



Land at Clywedog Rd South (Site 5b) Wrexham Industrial Estate

Further Great Crested Newt Assessment

Document Ref: KE1849.10

Version 1

25 February 2019

Authored by Richard Roe BSc MSc MCIEEM CEnv

KINGDOM ECOLOGY LTD

7 Speke Road,

Woolton,

Liverpool,

L25 8QA

Email: enquiries@kingdomecology.com

CONTENTS

1	Introduction.....	2
1.1	Background	2
2	Previous Assessment Findings.....	3
3	Further Assessment.....	4
3.1	Aquatic Habitats.....	4
3.2	Terrestrial habitats	5
3.3	Great Crested Newt Dispersal Routes	5
4	Conclusions	7
5	Appendix.....	9

1 Introduction

1.1 Background

Kingdom Ecology have completed a set of ecological assessments of an approximate 6ha area of land located at Clywedog Road South at Wrexham Industrial Estate, LL13 9AE (National Grid Reference- SJ 370 489). The assessments have been carried out to identify any ecological constraints which should be considered during any future development of the site.

As part of the assessment, the potential presence of great crested newt at the site was considered. The original site assessment report (*'Land at Clywedog Rd South (Site 5b), Wrexham Industrial Estate- Ecological Survey Report (Document Ref: KE1849.08) dated November 2018'*), concluded that it is considered unlikely that great crested newt would be present.

This assessment considered whether a potential great crested newt population present within ponds located to the west of the development site would be affected by proposals. However, owing to distance and the presence of man-made barriers, impacts upon this population was considered to be negligible and the ponds were scoped out of further assessment. Therefore, no great crested newt presence/absence assessment of these ponds was completed as part of the 2018 surveys.

This document provides further information regarding the likelihood for great crested newt to be present at the proposed development site including further consideration of impacts to the ponds located to the west of the site.

2 Previous Assessment Findings

The findings and evaluation of the 2018 report can be summarised as follows:-

'The study site supports good quality great crested newt terrestrial habitat within scrub, woodland, rough grassland and tall herb habitats. However, the study site does not support any suitable aquatic habitats for great crested newt.'

Great crested newt has been recorded in ponds located within farmland to the west of the site (ponds located approximately 430m to the west of the site). However, these ponds are considered to be isolated from the study site by intervening commercial units located on Clywedog Road South.

There is a drainage ditch located immediately adjacent to the site on the opposite side of Clywedog Road South. This is considered to represent the only waterbody suitable for great crested newt that is within 500m of the site and not isolated by intervening barriers.

Further survey including an eDNA survey of areas of standing water within the drain returned a 'negative' result for great crested newt.

Taking account of the survey results, it is considered unlikely that great crested newt would be present at the site.'

This conclusion is supported by reptile surveys completed at the site. Reptile surveys were completed throughout the summer of 2018 with the deployment of 80 artificial refugia (50cm x 50cm corrugated roofing sheets). These were checked on 7 occasions between the 12th June and the 15th August. Amphibians will also take refuge beneath corrugated tins. No amphibians were recorded at the site whatsoever.

Further information regarding survey methods and findings can be found within the full 2018 Ecological Survey Report.

3 Further Assessment

There are five ponds located to the west of the site and within 500m. One of these ponds has been identified as supporting great crested newt in the past (Pond 3- record from 2001). However, impacts upon newt populations using these ponds had all been scoped out of the previous Site Assessment owing to various factors including low suitability of pond, distance and the presence of intervening man-made barriers. Further information on each of these factors is provided below.

The locations of ponds in relation to the development are shown on Figure 1 along with Target Notes for relevant terrestrial habitats and barriers.

3.1 Aquatic Habitats

Pond descriptions along with an assessment of their suitability to support great crested newt are provided below. Photographs of the ponds and full Habitat Suitability Index (HSI) scores are provided in the Appendix.

Table 1- Pond Survey Results Summary

<i>Pond Number</i>	<i>HSI Score</i>	<i>Description</i>	<i>Distance</i>
1	0.68 (Average)	400m ² pond in pasture field. Turbid water with nesting platform for ducks. Thin fringe of bulrush, no other macrophytes. Never dries. Fish possible. Part shaded by oak and hawthorn.	398m
2	0.72 (Good)	Small rubble filled pond, 150m ² in area. Never dries, no shade. Good egg laying habitat within floating sweet-grass.	466m
3	0.77 (Good)	Small pond, 100m ² in area. May dry periodically. No shade. Good coverage of floating sweet-grass with island of great willow-herb and soft rush. GCN recorded here in 2001.	433m
4	0.60 (Below Average/average)	Small, shallow pond (100m ²). Maximum depth of 30cm in mid-February. Likely to dry out annually. 100% macrophyte cover of floating sweet-grass and brooklime.	150m
5	0.68 (Average)	400m ² pond in pasture field. Turbid water with nesting platform for ducks. No other macrophytes. Never dries. Fish possible. Part shaded by oak and hawthorn.	190m

Pond 4 offers good egg laying habitat however its small size and shallow depth (only 30cm deep in mid-February) indicate that this pond is likely to dry out by late Spring/early summer. Consequently, newt larvae present are unlikely to survive to metamorphosis. Therefore Pond 4 was scoped out of further assessment as it is unlikely to support a viable breeding population of great crested newt.

The remaining ponds are considered to offer suitable great crested newt breeding habitat. Pond 3 has previously been identified as supporting great crested newt and continues to offer good suitability breeding habitat. Given the proximity of Pond 2 to Pond 3 and the suitability of aquatic habitats present, Pond 2 is also likely to support great crested newt. Ponds 1 and 5 are large, deep, permanent ponds with relatively turbid water and no macrophytic submerged vegetation. These ponds may support great crested newt, but conditions suggest that fish are likely to be present.

3.2 Terrestrial habitats

Habitats to the west of the development site and around Ponds 1-5 are shown as an aerial photograph on Figure 1. The surrounding land is principally farmed as pasture with some areas of arable. The farmland offers suitable newt terrestrial habitats within grassland and within hedgerows and dry ditches around the field boundaries.

A drainage ditch (Target Note 1) is located along the western edge of the office/industrial units at Wilkinson Business Park. The ditch was constructed in 2008/2009 as part of the Business Park development (Target Note 2). The ditch is mostly dry and is located with a v-shaped channel. The ditch captures run-off from the adjacent business park. A corridor of scrubby woodland and rough grassland has developed alongside the ditch. The corridor is up to 20m in width and comprises principally of oak, hawthorn and bramble scrub plus patches of coarse grassland. This area is considered to offer good quality newt terrestrial and overwintering habitat.

3.3 Great Crested Newt Dispersal Routes

The Wilkinson Business Park runs along Clywedog Road South between the proposed development site and Ponds 1-5. The business park comprises principally of an environment that is hostile to great crested newt with hardstanding car parks and buildings. Further industrial units with large expanses of hardstanding carpark adjoin the business park to the north. Taken together the business park and the industrial units provide an effective hostile barrier to newt dispersal that measures approximately 400m long x 75m in width. It is highly unlikely that newts would attempt to cross this area of hostile, exposed habitat given the more suitable habitats located to the west of the business park.

There is a gap in this hostile environment located between the Business Park and the Excel Signs Industrial Unit. The gap (Target Note 3) is approximately 50m in width and comprises of derelict farmland that has developed into coarse unmanaged grassland. This grassland could, in theory, provide a suitable habitat through which great crested newt could disperse in an easterly direction.

However, a further partial barrier is located between the field at Target Note 3 and the proposed development site. Clywedog Road South runs along the western edge of the proposed development site. Clywedog Road is approximately 7m in width with a tall kerb and gully pots. Whilst traffic flows are reduced of an evening, the road nevertheless provides the main thorough-fair through the industrial estate for traffic moving from the southern link road, through to the northern link road.

The road is therefore likely to act as partial barrier to any dispersing newts in three ways:-

1. through increased newt mortality through traffic;
2. by deterring newts from crossing a relatively wide open, exposed hostile environment; and
3. through increased mortality and barrier effects associated with the tall roadside kerbs and newts being channelled into nearby gully pots.

4 Conclusions

Taking account of the evidence described, the original assessment that great crested newt are unlikely to be present at the proposed development site is considered to remain appropriate. This conclusion is reached irrespective of whether the ponds to the west of Clywedog Road South are occupied by great crested newt.

Of the 5 ponds located within 500m of the study site, Pond 4 has been scoped out as it is likely to dry out in late-Spring and so does not support viable breeding habitat.

Given the presence of the industrial units and business park along Clywedog Road South, any hypothetical newt population within Ponds 1, 2, 3 or 5 would need to travel over 500m to reach terrestrial habitats within the proposed development site.

The newts would need to navigate to the appropriate crossing point at Target Note 3 and would also need to cross further hostile habitat at Clywedog Road South. Good quality newt terrestrial habitat is already offered to the west of Clywedog Road South and consequently within close proximity to the ponds.

Given the distances involved and the need to cross Clywedog Road South, it is considered to be very unlikely that great crested newt breeding within Ponds 1-5 would use terrestrial habitats to the east of Clywedog Road South.

Therefore, the presence or otherwise of great crested newt to the west of Clywedog Road South is not considered to be relevant to the proposed development owing to the likely isolation of these ponds from the site by distance and man-made barriers. Populations associated with these ponds are very unlikely to be affected by development proposals.

As stated previously, artificial refugia searches completed in 2018 did not record any amphibians at the site whatsoever.

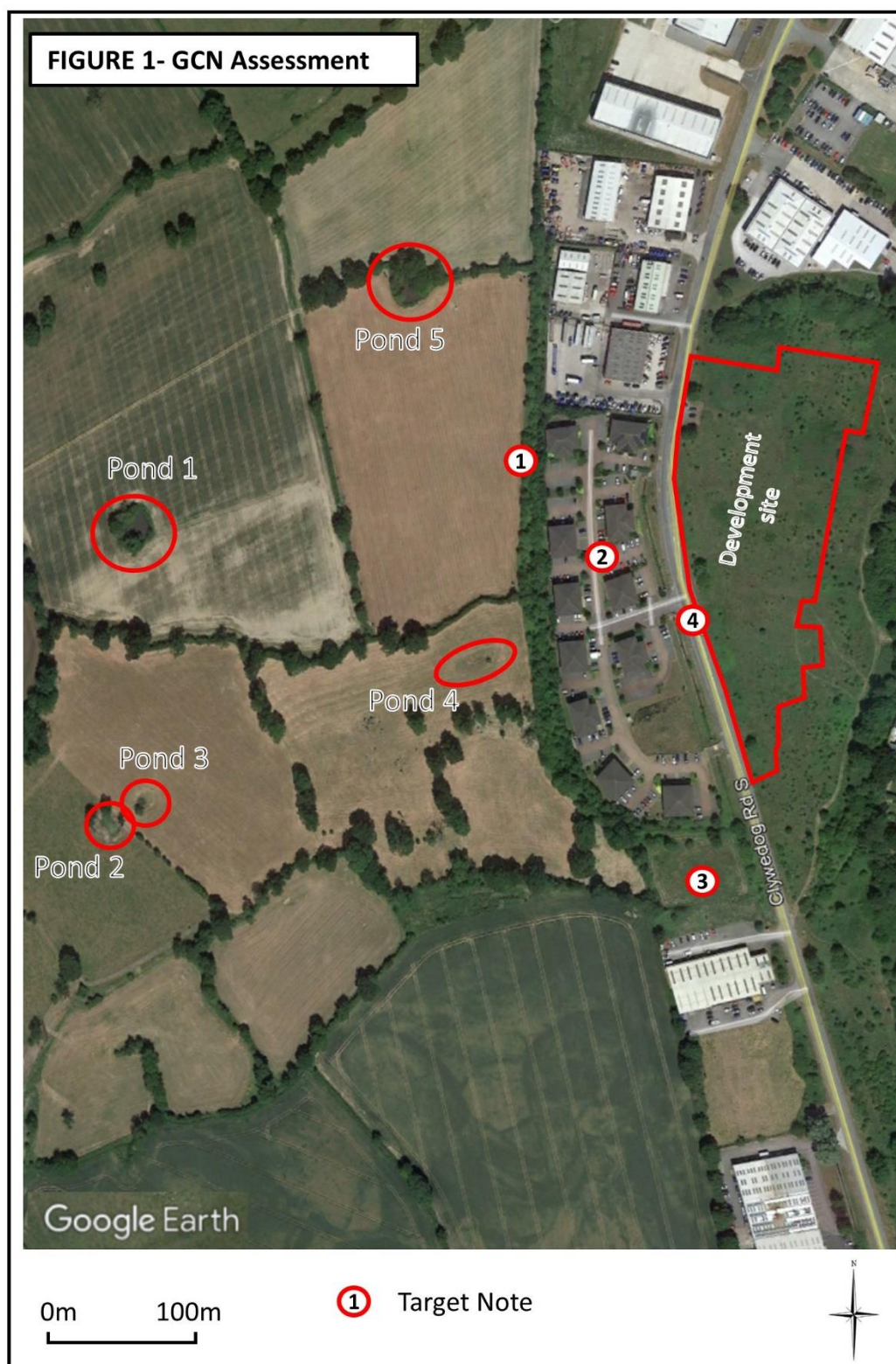
There is considered to be only a low risk that individual or small numbers of juvenile great crested newt could attempt to disperse into habitats located to the east of Clywedog Road South. Any hypothetical newts in this habitat are likely to be present in only very low numbers and are without access to suitable breeding habitat.

In terms of their conservation, any hypothetical newts within these isolated habitats would be best served by conservation measures that could provide suitable breeding habitat to the east of Clywedog Road South allowing potential expansion of their local range/ improved genetic linkages between populations around the industrial estate.

The proposed development will seek to create and manage areas of habitat potentially of potential value to great crested newt. This will include the management of grassland habitat around the proposed development site and in other areas of redundant land around Pentre Maelor housing estate. This would retain potential amphibian dispersal corridors around the development.

Proposals will also include the creation of butterfly mounds which could offer suitable newt wintering habitat and will include the creation of new aquatic habitats which would offer suitable breeding habitat.

5 Appendix



Photograph 1- Pond 1



Photograph 2- Pond 2



Photograph 3- Pond 3



Photograph 4- Pond 4



Photograph 5- Pond 5



Photograph 6- Habitats at Target Note 1



Photograph 7- Habitats at Business Park



Photograph 8- Habitats at Target Note 3



Photograph 9- Road crossing at Clywedog Road South



Table 2- Habitat Suitability Index Results

Pond Ref	1	2	3	4	5
SI1 - Location	1	1	1	1	1
SI2 - Pond area	0.8	0.3	0.2	0.2	0.8
SI3 - Pond drying	0.9	0.9	1	0.1	0.9
SI4 - Water quality	0.33	0.67	0.67	0.67	0.33
SI4 - Shade	1	1	1	1	1
SI6 - Fowl	0.67	1	1	1	0.67
SI7 - Fish	0.67	0.67	1	1	0.67
SI8 - Ponds	0.95	0.95	0.95	0.8	0.95
SI9 - Terr'l habitat	0.67	0.67	0.67	0.67	0.67
SI10 - Macrophytes	0.3	0.5	0.9	0.8	0.3
HSI	0.68	0.72	0.77	0.60	0.68