

OMEGA ZONE 8, ST HELENS Omega St Helens Ltd / T. J. Morris Limited



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Ecological Assessments

Environmental Statements (Biodiversity)

Species Surveys

Phase I Habitat Survey

National Vegetation Classification

Planning Guidance

Habitat Regulation Assessment

Protected Species Licensing

42020 CEMP: Biodiversity

BREEAM LEO1 - 05

Great Crested Newt 2019 Report



Omega Zone 8

Warrington





Consultant Report on behalf of:

REPORT STATUS

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1. INTRODUCTION

1.1. BACKGROUND

- 1.1.1. This report provides the results of a Great Crested Newt (GCN) assessment and surveys undertaken at Omega Zone 8, Warrington (the 'Site'). The assessment was commissioned by Omega Warrington Ltd to support development of the business park (refer to Figure 1 Site Description).
- 1.1.2. The Site is dominated by intensively managed arable fields that extend to the field edges leaving a 1-2m improved grassland, tall ruderal, marginal or scrub, strip of vegetation. Belts of broadleaved woodland are present throughout the Site, including Booths Wood, which is situated to the west of the Site and is a designated Local Wildlife Site (LWS). There are a small number of species-poor intact and defunct hedgerows present on the Site as well as a network of dry and wet drainage ditches boarded by scattered tree growth, tall ruderal, improved grassland and scrub.
- 1.1.3. A total of 17 ponds are on Site or immediately adjacent Site boundaries. The majority of ponds on Site are considerably shaded by woodland, scrub or scattered trees. An unnamed water course runs from the north western extent of the Site, through the Site and along the southern boundary.
- 1.1.4. The Site offers a network of ponds and ditches with good localized terrestrial habitat where several ponds are situated within woodland area which is beneficial for newt habitation. Some improved grassland to the south of the Site offers potential foraging opportunity. Hedgerows offer winter hibernation habitat. However, ponds and ditches are largely isolated due to intense management of the fields making the Site as a whole, less suitable for newts. Whittle Brook is also considered a major barrier to newt distribution throughout the Site due to high water flow and deep, steep banks.

1.2. DESK STUDY

Data Trawl

- 1.2.1. A biological records search was carried out to determine the known features on and surrounding the Site. All records were obtained from two cross-border sources; Merseyside BioBank Records¹ (St Helens) and RECORD LRC² (Warrington/Cheshire). Information requested included the location and details of amphibian records within 2km of the Site. The results can be seen in Figure 2. Only records which were obtained within the last 10 years, and those including a 6-figure grid reference or higher, were included within the search.
- 1.2.2. The data trawl highlights one previous GCN record on site, with GCN and other amphibians recorded northwest of the Site, more than 1km away. Movement of these populations towards the Site is prohibited by the M62 acting as a permeant barrier to dispersal.

1.3. METHODS

Habitat Assessment

- 1.3.1. The Site was assessed for its use by GCN. Ponds and watercourses were identified within 500m of the Site boundary (n=35), and eDNA samples were collected from accessible ponds (n=27) and analysed in a laboratory for evidence of GCN eDNA to indicate presence/absence, following methods set out by Biggs et al. 2014³ (refer to Figure 3). Pond suitability for GCN occupation was assessed using the Habitat Suitability Index [HSI] following methods set out by Oldham et al. 2000⁴.
- 1.3.2. The Site was also assessed for terrestrial habitat for use by GCN. The phase 1 survey highlighted areas of woodland belts, hedgerows and grassland all of which can be used as shelter and foraging areas for GCN.

¹ https://activenaturalist.org.uk/mbb

² www.record-lrc.co.uk

³ Biggs J., Ewald N., Valentini A., Gaboriaud C., Griffiths R.A., Foster J., Wilkinson J., Arnett A., Williams P. and Dunn F. 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.

⁴ Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10 (4), 143-155.

eDNA Surveys

1.3.3. Samples of water were then taken from all accessible waterbodies within 500m of the applicant boundary, and eDNA tests were carried out. Where eDNA survey results were negative GCN are considered absent. eDNA has been shown to detect GCN 99.3% of the time and is considered more reliable than presence absence surveys (Biggs et al. 2014³).

Method

- 1.3.4. eDNA testing followed Natural England's approved protocol (WC1067), which ensures that the tests meet the required regulatory standards (see below). The following methodology was undertaken for all eDNA samples collected:
 - Retrieve twenty 30ml water samples from around the edge of a pond, taking care not to disturb the sediment (eDNA can be preserved in sediment, leading to a false positive);
 - Mix the twenty samples in a mixing bag and pipette the sample into the six 50ml tubes and seal;
 - Store and label samples and box with pond number and date;
 - The tubes contain a preservative that protects any eDNA from degradation while they are sent back to the lab and analysed.
- 1.3.5. Lab testing was undertaken by Naturemetrics⁵, who scored 100% in the FAPAS 2019 GCN eDNA proficiency test. The test is based on qPCR, which is carried out in 12 replicates per sample. Results of eDNA testing are seen in Table 1.

Habitat Suitability Index (HSI)

1.3.6. Habitat Suitability Index (HSI) assessments were undertaken for all accessible ponds using the methods outlined in Oldham et al. 2000⁴. Figure 3 shows ponds where HSI was undertaken, several ponds within the survey area were inaccessible and two were deemed unsuitable for surveying.

⁵ <u>https://www.naturemetrics.co.uk/</u>

<u>Method</u>

1.3.7. Ponds were scored against 10 suitability indices including Location; Pond Area, Pond Drying, Water Quality, Shade, Fowl, Fish, Ponds, Terrestrial Habitat and Macrophytes. HSI scores are calculated from the above indices to give pond suitability scores for GCN:

< 0 .5 = Poor 0.5 - 0.59 = Below average 0.6 - 0.69 = Average 0.7 - 0.79 = Good > 0.8 = Excellent

1.3.8. 27 ponds were surveyed, 17 of which were on Site and 10 off Site. The HSI results are seen in Table 2.

<u>Personnel</u>

1.3.9. The survey was carried out by licensed surveyor Mark Morgan, License Registration No.:2017-32019-CLS-CLS; and ecologist Joshua Cartlidge.







2. **RESULTS**

2.1. SURVEY RESULTS 2019

eDNA survey results

2.1.1. The results of the 2019 eDNA survey are shown in Table 1, and the HSI results are shown in Table 2. No animals were detected by eDNA in any of the ponds surveyed and all controls performed as expected, so the results are conclusive.

Table 1	: eDNA	results	2019

Pond ID	Arrived	Inhibition	Degradation	Score	GCN Status
1	24-Apr	No	No	0	Negative
4	24-Apr	No	No	0	Negative
8	24-Apr	No	No	0	Negative
9	24-Apr	No	No	0	Negative
10	24-Apr	No	No	0	Negative
12	24-Apr	No	No	0	Negative after dilution
13	24-Apr	No	No	0	Negative
14	24-Apr	No	No	0	Negative
15	24-Apr	No	No	0	Negative
16	24-Apr	No	No	0	Negative
19	24-Apr	No	No	0	Negative after dilution
21	24-Apr	No	No	0	Negative after dilution
22	24-Apr	No	No	0	Negative
А	24-Apr	No	No	0	Negative
AZ	24-Apr	No	No	0	Negative
В	24-Apr	No	No	0	Negative after dilution
С	24-Apr	No	No	0	Negative after dilution
D	24-Apr	No	No	0	Negative
G	24-Apr	No	No	0	Negative
Н	24-Apr	No	No	0	Negative after dilution
I	24-Apr	No	No	0	Negative after dilution
К	24-Apr	No	No	0	Negative
KI	24-Apr	No	No	0	Negative after dilution
S	24-Apr	No	No	0	Negative
Х	24-Apr	No	No	0	Negative
Z	24-Apr	No	No	0	Negative

2.1.2. Samples marked as 'Negative after dilution' are those where inhibition was detected (when the marker added in the lab fails to amplify) but this is overcome by diluting the

sample. Inhibition can be caused by certain chemicals or organic compounds that may be present in the water sample.

2.2. HABITAT SUITABILITY

- 2.2.1. A Habitat Suitability Index was carried out for 2019 (refer to Table 2) using Oldham's score (Oldham et al 2000⁴). Of the 27 ponds surveyed, 13 were classified as poor, 5 were below average, 5 average and 2 of good suitability for GCN.
- 2.2.2. BWP area was originally marked as no access, but access was later granted. The period for GCN survey was over. However, the pond scored as below average. The likelihood of GCN within BWP is very minimal, and land use outside of Booth's Wood causes a barrier to newt dispersal (i.e. intensive management). Furthermore, this area is to remain unaffected by the proposals.

2.3. TERRESTRIAL HABITAT

2.3.1. The Site has limited terrestrial habitat that Is mostly restricted to the woodland belts where ponds are generally isolated from one another by intensive field management. The improved grassland habitat provides some potential foraging habitat to GCN. Potential refugia is present within the eastern woodland belt and hedgerows bordering the field margins. Overall, the potential habitat for GCN is moderate but isolated.

Pond Reference	1	4	8	9	10	12	13	14	15	16	19	21	22	Α
SI1 - Location	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SI2 - Pond area	0.6	0.6	1	0.2	0.9	1	0.8	0.2	1	0.4	1	0.4	0.8	0.9
SI3 - Pond drying	0.9	0.5	1	0.9	0.9	0.9	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.1
SI4 - Water quality	0.01	0.01	0.01	0.33	0.01	0.01	0.01	0.01	0.01	0.01	0.33	0.01	0.33	0.67
SI4 - Shade	0.3	0.2	0.2	0.6	0.3	0.2	0.2	0.2	0.2	0.4	1	0.2	0.3	0.3
SI6 - Fowl	0.67	0.67	1	0.67	0.67	0.67	0.67	1	1	0.67	0.01	0.67	0.33	0.67
SI7 - Fish	0.67	1	1	0.67	0.67	0.67	1	1	1	0.67	0.67	0.67	0.33	0.33
SI8 - Ponds	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SI9 - Terr'l habitat	0.33	1	1	1	0.67	0.67	0.67	0.67	0.67	0.67	0.33	0.67	0.67	0.67
SI10 - Macrophytes	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5
HSI	0.39	0.41	0.48	0.59	0.43	0.42	0.40	0.36	0.43	0.41	0.43	0.38	0.52	0.52
Pond suitability	Poor	Poor	Poor	Below	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Below	Below
				average									average	average
				-										
Pond Reference	AZ	В	С	D	G	Н	I	K	Ki	S	Х	Z	BWP	
Pond Reference SI1 - Location	AZ 1	B 1	C 1	D 1	G 1	H 1	 1	K 1	Ki 1	S 1	X 1	Z 1	BWP 1	
Pond Reference SI1 - Location SI2 - Pond area	AZ 1 1	B 1 0.8	C 1 1	D 1 1	G 1 1	H 1 0.7	1 0.9	K 1 0.7	Ki 1 0.95	S 1 0.3	X 1 0.9	Z 1 0.3	BWP 1 0.2	
Pond Reference SI1 - Location SI2 - Pond area SI3 - Pond drying	AZ 1 1 1	B 1 0.8 0.9	C 1 1 0.9	D 1 1 0.1	G 1 1 0.9	H 1 0.7 0.9	1 0.9 0.9	K 1 0.7 0.5	Ki 1 0.95 0.9	S 1 0.3 0.5	X 1 0.9 1	Z 1 0.3 0.9	BWP 1 0.2 0.5	
Pond Reference SI1 - Location SI2 - Pond area SI3 - Pond drying SI4 - Water quality	AZ 1 1 0.33	B 1 0.8 0.9 0.83	C 1 1 0.9 0.33	D 1 1 0.1 0.01	G 1 1 0.9 0.33	H 1 0.7 0.9 0.33	1 0.9 0.9 0.33	K 1 0.7 0.5 0.67	Ki 1 0.95 0.9 0.33	S 1 0.3 0.5 0.33	X 1 0.9 1 0.33	Z 1 0.3 0.9 0.33	BWP 1 0.2 0.5 0.33	
Pond Reference SI1 - Location SI2 - Pond area SI3 - Pond drying SI4 - Water quality SI4 - Shade	AZ 1 1 0.33 1	B 1 0.8 0.9 0.83 0.4	C 1 0.9 0.33 0.3	D 1 1 0.1 0.01 1	G 1 0.9 0.33 0.3	H 1 0.7 0.9 0.33 0.3	1 0.9 0.9 0.33 0.2	K 1 0.7 0.5 0.67 1	Ki 1 0.95 0.9 0.33 0.6	S 1 0.3 0.5 0.33 0.3	X 1 0.9 1 0.33 1	Z 1 0.3 0.9 0.33 0.2	BWP 1 0.2 0.5 0.33 0.4	
Pond Reference SI1 - Location SI2 - Pond area SI3 - Pond drying SI4 - Water quality SI4 - Shade SI6 - Fowl	AZ 1 1 0.33 1 0.67	B 1 0.8 0.9 0.83 0.4 0.67	C 1 0.9 0.33 0.3 0.67	D 1 0.1 0.01 1 0.67	G 1 0.9 0.33 0.3 0.67	H 1 0.7 0.9 0.33 0.3 0.67	1 0.9 0.33 0.2 0.67	K 1 0.7 0.5 0.67 1 0.67	Ki 1 0.95 0.9 0.33 0.6 0.67	S 1 0.3 0.5 0.33 0.3 0.67	X 1 0.9 1 0.33 1 0.01	Z 1 0.3 0.9 0.33 0.2 0.67	BWP 1 0.2 0.5 0.33 0.4 1	
Pond Reference SI1 - Location SI2 - Pond area SI3 - Pond drying SI4 - Water quality SI4 - Shade SI6 - Fowl SI7 - Fish	AZ 1 1 0.33 1 0.67 0.67	B 1 0.8 0.9 0.83 0.4 0.67 0.67	C 1 0.9 0.33 0.3 0.67 0.33	D 1 0.1 0.01 1 0.67 1	G 1 0.9 0.33 0.3 0.67 0.67	H 1 0.7 0.9 0.33 0.3 0.67 0.33	1 0.9 0.9 0.33 0.2 0.67 0.67	K 1 0.7 0.5 0.67 1 0.67 1	Ki 1 0.95 0.9 0.33 0.6 0.67 0.67	S 1 0.3 0.5 0.33 0.3 0.67 1	X 1 0.9 1 0.33 1 0.01 0.67	Z 1 0.3 0.9 0.33 0.2 0.67 0.67	BWP 1 0.2 0.5 0.33 0.4 1 1	
Pond Reference SI1 - Location SI2 - Pond area SI3 - Pond drying SI4 - Water quality SI4 - Shade SI6 - Fowl SI7 - Fish SI8 - Ponds	AZ 1 1 0.33 1 0.67 0.67 1	B 1 0.8 0.9 0.83 0.4 0.67 0.67 1	C 1 0.9 0.33 0.3 0.67 0.33 1	D 1 0.1 0.01 1 0.67 1 1	G 1 0.9 0.33 0.3 0.67 0.67 1	H 1 0.7 0.9 0.33 0.3 0.67 0.33 1	1 0.9 0.33 0.2 0.67 0.67 1	K 1 0.7 0.5 0.67 1 0.67 1 1	Ki 1 0.95 0.9 0.33 0.6 0.67 0.67 1	S 1 0.3 0.5 0.33 0.3 0.67 1 1	× 1 0.9 1 0.33 1 0.01 0.67 1	Z 1 0.3 0.9 0.33 0.2 0.67 0.67 1	BWP 1 0.2 0.5 0.33 0.4 1 1 1	
Pond Reference SI1 - Location SI2 - Pond area SI3 - Pond drying SI4 - Water quality SI4 - Shade SI6 - Fowl SI7 - Fish SI8 - Ponds SI9 - Terr'l habitat	AZ 1 1 0.33 1 0.67 0.67 1 0.67	B 1 0.8 0.9 0.83 0.4 0.67 0.67 1 0.33	C 1 0.9 0.33 0.3 0.67 0.33 1 1	D 1 1 0.1 0.01 1 0.67 1 1 0.33	G 1 0.9 0.33 0.3 0.67 0.67 1 0.67	H 1 0.7 0.9 0.33 0.3 0.67 0.33 1 0.33	1 0.9 0.33 0.2 0.67 0.67 1 1	K 1 0.7 0.5 0.67 1 0.67 1 1 0.67	Ki 1 0.95 0.9 0.33 0.6 0.67 0.67 1 0.67	S 1 0.3 0.5 0.33 0.3 0.67 1 1 0.67	X 1 0.9 1 0.33 1 0.01 0.67 1 0.33	Z 1 0.3 0.9 0.33 0.2 0.67 0.67 1 1	BWP 1 0.2 0.5 0.33 0.4 1 1 1 0.67	
Pond Reference SI1 - Location SI2 - Pond area SI3 - Pond drying SI4 - Water quality SI4 - Shade SI6 - Fowl SI7 - Fish SI8 - Ponds SI9 - Terr'l habitat SI10 - Macrophytes	AZ 1 1 0.33 1 0.67 0.67 1 0.67 0.3	B 1 0.8 0.9 0.83 0.4 0.67 0.67 1 0.33 0.3	C 1 0.9 0.33 0.3 0.67 0.33 1 1 0.3	D 1 1 0.1 0.01 1 0.67 1 1 0.33 0.3	G 1 0.9 0.33 0.3 0.67 0.67 1 0.67 0.3	H 1 0.7 0.9 0.33 0.3 0.67 0.33 1 0.33 0.3	1 0.9 0.9 0.33 0.2 0.67 0.67 1 1 0.3	K 1 0.7 0.67 1 0.67 1 1 0.67 0.3	Ki 1 0.95 0.9 0.33 0.6 0.67 1 0.67 1 0.67 0.3	S 1 0.3 0.5 0.33 0.3 0.67 1 1 0.67 0.5	× 1 0.9 1 0.33 1 0.01 0.67 1 0.33 0.3	Z 1 0.3 0.9 0.33 0.2 0.67 0.67 1 1 0.3	BWP 1 0.2 0.5 0.33 0.4 1 1 1 0.67 0.3	
Pond Reference SI1 - Location SI2 - Pond area SI3 - Pond drying SI4 - Water quality SI4 - Shade SI6 - Fowl SI7 - Fish SI8 - Ponds SI9 - Terr'l habitat SI10 - Macrophytes HSI	AZ 1 1 0.33 1 0.67 0.67 1 0.67 0.3 0.3 0.70	B 1 0.8 0.9 0.83 0.4 0.67 0.67 1 0.33 0.3 0.3 0.63	C 1 0.9 0.33 0.3 0.67 0.33 1 1 0.3 0.60	D 1 1 0.1 0.01 1 0.67 1 1 0.33 0.3 0.3 0.38	G 1 0.9 0.33 0.3 0.67 0.67 1 0.67 0.3 0.62	H 1 0.7 0.9 0.33 0.3 0.67 0.33 1 0.33 0.3 0.52	1 0.9 0.33 0.2 0.67 0.67 1 1 0.3 0.61	K 1 0.7 0.67 1 0.67 1 1 0.67 0.3 0.3	Ki 1 0.95 0.9 0.33 0.6 0.67 1 0.67 0.3 0.66	S 1 0.3 0.5 0.33 0.3 0.67 1 1 0.67 0.5 0.57	X 1 0.9 1 0.33 1 0.01 0.67 1 0.33 0.3 0.3 0.43	Z 1 0.3 0.9 0.33 0.2 0.67 0.67 1 1 0.3 0.55	BWP 1 0.2 0.5 0.33 0.4 1 1 1 0.67 0.3 0.55	
Pond Reference SI1 - Location SI2 - Pond area SI3 - Pond drying SI4 - Water quality SI4 - Shade SI6 - Fowl SI7 - Fish SI8 - Ponds SI9 - Terr'l habitat SI10 - Macrophytes HSI Pond suitability	AZ 1 1 0.33 1 0.67 0.67 1 0.67 0.3 0.70 Good	B 1 0.8 0.9 0.83 0.4 0.67 1 0.67 1 0.33 0.3 0.3 0.63 Average	C 1 0.9 0.33 0.3 0.67 0.33 1 1 0.3 0.60 Average	D 1 1 0.1 0.01 1 0.67 1 1 0.33 0.3 0.3 0.38 Poor	G 1 0.9 0.33 0.3 0.67 0.67 1 0.67 0.3 0.62 Average	H 1 0.7 0.9 0.33 0.3 0.67 0.33 1 0.33 0.3 0.3 0.52 Below	1 0.9 0.33 0.2 0.67 1 1 1 0.3 0.61 <i>Average</i>	K 1 0.7 0.67 1 0.67 1 1 0.67 0.3 0.71 Good	Ki 1 0.95 0.9 0.33 0.6 0.67 1 0.67 1 0.67 0.3 0.66 Average	S 1 0.3 0.5 0.33 0.3 0.67 1 1 0.67 0.5 0.57 Below	× 1 0.9 1 0.33 1 0.01 0.67 1 0.33 0.3 0.3 0.43 Poor	Z 1 0.3 0.9 0.33 0.2 0.67 1 1 0.67 1 1 0.3 0.55 Below	BWP 1 0.2 0.5 0.33 0.4 1 1 1 0.67 0.3 0.55 Below	



Figure 2

Data Trawl

Omega Zone 8

Legend **Development Site** 2km radius GCN record Common amphibian

record



Drawing No.: 16903-0#GCN_A **Revision Dates**



0845 602 3822 www.ecologypractice.co.uk



Figure 3

Survey Map

Omega Zone 8

Legend

Application Boundary



250m from Application Boundary





`\ ,

Pond surveyed



No access for any survey



#

Pond Unsuitable



Pond HSI only



Drawing No.: 16903-02GCN_B **Revision Dates A** 12/04/19 В D С 15/10/19 the ecology Practice 0845 602 3822 www.ecologypractice.co.uk

3. ASSESSMENT

3.1. STATUS ON **S**ITE

- 3.1.1. The results of the 2019 survey are shown in Table 1 and Table 2. No GCN were detected in any ponds surveyed and eDNA confirms that GCN are not present on site in any ponds accessed.
- 3.1.2. A total of 16 ponds are located within the Site boundaries totalling 11,147m² of total area on site. All woodland ponds were found to be highly shaded and offered little macrophyte or invertebrate diversity.
- 3.1.3. The majority of the Site is manged as intensive agricultural land and as such provides limited area suitable for use by GCN. In-field ponds were found to be prone to silt/soil runoff from surrounding arable land generally resulting in poor-quality aquatic habitat for amphibians.
- 3.1.4. The large number of ponds found on site are generally in close proximity to each other but are isolated by agricultural land and corresponding practices i.e. ploughing, spraying and cropping practices.
- 3.1.5. Hedgerows and small woodland belts offer areas for hibernation by GCN, they are of moderate quality but represent isolated areas of habitat due to intensive land management. Grassland to the south offers possible foraging but is also of moderate quality for newts but isolated by surrounding land use.
- 3.1.6. HSI highlighted only two ponds with habitat suitability status of 'Good' (ponds AZ and K). eDNA sampling confirmed the absence of GCN in both of these ponds. This may be a result of large numbers of fowl (mainly mallard) and geese, present in and around the ponds.
- 3.1.7. The M62 forms a hard barrier to dispersal to the north of the Site and the intensively managed nature of the Site has likely reduced biodiversity and habitat for newts.

3.2. UNMITIGATED IMPACTS

3.2.1. No GCN were detected on site as a result there will be no impact to GCN on the Site i.e. no potential loss of individual GCN or loss of habitat used by GCN. However, there will be a loss of ponds and woodland on site which could act as potential future GCN habitat.

3.3. RECOMMENDATIONS

3.3.1. All recommendations for habitat creation and enhancement to be covered within the Environmental Statement.

4. **APPENDICES**

4.1. GCN POND DESCRIPTIONS (2019)

Pond	HSI Score	Description
1	0.39	Situated to the north of the Site, in the middle of arable field, surrounded by trees and scrub, poor water quality, approximately 325m ² .
4	0.41	Situated at the north western edge of Booths Wood, approximately 275m ² , surrounded by woodland, trees and tall grasses.
8	0.48	Situated along the western edge of Duck Wood, approximately 500m ² , arable land to the west, woodland to the east.
9	0.59	Situated south of the Site boundary, at the south eastern corner of Duck Wood, high amount of leaf litter in pond, approximately 150m ² ,
10	0.43	Situated south of the Site boundary, in the middle of arable field, approximately 890m ² , surrounded by trees, scrub, and grasses.
12	0.42	Situated central to woodland alongside Finches Plantation, approximately 850m ² , close proximity to tilled land to east, surrounded by woodland.
13	0.40	Situated to in Finches plantation, surrounded by woodland with close proximity to arable land to west, approximately 380m ² .
14	0.36	Situated south of the Site boundary in South Park Plantation with arable land to the north, area previously used for pheasant rearing, approximate
15	0.43	Situated east of South Park Plantation, high amount of leaf litter in pond, tadpoles identified, approximately 500m ² .
16	0.41	Situated in southern part of Finches Plantation, dry ditch leads into pond, fowl present, approximately 225m ² .
19	0.43	Situated south east of the Site boundary in the center of arable land, deep pond with concrete reinforcement, approximately 460m ²
21	0.38	Situated on north eastern corner of South Park Plantation, deep pond, arable land to north and west, approximately 210m ²
22	0.52	Situated in Finches Plantation, formed from several interconnected ponds, deep water, high amounts of leaf litter, approximately 2000m ² .
А	0.52	Situated towards the north east corner of the Site, surrounded by trees and grasses, dry ditch to west, fish present, approximately 985m ² .
AZ	0.70	Situated on the eastern boarder of the Site, set in clearing of wooded area adjacent access road, approximately 500m ² .
В	0.63	Situated towards the north eastern boundary, arable land to north and south, dry ditches to east and west, approximately 370m ² .
С	0.60	Situated in Big Wood Belt, surrounded by woodland, high amounts of leaf litter, dry ditch inflows from west, fish present, approximately 900m ² .
D	0.38	Situated in the center of agricultural land, surrounded by ruderals and young trees, approximately 500m ² .
G	0.62	Situated at the center of the Site, heavy leaf litter, surrounded by woodland, borders agricultural land to east, approximately 525m ² .
Н	0.52	Situated towards the south of the western boundary, surrounded by woodland, approximately 400m ² .
I	0.61	Situated in Duck Wood, large pond surrounded by woodland, approximately 1,350m ² .
К	0.71	Situated to the south of the eastern boundary, surrounded by juncus sp., shallow pond with juncus litter, approximately 325m ² .
Ki	0.66	Situated to the south of the eastern boundary, large pond, with deep areas, surrounded by trees and bushes, approximately 1000m ² .
S	0.57	Situated to the north of the eastern boundary, shallow, inflow from northern ditch, approximately 100m ² .
Х	0.43	Situated towards south of site, large pond, high fowl presence, heavily sedimented water, approximately 850m ² .
Z	0.55	Situated on the eastern boundary, set within woodland belt, over shaded, approximately 235m ² .
BWP	0.55	Situated on the western boundary, set within Booths Wood, surrounded by trees, 310m ² .

ely 140m².



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