

EASTLEIGH BOROUGH COUNCIL

One Horton Heath

Appendix 10.5: Great Crested Newts

1 NON-TECHNICAL SUMMARY

Great crested newts were recorded in only two of the water bodies surveyed during 2019 (ponds 41 and 47). Population size class assessments based on the 2019 results concluded the following:

- West Horton Heath population (Chalcroft)
 - Low population with a peak count of 5 in pond 47. Eggs present.
- Quobleigh population
 - Medium population with a peak count of 11 in pond 41. Eggs present.

Surveys from 2014 also recorded great crested newts from these locations (Peak count of 12 from Pond 47 and 35 from Pond 41). WYG also recorded great crested newts in these locations (Peak count of 2 from Pond 47 and 8 from Pond 41). The survey results in 2019 are therefore consistent with previous surveys and all GCN are considered to be from the same metapopulation (the Quobleigh metapopulation).

2 INTRODUCTION

This report presents the results of the great crested newt *Triturus cristatus* (GCN) surveys undertaken 2019 by Johns Associates Ltd in support of the development proposals and planning application of Horton Heath. It also provides a summary of historic GCN surveys carried out at Horton Heath in 2014/2015 by Ecosupport and 2016 by WYG.

3 METHODOLOGY

3.1 DESK STUDY

Information provided by the Hampshire Biodiversity Information Centre and from previous surveys undertaken by Ecologica Associates Ltd was reviewed for previous records of GCN on the Site.

A Freedom of Information request to Natural England identified a 3 breeding ponds immediately off site to the north (ponds 87,88 & 89) that were surveyed in 2016 to inform and EPS mitigation licence for the adjacent development.

3.2 PREVIOUS SURVEYS

Ecosupport undertook GCN surveys in 2014 and 2015. Ecosupport also obtained information from a great crested newt mitigation strategy relating to a separate development to the north of the Site boundary (Green (2014)).

WYG Planning & Environment undertook GCN surveys in 2016.

There is a active European Protected Species licence (EPS) for great crested newt within 500m of the One Horton Heath site (2019-40025-EPS-MIT). A Freedom of information request was requested from Natural England to gain access to obtain relevant survey records.

3.3 AVAILABILITY OF POTENTIAL GREAT CRESTED NEWT BREEDING HABITAT

A detailed review of amphibian records provided by the local records centre, Ordnance Survey 1:25,000 mapping, aerial imagery from Google Earth, and known waterbodies from historic surveys associated with Horton Heath confirmed the presence of 16 water bodies within 500m of the application site. These are illustrated in Figure 1.

Phase 1 habitat surveys completed to inform this application (see also Appendix 10.2 of this ES) assessed the habitats present on site for their suitability to support foraging, commuting and resting GCN.

3.4 GREAT CRESTED NEWT HABITAT SUITABILITY INDEX

The Habitat Suitability Index (HSI) is a method of quantifying the suitability of a water body to support great crested newt (GCN)¹. All identified ponds within 500m and surrounding terrestrial habitat were visited on 24 April 2020 and HSI assessments completed.

The calculation of HSI requires that the following ten key variables are recorded and assigned a numerical value:

- Location within Britain;
- Pond area;
- Pond drying (based on both local knowledge and field evidence);
- Water quality;
- Percentage perimeter shaded;
- Presence or absence of waterfowl;
- Presence or absence of fish;
- Number of ponds situated within 1 km;
- Suitability of terrestrial habitat; and
- Percentage of macrophyte cover.

The resulting scores can then be interpreted, as indicated in Table 2.

Table 2: Habitat Suitability Index score and interpretation

HSI Score	Pond Suitability for GCN
<0.5	Poor
0.5	Below average
0.6	Average

¹ Oldham et al. (2000). Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal, Vol. 10, pp. 143– 155.

HSI Score	Pond Suitability for GCN
0.7	Good
>0.8	Excellent

3.5 TERRESTRIAL HABITAT SUITABILITY ASSESSMENT

Great crested newts disperse over land to forage for food, generally adults stay within 250m of the breeding pond but can travel up to and beyond 500m of the breeding pond depending on the quality of habitats surrounding the breeding pond.

The terrestrial habitats surrounding ponds where great crested newts were found present was assessed for its suitability for sustaining great crested newt populations throughout their life cycle.

This assessment is based off the phase one habitat assessment of the site within 250m and 500m of the breeding ponds and the assessment identifies pond networks and clusters as this is an important landscape ecology feature that allows great crested newts to move from one breeding site to another, should pond conditions change, which helps maintain genetic variability of populations (avoiding inbreeding), this is essential to ensure long-term viability of a population.

3.6 PRESENCE/ABSENCE SURVEYS

Four waterbodies (numbered 38, 41, 47, 84 as shown in Figure 1), were subject to further assessment comprising presence/ absence surveys following the standard methodology recommended by www.gov.uk and within the Great Crested Newt Mitigation Guidelines². Surveys were undertaken by experienced, Natural England-licensed surveyor (Kerry White 2017-29693-CLS-CLS).

A minimum of four survey visits are necessary: four visits are required to determine presence/ likely absence and an additional two visits are required if GCN are recorded during any/ all of the first four visits, in order to determine likely population size.

The surveys were undertaken in suitable weather conditions between early-May and mid-June, with at least two of these visits undertaken in the peak period of mid-April to mid-May (for presence/ absence purposes).

At least three survey methods were employed per survey visit in accordance with best practice guidance. The methods adopted are described below.

Egg Search: this method was carried out during each survey visit (until the point that great crested newt eggs are discovered) to identify newt eggs typically folded into aquatic and/ or emergent vegetation. Where aquatic vegetation exists, this was systematically searched.

Bottle Trapping: this was carried out using submerged transparent plastic two litre bottles on every survey visit. Bottle trap densities (approximately one trap per two metres of pond margin) were kept constant for the survey period. Bottles were set late evening and collected early next morning;

Torch Survey: a 1,000,000-candlepower torch was used to search each pond for great crested newt adults after dark (although folded leaves indicating eggs can also be seen) on each survey visit. Care was taken to avoid direct disturbance of animals with the main beam of the torch.

The evening air temperature, turbidity and extent of vegetation cover in each pond was recorded on each visit (all surveys were undertaken when the evening air temperature was greater than 5°C) and local weather conditions were also noted.

² English Nature 2001. *Great Crested Newt Mitigation Guidelines*. English Nature: Peterborough.

3.7 POPULATION CLASS ASSESSMENT SURVEYS

Further surveys were carried out on those waterbodies where great crested newts were confirmed as being present (waterbodies 41 and 47 only – see Figure 1). In combination with the four presence/ absence surveys, they enable an assessment of the population size class to be made. The surveys:

- use torch surveys and bottle trapping on each visit;
- comprise 6 visits in total (including surveys at ponds where great crested newts have been found during the first 4 presence/absence visits);
- visit between early-May and mid-June with at least 3 visits in peak season (usually mid-April to mid-May).

Results from multiple ponds can be combined if the newts regularly move between them, but only for counts obtained on the same visit.

The following information was recorded during each additional survey visit:

- maximum adult count per pond per night;
- peak count per pond overall;
- total site count.
- Populations can then be classed as:
 - small - maximum counts up to 10 individuals;
 - medium - maximum counts between 11 and 100; or
 - large - maximum counts over 100.

3.8 LIMITATIONS

Ponds 39, 40 and 86 identified from maps were no longer present. Access to ponds 37, 48, 82, 87, 88, 89, N, O, P and the crematorium pond was denied by the landowners and so these ponds were not subject to survey.

4 RESULTS

4.1 DESK STUDY

Data was provided by Hampshire Biodiversity Information Centre. Nine records for great crested newts were returned from between 2006-2016. There were two GCN records located within the Site boundary, pond records related to pond 47 and the other record was located within the woodland shelter belt north of the solar park. Three other records were located adjacent to the site boundary within Quobleigh woods to the north of the site.

Ordnance Survey maps of the area depict the presence of Quobeligh pond within Quobleigh Wood, however, during the Phase One survey conducted by Johns Associates in 2018 and the habitat suitability assessment conducted by Johns Associates in 2019 the compounding structure has collapsed and there is no longer a pond present in this location, rather an area of seasonally inundated wet woodland.

4.2 PREVIOUS SURVEYS

4.2.1 2014 Survey Results

Ecosupport Ltd conducted GCN surveys in 2014 and identified 11 ponds, two of which were within the site boundary. Four of these ponds were surveyed by Ecosupport ponds 37, 47, 48 and 84. Information of the other ponds were obtained from Green (2014) and relate to surveys carried out in 2013 in relation to another planning application in the north of the Site. Pond 37 was excluded from the survey as it was part of a river

system (a tributary of the river Itchen) and therefore not considered suitable habitat for GCN. Of the other three ponds surveyed in 2014 1 pond (pond 47) supported GCN and had a peak count of 12 adults.

Data collated on the other seven ponds showed that access to pond 38 was denied and pond 39 identified from maps within Quobleigh woods was no longer extant due to the collapse of a dam which formed the pond. GCN were present in the other five ponds surveyed 41, 86, 87, 88 and 89.

4.2.2 2015 Survey Results

Ecosupport Ltd conducted surveys of seven ponds (38, 39, 41, 86, 87, 88 & 89 (Figure 1) in 2015, these surveys focused only on ponds to the north of the Site. Two ponds (numbered 87 & 88) were subject to presence/absence and population size class assessment surveys. Pond 86, was subject to presence/absence surveys and pond 41 was subject to presence /absence and population size class assessment surveys. Pond 38 was considered to be inaccessible due to deep mud and pond 89 was fully desiccated during all survey visits. Pond 39 was assessed as now being wet woodland with a stream occasionally running through it, this area was subject to presence/absence surveys.

4.2.3 2017 Survey Results

WYG Planning and Environment conducted an updated HSI assessment of the above seven ponds with the inclusion of ponds 37, 82 & 90 in 2016. Ponds 38 and 90 were scoped out of further assessment surveys during this assessment. Ponds 41, 86, 87, 88 & 89 were subject to repeat presence/absence and population class assessment surveys.

Presence/absence results from the previous surveys conducted by Ecosupport and WYG are presented below in Table 4.1.

Table 4.1 Great crested newt survey results from previous surveys

Pond	Ecosupport 2014 report	Ecosupport 2015 report	WYG 2016 report
37	Not surveyed (unsuitable)	Not surveyed	Absent
38	Not surveyed (no access)	Not accessible	Not surveyed
39	Non-Extant	Absent	Non-Extant
41	Present (peak count, 35 - 2013)	Present (peak count, 9)	Present (peak count, 8)
47	Present (peak count, 12 - 2014)	Not surveyed	Present (peak count, 2)
48	Absent	Not surveyed	Absent
82	Not surveyed	Not surveyed	Absent
84	Absent	Not surveyed	Absent
86	Present (peak count, 1 - 2013)	Absent	Absent
87	Present (peak count, 12 - 2013)	Present (peak count, 5)	Present (peak count, 1)
88	Present (peak count, 11 - 2013)	Present (peak count, 1)	Present (peak count, 6)
89	Present (peak count, 2 - 2013)	Not surveyed (desiccated)	Present (peak count, 8)
90	Not Surveyed	Not surveyed	Absent

4.3 GREAT CRESTED NEWT HABITAT SUITABILITY INDEX (HSI)

Johns Associates Ltd conducted updated HSI assessments of all ponds in 2019. Access of ponds 37, 48, 82, 87, 88, 89, N, O, P and Crem pond was denied to Johns Associates Ltd at this time. A description of all ponds presented below in Table 4.3.

The detailed results of the HSI Assessments are presented in Table 4.2 below.

Table 4.2 HSI Assessment Results

Pond ref	37	38	41	47	48	82	84	86	87/88/ 89	90	CREM	N	O	P
Date HSI assessment undertaken	NO HSI data available	07/05/19	01/05/19	01/05/19	NO HSI Data available	NO HSI Data available	01/05/19	01/05/19	NO HSI Data available	01/05/19	NO HSI Data available	NO HSI Data available	NO HSI Data available	NO HSI Data available
Sl1 - Location		1	1	1			1	1		1				
Sl2 - Pond area		1	0.95	0.9			0.6	0.1		0.9				
Sl3 - Pond drying		1	1	0.9			0.1	0.1		1				
Sl4 - Water quality		0.67	0.67	0.67			0.33	0.67		1				
Sl4 - Shade		1	0.4	1			0.4	0.2		1				
Sl6 - Fowl		0.01	0.67	0.67			1	1		0.01				
Sl7 - Fish		0.67	1	0.33			1	1		0.01				
Sl8 - Ponds		0.65	0.55	0.6			0.7	0.55		0.8				
Sl9 – Terrestrial habitat		1	1	1			1	1		0.33				
Sl10 - Macrophytes		0.4	0.4	0.5			0.7	0.8		0.35				
HSI		0.51	0.72	0.72			0.57	0.48		0.31				
Pond Suitability	n/a	Below average	Good	Good	n/a	n/a	Below average	Poor	n/a	Poor	n/a	n/a	n/a	n/a

Table 4.3: Waterbody Summary and HSI Results

Pond ref number	Description	Photo	HSI score
37	Steep sided pond located within woodland adjacent to stream	No pictures available/access denied for JA	No HSI data available
38	A large pond in Quobleigh Woods bounded by scrub and bare banks		Below average
41	A large shallow ephemeral pond in Quobleigh Woods		Good
47	Fenced pond located within Chalcroft Farm		Good
48	Shallow pond located in area of wet woodland	No pictures available/access denied for JA	No HSI data available
82	Balancing pond for nearby residential estate	No pictures available/access denied for JA	No HSI data available

84	Small pond adjacent to stream in woodland		Below average
86	Situated on the edge of wet woodland		Poor
87/88/89	A series of three ponds located on private property	No pictures available/access denied for JA	No HSI data available
90	Large in line pond with two outflows		Poor
CREM	A steep sided soakaway in the grounds of Wessex Vale Crematorium	No pictures available/access denied for JA	No HSI data available
N	Pond located within a pet rehoming complex	No pictures available/access denied for JA	No HSI data available
O	Private pond	No pictures available/access denied for JA	No HSI data available
P	Private pond	No pictures available/access denied for JA	No HSI data available

4.4 PRESENCE/ABSENCE AND POPULATION CLASS ASSESSMENT

The results of the presence/ absence and population size class assessments of the five waterbodies are presented in the Table below and comprise the standard template used in the Natural England Great Crested Newt EPS licence application methodology (available from www.gov.uk). Results of the presence/absence and population class size assessments are presented in Table 4.4 to Table 4.7 below.

Table 4.4 Presence/Absence and Population Class assessment Results for Pond 38

Pond reference (e.g. Pond 8)				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
38					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:				4	>= 1,000,000 cp			11-50 traps							(any method)
Sex/life stage:					Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	No	No
09/05/2019	10	0	3	Adult totals:	0			0			0				
(2) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	No	No
15/05/2019	15	0	3	Adult totals:	0			0			0				
(3) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	No	No
20/05/2019	17	0	3	Adult totals:	0			0			0				
(4) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	No	No
30/05/2019	17	0	3	Adult totals:	0			0			0				
(5) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(6) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):					0										

Table 4.5 Presence/Absence and Population Class assessment Results for Pond 41

Pond reference (e.g. Pond 5)				Method:	Torch			Bottle-trap			Net			Egg search	Larvae
41					Torch power:			No. of traps used in pond:						eggs found?	larvae found?
No. of survey visits to this pond:				6	>= 1,000,000 cp			11-50 traps							(any method)
Sex/life stage:					Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover	Turbidity		0	0	0	1	3	0	0	0	0	Yes	No
09/05/2019	10	1	3	Adult totals:	0			4			0				
(2) Date:	Air temp	Veg cover	Turbidity		3	0	0	1	3	0	0	0	0	Yes	No
15/05/2019	16	1	1	Adult totals:	3			4			0				
(3) Date:	Air temp	Veg cover	Turbidity		0	0	0	6	1	0	0	0	0	Yes	No
20/05/2019	16	1	3	Adult totals:	0			7			0				
(4) Date:	Air temp	Veg cover	Turbidity		2	2	0	2	6	0	0	0	0	Yes	No
30/05/2019	17	2	3	Adult totals:	4			8			0				
(5) Date:	Air temp	Veg cover	Turbidity		2	7	0	0	1	0	0	0	0	Yes	No
05/06/2019	15	2	3	Adult totals:	9			1			0				
(6) Date:	Air temp	Veg cover	Turbidity		0	1	0	0	1	0	0	0	0	Yes	No
11/06/2019	10	3	3	Adult totals:	1			1			0				
(7) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
(8) Date:	Air temp	Veg cover	Turbidity												
				Adult totals:	0			0			0				
Peak adult count for this pond in any one visit (by torch, trap or net):					9										

Table 4.6 Presence/Absence and Population Class assessment Results for Pond 47

Pond reference (e.g. "Pond 1") - below					Method:	Torch			Bottle-trap			Net			Egg search	Larvae
47					No. of survey visits to this pond:	Torch power:			No. of traps used in pond:						eggs found?	larvae found?
						6	>= 1,000,000 cp			11-50 traps				(any method)		
Sex/life stage:					Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	No	No	
09/05/2019	9	0	1	Adult totals:	0			0			0					
(2) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	2	0	0	0	0	Yes	No	
15/09/2019	15	1	1	Adult totals:	0			2			0					
(3) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	Yes	No	
20/05/2019	17	2	1	Adult totals:	0			0			0					
(4) Date:	Air temp	Veg cover	Turbidity		1	0	0	0	0	0	0	0	0	Yes	No	
30/05/2019	15	3	3	Adult totals:	1			0			0					
(5) Date:	Air temp	Veg cover	Turbidity		1	0	0	0	2	0	0	0	0	Yes	No	
05/06/2019	11	3	1	Adult totals:	1			2			0					
(6) Date:	Air temp	Veg cover	Turbidity		0	0	0	5	0	0	0	0	0	No	No	
11/06/2019	11	3	2	Adult totals:	0			5			0					
(7) Date:	Air temp	Veg cover	Turbidity													
				Adult totals:	0			0			0					
(8) Date:	Air temp	Veg cover	Turbidity													
				Adult totals:	0			0			0					
Peak adult count for this pond in any one visit (by torch, trap or net):								5								

Table 4.7 Presence/Absence and Population Class assessment Results for Pond 84

Pond reference (e.g. Pond 4)					Method:	Torch			Bottle-trap			Net			Egg search	Larvae
84						Torch power:			No. of traps used in pond:							
No. of survey visits to this pond:			4				>= 1,000,000 cp			1-10 traps					eggs found?	larvae found? (any method)
Sex/life stage:					Male	Female	Imm.	Male	Female	Imm.	Male	Female	Imm.			
(1) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	0	No	No
09/05/2019	11	0	1	Adult totals:	0			0			0					
(2) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	0	No	No
15/05/2019	16	0	1	Adult totals:	0			0			0					
(3) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0	0	No	No
20/05/2019	16	0	1	Adult totals:	0			0			0					
(4) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	0	0	0		No	No
30/05/2019	17	0	3	Adult totals:	0			0			0					
(5) Date:	Air temp	Veg cover	Turbidity													
				Adult totals:	0			0			0					
(6) Date:	Air temp	Veg cover	Turbidity													
				Adult totals:	0			0			0					
(7) Date:	Air temp	Veg cover	Turbidity													
				Adult totals:	0			0			0					
(8) Date:	Air temp	Veg cover	Turbidity													
				Adult totals:	0			0			0					
Peak adult count for this pond in any one visit (by torch, trap or net):								0								

The overall results are presented below:

- Waterbody 38: Great crested newt absent
- Waterbody 41: Great crested newt present, evidence of breeding found, peak count of 9.
- Waterbody 47: Great crested newt present, evidence of breeding found, peak count of 5.
- Waterbody 84: Great crested newt absent

4.5 OTHER AMPHIBIAN SPECIES

Smooth newt, palmate newt and common frog were also recorded during the course of the surveys. Key results are set out below (per waterbody):

- Pond 38: palmate newt
- Pond 41: smooth newt, palmate newt, common frog
- Pond 47: smooth newt
- Pond 84: smooth newt

4.6 HABITAT SUITABILITY ASSESSMENT

4.6.1 Aquatic Habitat Requirements

Great crested newts prefer small to medium sized ponds with smaller ponds being used more successfully where they are in clusters. Ponds are not required to be permanent as temporary ponds, which dry out every so often, can support good populations as periodic drying reduces the abundance of predators.

Ponds need to support a healthy prey source such as amphibian spawn and larvae for adults. Breeding ponds should support aquatic vegetation for egg laying with a submerged plant cover of about two thirds of the pond and emerging/floating vegetation cover of one quarter to one half of a pond and invertebrate prey for developing larvae.

4.6.2 Additional Aquatic Habitat Assessment

Running Water

The network of streams present across the Site within the 250m buffer zone of the Quobleigh population and 250m and 500m buffer zones of the West Horton Heath population offers suitability for dispersal due to its impounded and slow-flowing character due to a number of on-line impounding structures. Running water offers negligible suitability for breeding, resting, foraging and overwintering GCN.

4.6.3 Terrestrial Habitat Requirements

GCN require damp resting places around breeding ponds such as tree stumps, mammal burrows, stone walls and the foundations and loose brickwork of old buildings may also provide places to hibernate in.

Foraging habitats types favored by GCN are semi-natural habitats such as grassland, scrub and woodland surrounding the breeding ponds which support the invertebrate prey on which they feed. Rough tussocky semi-natural grassland is preferred as the thatch layer provides cover and there is prey readily available compared to large expanses of species poor cattle grazed pasture and amenity grassland that is kept at a short sward height is of limited foraging value to great crested newts but is easily traversed by the species.

Broad leaved woodland with vegetated ground cover and fallen dead wood offering cover and protection is a preferred habitat. Mosaics of these habitats together around breeding ponds offer the most valuable terrestrial habitat.

Arable farmland practices such as ploughing, furrowing and rolling generally inhibits the dispersal of great crested newts and any use of pesticides greatly reduces the prey available and as such it is not considered suitable habitat surrounding breeding ponds.

4.6.4 Terrestrial Habitat Assessment

A terrestrial habitat assessment of the on-site habitats within 250m and 500m of all known breeding ponds (Figure 2) is listed below. Habitat type with areas in hectares and metres are detailed in Table 4.8.

Improved Grassland

The largest habitat type in both the 250m and 500m buffer zones is improved grassland which is of low foraging and dispersal value and offers negligible suitability for refuge and overwintering to GCN.

Marshy Grassland

Areas of marshy grassland which offers optimum suitability for foraging and dispersing individuals are located within the 250m and 500m buffer zones. This habitat offers low suitability for refuge or overwintering to GCN due to the absence of suitable features.

Broadleaved Woodland

Areas of broadleaved woodland which offers optimum suitability for foraging, dispersal and wintering individuals are located within the 250m and 500m buffer zones.

Poor Semi-improved Grassland

Areas of semi-improved grassland which offers low suitability for foraging habitat is located within 250m and 500m buffer zones. This habitat offers negligible suitability for refuge and overwintering GCN.

Hedgerows

All hedgerows located within the 250m and 500m buffer zones offer optimum suitability for foraging, dispersal, refuge and overwintering GCN.

Arable

Areas of arable land are present within the 250m and 500m buffer zones of the Quobleigh population. This habitat is generally unsuitable terrestrial habitat for GCN offering negligible habitat for foraging, dispersal, refuge and overwintering GCN.

Amenity Grassland

The area of amenity grassland habitat within the 500m buffer zone of the Quobleigh population offers low suitability for foraging and dispersal GCN and negligible suitability for refuge and overwintering.

Dry Ditch

The dry ditch located within the 500m buffer zone of the West Horton Heath population offers moderate suitability for dispersal, resting and overwintering and negligible suitability for foraging GCN.

Buildings & Bare Ground

The remaining habitat types within the 500m buffer zone of the Quobleigh population and 250m and 500m buffer zones of the West Horton Heath population are a mix of unsuitable habitat types such as buildings and bare ground, however, pockets of suitable habitat are present within these areas that offer moderate foraging, refuge and wintering habitat include dense scrub, ephemeral short perennial grassland and tall ruderal vegetation.

Table 4.8: Habitat Suitability Assessment within 250m and 500m of all Ponds

Habitat Type	Area within 250m Buffer (ha)	Area within 500m Buffer (ha)	Total Area (ha)
B4 - Improved grassland	19.90	33.18	53.08
B5 - Marsh/marshy grassland	1.87	5.09	6.96
A1.1.1 - Broadleaved woodland - semi-natural	1.63	1.02	2.65
B6 - Poor semi-improved grassland	1.53	1.69	3.22
J4 - Bare ground	1.14	0.25	1.39
J5 - Other habitat	0.61	1.08	1.69
J1.1 - Cultivated/disturbed land - arable	0.04	6.91	6.95
J3.6 - Buildings	0.37	0.24	0.61
A2.1 - Scrub - dense/continuous	0.23	0.00	0.23
G1 - Standing water	0.21	0.00	0.21
J1.2 - Cultivated/disturbed land - amenity grassland	0.09	1.12	1.21
C3.1 - Other tall herb and fern - ruderal	0.03	0.07	0.37
J1.3 - Cultivated/disturbed land - ephemeral/short perennial	0.00	0.03	0.03
Grand Total	27.65	50.68	78.33

Habitat Type	Area within 250m Buffer (m)	Area within 500m Buffer (m)	Total Area (m)
G2 – Running water	1,116.53	1,092.00	2,208.53
J2.1.2 – Intact hedge – species poor	21.67	0.00	21.67
J2.2.1 – Defunct hedge – native species rich	1,493.28	1,714.85	3,208.13
J2.2.2 – Defunct hedge – species poor	538.63	868.59	1,407.22
J2.3.1 – Hedge with trees – native species rich	1,094.26	1,641.87	2,736.13
J2.3.2 – Hedge with trees – species poor	0.00	327.57	327.57
J2.4 - Fence	694.56	1,559.43	2,253.99
J2.6 – Dry ditch	27.42	179.45	206.87
Grand Total	4,986.36	7,383.76	12,190.11

Figure 1: GCN Survey results

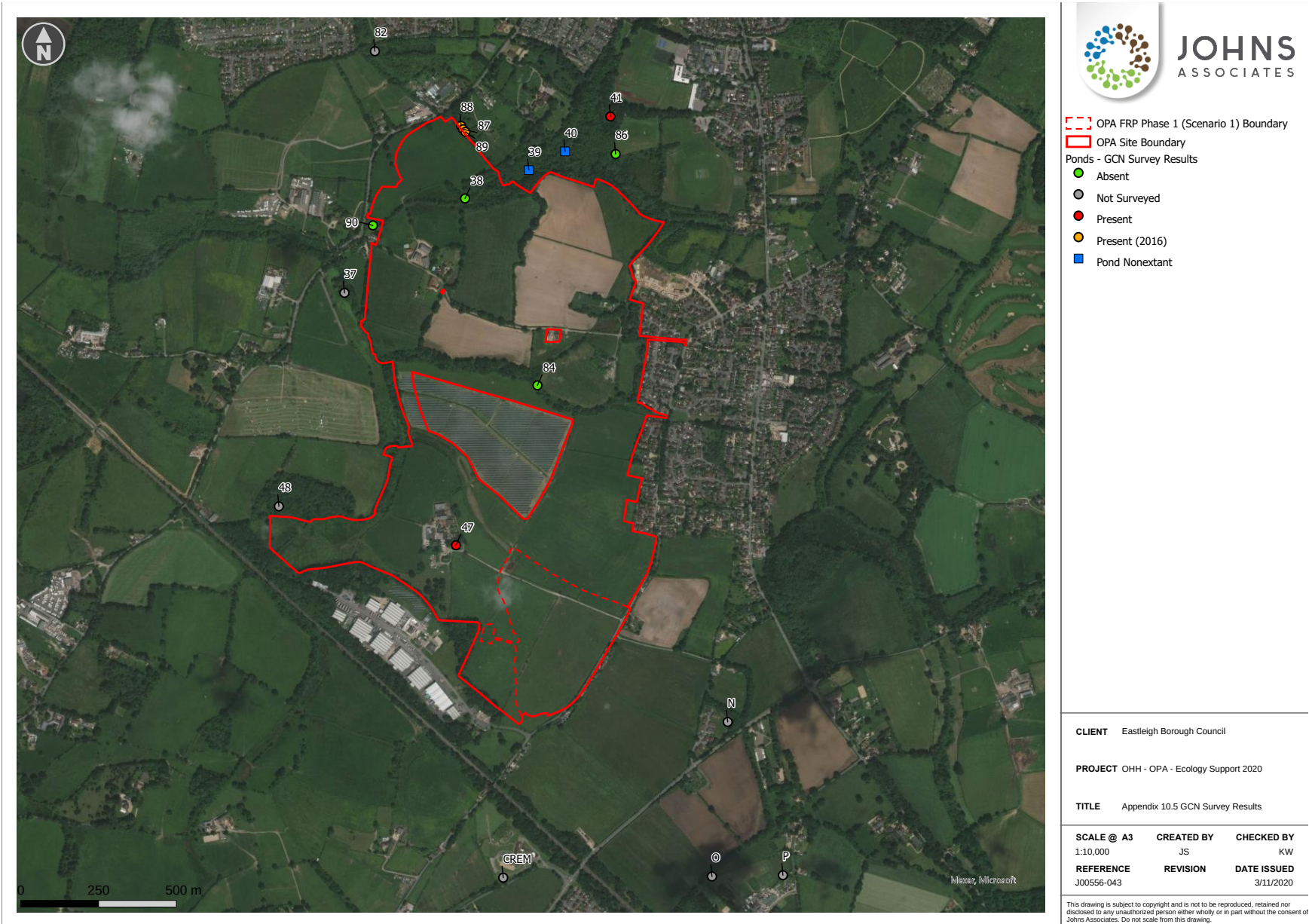
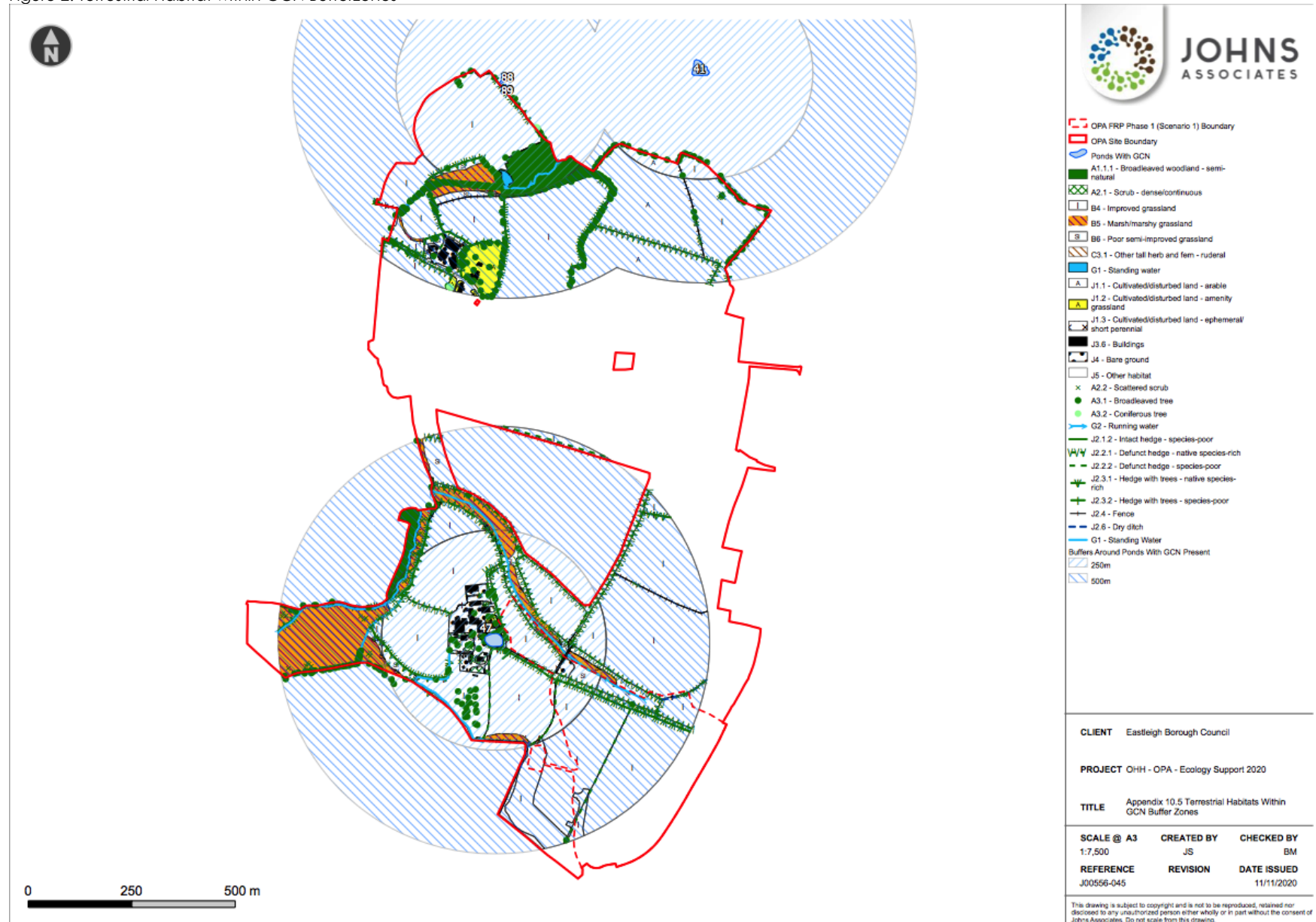


Figure 2: Terrestrial Habitat within GCN Bufferzones



5 CONCLUSIONS

Great crested newts were recorded in two of the water bodies surveyed during 2019: ponds 41 and 47. Pond 47 is located to the south of the site within the Chalcroft Farm complex and Pond 41 is located within Quobleigh woods to the north of the Site. No other surveyed waterbodies located within 500m of Horton Heath supported great crested newt.

Population size class assessments based on the 2019 results concluded the following:

- West Horton Heath population (Chalcroft)
 - Low population with a peak count of 5 in pond 47
- Quobleigh population
 - Medium population with a combined peak count of 11 in pond 41

Surveys from 2014 also recorded great crested newts from these locations (Peak count of 12 from Pond 47 and 35 from Pond 41). WYG also recorded great crested newts in these locations (Peak count of 2 from Pond 47 and 8 from Pond 41). The GCN population at pond 47 appears isolated with no other GCN ponds identified nearby. Pond 41 has a network of ponds within 500m that have previously been surveyed in 2014 and 2016 suggesting this pond is highly likely to be part of the wider Quobleigh metapopulation as described in 2016 by WYG.

The survey results in 2019 are therefore consistent with previous surveys and conclusions from the previous strategic surveys.

Based on criteria within the Natural England Great Crested Newt EPS Licence Method Statement Excel workbook it is considered that the following is a representative site status assessment of this medium population:

- Qualitative: moderate importance – medium population;
- Qualitative: moderate – breeding on site; habitats common in area;
- Functional: moderate importance – probably some dispersal to/from nearby population(s);
- Contextual: population size class typical of area.

The Quobleigh population has a very large area of broadleaved woodland (including wet woodland) and a grassland mosaic located off Site which is optimal terrestrial habitat for this species. It is considered unlikely that the low-quality habitats of arable and improved grassland are being utilised and that the population is largely supported by the woodland and perhaps grassland to the north east. There is also a network of ponds located within this area which are known to be connected via good terrestrial habitat on and off site centered around Quobleigh woodland. The habitat links immediately surrounding these ponds will ensure dispersal between breeding ponds, maintaining a diverse long term genetically viable population.

The West Horton Heath population located within pond 47 is immediately surrounded by poor terrestrial habitat, cattle grazed improved grassland which has connectivity via hedgerows to high value terrestrial habitat such as marshy grassland and broadleaved woodland. There are no other ponds located within the 500m. Pond 48 was surveyed in 2014 and 2016 and both surveys found no GCN present. These factors, in combination with the poor water quality and condition of the pond, indicate that the prospects for this population over time is unfavorable and without positive intervention, it is unlikely that the population will survive in the long term in this location.

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