



# Eastleigh Borough Local Plan 2016-2036

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## Great Crested Newt Study

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June 2018



This background paper supports the Eastleigh Borough Local Plan and provides background information on the potential impact of new development in the northern part of the borough on great crested newts. This document is not on deposit for consultation and is background evidence.

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**Eastleigh Borough Council**

**North Eastleigh Strategic GCN Survey**

**Great Crested Newt Presence / Likely  
Absence Survey**

**July 2017**

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North Eastleigh Strategic GCN Survey: Great Crested Newt Presence / Likely  
Absence Survey






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## Introduction

### 1.1 Background

Following the completion of an extended Phase 1 habitat survey to identify potential great crested newt (GCN) habitat within the north of Eastleigh Borough, WYG Environment was commissioned by Eastleigh Borough Council (EBC) in January 2016 to complete GCN presence/likely absence surveys within the study area with the aim of identifying the locations and estimating the density of GCN populations.

### 1.2 Site Location and Description

The study area comprises the majority of the north eastern quarter of Eastleigh Borough Council administrative district (approximately 2100ha). The study area is comprised of a predominantly semi-rural setting, with large areas of agriculturally improved grassland, arable land, woodland and hedgerows forming the wider landscape. The study area also includes large areas of amenity grassland (confined primarily to Itchen Valley Country Park and East Horton Golf Course) and marshy grassland in areas adjacent to the River Itchen.

### 1.3 Survey Objectives

The aims of the survey work and the subsequent report presented herein were to:

- Determine the presence or likely absence of great crested newts within target ponds;
- Determine the population size class of great crested newts if confirmed to be present;
- Provide an appraisal of the likely distribution of GCN populations within the borough and identify, where possible, the presence of metapopulations.

### 1.4 Legislation

The great crested newt is afforded protection under the Conservation of Habitats & Species Regulations 2010 (as amended) which applies to all of its life stages.



The great crested newt is also listed on Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) which makes it an offence to:

- Deliberately, intentionally or recklessly kill, injure or take a great crested newt;
- Deliberately, intentionally or recklessly takes or destroys the eggs;
- Possess or control any live or dead specimen or anything derived from a great crested newt;
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt; and
- Deliberately, intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.

This species is also protected by the Protection of Animals Act 1911, which prohibits any acts of cruelty or mistreatment.



## 2.0 Methods

### 2.1 Phase 1

A desk study and field survey of the study area was completed which identified historical records of GCN presence, suitable habitats and assessed the habitat suitability of 108 waterbodies to support GCN. This study found that there were 52 waterbodies of average or above suitability for GCN, or that had historical records of GCN presence. These were all subject to further surveys (see below) where access was possible. Based on the suitability of terrestrial habitat and distribution of ponds, three areas were identified which were considered likely to support GCN populations.

See North Eastleigh Strategic GCN Survey: Extended Phase 1 Habitat Survey (WYG, 2016) for full details.

### 2.3 Presence / Likely Absence Surveys

The aim of these surveys was to determine the presence or likely absence of great crested newts at the identified waterbodies, and to estimate the population size where GCN presence was confirmed.

Great crested newt presence / likely absence surveys were completed between 31.03.16 – 09.06.16. All surveys were undertaken in teams of two, at least one of which held a Natural England Level 1 Class Licence. These included Ben Cooke (Licence Number - 2015-17214-CLS-CLS), Max Ward (Licence Number – 2015-17518-CLS-CLS), David West (Licence Number - 2015-9315-CLS-CLS), Vivienne Greenough (Licence Number - 2015-16380-CLS-CLS), Liz Spedding (Licence Number -2015-18460-CLS-CLS) and Claire Herbert (Licence Number - 2015-17474-CLS-CLS).

All waterbodies were visited six times, in accordance with the *Great Crested Newt Mitigation Guidelines* (English Nature, 2001) requirements for population estimation. At least three survey methods were performed on each survey in accordance with guidelines given in the *Great Crested Newt Mitigation Guidelines* and the *National Amphibian and Reptile Recording Scheme* (The Herpetological Conservation Trust, 2008) as described below prior to the waterbodies becoming too dry for surveys. Three of the surveys were completed within the optimal survey window which runs from mid-April to mid-May.

Limitations affecting this survey are discussed in section 2.5.





### **2.3.1 Torchlight Survey**

This technique involves a visual search for individual newts inhabiting the edges of the particular waterbody after dark. Torches rated at 1,000,000 candle-power were shone into the water during a search and the perimeter of the waterbody was walked once; care was taken to count individuals once only. To maximise the reliability of this technique, all torch surveys were conducted in the evening while air temperature exceeded 5°C, when newts are generally considered being most active.

### **2.3.2 Egg Search**

Great crested newt eggs were searched for among submerged, floating and other aquatic vegetation. When laying their eggs, this species folds leaves of aquatic plants around the egg. The identification of great crested newt eggs is regarded as conclusive evidence of the presence of great crested newts in a particular waterbody; eggs of great crested and smooth newts (*Lissotriton vulgaris*) are easily discerned. However, egg numbers cannot be used to estimate population size due to predation and high mortality rates. Therefore, to limit disturbance, this unfolding of leaves or artificial substrate is ceased as soon as the first egg has been positively identified.

### **2.3.3 Netting**

A long handled dip net was used to sample the area around the pond edge and along the ditches. The netting was conducted during the evening as better results are obtained at night when adult newts are more likely to be active. The perimeter of the pond was walked where access was possible and 15 minutes of netting was undertaken per 50 metres of shoreline as recommended in the Great Crested Newt Mitigation Guidelines (2001). Netting is a good technique for augmenting other surveys and gauging presence/likely absence.

### **2.3.4 Bottle trapping**

Traps were constructed from two-litre plastic bottles and were set around the margins of waterbodies approximately every 2-3m where access allowed, shortly before dusk. The traps were checked and removed the following morning between 06:00 and 10:00. All surveys were undertaken when the predicted night time air temperature exceeded 5°C, when great crested newts are most active.



## 2.4 Population Size Class Assessment

In accordance with guidance from Natural England, a further two targeted visits are made where positive results were obtained during the four presence / likely absence surveys to enable an assessment of the size class of the great crested newt population. For this study, all waterbodies were surveyed six times. Size classes are based on maximum count of great crested newts achieved during any single survey at a particular waterbody – i.e. the highest count obtained from bottle trapping or torchlight survey on a single visit. Maximum counts are classed as 'small', 'medium' or 'large'. The population size classes are defined as follows:

- 'small' is for maximum counts of up to 10 adult great crested newts;
- 'medium' for maximum counts of between 11 and 100 adults;
- 'large' for maximum counts of over 100 adults.

## 2.5 Limitations

The results of this report will remain valid for two years (i.e. until June 2018). If works have not commenced by this time, it may be necessary to update the species survey.

Ponds 13 and 44 could not be surveyed as access was not allowed by the relevant landowners. Although assessed as having average or higher potential, both are located in areas of limited terrestrial habitat. Neither are located in areas identified during Phase 1 as having a high likelihood of supporting GCN, predominately due to the low occurrence of nearby ponds and presence of barriers to dispersal. The absence of surveys for these ponds is not considered to be a significant limitation to the overall conclusions of this report.

For the majority of the study, all ponds were surveyed during the same night. On three occasions, this was not possible due to access restrictions. For Visit 1 this was to Highways Agency land (Ponds 3 – 12), for Visit 5 this was to Willow Farm (Ponds 21-29) and for Visit 6 this was to Stroudwood Farm (Ponds 57-58). Overall this is not considered to be a significant limitation as for a minimum of 5 of 6 surveys, all ponds within possible GCN dispersal range of each-other were surveyed simultaneously.

All surveys were conducted in optimum survey conditions, therefore there are no limitations on the validity of the data collected.



## 3.0 Survey Results

### 3.1 Data Search Results

HBIC returned a total of 49 separate terrestrial records of great crested newts (*Triturus cristatus*) within the survey area. Of these 2 records were identified as pre-2000 in 1999, 28 records of GCN was recorded between 2000 and 2010 with the remaining 19 records noted between 2011 and 2014.

### 3.2 Description of Waterbodies

Detailed descriptions of each waterbody surveyed and identified within the survey area are given below in **Table 1**. The purpose of these descriptions is to determine the waterbodies' suitability as breeding habitat for great crested newts. Therefore, information on water depth, water quality, bank profile, presence of aquatic, emergent and surrounding vegetation, as well as suitability of the surrounding terrestrial habitat has been provided. A grid reference is provided for each waterbody; refer to Figure 1, Appendix A for an indication of their positions in relation to the proposed development.

**Table 1.** Pond Descriptions

Pond/ Ditch Reference	Grid Reference	Description
Pond 3	SU4594215499	Balancing pond with inlet lined with trees along the eastern, southern and western banks; not shaded; no aquatic vegetation.
Pond 4	SU4637715391	Pond situated within a copse almost completely shaded by woodland; no aquatic vegetation; detritus and leaf litter within pond.
Pond 5	SU4660115394	Balancing pond with inlet lined with trees along the eastern, southern and western banks; not shaded; 90% of the pond is covered in bulrushes.
Pond 6	SU4614515898	Pond situated adjacent to road with outflow pipe connected to stream; shaded along southern bank; 40% of pond covered in aquatic vegetation.
Pond 7	SU4746815188	Balancing pond with inlet lined with trees along the eastern, southern and western banks; steep sided with outflow pipe; not shaded.
Pond 12	SU4810714584	Balancing pond with inlet lined with trees along the eastern, southern and western banks; steep sided with outflow pipe; not shaded.

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Pond/ Ditch Reference	Grid Reference	Description
Pond 16	SU4878015543	Pond situated on the edge of woodland with outflow ditch present along southern bank; wooded along northern, western and southern bank with short grassland along eastern bank; 20% coverage of aquatic vegetation; shaded along western bank.
Pond 19	SU 46935 16988	Pond situated within semi-improved grassland; approximately half of pond covered by aquatic vegetation; fowl and fish present; partially shaded.
Pond 21	SU 46783 16897	Pond situated adjacent to hedgerow within grassland; majority of pond shaded; majority of pond covered by aquatic vegetation.
Pond 23	SU 47060 17006	Pond situated on edge of woodland with fowl and fish present; shading along the majority of pond edge; minimal aquatic vegetation.
Pond 24	SU4702116532	Pond situated within woodland with fowl present; the majority of the pond edge was shaded; minimal aquatic vegetation
Pond 25	SU 47125 16928	Small pond situated within woodland with fowl present; the majority of pond bank shaded; minimal aquatic vegetation.
Pond 26	SU 46951 16951	Small pond situated within woodland with fowl present; the majority of pond bank shaded; minimal aquatic vegetation.
Pond 27	SU 47113 17005	Large pond within woodland with fowl present; almost completely shaded (90%) around the entirety of the pond; minimal aquatic vegetation.
Pond 28	SU 47125 16957	Pond situated within woodland with fowl present; the majority of pond is shaded; minimal aquatic vegetation.
Pond 30	SU 47123 16934	Pond is situated within woodland with a minor fowl presence; almost completely shaded around pond edge; minimal aquatic vegetation.
Pond 32	SU 47250 16929	Pond situated within boundary treeline with minimal aquatic vegetation (10%); majority of the pond is shaded (70%).
Pond 37	SU 47237 16948	Steep sided pond situated within wooded area adjacent to a stream; pond acts as over flow for adjacent stream with outflows present; majority of the pond is shaded; aquatic vegetation present.
Pond 41	SU 47320 17016	Pond situated in wet woodland; majority of pond is shaded; minimal aquatic vegetation.
Pond 47	SU47761698	Fenced pond located within treeline at the northern extent of the Fair Oak surrounded by birch saplings adjacent to area of public open space; aquatic vegetation present; no shading.

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Pond/ Ditch Reference	Grid Reference	Description
Pond 48	SU4827517417	Shallow pond located within area of wet woodland; completely shaded by understorey; no aquatic vegetation.
Pond 53	SU49131799	Pond located at western extent of golf course bordered by amenity grassland to the east with wooded areas and boundary treeline encompassing the remaining banks; shaded; minimal aquatic vegetation.
Pond 57	SU4968115548	Garden pond with fish; minimal shading from adjacent woodland to the east; no aquatic vegetation present.
Pond 58	SU4862816610	Small garden pond with fish and some fowl present; half of the pond is shaded by adjacent trees; the majority of the pond contains aquatic vegetation.
Pond 60	SU4805616737	Small pond within woodland once forming part of larger pond with pond 104; partially shaded; pond completely covered in aquatic vegetation.
Pond 65	SU 47881 20067	Possibly man-made pond as northern bank constructed with wooden frame located within field boundary hedgerow/ treeline; shaded; minimal aquatic vegetation.
Pond 67	SU5087418753	Fenced pond within area of woodland in northern Fair Oak on edge of area of public open space; trees surrounding pond are immature therefore the pond is not shaded; aquatic vegetation present (approximately coverage 30%).
Pond 69	SU5191919847	Neglected ornamental pond located on edge of woodland approximately 10m east of the River Itchen; not shaded; majority of the pond covered by aquatic vegetation.
Pond 80	SU5204319786	Small pond within woodland once forming part of larger pond (Pond 60); minimal shading; and aquatic vegetation (5%).
Pond 82	SU5003819293	Balancing pond for nearby residential estate with two outflow grates; public footpath/ walkway around perimeter of pond; partially covered by aquatic vegetation; majority of pond shaded.
Pond 84	SU4782020124	Small pond adjacent to stream; majority of the pond is shaded by adjacent woodland; no aquatic vegetation.
Pond 86	SU4889519584	Pond situated on the edge of wet woodland fenced around entirety; majority of the pond is shaded; aquatic vegetation covers half of the pond.
Pond 87	SU4636220024	Small pond situated within the garden of residential property; majority of pond shaded; majority of pond covered in aquatic vegetation.
Pond 88	SU4979119290	Small pond situated within the garden of residential property; partially shaded; partially covered in aquatic vegetation.



Pond/ Ditch Reference	Grid Reference	Description
Pond 89	SU4837518201	Small pond situated within the garden of residential property; majority of pond shaded; majority of pond covered in aquatic vegetation.
Pond 92	SU48881711	Small dipping Pond within fenced area situated within grassland area; not shaded; some aquatic vegetation present.
Pond 93	SU4914817866	Dipping Pond within fenced area adjacent to boundary treeline; southern and western bank shaded; minimal aquatic vegetation.
Pond 95	SU4865118028	Public walkway across pond surrounded by fence; no shading; no aquatic vegetation.
Pond 104	SU4865118028	Small pond within woodland once forming part of larger pond (Pond 60); partially shaded; majority of pond covered in aquatic vegetation (90%).
Pond 107	SU4865118028	Man –made Pond situated within amenity grassland habitat in golf course; no shading; majority of the pond contains submerged aquatic vegetation.

### 3.2.1 Presence / Likely Absence Survey Results

#### Weather Conditions

An overview of the weather conditions during surveys are given in **Table 2** below. Bottle traps were set on the evening before sunset, whilst torchlight surveys were conducted after sunset. Bottle traps were then checked the following morning, when egg searches were also conducted. Netting of waterbodies was completed either in the evening prior to setting the bottle traps or in the morning once bottle traps had been collected.

**Table 2.** Weather Conditions

Survey	Date	Average Water temp (PM) (°C)	Average Water temp (AM) (°C)	Average Air temp (PM) (°C)	Average Air temp (AM) (°C)	Rain (Yes / No)
1a	31/03/16	10.4	6.8	9	5.1	No
1b	12/04/16	13.5	9.1	10.7	9.1	No
2	04/05/16	10.0	7.8	8.7	9.0	No
3	12/05/16	12.9	13.8	14.6	13	No

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4	19/05/16	17.7	13.8	17.7	14.6	No
5a	26/05/16	14.8	14.4	15.2	13.7	No
5b	02/06/16	12.4	9.9	14.2	12.9	No
6a	06/06/16	16.0	21.3	14.0	18.3	No
6b	09/06/16	16.5	15.7	17.6	15.6	No

**Tables 3/4** show the results from the netting and torchlight surveys; **Tables 5/6** show the results of the bottle trapping surveys and **Table 7/8** show the results of the egg searching. Results for palmate newts (*Lissotriton helveticus*) and smooth newt (*Lissotriton vulgaris*) are included.

The following abbreviations have been shown within Tables 3 and 4.

- FGCN – Female great crested newt
- MGCN – Male great crested newt
- IGCN – Immature great crested newt
- FPM – Female palmate newt
- MPN – Male palmate newt
- IPN – Immature palmate newt
- FSN – Female smooth newt
- MSN – Male smooth newt
- ISN – Immature smooth newt
- n/a – Not surveyed on this date/using this technique
- - No newts recorded on this date/using this technique

**Table 3.** Netting and Torchlight Survey Results

Waterbody	Date: 31/03/2016	Date: 12/04/16	Date: 04/05/2016	Date: 12/05/2016
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	Net	Torch	Net	Torch	Net	Torch	Net	Torch
Pond 3	n/a	n/a	n/a	-	n/a	2F SN	n/a	-
Pond 4	n/a	n/a	n/a	-	n/a	-	n/a	2M PN
Pond 5	n/a	n/a	n/a	-	n/a	-	n/a	-
Pond 6	n/a	1M & 2F SN	n/a	n/a	n/a	7F SN	n/a	-
Pond 7	n/a	n/a	n/a	3M & 1F PN	n/a	-	n/a	-
Pond 12	n/a	n/a	n/a	-	n/a	-	n/a	-
Pond 16	-	n/a	n/a	n/a	n/a	1F SN	n/a	-
Pond 19	n/a	n/a	n/a	n/a	n/a	-	n/a	
Pond 21	n/a	n/a	n/a	n/a	n/a	-	n/a	
Pond 23	n/a	n/a	n/a	n/a	n/a	<b>2M &amp; 3F GCN, 1F SN</b>	n/a	<b>1F GCN &amp; 2F SN</b>
Pond 24	n/a	1M SN	n/a	n/a	n/a	1M & 1F SN	n/a	<b>1F GCN, 1F SN &amp; 1M PN</b>
Pond 25	n/a	-	n/a	n/a	n/a	-	n/a	1FSN
Pond 26	n/a	<b>1M GCN</b>	n/a	n/a	n/a	2M SN	n/a	3M & 3F SN
Pond 27	n/a	-	n/a	n/a	n/a	-	n/a	-
Pond 28	n/a	-	n/a	n/a	n/a	-	n/a	-
Pond 30	n/a	-	n/a	n/a	n/a	-	n/a	-
Pond 32	n/a	-	n/a	n/a	n/a	-	n/a	-
Pond 37	n/a	-	n/a	n/a	n/a	-	n/a	-
Pond 41	n/a	<b>1F GCN, 12F SN, 1M &amp; 2F PN</b>	n/a	n/a	n/a	<b>1M GCN, 6F SN</b>	n/a	<b>2M, 2F &amp; 2I GCN, 8M &amp; 9F SN</b>
Pond 47	n/a	<b>1M &amp; 3F GCN, 5F SN, 5F PN</b>	n/a	n/a	n/a	<b>1M &amp; 3F GCN, 5F SN</b>	n/a	<b>1M &amp; 2F GCN, 2F SN</b>
Pond 48	n/a	-	n/a	n/a	n/a	-	n/a	-



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Pond 53	-	-	n/a	n/a	n/a	3M SN & 5F SN	n/a	2M & 4F SN, 2M PN
Pond 57	n/a	n/a	n/a	1M & 6F SN	n/a	-	n/a	-
Pond 58	n/a	n/a	n/a	-	n/a	1F SN	n/a	2F SN
Pond 60	1M & 1F PN	2F SN	n/a	n/a	n/a	-	n/a	10M PN
Pond 67	n/a	3F SN, 2M PN	n/a	n/a	n/a	-	n/a	11M & 10F SN, 13 M & 11F PN
Pond 69	n/a	-	n/a	n/a	n/a	-	n/a	-
Pond 80	n/a	1F SN	n/a	n/a	n/a	-	n/a	4F SN, 8F PN
Pond 82	n/a	2F SN	n/a	n/a	n/a	-	n/a	-
Pond 84	n/a	-	n/a	n/a	n/a	2F SN	n/a	1FSN
Pond 86	n/a	1M & 8F SN,	n/a	n/a	n/a	4M & 22F SN	n/a	8F SN, 8F PN
Pond 87	n/a	1F SN	n/a	n/a	n/a	-	n/a	<b>1M &amp; 3F GCN, 2M &amp; 3F SN, 1FPN</b>
Pond 88	n/a	<b>3M &amp; 3F GCN, 1F SN</b>	n/a	n/a	n/a	2M GCN, 2F SN	n/a	-
Pond 89	n/a	<b>3M &amp; 1F GCN, 4M &amp; 2F SN</b>	n/a	n/a	n/a	3M & 3F SN	n/a	-
Pond 90	n/a	-	n/a	n/a	n/a	-	n/a	-
Pond 93	n/a	2m & 5F SN	n/a	n/a	n/a	2F SN	n/a	-
Pond 95	n/a	-	n/a	n/a	n/a	-	n/a	1M SN & 4F SN
Pond 104	-	2F SN	n/a	n/a	n/a	-	n/a	-
Pond 107	-	-	n/a	n/a	n/a	<b>2M &amp; 2F GCN, 2F SN</b>	n/a	13M & 8F SN, 1M PN & 2F PN

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**Table 4.** Netting and Torchlight Survey Results

Waterbody	Date: 19/05/2016		Date: 26/05/2016		Date: 02/06/2016		Date: 06/06/2016		Date: 09/06/2016	
	Net	Torch	Net	Torch	Net	Torch	Net	Torch	Net	Torch
Pond 3	n/a	1M, 4F & 20I SN	n/a	1M, 8F & 8I SN, 1M PN	n/a	n/a	n/a	2F & 5I SN	n/a	n/a
Pond 4	n/a	-	n/a	1M PN	n/a	n/a	n/a	-	n/a	n/a
Pond 5	n/a	-	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 6	n/a	1F SN	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 7	n/a	3F SN	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 12	n/a	-	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 16	n/a	-	n/a	-	n/a	-	n/a	-	n/a	n/a
Pond 19	n/a	-	n/a	-	n/a	-	n/a	-	n/a	n/a
Pond 21	n/a	-	n/a	-	n/a	-	n/a	-	n/a	n/a
Pond 23	n/a	-	n/a	1M SN	n/a	1F SN	1F SN	-	n/a	n/a
Pond 24	n/a	-	n/a	-	n/a	n/a	n/a	-	n/a	n/a

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Pond 25	n/a	-	n/a	-	n/a	-	n/a	-	n/a	n/a
Pond 26	n/a	-	n/a	-	n/a	-	n/a	-	n/a	n/a
Pond 27	n/a	2M & 3I SN	n/a	-	n/a	-	n/a	-	n/a	n/a
Pond 28	n/a	-	n/a	-	n/a	-	n/a	-	n/a	n/a
Pond 30	n/a	-	n/a	-	n/a	n/a	1F PN	-	n/a	n/a
Pond 32	n/a	-	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 37	n/a	-	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 41	n/a	-	n/a	<b>5F &amp; 1I GCN,</b> 6M & 36F SN, 4M & 4F PN	n/a	n/a	n/a	<b>1M &amp; 15F GCN,</b> 2M & 52F SN,	n/a	n/a
Pond 47	n/a	<b>1F GCN &amp; 1I GCN,</b> 2M, 8F & 1I SN	n/a	<b>1M &amp; 1F GCN,</b> 2F SN	n/a	n/a	n/a	-	n/a	n/a
Pond 48	n/a	<b>1M GCN</b>	n/a	-	n/a	n/a	n/a	-	n/a	n/a

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Pond 53	n/a	-	n/a	1M & 5F SN, 1M & 2F PN	n/a	n/a	n/a	-	n/a	n/a
Pond 57	n/a	1M PN	n/a	-	n/a	n/a	n/a	n/a	-	-
Pond 58	n/a	-	n/a	1M & 8F SN	n/a	n/a	n/a	n/a	-	-
Pond 60	n/a	3M & 3F SN, 1M & 2F PN	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 65	n/a	7M & 3F PN	n/a	-	n/a	-	n/a	1F SN	n/a	n/a
Pond 67	n/a	4M & 3F PN	n/a	13M PN	n/a	n/a	n/a	30M PN	n/a	n/a
Pond 69	n/a	-	n/a	-	n/a	-	n/a	-	n/a	n/a
Pond 80	n/a	-	n/a	2M PN	n/a	n/a	n/a	-	n/a	n/a
Pond 82	n/a	-	n/a	-	n/a	n/a	n/a	1F PN	n/a	n/a
Pond 84	n/a	-	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 86	n/a	<b>2F GCN</b> , 1F SN	n/a	-	n/a	n/a	n/a	2F SN	n/a	n/a
Pond 87	n/a	-	n/a	-	n/a	n/a	n/a	n/a	n/a	n/a
Pond 88	n/a	-	n/a	<b>1M GCN</b> ,1	n/a	n/a	n/a	<b>1M &amp; 2F GCN</b>	n/a	n/a

North Eastleigh Strategic GCN Survey: Great Crested Newt Presence / Likely  
Absence Survey



				M, 4F & 2I SN						
Pond 89	n/a	<b>1M GCN &amp; 1F GCN</b>	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 90	n/a	-	n/a	-	n/a	-	n/a	-	n/a	n/a
Pond 93	n/a	-	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 95	n/a	1F SN	n/a	-	n/a	n/a	n/a	-	n/a	n/a
Pond 104	n/a	-	n/a	2F PN	n/a	n/a	n/a	-	n/a	n/a
Pond 107	n/a	<b>1F GCN,</b> 1M & 1F SN, 1M & 2F PN	n/a	1M & 3F SN	n/a	n/a	n/a	1F PN	n/a	n/a

North Eastleigh Strategic GCN Survey: Great Crested Newt Presence / Likely  
Absence Survey



**Table 5.** Bottle Trapping Results

Waterbody	Date: 31/03/2016	Date: 12/04/2016	Date: 04/05/2016	Date: 12/05/2016
Pond 3	n/a	1M & 3F SN, 1M PN	1M & 1F SN, 2F PN	2M SN, 1M PN
Pond 4	n/a	-	-	1M & 3F PN
Pond 5	n/a	1F PN	-	-
Pond 6	-	n/a	-	1M & 1F PN
Pond 7	n/a	-	1F SN	-
Pond 12	n/a	n/a	-	-
Pond 16	-	n/a	-	5F SN
Pond 19	-	n/a	-	-
Pond 21	-	n/a	-	-
Pond 23	-	n/a	<b>1F GCN</b> , 1F SN	<b>2M &amp; 1F</b> , 1F SN, 2M PN
Pond 24	-	n/a	-	<b>2M &amp; 2F GCN</b> , 1M PN
Pond 25	-	n/a	-	-
Pond 26	-	n/a	1M SN, 3M & 1F PN	1M SN, 4M & 4F PN
Pond 27	-	n/a	-	n/a
Pond 28	-	n/a	-	n/a
Pond 30	-	n/a	1F SN	1M SN, 2M & 1F PN
Pond 32	-	n/a	-	-
Pond 37	-	n/a	-	-
Pond 41	<b>1F GCN</b>	n/a	<b>1M GCN</b> , 1M SN, 4F PN	<b>3F GCN</b> , 6F SN, 1M & 1F PN
Pond 47	1M & 1F SN	n/a	1M & 1F SN	3M & 6F SN, 2F PN
Pond 48	-	n/a	-	-
Pond 53	-	n/a	-	2M & 2F SN,
Pond 57	n/a	1M & 1F SN	-	-
Pond 58	n/a	-	1F SN	-
Pond 60	9M & 7F PN	n/a	1M & 1F SN, 2M PN	5M PN

North Eastleigh Strategic GCN Survey: Great Crested Newt Presence / Likely  
Absence Survey



Pond 65	-	n/a	-	1M PN
Pond 67	10M PN	n/a	1M & 1F SN	1M, 1F & 2I
Pond 69	n/a	n/a	n/a	n/a
Pond 80	1M & 1F PN	n/a	1F SN	-
Pond 82	-	n/a	-	-
Pond 84	-	n/a	3M & 1F SN	2M & 1F SN
Pond 86	6M & 9F SN	n/a	4M SN	4M & 4F SN
Pond 87	-	n/a	<b>1F GCN</b>	8M & 1F SN, 2M & 1F PN
Pond 88	1F SN	n/a	1F SN	<b>1F GCN</b> , 2M & 2F SN
Pond 89	<b>1F GCN</b> , 1M & 1F SN	n/a	-	-
Pond 90	-	n/a	2F SN	-
Pond 93	-	n/a	-	1M & 1F SN, 1M PN
Pond 95	1F SN	n/a	1M & 18F SN	9M & 2F SN, 1F PN
Pond 104	-	n/a	1M, 1F & 1I SN	2F PN
Pond 107	-	n/a	-	-

North Eastleigh Strategic GCN Survey: Great Crested Newt Presence / Likely  
Absence Survey



**Table 6.** Bottle Trapping Results

Waterbody	Date: 19/05/2016	Date: 26/05/2016	Date: 02/06/2016	Date: 06/06/2016	Date: 09/06/2016
Pond 3	-	4M SN, 1M PN	n/a	1M & 1I SN, 4M & 8I PN	n/a
Pond 4	-	1M SN, 2M PN	n/a	-	n/a
Pond 5	-	-	n/a	-	n/a
Pond 6	-	-	n/a	-	n/a
Pond 7	-	-	n/a	-	n/a
Pond 12	-	-	n/a	-	n/a
Pond 16	2M & 1F PN	-	n/a	-	n/a
Pond 19	-	-	n/a	-	n/a
Pond 21	-	-	n/a	-	n/a
Pond 23	1F SN	<b>1F GCN</b>	n/a	<b>5F GCN</b>	n/a
Pond 24	<b>1M &amp; 1F GCN</b>	-	n/a	-	n/a
Pond 25	<b>1F GCN</b>	-	n/a	-	n/a
Pond 26	<b>1F GCN</b> , 2M & 3I SN	1F SN	n/a	-	n/a



North Eastleigh Strategic GCN Survey: Great Crested Newt Presence / Likely  
Absence Survey



Pond 27	n/a	-	n/a	-	n/a
Pond 28	n/a	-	n/a	-	n/a
Pond 30	-	-	n/a	-	n/a
Pond 32	-	-	n/a	-	n/a
Pond 37	-	-	n/a	-	n/a
Pond 41	<b>1M &amp; 4F GCN</b> , 6M & 2F SN, 6F PN	<b>2M, 4F &amp; 1I GCN</b> , 1F SN	n/a	<b>3M &amp; 5F GCN</b> , 5M SN, 3M & 2F PN	n/a
Pond 47	<b>1M &amp; 1F GCN</b> , 4M & 4F SN, 1F PN	<b>1F GCN</b> , 2F SN	n/a	-	n/a
Pond 48	-	-	n/a	-	n/a
Pond 53	1F PN	-	n/a	-	n/a
Pond 57	-	1F PN	3F PN	n/a	-
Pond 58	2M & 2F SN	2F SN	-	n/a	-
Pond 60	-	1M SN, 6M & 2F PN	n/a	2F SN, 3M & 1F PN	n/a
Pond 65	-	1M PN	n/a	1M PN	n/a
Pond 67	4M & 1F PN	-	n/a	1M SN, 3M PN	n/a
Pond 69	n/a	n/a	n/a	n/a	n/a
Pond 80	-	-	n/a	-	n/a

North Eastleigh Strategic GCN Survey: Great Crested Newt Presence / Likely  
Absence Survey



Pond 82	1F PN	-	n/a	-	n/a
Pond 84	-	-	n/a	-	n/a
Pond 86	-	-	n/a	1F SN, 1M PN	n/a
Pond 87	-	-	n/a	-	n/a
Pond 88	<b>2M GCN</b> , 1M & 2F SN	<b>4M, 1F &amp; 1I GCN</b> , 1M SN	n/a	<b>1F GCN</b>	n/a
Pond 89	<b>1M &amp; 5F GCN</b> , 1M & 1F SN, 1F PN	<b>7M &amp; 1F GCN</b>	n/a	<b>1M &amp; 1F GCN</b> , 1M SN, 1M PN	n/a
Pond 90	1M & 1F PN	-	n/a	-	n/a
Pond 93	2F SN, 3F PN	4M & 1F SN	n/a	-	n/a
Pond 95	-	-	n/a	-	n/a
Pond 104	-	-	n/a	-	n/a
Pond 107	-	-	n/a	1M PN	n/a



**Table 7.** Egg Searching Results

Waterbody	Date: 31/03/2016	Date: 12/04/2016	Date: 04/05/2016	Date: 12/05/2016
Pond 3	n/a	-	-	-
Pond 4	n/a	-	-	-
Pond 5	n/a	-	-	-
Pond 6	-	n/a	-	-
Pond 7	n/a	-	-	-
Pond 12	n/a	-	-	-
Pond 16	n/a	-	-	-
Pond 19	n/a	n/a	-	-
Pond 21	n/a	n/a	-	-
Pond 23	n/a	n/a	<b>Yes -GCN</b>	-
Pond 24	-	n/a	-	-
Pond 26	-	n/a	-	-
Pond 27	-	n/a	-	-
Pond 28	-	n/a	-	-
Pond 30	-	n/a	-	-
Pond 32	-	n/a	-	-
Pond 37	-	n/a	-	-
Pond 41	-	n/a	-	-
Pond 47	-	n/a	-	-
Pond 48	-	n/a	-	-
Pond 53	-	n/a	-	-
Pond 57	-	-	-	-
Pond 58	-	-	-	-
Pond 60	-	n/a	-	-
Pond 67	-	n/a	-	Yes – SN/PN
Pond 69	-	n/a	-	-

North Eastleigh Strategic GCN Survey: Great Crested Newt Presence / Likely  
Absence Survey



Pond 80	-	n/a	-	-
Pond 82	-	n/a	Yes – SN/PN	-
Pond 84	-	n/a	-	-
Pond 86	-	n/a	-	-
Pond 87	-	n/a	-	-
Pond 88	-	n/a	-	<b>Yes - GCN</b>
Pond 89	-	n/a	-	-
Pond 90	n/a	n/a	-	-
Pond 93	No	n/a	-	-
Pond 95	No	n/a	-	-
Pond 104	No	n/a	-	-
Pond 107	n/a	n/a	-	-

**Table 8.** Egg Searching Results

Waterbody	Date: 19/05/2016	Date: 26/05/2016	Date: 02/06/2016	Date: 06/06/2016	Date: 09/06/2016
Pond 3	-	-	n/a	-	n/a
Pond 4	-	-	n/a	-	n/a
Pond 5	-	-	n/a	-	n/a
Pond 6	-	-	n/a	-	n/a
Pond 7	-	-	n/a	-	n/a
Pond 12	-	-	n/a	-	n/a
Pond 16	-	-	n/a	-	n/a
Pond 19	-	-	n/a	-	n/a
Pond 21	-	-	n/a	-	n/a
Pond 24	-	-	n/a	-	n/a
Pond 26	-	-	n/a	-	n/a
Pond 27	-	-	n/a	-	n/a

North Eastleigh Strategic GCN Survey: Great Crested Newt Presence / Likely  
Absence Survey



Pond 28	-	-	n/a	-	n/a
Pond 30	-	-	n/a	-	n/a
Pond 32	-	-	n/a	-	n/a
Pond 37	-	-	n/a	-	n/a
Pond 41	-	-	n/a	-	n/a
Pond 47	-	-	n/a	-	n/a
Pond 48	-	-	n/a	-	n/a
Pond 53	n/a	-	n/a	-	n/a
Pond 57	-	-	-	n/a	-
Pond 58	-	-	-	n/a	-
Pond 60	-	-	n/a	-	n/a
Pond 67	Yes – SN/PN	-	n/a	-	n/a
Pond 69	-	-	n/a	-	n/a
Pond 80	-	-	n/a	-	n/a
Pond 82	-	-	n/a	-	n/a
Pond 84	-	-	n/a	-	n/a
Pond 86	-	-	n/a	-	n/a
Pond 87	-	-	n/a	-	n/a
Pond 88	-	<b>Yes - GCN</b>	n/a	-	n/a
Pond 89	-	<b>Yes - GCN</b>	n/a	-	n/a
Pond 90	-	-	n/a	-	n/a
Pond 93	-	-	n/a	-	n/a
Pond 95	-	-	n/a	-	n/a
Pond 104	-	-	n/a	-	n/a
Pond 107	n/a	-	n/a	-	n/a



## 4.0 Ecological Constraints, Impacts and Recommendations

### 4.1 Summary of Results

A total of 11 waterbodies (23, 24, 25, 26, 41, 47, 86, 87, 88, 89 and 107) throughout the study area were confirmed as having a GCN presence. Of these waterbodies, ten (ponds 23, 24, 25, 26, 41, 47, 86, 87, 88 and 89) had previous records of GCN as described within the associated data search. Therefore of the only waterbody with no previous confirmation of GCN was Pond 107 located within the East Horton Golf Course. All ponds with GCN had small populations with the exception of Pond 41 which had a medium population.

There were five waterbodies identified (12, 32, 35, 81, 82 and 83) where GCN had previously been identified during previous surveys however no GCN or any indications of their presence were recorded during the course of the study.

Three ponds (23, 88 and 89) were confirmed to have a breeding population of GCN identified by the presence of eggs. It should also be noted that the eggs of smooth and/ or palmate newts were recorded within Ponds 67 and 82 confirming breeding by these species within these waterbodies.

A total of 31 waterbodies were found to contain at least one of the three newt species native to Britain. No invasive newt species were identified within any of the ponds surveyed.

### 4.2 SINC Sites

Three Sites of Importance for Nature Conservation (SINC) within the study area, Hog Wood and Gravel Pits, Allington Lane Pond and Ponds & Meadows adjacent to Wyvern Technology College were designated at least partly under criteria 6A (sites which support one or more notable species) for the presence of GCN. Waterbodies located within the Hog Wood and Gravel Pits and Ponds & Meadows adjacent to Wyvern Technology College SINC's were found to contain GCN during the suite of surveys conducted.

No records of any newt species or the presence of any newt species were recorded within the waterbody located within the Allington Lane Pond SINC. Hog Wood and Gravel Pits was the only SINC within the study area to have a confirmed breeding presence with GCN eggs recorded within the ponds on-site.



### 4.3 Location of GCN and Population Sizes

Three geographic regions contained within the study area were highlighted within Section 5.2 of the associated Phase 1 habitat report (WYG, 2016) as likely to support significant concentrations of GCN based upon a combination of up to three factors. The results of the presence/likely absence surveys conducted within our study area have recorded the presence of GCN within all three of these predicted areas. All but one of the 11 waterbodies found to contain GCN were located within these three areas. The presence of breeding GCN was confirmed within two of these geographic areas Quobleigh Woods and Hog Wood with the identification of GCN eggs.

The waterbodies and the subsequent GCN recorded within waterbodies at Quobleigh Woods and Hog Wood are considered to form meta-populations of GCN, as more than one pond was found to contain GCN within these regions over the course of the surveys conducted within our study area.

Only one of four ponds within the area denoted as Horton Heath West (Pond 47) was found to contain GCN or have an indication of their presence. Therefore the population of this waterbody is considered to be a local population rather than a sub-population of a current meta-population. This area is also considered to be isolated from the other metapopulations identified due to their distance, lack of connectivity and the presence of barriers to dispersal.

The presence of a significant GCN population was not predicted within the general location of Pond 107 as this section of the study area did not meet the criteria for identification of a likely significant GCN population as described within the Phase 1 report (WYG, 2016). Pond 107 was located in an area with a density of 4 or more ponds within a 1km<sup>2</sup> however the three other waterbodies present did not meet the requirements of having been classified as having a HSI of 'average' or greater or having had a previous record of GCN. Ponds 55 and 56 were classified as 'poor' under HSI assessment (WYG, 2016). However, the fourth waterbody, located in the vicinity of Oakland Farm, is located outside of the study area and therefore was not assessed under HSI nor were previous survey data gathered. Should this waterbody be suitable for GCN this could explain the presence of a population within Pond 107.

The likely main extent of both meta-populations and local populations has been quantified as up 500m from the boundary of a given waterbody and will be described within such context below. It is noted that GCN can travel over 1km from a given breeding site the main scope of these populations has been set at the above distance (500m) due to three criteria described below:



- Empirical evidence suggests that GCN concentrate majority of activity within several hundred metres of a given waterbody;
- A threshold of four hectares of suitable newt habitat within 500m of a breeding pond is given as the necessary to sustain a thriving population;
- Ponds that are within 500m of other ponds have been found to be colonized at a much greater rate than those which are located beyond this radius;
- 500m is the given as the extent (as described by natural England under their guidance) as to which waterbodies must be surveyed in relation to a proposed development.

#### 4.4 Hog Wood and Gravel Pits

The boundaries of the meta-population within and in the vicinity of Hog Wood and Gravel Pits SINC do not appear to extend to all fourteen waterbodies which fall within the 1km<sup>2</sup> area in which they are situated. The surveys conducted at Ponds 16 and 32 recorded no newt species or signs of the presence of newts suggesting that the meta-population is likely contained to the ponds located within the SINC (in particular ponds 23-26).

The habitat of Hog Wood and Gravel Pits SINC is primarily broadleaved deciduous woodland which is considered to be suitable habitat for GCN providing potential hibernacula, foraging areas and commuting corridors with shelter from possible predators. This combined with the concentrated nature of the thirteen waterbodies mentioned above allowing for many potential breeding sites provides an indication as to why a metapopulation of GCN persists under such large potential predation pressure from both fish and fowl.

Pond 16 and 32 did not contain GCN although located within areas of suitable habitat and within a commutable range via habitat corridors or traversable short sections of unsuitable habitat from the other waterbodies containing GCN. Therefore there likely absence is related to other factors.

Pond 32 is connected to Hog Wood and Gravel Pits SINC via boundary features (such as hedgerows and treelines) which extend from the SINC to the pond via the railway embankment and is situated within 1km of the nearest waterbody within this grouping (Pond 30), a reachable distance for GCN. During the course of the surveys conducted it was noted that the section of railway between Eastleigh and Hedge End was undergoing night maintenance which included the placement of one way fencing along the southern railway embankment. The extent to which the one-way fencing extends adjacent to the railway line was not confirmed although none was noted along the railway line to the east of Allington Lane. The combination of





a nocturnal disturbance and the introduction of a man-made barrier along at least part of southern embankment provide a likely explanation as to why GCN are likely absent from this waterbody.

The other nearest waterbodies to Pond 32 to the north were both assessed as being below the HSI threshold of 'average' and are relatively isolated, without seemingly direct corridors of dispersal and separated by areas of unsuitable habitat. It is unlikely therefore that GCN would feed into Pond 32 from these waterbodies although within 500m. Pond 32 also seems to suffer from sedimentation and poaching from livestock which may have reduced its suitability for GCN.

The results gathered from Pond 16, located in woodland to the south of Hog Wood suggested the likely absence of GCN. Although the broadleaved woodland within the SINC is not directly linked to the mixed woodland within Itchen Valley Country Park where Pond 16 is located; providing a continual corridor of suitable habitat for dispersal, the break in suitable habitat in the form of managed improved grassland is small (approximately 5m at its nearest point) suggesting that it would be traversable for GCN. The most likely reason for the lack of identifiable presence of GCN within this waterbody is the existence of great numbers of stickleback within the pond. The predation pressure and the greater distance between this waterbodies and the others, vastly exceeding its counterparts, is the most likely reason for the failure to identify the presence of GCN.

Barriers to dispersal for this population have been identified to the north, east and west in the form of man-made disturbance, fencing, the River Itchen and Allington road. Although these features may be beyond the radius of 500m set as the main extent of a breeding pond population they do in most cases lay within the possible likely maximum dispersal range of 1km. These features therefore can be considered as the maximum extent for this population in these directions. The area to the south of this main cluster does not appear to have any particular feature or landscape which would be considered to prevent dispersal. Given the reasons described above in regard to Pond 16, and the likely absence of GCN, a radius of 500m beyond the most southerly waterbody of this grouping (Pond 22) should be considered as the southern extent of this meta-population.

## 4.5 Quobleigh Woods

The presence of GCN was noted within all five of the waterbodies situated within this 1km<sup>2</sup> grouping of ponds denoting a meta-population. The presence of a concentration of interconnected suitable habitat in the immediate area including broadleaved woodland, scrub and boundary features (hedgerows and



treelines) provide corridors for dispersal linking overlapping areas of foraging habitat and areas suitable for hibernation within a 500m radius of these potential breeding ponds.

There are three other waterbodies located within a 500m radius of each waterbody with confirmed GCN presence and the 1km<sup>2</sup> area of likely significant population extent. These were Ponds 38, 39 and 40, however GCN are not considered to be utilising these waterbodies particularly the former two. It is deemed unlikely that there is a presence of GCN within pond 38 due to the large quantity of fowl identified suggesting that the southern boundary of the meta-population does not extend to this pond. Pond 39 was found to have bust its banks and was no longer considered to form a waterbody rather an area of wet woodland. The boggy nature of ground around this section of woodland prevented access to Pond 40. Pond 40 is noted on Ordnance Survey maps as being connected to these other waterbodies by a watercourse which was found to be flowing to the east in the vicinity of Pond 86, suggesting that there is current running through this waterbody making it unsuitable for GCN. It therefore cannot be confirmed if Pond 40 exists or that it is likely being utilised by GCN. However, given the descriptions of the potential likelihood for presence and the current state of Pond 30 it is considered that the meta-population does not extend this far south.

The stream which runs north to south through Quobliegh Woods connecting these waterbodies could provide a barrier to dispersal for GCN migrating east to west or vice a versa between ponds save for a crossing along a footpath within the woodland. The GCN population of the cluster of three ponds (Ponds 87-89) may be isolated from the other waterbodies within this given grouping however with the dissolution of Pond 39 this may have allowed the creation of navigable region between the opposing ends of the meta-population extent in the form of an area of wet woodland.

The extent to which the meta-population located in and around Quobliegh Woods can disperse throughout the wider study area appears more distinct than Hog Wood and Gravel Pits described above. The meta-population is surrounded by physical barriers to dispersal in the form of roads and major urbanised residential areas within Eastleigh. The majority of the study area framed by these barriers is located within the main 500m body of land from the breeding ponds. The extension of the potential dispersal of individual GCN to 1km from the five waterbodies is not possible as the barriers all fall within an approximate maximum distance of 700m. It is therefore considered that the meta-population of Quobliegh Woods is contained to this section of the study area described.



## 4.6 Horton Heath West

The presence of GCN was confirmed within the 1km grouping of four waterbodies situated between Allington Lane and Horton Heath however unlike the two previous areas, a meta-population was not considered to have been identified. GCN were recorded within a single waterbody (Pond 47) and are therefore considered to comprise a single local population.

Pond 47 is isolated within an area of unsuitable habitat (farmyard, hardstanding) and not directly connected to any areas of suitable newt habitat via corridors of dispersal such as hedgerows. The waterbody was the only one of the four which was noted as having GCN and also had a significant presence of both fowl and fish. Given these factors it would seem unlikely that a population could be sustained however this was the only one of the four waterbodies within this area to have previous records of GCN as noted within our data search.

Based upon anecdotal evidence by talking to the occupants of residential properties situated within Chalcroft Farm, GCN have been noted within at least one other pond located in the garden of one of the properties. The smaller size of this waterbody, the absence of fish and the relative proximity to the pond would thus allow a potential population to be sustained within the adjacent Pond 47 even with the large predation pressure from fish and fowl populations. This waterbody was not surveyed as the information regarding the location was not known until later on in the survey season at which time it was too late to complete a full suite of surveys. The absence of any feature or structure which had potential to be utilised as a hibernacula was noted within the wider farm complex. Despite the lack of a directly connected corridor of dispersal to areas of suitable hibernation potential (such as the areas of broadleaved woodland to the north, south and west) the distances between such potential corridors and the waterbody were negligible and not considered to be a barrier. A distance of only 3m is present between the waterbody and a hedgerow which connects directly to broadleaved woodland to the south of the farm.

The likely absence of GCN from Pond 48 may be the result of the use of the woodland as part of the pastoral management scheme by the landowner whereby the cattle present have unrestricted access to the woodland and seemingly utilise the waterbody as a drinking source. The level of disturbance evidence by the expanding areas of bare ground devoid of vegetation along the banks and within the pond itself suggests that a population of GCN is unlikely to sustain a persistent presence. The ephemeral nature of the pond appears to be greater than when initially surveyed with the pond found to be dry before the full suite



of six surveys could be completed. A waterbody which dries annually is not as suitable for GCN as those that dry infrequently as reflected with the HSI scoring system.

Pond 37 was located adjacent to a stream the proximity to which is considered a factor in the likely absence of GCN. The presence of a pike was noted on two survey occasions having likely entered the pond from the adjacent stream after a period of heavy rainfall raised the water level of the adjacent stream allowing it to flow into Pond 37. A small outflow was also present which formed a small current within the pond when the water level rose to this point. This ceased to function once the water level had receded. The areas surrounding the pond are also managed (mown) thus providing a greater swathe of unsuitable habitat to traverse in order to reach the waterbody.

Pond 84 was the only other pond within this grouping which was found to contain newt species. Although the waterbody is situated within 1km of Pond 47, and dispersal corridors are within a distance that would likely be considered short for GCN to migrate to, no GCN were found. The vast majority of land within the wider area between these two waterbodies is considered unsuitable as it is heavily managed for pasture or functionality as is the case with the Chalcroft solar array situated directly to the north of Pond 47. The most likely barrier to dispersal between these ponds however is a stream adjacent to the south of Pond 84 which flows from west to east. This is the same watercourse which runs adjacent to Pond 32 and was found to be dry in sections, leaving areas of boggy ground which could be traversed. However these were intermittent depending on recent rainfall.

The population of GCN could conceivably migrate to the other ponds within the grouping given the correct conditions however at the given time with current management practices this seems unlikely and the population will typically be contained to Pond 47 and the immediate area. If GCN do become established within Pond 48 it is possible that a population based there could migrate to the south as the railway line is not considered a barrier to dispersal.

## **4.7 Fair Oak East**

The scope of the population of GCN recorded within Pond 107 is considered to be relatively contained similar to the population described to the west of Horton Heath. Pond 107 is relatively isolated located within a wider expanse of amenity grassland situated within East Horton Golf Course.



The pond is situated within a grouping of four ponds within a density of 1km<sup>2</sup> however at least two of the ponds (55 and 56) are considered unsuitable for GCN due to presence of fish and to a lesser extent fowl. The current state of the third waterbody, whose location has been confirmed via aerial photography, cannot be confirmed as it is situated outside of the study area. The lack of suitable vegetation for egg laying within Pond 107 suggests that the local population of GCN likely breeds within another pond to sustain its numbers. The off-site waterbody is considered the most likely candidate given that it is located approximately 470m from Pond 107 within a large treeline (a suitable corridor to dispersal) which extends to within 60m of the south of Pond 107.

Pond 107 is located within another grouping of four ponds within a density of 1km<sup>2</sup> including Ponds 52, 53 and 54 located to the west of the initial grouping described above. The interconnected nature of the landscape within this northernmost grouping is substantial enough to suggest an easy route of dispersal between the ponds across areas of unsuitable habitat; unlike those found within the southern grouping of ponds.

There were no GCN identified within Pond 53, the next closest waterbody to Pond 107 during the course of the surveys although other native newt species were recorded. Access to Pond 52 was not granted however information provided via the data search reflected the findings of the surveys with no GCN recorded. Pond 54 was assessed as unsuitable for GCN due to the presence of wildfowl and the raised wall surrounding the pond preventing access. The lack of corridors for dispersal and the available species record suggests that this grouping of waterbodies is unlikely to be the point of origin for the population of GCN within Pond 107. The maximum extent of this population within the study area is therefore currently considered to be a 500m radius of Pond 107. However, Pond 53 does have suitability to support GCN which could colonise in the future from Pond 107.

There is a third cluster of ponds situated within an area of 1km<sup>2</sup> to the south of the two described above which does not include Pond 107. However Pond 52 is included within both this cluster and the grouping which includes Pond 107. GCN populations may persist where ponds are present at this density, even if some are considered unsuitable. However this cannot be verified as the majority of the ponds fall outside of the study area.



## 4.8 Conclusion

GCN presence/likely absence and population estimation surveys were completed for 40 ponds and waterbodies within the North Eastleigh Study Area (a further two were targeted but access was not permitted).

These surveys confirmed the presence of GCN within 11 ponds. Ten of these ponds were found to support low populations, and one a medium population. Three ponds were also confirmed to be breeding ponds due to the presence of eggs.

These 11 ponds were distributed within four distinct geographic areas, three of which were predicted during Phase 1 of the study. Based on the analysis of the data collected, two of these areas are considered to support metapopulations of GCN (Hog Wood and Quobleigh Woods). Horton Heath West currently contains a single confirmed GCN pond and is considered to currently comprise a single discrete population. Only a single confirmed GCN pond was recorded in Fair Oak East however it cannot be confirmed whether this represents a discrete population or the edge of a meta-population as further ponds lie within 500m but outside the study area.



## 5.0 References

English Nature (2001) *Great Crested Newt Mitigation Guidelines*, Peterborough.

Froglife (2003) *Great Crested Newt Conservation Handbook*, Froglife, Halesworth, Suffolk.

Gent, T. & Gibson, S. (2003) *Herpetofauna Workers' Manual*. JNCC, Peterborough.

Herpetological Conservation Trust (2008) *National Amphibian and Reptile Recording Scheme*.

Oldham, R.S.; Keeble, J.; Swan, M.J.S. & Jeffcote M. (2000) *Evaluating the suitability of habitat for the great crested newt (Triturus cristatus)*, The Herpetological Journal 10 (4), 143-155.

WYG (2016) *North Eastleigh Strategic GCN Survey: Extended Phase 1 Habitat Survey*

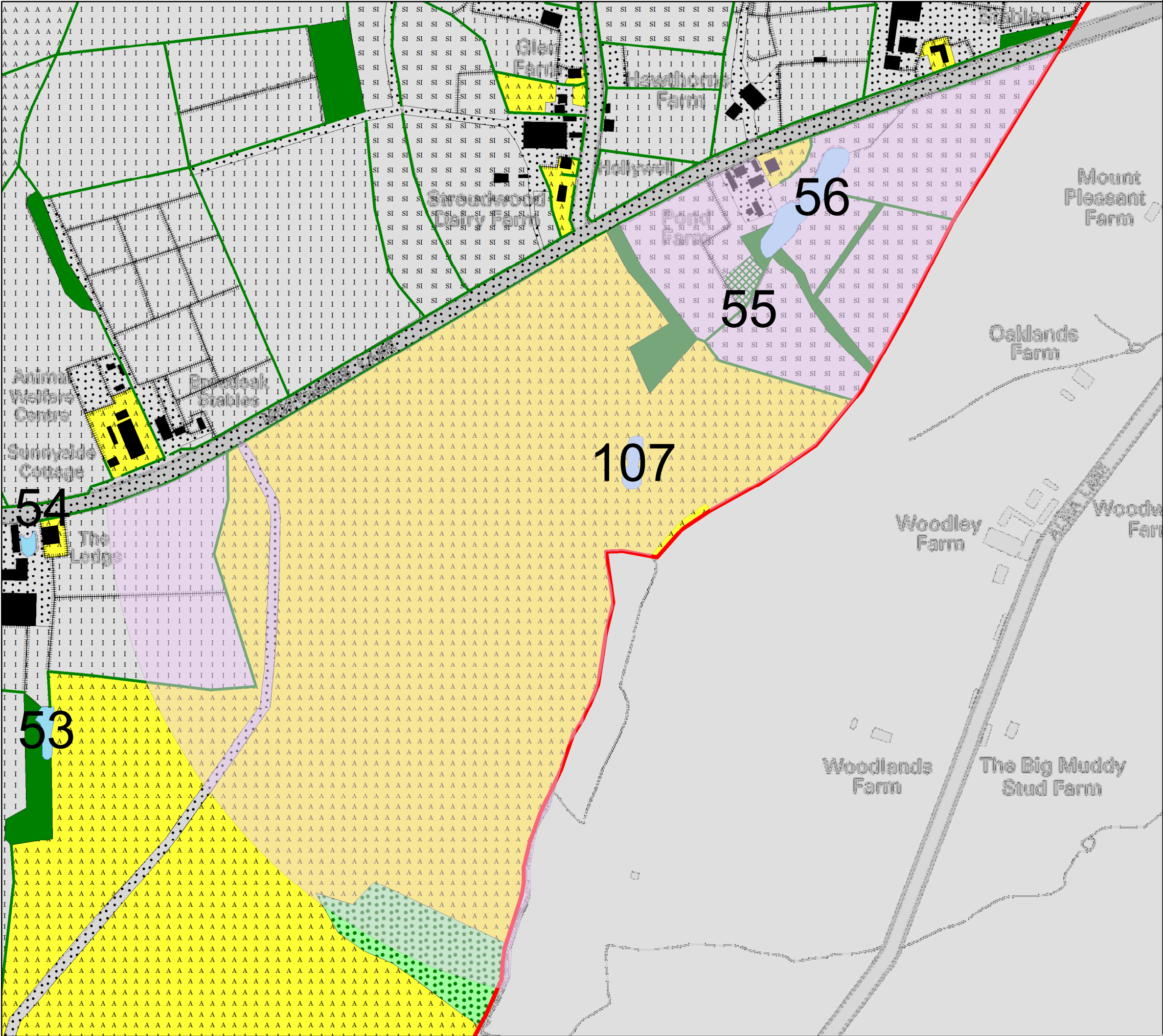


## Appendices








## Appendix A – Figures



# Legend

-  Waterbodies
-  Study Area
-  Fair Oak East Meta-population

**The Pavilion, 1st Floor**  
**Botleigh Grange Office Campus**  
**Hedge End**  
**Southampton**  
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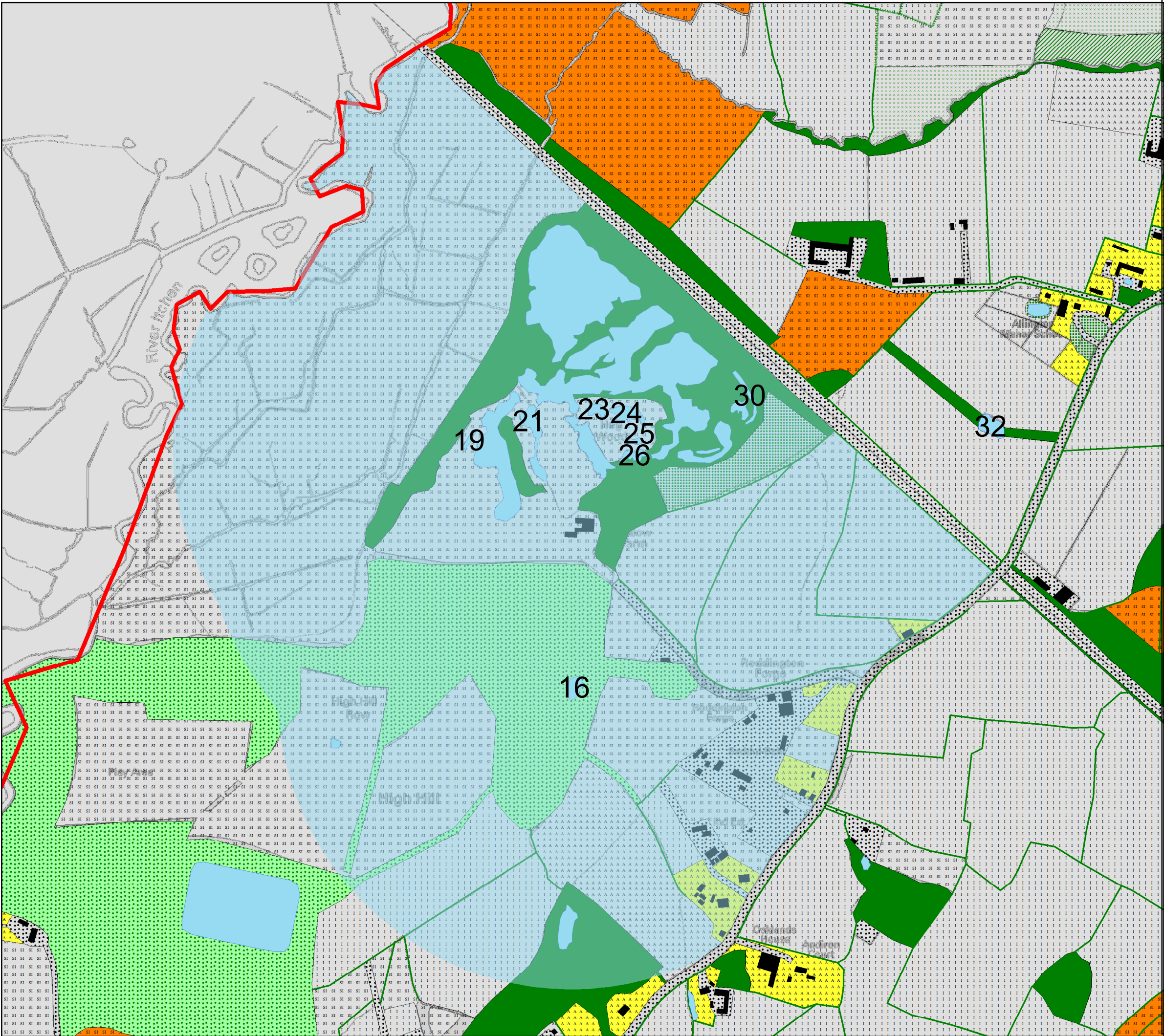
## North Eastleigh Strategic GCN Survey

### GCN Survey Results - Location of GCN

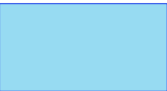


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Project No: A095202	Office 45	Type 94	Drawing No. Figure 1	Revision

Base map provided by:





# Legend

-  Waterbodies
-  Study Area
-  Hog Wood Meta-population

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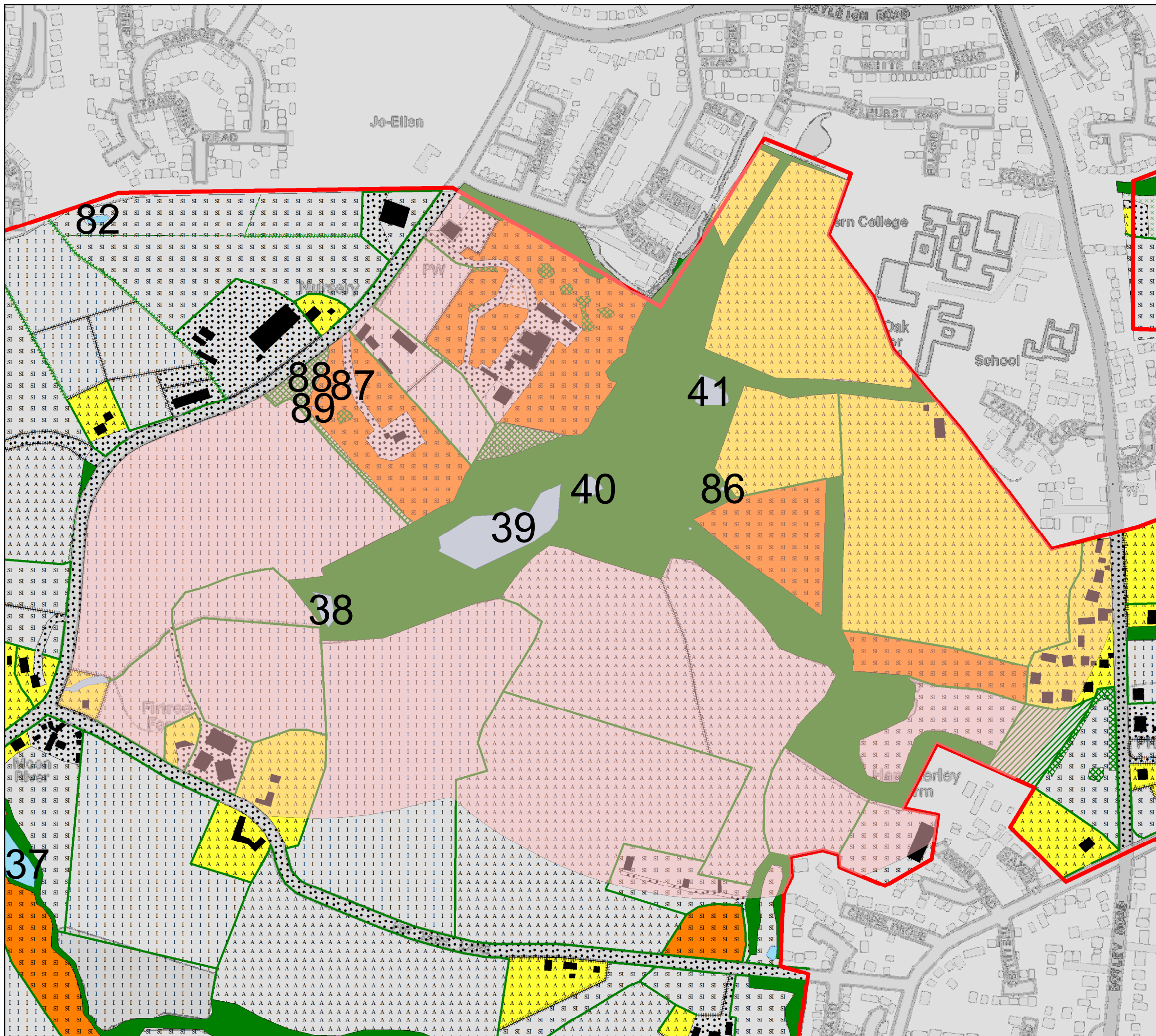
## North Eastleigh Strategic GCN Survey

### GCN Survey Results - Location of GCN


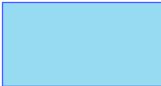

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Project No: A095202	Office 45	Type 94	Drawing No. Figure 2	Revision

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## Legend

-  Quobleigh Meta-population
-  Waterbodies
-  Study Area

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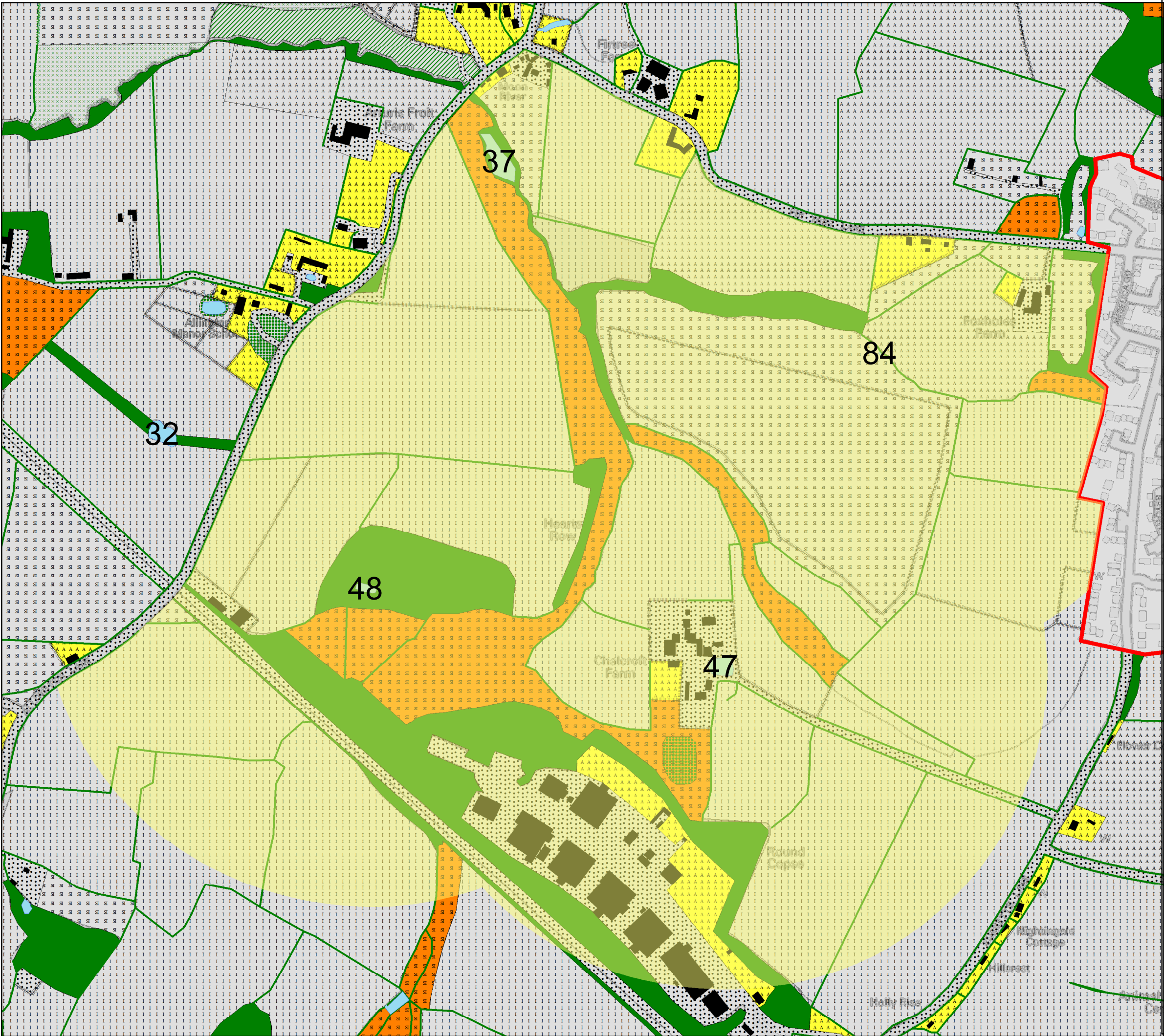
## North Eastleigh Strategic GCN Survey

### Quobleigh Meta-population

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**Legend**

- Waterbodies
- Study Area
- Horton Heath West Meta-population

**North Eastleigh Strategic GCN Survey**

**Horton Heath West Meta-population**

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	BC 07/09/16	DW 14/09/16	PL 06/10/16
Project No:	Office	Type	Drawing No.
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## **Appendix B – Report Conditions**





### **Report Conditions**

#### **North Eastleigh - Great Crested Newt Presence / Likely Absence Survey**

This report is produced solely for the benefit of Eastleigh Borough Council and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to WYG Environment. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of WYG using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to WYG Environment by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties. The performance of environmental protection measures, e.g. of buildings and other structures in relation to acoustics, vibration, noise mitigation, and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.

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