white and orange-tip.

The records of dingy skipper on site were of significant concern during the public consultation. The lack of dingy skipper presence on site during the peak times (May-June) suggests the historic records are no longer accurate and truly representative.

1.4 Conclusion

The butterfly species found on site are all common but should still be catered for through appropriate mitigation. The site plans do include areas of both shaded and south-facing grassland to be enhanced for butterflies with a mixture of scrapes and wildflower planting. This will create a mosaic habitat and allow butterflies in the area to continue to use the site.

2 Introduction

This report has been compiled by Ben Jones BSc (hons) MSc who has 5 years' experience conducting ecological appraisals. It has been reviewed in line with Greenscape's Quality Management System.

For full details of surveyors and licences please see Appendix A.

2.1 Project Background

Greenscape Environmental Ltd was commissioned by Sean Caddick to conduct a survey to determine the presence of protected species and potential for the damage or destruction of habitats of value. This was conducted in October 2019; report 2298 1911R. A phase 1 habitat map was presented in a letter dated 5th March 2020, written in response to the concerns raised by the public consultation. This map will be used again in this report. This letter also updated recommendations made in the original report.

This report outlines the results of reptile and butterfly surveys conducted throughout April, May and June 2020, and includes all recommendations relevant to reptiles and butterflies.

3 Methodology

Broad methodologies for data collection and interpretation were informed by guidance outlined in CIEEM (2017) – Guidelines for Preliminary Ecological Appraisals.

3.1 Field Survey

3.1.1 Date and Survey Conditions

The reptile and butterfly surveys were conducted throughout April, May and June 2020.

Table 3.1. Survey dates and conditions

Date	Time	Weather
29/04/2020	16:00	No wind, no cloud, 19°C, no rain
07/05/2020	14:30	F1 wind, 50% cloud, 18°C, no rain
22/05/2020	11:00	No wind, 75% cloud, 15°C, no rain
27/05/2020	14:15	F1 wind, no cloud, 21°C, no rain
09/06/2020	13:00	No wind, 50% cloud, 17°C, no rain
22/06/2020	12:00	F2 wind, 50% cloud cover, 18°C, no rain
30/06/2020	15:00	F1 wind, overcast, 17°C, no rain

3.2 Species Survey

The survey for reptiles was conducted by placing refuge mats around the field borders. These were examined periodically.

Surveying for butterflies was based on transect survey methods outlined by UKBMS.

3.3 Constraints of the Survey

The vandalism on site and the unwanted relocation of mats reduced the overall survey effort than was originally laid out on site. The presence of other cover objects and the number of mats checked was still at an acceptable density for the site, so the results are considered accurate.

Surveys that would ideally have been conducted on a weekly basis were delayed based on sub-optimal weather, and so some weeks were not surveyed.

4 Phase 2 Survey Results

4.1 Reptiles

A total of 46 mats were placed around the site and a grid reference taken. The location and identification number of mats is presented below:



Figure 4.1. Reptile mat locations

As stated before, many of these mats were removed, damaged or relocated on subsequent revisits, but many remained in the correct location.



Figure 4.2. Example of mats removed from original location during a site check



Figure 4.3. Vandalised mat remnant alongside bonfire pile

Throughout every site visit these mats were carefully lifted and no reptiles were found. No reptiles were seen to be using the mats as basking spots before they were lifted to check underneath.

Table 4.1. Reptile Mat Survey Results

Mat #	29th April	7th May	22nd May	27th May	9th June	22nd June	30th June
1.	-	-	-	-	-	-	-
2.	-	-	-	-	-	-	-
3.	-	-	-	-	-	-	-
4.	0	0	0	0	0	0	0
5.	-	-	-	-	0	-	-
6.	-	-	-	-	0	-	-
7.	0	0	0	0	0	0	0
8.	0	0	0	0	0	0	0
9.	0	0	0	0	0	-	-
10.	0	0	0	0	0	-	-
11.	-	-	-	-	-	-	-
12.	0	0	0	0	-	0	0
13.	0	-	-	0	0	0	0
14.	-	-	-	-	-	-	-
15.	0	0	0	0	0	-	-
16.	-	-	-	-	-	-	-
17.	-	-	-	-	-	-	-
18.	-	0	0	-	0	-	-
19.	-	-	-	-	-	-	-
20.	-	0	0	-	0	-	-
21.	0	0	0	0	0	0	0
22.	-	0	0	-	0	-	-
23.	0	0	0	0	0	0	0
24.	-	-	-	-	-	-	-
25.	0	0	0	0	0	-	-
26.	0	0	0	0	0	0	0
27.	0	0	0	0	0	-	-
28.	0	-	-	0	-	-	-
29.	-	0	0	-	-	-	-
30.	-	0	0	-	-	-	-
31.	-	0	0	-	-	-	-
32.	0	0	0	0	0	0	0
33.	-	-	-	-	-	-	-
34.	0	0	0	0	0	0	0
35.	-	-	-	-	-	-	-
36.	0	0	0	0	0	0	0
37.	0	0	0	0	0	0	0
38.	-	0	0	-	0	-	-
39.	0	0	0	0	0	0	0
40.	0	0	0	0	0	-	-
41.	0	0	0	0	0	0	0
42.	0	0	0	0	0	0	0
43.	0	0	0	0	0	0	0
44.	0	0	0	0	0	0	0
45.	0	0	0	0	0	0	0
46.	0	0	0	0	0	0	0

Note that a hyphen (–) indicates a mat that was either missing or had to be replaced into the correct position again, no reptiles were found beneath the mats before they were replaced.

4.2 Butterflies

Every time the reptile mats were checked and moved, the site was walked in a transect fashion, watching for butterflies within 2m either side of the surveyor. Good survey methodology is to walk the same transect each time, so this was conducted after the reptile mats had been checked and sorted.

Table 4.2. Butterfly survey results

Date	Butterfly Species Recorded
29th April	1x Large White
7th May	None
22nd May	1x Large White
27th May	3x Large White
9th June	None
22nd June	2x Tortoiseshell, 1x Comma, 1x Large white, 6x Ringlet, 2x Meadow Brown
30th June	1x Orange-tip, 1x Large White

On no occasions was a dingy skipper recorded, suggesting that the historic records (2005-2007) are no longer accurate, at least in 2020.

5 Impacts, Enhancements and Mitigation

5.1 Reptiles

No reptiles were recorded on site. Even without further consideration there is unlikely to be any negative impact from the development of site, and the increase in hardstanding adjacent to vegetation may improve basking potential of the site.

Although no mitigation is required, as there is apparently no population of reptiles on site, the habitat in the wider surrounds (i.e. the railway to the south) may provide good connectivity for reptiles to the general area. Enhancements will be included on site such as designated brash piles.

- A brash pile will be created with material taken from the clearance of the site, this will create a suitable hibernaculum.
    - Material used for the creation of the pile will be of varying lengths, thicknesses and shapes.
    - Brash piles will be created in sunny locations and set within existing vegetation. It should be located away from areas of high or frequent disturbance, and with free-draining soil. The boundaries of the south-facing slope at the northern end of the site would be ideal.
    - The central core will be compacted, and the outer layers will be laid loosely to provide a variable structure.

5.2 Butterflies

Populations of common butterfly species were recorded around site. The south-facing slope along the northern side of the site will be enhanced for butterfly species, including flower planting and the specific design of a mosaic habitat. The following was written in the letter dated 5th March 2020 and is included again for convenience:

The following plants are to be used in place of those in section 6.2.

Table 5.1. Core grass species

Common Name	Latin Name
Common Bent	*Agrostis capillaris*
Red Fescue	*Festuca rubra*
Cock's Foot	*Dactylis glomerata*
Yorkshire Fog	*Holcus lanatus*

Table 5.2. Core forb species

Common Name	Latin Name
Bird's-foot Trefoil	*Lotus corniculatus*
Yellow rattle	*Rhinanthus minor*
Buttercup sp.	*Ranunculus sp.*
Fleabane	*Pulicaria dysenterica*
Kidney Vetch	*Anythylis vulneraria*
Wild Marjoram	*Origanum vulgare*
Mouse-ear hawkweed	*Hieracium pilosella*
Black knapweed	*Centaurea nigra*

Of the species listed above, bird's-foot trefoil is the most important for Dingy Skippers, and so will make up approximately 75% of the species mix. The species list includes larval food plants as well as nectar species, which will support butterflies in all stage of life. It is anticipated that not only the dingy skipper will be assisted.

The man-made bund separating the site from the main road to the north has a substantial south-facing slope which will be an ideal location for these planting enhancements.

It should be noted that re-seeding should not cover the whole mitigation area, as some areas of bare ground are important for habitat diversity and different life stages of the butterfly. It is recommended that seeds are scattered along the top of the bund to the north, thrown only a few meters down the bank. This will then cause natural colonisation by seed-drop as the plants develop. The lower parts of the bund will be scraped bare to maintain a mosaic habitat. This will result in approximately 50% seeded, 50% bare soil during habitat creation.

The site will not be subject to high maintenance as the females lay their eggs on long shoots of the foodplant, so mowing in spring/summer is not ideal.

It is recommended that this enhancement is overseen by a competent ecologist and the areas highlighted managed in perpetuity.

5.3 Other Invertebrates

Invertebrate bricks and bug houses will be erected in throughout the site; in gardens, public green areas and enhancement areas to increase the biodiversity value of the site for nesting bees and other invertebrates.



Figure 5.1. Invertebrate brick and bug house

6 Concluding Remarks

The survey has focussed on the results of the reptile and butterfly surveys conducted throughout April, May and June 2020.

No reptiles were found on site during any of the site visits. A brash pile will be included in the enhancement plan to provide some dedicated shelter to reptiles. This will also enhance the site for small mammals which will shelter in the same feature.

Common butterflies were found on site, but no dingy skippers (a species with records on site from 2005-2007, and one of concern during the public consultation) were found at all. The enhancements suggested in the letter dated 5th March 2020 will be sufficient to provide suitable habitat for the butterfly species on site, as well as to potentially increase the likelihood of dingy skippers returning to site.

Provided the enhancements are included as planned, the development can proceed without the loss of habitat of significant value, and without the loss of the favourable conservation status of any protected species. As there is no evidence of protected species within and around the development site, there is no requirement to address the three tests under Regulation 55 of the Conservation of Habitats and Species Regulations (2017).

Appendix A – Surveyor Details

Table A.1. Details of surveyors' experience and licences held

Name	Membership of associations/ experience	Licenses
Peta Marshall BSc(hons)MA	Principal Consultant MCIEEM PIEMA Peta has a degree in Applied Biology and has been working in commercial environmental assessment for over 10 years. She has 10+ years' experience surveying for protected species. As a member of the CIEEM she is bound by professional conduct.	Holder of survey licenses for bats and newts in England and Wales. Registered Consultant for Mitigation Class Licence for Bats <u>England:</u> Bats - 2015-12200-CLS-CLS BMCL - RC084 GCN - 2015-18939-CLS-CLS Dormice - 2017-29225-CLS-CLS <u>Wales:</u> Bats – SO87133-1 GCN – SO87606-1
Logan Maggs BSc(hons)	Lead Consultant Logan has a degree in Conservation and Land Management. He has 10 years' experience conducting environmental appraisals and phase 2 surveys for bats and newts in England and Wales.	Holder of survey licenses for bats and newts in England and Wales. <u>England:</u> Bats - 2016-24901-CLS-CLS GCN - 2017-29218-CLS-CLS <u>Wales:</u> Bats – S086874/1 Newts - 79665:OTH:SA:2018
Ben Jones BSc(hons) MSc	Lead Consultant Ben has a degree in Marine and Freshwater biology and a Master's degree in "Managing the Environment". He has 5 years' experience conducting environmental appraisals and phase 2 surveys for bats and newts in England and Wales.	Holder of survey licenses for bats and newts in England and Wales. <u>England:</u> Bats - 2017-29112-CLS-CLS GCN - 2016-25209-CLS-CLS <u>Wales:</u> Bats – S085098/2 GCN – S087992/1
Chloe Sheil MZool (Conservation)	Chloe has a master's degree in Zoology with Conservation from Bangor University. She has one years' experience assisting with surveys.	

Appendix B – Methodology

Reptiles

The survey for reptiles and amphibians was conducted by placing 46 refuge mats around the site, focussing on edge habitats and south facing borders. Preferred locations were near features considered potentially suitable for basking reptiles. These were examined when the temperature and general weather conditions are appropriate (ideal temperature between 9 and 18°C, low winds). The refugia were constructed from 0.5m^2 roofing felt.

Butterflies

These surveys are conducted between April and June, ideally on a weekly basis. Weather conditions should be warm and bright with no more than moderate winds of less than Windspeed 5 on the Beaufort scale, and not when it is raining. The minimum criteria are 13-17C with at least 60% sunshine, or over 17C if there is no sunshine.

The transect is walked at a slow steady pace counting all butterflies seen within a fixed 2m each side of the transect line and 5m ahead.