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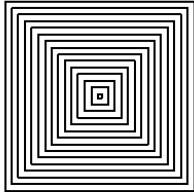
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EDF Energy/NNB GenCo  
Sizewell C Ecological Support  
Great Crested Newt survey report

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**Hyder Consulting (UK) Limited**

2212959  
The Mill  
Brimscombe Port  
Stroud  
Glos GL5 2QG  
United Kingdom  
Tel: +44 (0)1453 423 100  
Fax: +44 (0)1453 887 979  
www.hyderconsulting.com



# EDF Energy/NNB GenCo

## Sizewell C Ecological Support

### Great Crested Newt survey report

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**Author** Kate Rooney & Will Trehella

**Checker** Will Trehella

**Approver** Mark Lang

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# 1 SUMMARY

This report presents the findings of a series of great crested newt (*Triturus cristatus*) surveys and assessments of their habitat in and around Associated Development (AD) sites for the Sizewell C project. Surveys took place between 31 March and 2 June 2014, at ponds within 500 metres of these AD sites. A total of 95 individual ponds were identified. 34 ponds were scoped out of requiring a Habitat Suitability Index (HSI) survey and specific great crested newt surveys. For 33 ponds there was no access granted for HSI surveys or great crested newt surveys. For six ponds, access was granted for HSI surveys but not subsequently for great crested newt surveys. 22 ponds were surveyed for great crested newts, and of these, 11 were found to contain great crested newt populations.

Prior to any development at the AD sites, an assessment would need to be made of the development impacts on the relevant great crested newt populations, and, depending on the results, an application for a development specific licence may need to be submitted to Natural England. Depending on the timescale for the developments, it is likely that repeated surveys of ponds for great crested newts will be required to provide up-to-date survey results, as survey data more than 2 season old is not considered valid by Natural England.

# 2 INTRODUCTION

EDF Energy/NNB GenCo (hereafter referred to as NNB) is to submit an application for a Development Consent Order (DCO) to construct and operate a new nuclear power station, Sizewell C, near the town of Leiston in Suffolk. The proposal site lies within an area of high landscape and ecological sensitivity, within an Area of Outstanding Natural Beauty (AONB) and adjacent to the Minsmere to Walberswick Heaths and Marshes Special Area of Conservation (SAC), the Sandlings Special Protection Area (SPA) and the Outer Thames Estuary SPA. A small part lies within the Sizewell Marshes Site of Special Scientific Interest (SSSI).

Following on from NNB's Stage 1 Pre-Application Consultation on its initial proposals and options for Sizewell C, which ended on 6th February 2013, NNB's priorities from 2013 have been to progress the conceptual engineering design and technical studies relating to the development, as well as to undertake essential environmental studies in order to inform this conceptual work and support a robust Stage 2 Consultation.

A considerable amount of ecological survey work has been carried out within and around the proposal site since 2007. Further detailed ecological surveys were undertaken in support of Stage 2, which was undertaken in 2014. This applies both to the main site and the AD sites.

Hyder Consulting (UK) Ltd were commissioned by NNB to provide ecological support to the Sizewell C Project. This report presents the results of great crested newt surveys carried out at the AD sites.

Initial scoping exercises were carried out at the following AD sites (Farnham bypass options; Campus site, Leiston East Visitor Centre option; Wickham Market Park & Ride; Green Rail Route; and Blue Rail Route). The scoping exercise aimed to assess the habitat quality of ponds and terrestrial habitat present within 500m of each of these sites for great crested newts.

Following this initial scoping exercise, great crested newts surveys were carried out at all ponds (access permitting) which had been identified as potentially suitable for supporting great crested newts. Information from these surveys will be used to inform the proposed development relating to the AD Sites.

Due to access restrictions, no surveys were carried out at the proposed Darsham Northern Park and Ride site. In addition, only the initial scoping visit was carried out at the Farnham Road Options site.

## 3 METHODOLOGY

### 3.1 Desk study

An extensive desk study of the land associated with each AD site was undertaken prior to surveys. Information on existing records of great crested newt within the likely zone of influence of the proposed developments (up to 500m from each site boundary) were obtained from the Suffolk Biological Records Centre (SBRC)).

### 3.2 Previous great crested newt surveys

Previous surveys carried out in the vicinity of Sizewell were also reviewed. AMEC (2012) carried out great crested newt surveys in 2011 in relation to the AD sites. 29 ponds within 500m of the AD sites were assessed for their suitability to support great crested newts, and 14 of these were considered suitable. An additional 20 ponds were identified as being potentially suitable to support great crested newts using desk study data from the SABRC.

Land access issues resulted in only three ponds being surveyed by AMEC for the presence/absence of great crested newts, these being AMEC ponds numbers 3, 17 and 23. Pond 3 is on the Green Rail Route (equivalent to Hyder pond number 28); pond 17 is on the Leiston East site (equivalent to Hyder pond number 19) and pond 23 is on the Darsham site.

Pond 3 (Hyder pond number 28) had a single record of great crested newt and great crested newt eggs. No great crested newts were found in the other two ponds.

### 3.3 Pond scoping and Habitat Suitability Index assessment

A review of Ordnance Survey (OS) maps and aerial photos (from the Bing maps website) of the land associated with each of the AD sites was carried out to identify any waterbodies within 500m of the boundaries of the proposed development area (see Figure 1). There was some degree of overlap between the survey areas for some of the AD sites; each pond was given a unique pond identification number.

A site visit to each pond was made by Hyder ecologists between 31 March and 15 April 2014, for each pond where access was granted. During these visits, detailed site descriptions were taken for each water body (see Appendix 3), including photographs, measurement of the area and depth, descriptions of marginal, aquatic and surrounding vegetation, and a note was made of suitable survey methods for the water body.

Where appropriate, a Habitat Suitability Index (HSI) for great crested newts (Oldham *et al.* 2000) was calculated for each water body. The HSI scores a water body against ten habitat suitability indices, which include water quality and the likely presence/absence of fish and aquatic plant cover. From these ten suitability indices a geometric mean is calculated, which gives an overall numerical index ranging between zero and one. A score of near zero indicates highly sub-optimal habitat, whilst a score near one represents optimal habitat.

The HSI for each pond was used to compare the general suitability of the ponds present for great crested newts. However, the HSI is not a substitute for undertaking newt surveys, and if a water body is awarded a high HSI score, this does not guarantee that great crested newts will be present, only that they are likely to be present.

## 3.4 Field surveys

Targeted great crested newt surveys were undertaken at ponds identified as being potentially suitable for breeding amphibians during the scoping surveys. Four survey visits to each pond were carried out in suitable weather conditions between 14 April and 2 June 2014. Where great crested newts were recorded, an additional two surveys were undertaken (making a total of six surveys) to allow an estimate of population size class to be made. Depending upon the different characteristics of each pond (such as turbidity, or abundance of aquatic vegetation), the following survey methods were used to investigate the presence or absence of great crested newts, following Natural England's 'Great Crested Newt Mitigation Guidelines' (English Nature 2001).

The three preferred standard survey methods (torchlight survey, bottle-trapping and egg search) were carried out on each visit to the ponds, wherever possible, although in certain cases fewer survey techniques (the most appropriate one to the pond) could be used. Netting was used as a last resort on a single individual pond, and only once all other options had been proven ineffective.

Each torchlight survey comprised a single walk around the pond at a measured pace, using a 500,000 candle-power torch to locate and identify amphibians. During the survey all amphibians observed were counted, sexed and identified to species where possible (female smooth (*Lissotriton vulgaris*) and palmate (*Lissotriton helveticus*) newts may not be distinguishable by torch surveys). Survey timings and weather conditions were also recorded.

The bottle trapping surveys involved the setting of bottle traps (comprising ridged 1.5 litre mineral water bottles, where the top end has been cut off and inverted inside the main body of the bottle). These were submerged in the pond on canes wedged into the pond sediment. Traps were set in the evening and checked early the following morning. All amphibians captured overnight were identified to species and life stage, and sexed where possible. Suitable aquatic vegetation at the pond margins was also checked at this time for the presence/absence of newt eggs.

For ponds found to contain great crested newts, populations were classified as 'small' for maximum counts up to 10, 'medium' for maximum counts between 11 and 100, and 'large' for maximum counts over 100 (English Nature 2001).

Appropriate bio-security measures were adopted whilst undertaking the surveys, in order to avoid the inadvertent spreading of chytridiomycosis. This is a fungal disease which can have a devastating effect on amphibian populations. Measures implemented included the thorough drying of traps between surveys, and the application of Virkon antiseptic solution to survey equipment, wading poles and surveyor's waders between visits, where ponds are separated by a distance of over 2 kilometres.

## 3.5 Survey Limitations

Due to access issues, during 2014 great crested newt surveys were not carried out at Darsham Northern Park and Ride and Farnham bypass AD Sites. The Blue Rail Route has now been discontinued as a potential development site by EDF however, for completeness sake; results from these surveys are reported here. Therefore, in 2014, surveys were carried out at the

following AD Sites: Campus site, Leiston East Visitor Centre option; Wickham Market Southern Park & Ride; Green Rail Route; and Blue Rail Route.

Of the 95 ponds identified during the desk search and study of OS maps, no access for scoping visits or surveys was forthcoming for 33 ponds. 34 ponds were scoped out of requiring further surveys (for example by no longer being extant or being dry at the time of the scoping visit). Six ponds were granted access for a scoping visit, but not subsequently for surveys. Therefore, during 2014, a total of 22 ponds were surveyed for the presence of great crested newts.

The water bodies occasionally exhibited conditions rendering certain survey methods impractical or unsafe. For example, a pond with heavy duckweed cover may be unable to be effectively torched, and certain ponds had banks too steep to safely allow the deployment of bottle traps. For this reason, although effort was made to use three survey methods for each pond, occasionally this was not possible. Occasionally bank vegetation and conditions restricted access to sections of the water body, rendering surveying the entire perimeter of a pond impossible. In the event of accidental trapping of water shrew (*Neomys fodiens*), no further bottle trapping surveys were undertaken.

## 4 RESULTS

This section presents the results of the survey work undertaken.

Appendix 1 describes the desk study survey results for each AD site. Appendix 2 presents the results of the HSI assessment carried out for each pond. Appendix 3 gives full pond descriptions of all the ponds scoped and surveyed in 2014. Appendix 4 gives full survey results for the ponds surveyed in 2014. Figure 1 shows the locations of all ponds, for each of the AD sites, classified as follows: ponds which were scoped out as requiring further surveys (e.g. no longer extant or dry at the time of survey); ponds where access was not granted for scoping and surveying; ponds where access was granted for scoping, but not for subsequent surveying; ponds where great crested newt surveys were carried out; and ponds that were found to contain great crested newt populations.

### 4.1 Desk study

The desk study identified that records for great crested newts are widespread to the west of Sizewell and ponds known to support great crested newts are located within 500m of the Blue and Green Rail Routes, and the Campus site. No records of great crested newts were identified within of Darsham Northern Park and Ride, Farnham bypass options, Wickham Market Southern Park and Ride, or the visitor centre options at Leiston East or Coronation Wood. The full results of the desk study area presented in Appendix 1.

### 4.2 Field Surveys

Results below are presented by AD site.

#### 4.2.1 Darsham (Northern Park and Ride)

18 water bodies were identified within 500 metres of the boundary of the proposed park and ride site. Of these 18, eight ponds (pond numbers 88, 89, 90, 91, 92, 93, 94 and 95) were scoped out as requiring further surveys, as they were all east of the A12 trunk road, which was envisaged likely to act as a substantial barrier to the dispersal of great crested newts. Therefore, any newts using these ponds would be unlikely to access the proposed development site. The

remaining ten ponds (pond numbers 78, 79, 80, 81, 82, 83, 84, 85, 86 and 87) were not granted access for surveys and it is not known whether or not they are suitable for supporting great crested newts.

## 4.2.2 Farnham Bypass

Ten water bodies were identified within 500 metres of the proposed development site boundary. Of these, five ponds (pond numbers 73, 74, 75, 76 and 77) were scoped out as requiring further surveys, as they were all south east of the A12 trunk road, which was envisaged likely to act as a substantial barrier to the dispersal of great crested newts. Therefore, newts (if any) using these ponds would be unlikely to access the proposed development site. A further two ponds (Pond numbers 71 and 72) were scoped out as they were dry at the time of survey. Three ponds (Pond numbers 68, 69 and 70) were considered suitable to support great crested newts and therefore required further surveys; however, due to access limitations, 68 and 69 only were visited for the scoping survey (with the HSI carried out); none of these three ponds were granted access for subsequent great crested newt surveys.

Ponds 68 and 69 were close together, and were both small ponds. Pond 68 was described by the HSI as “Good” suitability to support great crested newts and 69 described as “Average”, suitability, being significantly limited by its small size.

## 4.2.3 Campus Site

11 water bodies were identified within 500 metres of the proposed development site boundary. Of these 11, seven (Pond numbers 1, 2, 3, 4, 5, 7 and 8) were accessed for scoping; the remaining four ponds (6, 9, 10 and 11), were not granted access permission for scoping or subsequent survey work. Pond 1 was dry at the time of the scoping visit, and there was no pond present at pond 7, therefore both these ponds were scoped out from requiring further survey. Further surveys for great crested newts were undertaken at ponds 2, 3, 4, 5 and 8.

Ponds 2, 3 and 4 were close together in the Leiston Abbey grounds. Ponds 2 and 4 were described as “Good” suitability for great crested newts; pond 3 was “Below Average suitability, being limited by size, shade, poor water quality, and macrophyte cover. Pond 5 was described as “Average” suitability, being limited by size, availability of terrestrial habitat, and macrophyte cover. Pond 8 was described as “Poor” suitability being limited by size, drying frequency, water quality, and availability of terrestrial habitat.

Great crested newts were found in ponds 2, 4 and 5 (see Table 1 below), with evidence of breeding (from eggs) in all three ponds. Ponds 2 and 4 are close together, and are located within 300m of three further ponds (Pond numbers 5, 55, and 57), all of which also contain small numbers of great crested newts. It is likely that all these ponds constitute part of the same meta-population.



**Table 1: Summarised survey results for Campus site ponds.**

Pond	GCN desk study records	Survey dates	No. of surveys	Great crested newts:			Other amphibians recorded
				Adults present	Eggs present	Max. no. GCN adults	
2	Yes <sup>1</sup>	15/04/14 to 29/05/14	6	Yes	Yes	1	Smooth, smooth/palmate
3	Yes <sup>1</sup>	15/04/14 to 13/05/14	4	No	No	-	None
4	Yes	15/04/14 to 29/05/14	6	Yes	Yes	44	Smooth, smooth/palmate
5	No	14/04/14 to 29/05/14	6	Yes	Yes	8	Smooth, palmate
8	No	14/04/14 to 29/05/14	4	No	No	-	Smooth, smooth/palmate

<sup>1</sup> The desk study records reveal great crested newts in two ponds at Abbey farm; these are pond 4 and either pond 2 or pond 3.

#### 4.2.4 Coronation Wood (Visitors Centre Option)

Two water bodies were identified as being within 500 metres of the development site. One of these (Pond 13) was identified as being a sea water cooling tank for the Sizewell B power station, and therefore scoped out. The remaining pond (12) was found to be dry during the scoping visit; it was hence deemed unsuitable for habitation by great crested newt, and scoped out of the requirement for further survey work.

#### 4.2.5 Leiston East (Visitors Centre Option)

Six water bodies were identified within 500 metres of the proposed site. Of these six, four (numbers 14, 15, 16 and 19) were accessed for scoping. Ponds 17 and 18 were not granted access permission for scoping or survey work. Ponds 14, 15 and 16 were all found to be dry during the scoping visits, and so were scoped out of the requirement for further surveys. The single remaining pond, Pond 19 was found to have potential for supporting great crested newt, and further surveys were undertaken at this pond.

Pond 19 was a shallow, isolated pond located within a sandy arable field. The pond was described by the HSI as being "Below Average" in suitability for supporting great crested newts, being limited by its small size, occasional presence of waterfowl, poor water quality and limited availability of suitable terrestrial habitat immediately surrounding the pond.

The great crested newt surveys carried out at Pond 19 are summarised in Table 2 below. No great crested newts were identified.

**Table 2: Summarised survey results for Leiston East ponds.**

Pond	GCN desk study records	Survey dates	No. of surveys	Great crested newts:			Other amphibians recorded
				Adults present	Eggs present	Max. no. GCN adults	
19	No	14/04/14 to 12/05/14	4	No	No	-	Smooth, smooth/palmate

#### 4.2.6 Wickham Market (Southern Park & Ride)

Nine water bodies were identified from the desk study as within 500 metres of the proposed development site. Access was not granted to ponds numbers 62, 63, 65 and 67 for either a scoping visit or subsequent survey. A further pond (number 66) was scoped out as it was east



of the A12 trunk road, which was envisaged would act as a barrier to the dispersal of great crested newts, therefore any newts using these water bodies would be unlikely to access the development site boundary. Of the remaining four ponds; (numbers 59, 60, 61 and 64), ponds 59 and 64 were both found to be dry upon visiting, and so were scoped out of future survey work. The remaining two ponds (60 and 61) were both found to have potential for supporting great crested newt.

Ponds 60 and 61 were adjacent to each other. Both ponds were scored as 'Below Average' suitability for great crested newts. Factors limiting the suitability of these ponds were poor water quality, excessive shading and heavy algal cover.

No great crested newts were found in either Pond 60 or Pond 61.

**Table 3: Summarised survey results for Wickham Market ponds.**

Pond	GCN desk study records	Survey dates	No. of surveys	Great crested newts:			Other amphibians recorded
				Adults present	Eggs present	Max. no. GCN adults	
60	No	14/04/14 to 12/05/14	4	No	No	-	Smooth, smooth/palmate, common frog
61	No	14/04/14 to 12/05/14	4	No	No	-	Common frog

## 4.2.7 Green Rail Route

30 water bodies were identified within 500 metres of the proposed development. Access was not granted to eight ponds (numbers 6, 17, 20, 21, 22, 32, 36 and 37) for either scoping or survey work. 11 ponds were scoped out for further survey work: Ponds 29 and 33 were not extant, Ponds 7, 24, 31, and 38-42 were dry at the time of survey, and Pond 16 had insufficient depth of water to support breeding amphibians. 11 ponds (numbers 2, 3, 4, 23, 25, 26, 27, 28, 30, 34 and 35) were found to have potential for supporting great crested newts. Further surveys for great crested newts were undertaken at nine of these ponds (numbers 2, 3, 4, 23, 25, 26, 27, 30, and 35); access to ponds (numbers 28 and 34) was not forthcoming.

Pond numbers 2, 3 and 4 were the Leiston Abbey ponds, which are already considered under the Campus site AD site section. Pond number 23 was a large farm pond, described as "Average" suitability, being limited by water quality, the presence of fish and limited availability of terrestrial habitat. Pond 25 was a small pond bordered by woodland and arable fields, described as "Good" suitability. Pond 26 was located in a large hedge/tree line between arable fields, described as "Excellent" suitability. Pond 27 was a small pond by woodland and arable fields, described as "Average" suitability, being limited by its small size, poor water quality, high shade and lack of macrophyte cover. Pond 28 was a garden pond in a small wooded area, with arable fields beyond the garden, and described as "Good" suitability. Pond 30 was in a woodland covert, surrounded by arable fields, and described as "Excellent" suitability. Ponds 34 and 35 were situated close together at the western edge of a large mixed woodland area with arable fields on one side; both were described as "Good" suitability.

Great crested newts were confirmed in ponds 26, 27, 30, 2, and 4 (see Table 4), with evidence of breeding (from eggs) in 30, 2, and 4. Ponds 2 and 4 also had desk study records of great crested newts.



**Table 4: Summarised survey results for Green Rail Route ponds.**

Pond	GCN desk study records	Survey dates	No. of surveys	Great crested newts:			Other amphibians recorded
				Adults present	Eggs present	Max. no. GCN adults	
23	No	16/04/14 to 27/05/14	4	No	No	-	Common toad tadpoles
25	No	15/04/14 to 27/05/14	4	No	No	-	-
26	No	16/04/14 to 02/06/14	4	Yes	No	1	Smooth
27	No	16/04/14 to 30/05/14	6	Yes	No	1	Common frog, common toad tadpoles
30	No	15/04/14 to 29/05/14	6	Yes	Yes	12	Smooth, smooth/palmate, frog tadpoles,
4	Yes	15/04/14 to 29/05/14	6	Yes	Yes	44	Smooth, smooth/palmate
2	Yes <sup>1</sup>	15/04/14 to 29/05/14	6	Yes	Yes	1	Smooth, smooth/palmate
3	Yes <sup>1</sup>	15/04/14 to 13/05/14	4	No	No	-	-
35	No	15/04/14 to 28/05/14	4	No	-	-	Smooth, palmate

<sup>1</sup> The desk study records reveal great crested newts in two ponds at Abbey farm; these are 4 and either 2 or 3.

## 4.2.8 Blue Rail Route

31 water bodies were identified from the desk study as within 500 metres of the proposed development site. Access permission was not granted to 12 ponds (numbers 6, 8, 20, 21, 22, 37, 43, 44, 45, 46, 47 and 51). Three ponds were scoped out for further survey work. Pond 1 was dry at the time of survey, and Ponds 7 and 33 were not present. 15 ponds (numbers 2, 3, 4, 5, 8, 25, 48, 49, 50, 52, 53, 54, 55, 56, 57 and 58) were found to have potential for supporting great crested newt. Further surveys for great crested newts were undertaken at 13 of these ponds (numbers 50, 25, 52, 53, 54, 55, 56, 57, 4, 2, 3, 5, 8 and 58). Following the initial scoping visit and HSI assessment access for subsequent survey work was not forthcoming for two ponds (numbers 48 and 49).

Pond numbers 2, 3 and 4 were the Leiston Abbey ponds, which are already considered under the Campus AD site section. Ponds 48 and 49 are close to each other and are both in a small woodland patch surrounded by arable fields. Pond 48 was described as “Good” suitability for great crested newts; pond 49 was “Average” suitability, being limited by poor water quality, shade, and limited macrophyte cover. Pond 50 was a medium-sized pond surrounded by a small area of rough grassland, scrub and trees, with arable fields beyond, and described as “Good” suitability; Pond 58 was a small pond, predominantly surrounded by arable fields but with connectivity to Pond 50 approximately 200m away. Pond 58 was described as “Average” suitability, being limited by poor water quality, shade, and limited macrophyte cover. Pond 6 was a deep pond within woodland, bordered on the southern side by arable fields, and described as “Good” suitability. Pond 52 is a small pond at the end of a small strip of woodland that transforms into scrub, with large arable fields to the north and south. Pond 53 is an isolated pond in a large arable field. Pond 52 was “Below Average” in terms of its HSI being limited by its small size, poor water quality, excessive shade and lack of macrophyte cover; pond 53 was “Excellent”. These two ponds are about 300m apart. Pond 54 was a shallow pond surrounded by trees, with arable field close by to two sides, horse-grazed pasture on one side, and rough

grassland on the final side. Pond 55 is in a tree-lined depression with gardens (mostly to lawn) on three sides, and scrub and small trees on the other side; there are arable fields to the south and east of the garden and horse-grazed pasture to the west. Pond 56 is a large farm pond, surrounded by farmyard, garden and horse-grazed pasture. Pond 57 is surrounded by a small ring of scrub, with woodland on one side and arable fields on the remaining sides. Ponds 55 and 56 are approximately 20m apart. Pond 54 is about 100m from Pond 55, and Pond 57 is about 200m from Pond 56. Ponds 54 and 55 were described as "Average" from the HSI, with Pond 54 being limited by occasional drying, poor water quality and excessive shade, and Pond 55 by its small size and lack of macrophyte cover. Pond 56 was described as "Poor" being limited by poor water quality, the presence of fish and poor surrounding terrestrial habitat. Pond 57 was "Good" from its HSI score. Pond 5 was a small pond in a hedgerow, between arable fields. It was described as "Average" from the HSI, being limited by size, availability of terrestrial habitat, and macrophyte cover. Pond 8 was a small, shallow depression in an arable field, likely to dry out regularly. It was described as "Poor" from the HSI, being limited by size, drying frequency, water quality, and availability of terrestrial habitat.

Great crested newts were found in ponds 50, 53, 55, 57, 25, 2, 4 and 58 (see Table 5), with evidence of breeding (from eggs) in 50, 25, 2, and 4. Ponds 57, 25, and either 2 or 4 also had desk study records of great crested newts. Ponds 50 and 58 are within approximately 200m of each other, with connectivity for great crested newts along a strip of rough grassland adjacent to a former airfield runway, and so are likely to represent a medium-sized meta-population. Ponds 48 and 49, although not surveyed, are close to pond 50 and may be expected to contain great crested newts as well. Pond 53 is an isolated pond in an arable field, with the only other surveyed pond within 500m, (pond 52) unlikely to hold great crested newts. Although the maximum count of great crested newts within pond 53 was seven adults, due to the steep banks less than half of the pond could be surveyed safely, so there is likely to be a medium-sized population of great crested newt present. Ponds 2 and 4 are close to each other and so the great crested newts in these two ponds are likely to be part of a medium-sized meta-population. These ponds are also about 300m from Ponds 5, 55 and 57, all of which contain small numbers of great crested newts, and so may also be part of the same meta-population.

**Table 5: Summarised survey results for Blue Rail Route ponds.**

Pond	GCN desk study records	Survey dates	No. of surveys	Great crested newts:			Other amphibians recorded
				Adults present	Eggs present	Max. no. GCN adults	
50	No	14/04/14 to 28/05/14	6	Yes	Yes	26 (40%)	Smooth, smooth/palmate, common frog tadpoles
25	No	15/04/14 to 27/05/14	4	No	No	-	-
52	No	16/04/14 to 28/05/14	4	No	No	-	Smooth
53	No	16/04/14 to 30/05/14	6	Yes	No	7 (33%)	Smooth, smooth/palmate
54	No	15/04/14 to 15/05/14	4	No	No	-	-
55	No	15/04/14 to 30/05/14	6	Yes	No	6	Smooth
56	No	15/04/14 to 15/05/14	4	No	No	-	-
57	No	14/04/14 to 14/05/14	4	Yes	No	2	Smooth, palmate
4	Yes	15/04/14 to 29/05/14	6	Yes	Yes	44	Smooth, smooth/palmate
2	Yes <sup>1</sup>	15/04/14 to 29/05/14	6	Yes	Yes	1	Smooth, smooth/palmate
3	Yes <sup>1</sup>	15/04/14 to 13/05/14	4	No	No	-	-
5	No	14/04/14 to 29/05/14	6	Yes	Yes	8	Smooth, palmate
8	8	14/04/14 to 29/05/14	4	No	No	-	Smooth, smooth/palmate
58	58	22/04/15 to 28/05/15	6	Yes	No	15	Smooth, smooth/palmate

<sup>1</sup> The desk study records reveal great crested newts in two ponds at Abbey farm; these are Pond 4 and either Pond 2 or Pond 3.

## 5 CONCLUSIONS

In the 2014 survey exercise, 95 ponds were identified during the desk search and study of OS maps. No access for scoping visits or surveys was forthcoming for 33 of these ponds. A further 34 of these ponds were scoped out of requiring further surveys (for example by no longer being present or being dry at the time of the scoping visit). Six ponds were granted access for a scoping visit, but not subsequently for surveys. The remaining 22 ponds were surveyed for the presence of great crested newts.

From desk study records and from the 2014 surveys, ponds containing great crested newts were found within 500m of the boundaries of the Campus site, and the Green and Blue Rail Routes. Although much of the habitat on and surrounding these sites is arable farmland (considered sub-optimal for great crested newts), there are areas of woodland, pasture and hedgerows which provide a mosaic of suitable terrestrial habitat for great crested newts.

It is considered from the survey results and the network of ponds present, that meta-populations of great crested newts could be present as follows:

- Meta-population A: The grouping of ponds 2 and 4 at Leiston Abbey (supported by desk study records), which had a maximum of one and 44 adults respectively, with ponds 5, 55 and 57 (which are approximately 300m away), each with a maximum of eight, 2 and 15 adults respectively, may represent a medium-sized meta-population. This meta-population would be of relevance to any potential developments for the Campus Site, Blue and Grail Rail Route options.
- Meta-population B: There is also a medium-sized population at pond 30 (maximum of 12 adults); the nearest ponds with great crested newts approximately 400-500m away are pond 28 (maximum of 1 adult from AMEC's 2011 surveys) to the west, and pond 36 to the south west (from desk study records). This meta-population would be of relevance to any potential developments for the Green Rail Route option. Isolated findings of 1 adult great crested newt in ponds 26 and 27 might relate to this meta-population as pond 26 is approximately 500m from pond 36, and pond 27 is 300m from pond 28.
- Meta-population C: The two ponds 50 and 58 are 300m apart and had a maximum of 26 and 15 adults respectively, representing a medium-sized population. This meta-population would be of relevance to any potential developments for the Blue Rail Route option.
- A small population at Pond 53 (maximum number of 7 adult great crested newts), which would be of relevance to any potential developments for the Blue Rail Route option.

Prior to any development works proceeding at the AD sites, an assessment would need to be made as to the nature and scale of any impacts on great crested newt populations as defined in Natural England's mitigation guidelines (English Nature 2001), and the potential loss of their terrestrial or aquatic habitat. Depending on the outcome of any assessment, an application for a Derogation Licence may need to be submitted to Natural England, clearly detailing any proposed mitigation (which would need to result in a net conservation benefit for any resident great crested newts), and its timescale. Depending on the timescale for the developments, it is likely that repeated surveys of ponds for great crested newts will be required to provide up-to-date survey results.

## 6 REFERENCES

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

# FIGURES

Figure 1: Map of Ponds Scoped and Surveyed for Great Crested Newts at the Sizewell C AD Sites: Campus site; Darsham (Northern Park and Ride); Farnham bypass; Coronation Wood (Visitors Centre); Leiston East (Visitors Centre); Wickham Market (Southern Park and Ride); Green Rail Route; and Blue Rail Route.

# APPENDICES

## Appendix 1: Desk Study Results for Great Crested Newts for AD Sites.

AD Site	2014 pond number	Location	Site detail	Grid Ref	Longitude	Latitude	Year	Observation/Comment	Abundance
Campus	36	Leiston	Wood Farm, Westward Ho	TM437631	1.5676301	52.21172	2011	Has a great crested newt in her garden verified by photo	
Campus	No obvious pond on OS map	Leiston		TM436630	1.5660973	52.21087	2011	Record of GCN with photo sent in to Trust	
Campus	Between pond 9 and 10	Theberton	Theberton, Birchwood farm	TM447652	1.5837572	52.23013	2007	Newts found in garden and in swimming pool	
Campus	Moat House; 1km N of Pond 53	Theberton	Theberton Wood	TM43226507	1.5620339	52.22961	2000		18 Count of adult
Campus	Moat House; 1km N of Pond 53	Theberton Wood	Theberton Wood	TM432651	1.5617631	52.22989	2000		
Campus	Moat House; 1km N of Pond 53	Theberton	Moat Farm	TM432652	1.5618351	52.23079	1999		15 Count of adult; 40 Count of spermatial
Campus	4	Leiston	Abbey Fish Pond	TM445642	1.5801115	52.22124	1998		several Count of spermatial
Campus	2/3	Leiston	Former Abbey Farm (Abbey Grounds)	TM445643	1.5801838	52.22214	1998		several Count of spermatial
Darsham	Outside of 500m zone	Bramfield	Hill Farm	TM3923072008	1.5086355	52.29363	2012		
Darsham	Outside of 500m zone	Thorington	11 Entrance track pond, restored in 2009	TM417724	1.5450678	52.29606	2012		
Darsham	Outside of 500m zone	Bramfield	Near/Pasture pond Bulls at BrightÆs Farm,	TM392719	1.5081197	52.29267	2009		34 Great crested Newt: 23 male 12 female, by torch Peak of 6 counts after fish removal
Darsham	Outside of 500m zone	Bramfield	Large/Swimming pond Bulls at BrightÆs Farm,	TM393719	1.5095833	52.29263	2009		10 Great crested newt: 7 male 3 female. Peak of 6 counts after fish removal
Darsham	Outside of 500m zone	Bramfield	South Manor Farm	TM398718	1.5168302	52.29151	2009	1 juvenile found under log	
Darsham	Outside of 500m zone	Darsham	Darsham Field Pond	TM406719	1.5286101	52.29206	2009	eggs found	
Darsham	On border of 500m zone; probably just north of 83-86, but in same woodland block	Silletts Wood	Darsham Silletts Wood, Darsham	TM4036271263	1.5246725	52.28645	2006		
Darsham	Outside of 500m zone	Bramfield	Brights farm House pond	TM399727	1.5189347	52.29954	2005	Population in desilted pond	
Darsham	Outside of 500m zone	Yoxford	pond at Bark barn, Main Road	TM394681	1.5083499	52.25848	2003		
Darsham	Outside of 500m zone	Dews Ponds	Bramfield, Deep Pond, Dew's Farm	TM388717	1.5021235	52.29105	2001		
Darsham	Outside of 500m zone	Thorington	Thorington Pit Pond 3 - Swamp Pond	TM4172	1.5345359	52.29278	2001	Seen	
Darsham	Outside of 500m zone	Thorington	Thorington Pit Pond 1- Track Pond	TM4272	1.5491715	52.29234	2001	Seen	



Darsham	Outside of 500m zone	Dews Ponds	Bramfield, Hill Pasture, Dew's Farm	TM391719	1.5066561	52.29271	2001		
Darsham	Outside of 500m zone	Dews Ponds	Bramfield, Shallow Pond, Dew's Farm	TM388718	1.5021943	52.29195	2001		
Darsham	Probably outside of 500m zone	Yoxford		TM3968	1.5024291	52.25776	1999		
Darsham	Outside of 500m zone	Dews Ponds	Dews Half Moon Pond	TM389717	1.503587	52.29101	1997	Occ sightings with breeding	
Wickham Market	Outside of 500m zone	Marlesford	Marlesford	TM32725962	1.4048137	52.18523	2008	EE50+ on mint, wherb	
Wickham Market	Outside of 500m zone	Parham		TM311598	1.3812798	52.18753	2011	Re-surveyed but GCN still very few.	
Wickham Market	Outside of 500m zone	Marlesford		TM327594	1.4043706	52.18327	2010	Restoration work done 09 and good quality water and plants starting to colonise	
Wickham Market	Outside of 500m zone	Marlesford		TM327593	1.404302	52.18237	2010	Open, sunnier post-restoration. Plenty of vegetation. Still need some rotational copp	
Wickham Market	Outside of 500m zone	Marlesford		TM3305058969	1.4091851	52.17925	2010	Linear old pond near wood, and other pond with gcn	
Wickham Market	Outside of 500m zone	Marlesford		TM319595	1.3927574	52.1845	2010	Ex-farmyard pond (bldgs fell down), now isolated mid-field, extended 80m2 in 07. Full of plants	
Wickham Market	Outside of 500m zone	Marlesford		TM324594	1.3999901	52.18339	2010	Mid arable field, buffered with grass margin, extended 50m2 in 07. Full of plants	
Green Rail Route	36	Leiston	Wood Farm, Westward Ho	TM437631	1.5676301	52.21172	2011	Has a great crested newt in her garden verified by photo	
Green Rail Route	No obvious pond on OS map	Leiston		TM436630	1.5660973	52.21087	2011	Record of GCN with photo sent in to Trust	
Green Rail Route	4	Leiston	Abbey Fish Pond	TM445642	1.5801115	52.22124	1998		several Count of spermatial
Green Rail Route	2/3	Leiston	Former Abbey Farm (Abbey Grounds)	TM445643	1.5801838	52.22214	1998		several Count of spermatial
Blue Rail Route	4	Leiston	Abbey Fish Pond	TM445642	1.5801115	52.22124	1998		several Count of spermatial
Blue Rail Route	2/3	Leiston	Former Abbey Farm (Abbey Grounds)	TM445643	1.5801838	52.22214	1998		several Count of spermatial
Farnham bypass	No records								

Coronation Wood	No records								
Leiston East	No records								

## Appendix 2: Habitat suitability index results for AD site ponds.

Habitat suitability index calculation for Farnham bypass ponds.

Feature	Pond 68	Pond 69
Location	1	1
Pond area	0.5	0.1
Pond drying	0.9	0.9
Water quality	0.67	0.67
Shade	1	1
Fowl	0.67	0.67
Fish	1	0.67
Ponds	0.7	0.7
Terrestrial habitat	1	1
Macrophytes	0.5	1
HSI Score	0.77	0.67
Suitability for Great Crested Newt	Good	Average

Habitat suitability index calculation for Campus site ponds.

Feature	Pond 2	Pond 3	Pond 4	Pond 5	Pond 8
Location	1	1	1	1	1
Pond area	0.2	0.2	0.2	0.3	0.1
Pond drying	1	0.5	0.9	0.9	0.1
Water quality	0.67	0.33	1	0.67	0.33
Shade	0.6	0.2	1	0.6	1
Fowl	0.67	0.67	0.67	1	0.67
Fish	0.67	1	0.67	1	1
Ponds	0.95	0.95	0.95	1	0.55
Terrestrial habitat	1	1	1	0.33	0.33
Macrophytes	0.8	0.3	1	0.4	1
HSI Score	0.7	0.51	0.77	0.65	0.46
Suitability for Great Crested Newt	Good	Below average	Good	Average	Poor

Habitat suitability index calculation for Leiston East Visitor Centre option ponds.

<b>Feature</b>	<b>Pond 19</b>
Location	1
Pond area	0.2
Pond drying	0.9
Water quality	0.33
Shade	1
Fowl	0.67
Fish	1
Ponds	0.1
Terrestrial habitat	0.33
Macrophytes	1
HSI Score	0.52
Suitability for Great Crested Newt	Below average

Habitat suitability index calculation for Wickham Market (Southern Park and Ride) ponds.

<b>Feature</b>	<b>Pond 60</b>	<b>Pond 61</b>
Location	1	1
Pond area	0.45	1
Pond drying	0.9	0.9
Water quality	0.33	0.33
Shade	0.3	0.3
Fowl	0.67	0.67
Fish	1	0.67
Ponds	0.65	0.65
Terrestrial habitat	0.67	0.67
Macrophytes	0.3	0.3
HSI Score	0.57	0.59
Suitability for Great Crested Newt	Below average	Below average

Habitat suitability index calculation for Green Rail Route ponds.

Feature	Pond 23	Pond 25	Pond 26	Pond 27	Pond 28	Pond 30
Location	1	1	1	1	1	1
Pond area	1	0.5	0.4	0.4	0.55	1
Pond drying	0.9	0.9	1	0.9	0.9	0.9
Water quality	0.3	0.67	1	0.33	0.67	1
Shade	1	1	0.8	0.4	1	1
Fowl	0.67	1	1	1	0.67	0.67
Fish	0.33	1	1	1	0.67	1
Ponds	0.95	1	0.95	1	0.95	0.98
Terrestrial habitat	0.33	0.67	0.67	1	0.67	0.67
Macrophytes	0.35	0.33	0.8	0.3	0.35	0.55
HSI Score	0.6	0.76	0.83	0.65	0.71	0.86
Suitability for Great Crested Newt	Average	Good	Excellent	Average	Good	Excellent

Habitat suitability index calculation for Green Rail Route ponds (cont.).

Feature	Pond 4	Pond 2	Pond 3	Pond 34	Pond 35
Location	1	1	1	1	1
Pond area	0.2	0.2	0.2	1	0.2
Pond drying	0.9	1	0.5	0.9	0.9
Water quality	1	0.67	0.33	0.33	0.67
Shade	1	0.6	0.2	1	1
Fowl	0.67	0.67	0.67	0.67	1
Fish	0.67	0.67	1	1	1
Ponds	0.95	0.95	0.95	0.65	0.7
Terrestrial habitat	1	1	1	1	1
Macrophytes	1	0.8	0.3	0.33	0.35
HSI Score	0.77	0.7	0.51	0.73	0.7
Suitability for Great Crested Newt	Good	Good	Below average	Good	Good

Habitat suitability index calculation for Blue Rail Route ponds.

Feature	Pond 48	Pond 49	Pond 50	Pond 25	Pond 52	Pond 53	Pond 54	Pond 55
Location	1	1	1	1	1	1	1	1
Pond area	0.4	0.85	1	0.48	0.15	0.6	0.7	0.5
Pond drying	1	0.9	0.9	0.9	0.9	0.9	0.5	0.9
Water quality	0.67	0.33	0.67	0.67	0.33	0.67	0.3	0.67
Shade	1	0.2	1	1	0.25	1	0.4	1
Fowl	0.67	0.67	0.67	1	1	0.67	0.67	1
Fish	1	1	1	1	1	1	1	1
Ponds	1	1	0.95	1	0.95	1	1	1
Terrestrial habitat	0.67	0.67	0.33	0.67	0.67	0.67	0.67	0.67
Macrophytes	0.7	0.3	0.45	0.33	0.3	0.8	0.8	0.33
HSI Score	0.78	0.61	0.75	0.76	0.54	0.82	0.66	0.64
Suitability for Great Crested Newt	Good	Average	Good	Good	Below average	Excellent	Average	Average


Habitat suitability index calculation for Blue Rail Route ponds (cont.).


Feature	Pond 56	Pond 57	Pond 4	Pond 2	Pond 3	Pond 5	Pond 8	Pond 58
Location	1	1	1	1	1	1	1	1
Pond area	1	0.48	0.2	0.2	0.2	0.3	0.1	0.05
Pond drying	0.9	0.9	0.9	1	0.5	0.9	0.1	0.9
Water quality	0.33	0.67	1	0.67	0.33	0.67	0.33	0.67
Shade	1	1	1	0.6	0.2	0.6	1	1
Fowl	0.67	0.67	0.67	0.67	0.67	1	0.67	0.67
Fish	0.01	1	0.67	0.67	1	1	1	1
Ponds	1	1	0.95	0.95	0.95	1	0.55	0.33
Terrestrial habitat	0.33	0.67	1	1	1	0.33	0.33	0.33
Macrophytes	0.3	0.35	1	0.8	0.3	0.4	1	0.95
HSI Score	0.43	0.73	0.77	0.7	0.51	0.65	0.46	0.54
Suitability for Great Crested Newt	Poor	Good	Good	Good	Below average	Average	Poor	Below Average

## Appendix 3: Great Crested Newt Pond Descriptions for AD Sites





## Farnham bypass

Pond 68	
	
<b>Grid reference</b>	TM362603
<b>Description</b>	A pond surrounded by woodland along its north edge, with marshy grassland to east and south, and the A12 (a barrier to movement) to the east.
<b>Area</b>	250m <sup>2</sup>
<b>Perimeter</b>	100m
<b>Depth</b>	0.5m
<b>Scoped in/out</b>	In – no further access

Pond 69	
	
<b>Grid reference</b>	TM362602
<b>Description</b>	A small pond, surrounded by improved grassland and marshy grassland, with a small area of woodland nearby, and the A12 (a barrier to movement) to the east.
<b>Area</b>	40m <sup>2</sup>
<b>Perimeter</b>	30m
<b>Depth</b>	0.5m
<b>Scoped in/out</b>	In – no further access


## Campus site


Pond 2	
	
<b>Grid reference</b>	TM441645
<b>Description</b>	A pond surrounded by trees in Leiston Abbey grounds, with arable fields to the north and scrub/rough grassland to the south.
<b>Area</b>	90m <sup>2</sup>
<b>Perimeter</b>	70m
<b>Depth</b>	2m
<b>Scoped in/out</b>	In

Pond 3	
	
<b>Grid reference</b>	TM444643
<b>Description</b>	A shallow tree-lined pond in an area of woodland, with arable fields to the north, and scrub/rough grass to south.
<b>Area</b>	90m <sup>2</sup>
<b>Perimeter</b>	70m
<b>Depth</b>	0.7m
<b>Scoped in/out</b>	In




**Campus site cont.**


	
<b>Grid reference</b>	TM444642
<b>Description</b>	An open pond full of emergent vegetation, surrounded by improved grassland and buildings to the north and east, and arable fields to the south-west.
<b>Area</b>	90m <sup>2</sup>
<b>Perimeter</b>	70m
<b>Depth</b>	0.7m
<b>Scoped in/out</b>	In

<b>Pond 5</b>	
	
<b>Grid reference</b>	TM445646
<b>Description</b>	A small, heavily shaded pond in a hedgerow, with arable fields bordering to the north and south. Heavy algal and duckweed cover, range of emergent vegetation species.
<b>Area</b>	150m <sup>2</sup>
<b>Perimeter</b>	50m
<b>Depth</b>	1m
<b>Scoped in/out</b>	In


**Campus site cont.**


<b>Pond 8</b>	
	
<b>Grid reference</b>	TM448642
<b>Description</b>	A small, shallow depression in an arable field, likely to dry out regularly. Dominant rush cover, hedgerow connectivity to nearby Ash Wood.
<b>Area</b>	120m <sup>2</sup>
<b>Perimeter</b>	50m
<b>Depth</b>	0.1m
<b>Scoped in/out</b>	In

**Leiston East Visitor Centre**

<b>Pond 19</b>	
	
<b>Grid reference</b>	TM461626
<b>Description</b>	A shallow, isolated pond situated within a sandy arable field. Likely to occasionally dry out. It has a heavy cover of tall rushes, shading approximately 80% of the pond's open water, with occasional sedge and duckweed. Some short grass immediately surrounds the pond, and there is a small area of scrub approximately 15 metres away which provides some opportunities for foraging and shelter, otherwise suitable habitat for great crested newt is scarce. Two mallards were seen during scoping.
<b>Area</b>	100m <sup>2</sup>
<b>Depth</b>	0.5m
<b>Perimeter</b>	70m
<b>Scoped in/out</b>	In


## Wickham Market (Southern Park & Ride)


Pond 60	
	
<b>Grid reference</b>	TM315575
<b>Description</b>	Pond 60 comprises two water bodies which are likely to be connected during the winter. Situated within a small copse, bounded by arable fields. Heavily shaded and devoid of emergent and marginal aquatic vegetation, although developed a heavy algal cover through the summer. Occasionally visited by water fowl, indicated by visible droppings along the banks. Good foraging and hibernacula opportunities within the copse, and connectivity via grass strips to other nearby areas of woodland. Within three metres of pond 61.
<b>Area</b>	250m <sup>2</sup>
<b>Depth</b>	1.0m
<b>Perimeter</b>	88m
<b>Scoped in/out</b>	In

Pond 61	
	
<b>Grid reference</b>	TM314575
<b>Description</b>	A large pond situated immediately adjacent to pond 60, and situated within a small area of broad-leaved woodland with arable fields bordering to the east and west. Quite heavily shaded with very little emergent or marginal aquatic vegetation. The pond had heavy algal growth during the summer. Water fowl occasionally visit the pond, and there is minor fish presence. There are good foraging and hibernacula opportunities for great crested newt within the copse, and good connectivity via grass verges to other areas of woodland.
<b>Area</b>	550m <sup>2</sup>
<b>Depth</b>	2.0m
<b>Perimeter</b>	145m
<b>Scoped in/out</b>	In





**Green Rail Route**

<b>Pond 23</b>	
	
<b>Grid reference</b>	TM427629
<b>Description</b>	A large farm pond in the yard of Leiston House Farm. Bordered by the paved farmyard and access drive on three sides (N, W, E) with Saxmundham Road to the south, separated by a low hedge and small strip of mown grass. Well stocked with fish (carp and rudd), and a minor waterfowl presence at the site. Little aquatic flora aside from isolated flag iris patches on the northern bank. Limited hedgerow connectivity and availability of suitable terrestrial habitat around the pond, although there are arable fields beyond the farmyard and road, and a garden to the east, consisting of mown grass and some large trees.
<b>Area</b>	810m <sup>2</sup>
<b>Depth</b>	2m
<b>Perimeter</b>	140m
<b>Scoped in/out</b>	In

<b>Pond 25</b>	
	
<b>Grid reference</b>	TM429634
<b>Description</b>	Pond at the edge of Buckle's Wood, with broadleaf woodland to the south and east, and arable crop bordering to the south-west. Abbey Lane borders to the NW bank, with arable fields beyond. Foraging opportunities within Buckle's Wood, with further connectivity via woodland and ditches. Total duckweed cover, with limited emergent vegetation.
<b>Area</b>	260m <sup>2</sup>
<b>Depth</b>	100m
<b>Perimeter</b>	1.5m
<b>Scoped in/out</b>	In


Green Rail Route cont.


Pond 26	
	
<b>Grid reference</b>	TM432629
<b>Description</b>	A pond between two arable fields, alongside a public footpath. Well vegetated banks and abundant emergent vegetation. Surrounding terrestrial habitat provides opportunities for newt foraging and hibernacula, with scrub and woodland in an overgrown garden to the south, and good connectivity via ditch and hedges.
<b>Area</b>	200m <sup>2</sup>
<b>Depth</b>	2m
<b>Perimeter</b>	75m
<b>Scoped in/out</b>	In

Pond 27	
	
<b>Grid reference</b>	TM432635
<b>Description</b>	Deep, steep banked pond at the edge of a small copse with arable fields bordering to two sides (south + east). Highly shaded with deep silt and leaf litter, and little emergent vegetation. There are opportunities for foraging by newts immediately around the pond itself, and within gardens and pasture towards the north, while Buckle's Wood is over the road to the west. Hibernacula within exposed tree roots around pond and in woodland. The site is well connected via hedgerows and woodland.
<b>Area</b>	170m <sup>2</sup>
<b>Depth</b>	>2m
<b>Perimeter</b>	55m
<b>Scoped in/out</b>	In



## Green Rail Route (cont.)

Pond 28	
	
<b>Grid reference</b>	TM435636
<b>Description</b>	A pond within a garden of mown grass and scattered trees, with pasture beyond a hedge to the north. There are good foraging/hibernating opportunities nearby, and various wooden outbuildings which may provide hibernacula/shelter underneath. There are minor impacts of fish and waterfowl at the site, and the pond has a heavy duckweed covering, with little other vegetation noted.
<b>Area</b>	275m <sup>2</sup>
<b>Depth</b>	1.5m
<b>Perimeter</b>	110m
<b>Scoped in/out</b>	In – no further access

Pond 30	
	
<b>Grid reference</b>	TM440635
<b>Description</b>	A large pond in a slight depression at the northern edge of a broadleaf woodland, with arable fields bordering on three sides. The pond is well vegetated, with large patches of tall rush and sedges, though there is a minor waterfowl presence at the site. Good foraging and hibernating opportunities from large earthen banks around pond, as well as within woodland. Otherwise poor connectivity; an isolated wood within arable fields with no immediate hedgerow connections.
<b>Area</b>	500m <sup>2</sup>
<b>Depth</b>	>2m
<b>Perimeter</b>	100m
<b>Scoped in/out</b>	In

## Green Rail Route (cont.)

**Pond 4**



<b>Grid reference</b>	TM444642
<b>Description</b>	An open pond full of emergent vegetation, surrounded by improved grassland and buildings to the north and east, and arable fields to the south-west.
<b>Area</b>	90m <sup>2</sup>
<b>Perimeter</b>	70m
<b>Depth</b>	0.7m
<b>Scoped in/out</b>	In


**Pond 2**




<b>Grid reference</b>	TM441645
<b>Description</b>	A pond surrounded by trees in Leiston Abbey grounds, with arable fields to the north and scrub/rough grass to south.
<b>Area</b>	90m <sup>2</sup>
<b>Perimeter</b>	70m
<b>Depth</b>	2m
<b>Scoped in/out</b>	In




## Green Rail Route (cont.)


Pond 3	
	
<b>Grid reference</b>	TM444643
<b>Description</b>	A shallow tree-lined pond in an area of woodland, with arable fields to the north, and scrub/rough grass to south.
<b>Area</b>	90m <sup>2</sup>
<b>Perimeter</b>	70m
<b>Depth</b>	0.7m
<b>Scoped in/out</b>	In


Pond 34	
	
<b>Grid reference</b>	TM455637
<b>Description</b>	Large pond at the edge of broadleaf woodland with arable field to two sides (W, and S), and connected via ditches to nearby Pond 35. There is a wide, slow-flowing stream to the east, with tussocky wet grassland beyond. The pond appeared recently dredged, with freshly excavated earth on banks, and no visible aquatic vegetation. Good connectivity via streams and woodland, and ample foraging and hibernating opportunities within woodland and tussocky grassland to the east.
<b>Area</b>	500m <sup>2</sup>
<b>Depth</b>	1.5m
<b>Perimeter</b>	200m
<b>Scoped in/out</b>	In – no further access

**Green Rail Route (cont.)**

<b>Pond 35</b>	
	
<b>Grid reference</b>	TM456638
<b>Description</b>	A pond within broadleaf woodland, with coniferous woodland (Kenton Hills) to the north, and an arable field nearby to the west. The pond has a total duckweed cover, with limited alternative macrophyte cover. There are opportunities for foraging and shelter within the woodland, and the pond is connected via ditches to nearby pond 34.
<b>Area</b>	110m <sup>2</sup>
<b>Depth</b>	1.5m
<b>Perimeter</b>	55m
<b>Scoped in/out</b>	In


## Blue Rail Route


Pond 48	
	
<b>Grid reference</b>	TM423637
<b>Description</b>	<p>A pond at the base of a deep depression, with abundant emergent vegetation. Well connected via woodland and hedgerows, being also connected by woodland to Pond 49 and close to Pond 50. An arable field borders to the north at the top of a tall, steep bank, otherwise the pond is bordered by broadleaf woodland to three banks.</p> <p>Opportunities for foraging within woodland and nearby patch of rough grassland.</p> <p><i>Due to access issues this pond was scoped from the boundary with the arable field.</i></p>
<b>Area</b>	200m <sup>2</sup>
<b>Depth</b>	1m
<b>Perimeter</b>	100m
<b>Scoped in/out</b>	In – no further access

Pond 49	
	
<b>Grid reference</b>	TM423638
<b>Description</b>	<p>A large pond within a small area of woodland, with heavily shaded wooded banks. Arable fields border to the south and east beyond the woodland. There are opportunities for newt foraging and shelter within the woodland and within a small patch of rough grassland to the west of the pond. Waterfowl occasionally visit this pond, and no emergent vegetation was visible. Connected by woodland to 48, with pond 50 close by.</p> <p><i>Due to access issues, this pond was scoped from the southern boundary with the arable field.</i></p>
<b>Area</b>	1650m <sup>2</sup>
<b>Depth</b>	>2m
<b>Perimeter</b>	>200m
<b>Scoped in/out</b>	In





## Blue Rail Route (cont.)

Pond 50	
	
<b>Grid reference</b>	TM425636
<b>Description</b>	Artificial pond/reservoir adjacent to former runway. Well vegetated with good range of species. Steep sloping banks with scrub and scattered trees. Arable fields to south and east, with a patch of rough grassland on the other side of the runway. Otherwise limited opportunities for foraging and hibernating near to the pond itself, although there is connectivity along hedgerows and rough grassland to nearby broadleaf woodland and ponds 48 and 49.
<b>Area</b>	550m <sup>2</sup>
<b>Depth</b>	2m
<b>Perimeter</b>	120m
<b>Scoped in/out</b>	In


Pond 25	
	
<b>Grid reference</b>	TM429634
<b>Description</b>	Pond at the edge of Buckle's Wood, with broadleaf woodland to the south and east, and arable crop bordering to the south-west. Abbey Lane borders to the NW bank, with arable fields beyond. Foraging opportunities within Buckle's Wood, with further connectivity via woodland and ditches. Total duckweed cover, with limited emergent vegetation.
<b>Area</b>	260m <sup>2</sup>
<b>Depth</b>	100m
<b>Perimeter</b>	1.5m
<b>Scoped in/out</b>	In


Blue Rail Route (cont.)

Pond 52	
	
<b>Grid reference</b>	TM429644
<b>Description</b>	A small eutrophic pond in dense patch of scrub between two arable fields. Good foraging and hibernating opportunities within the scrub and nearby woodland, and connectivity via hedgerows.
<b>Area</b>	75m <sup>2</sup>
<b>Depth</b>	1.5m
<b>Perimeter</b>	33m
<b>Scoped in/out</b>	In

Pond 53	
	
<b>Grid reference</b>	TM431646
<b>Description</b>	A moderately large, deep pond in an arable field, surrounded by crop on all sides. Although the pond is isolated, there is good terrestrial habitat nearby, with patches of woodland within 50 metres from the pond. The pond is well vegetated with significant submerged vegetation, and is occasionally visited by waterfowl.
<b>Area</b>	300m <sup>2</sup>
<b>Depth</b>	>2m
<b>Perimeter</b>	100m
<b>Scoped in/out</b>	In


## Blue Rail Route (cont.)

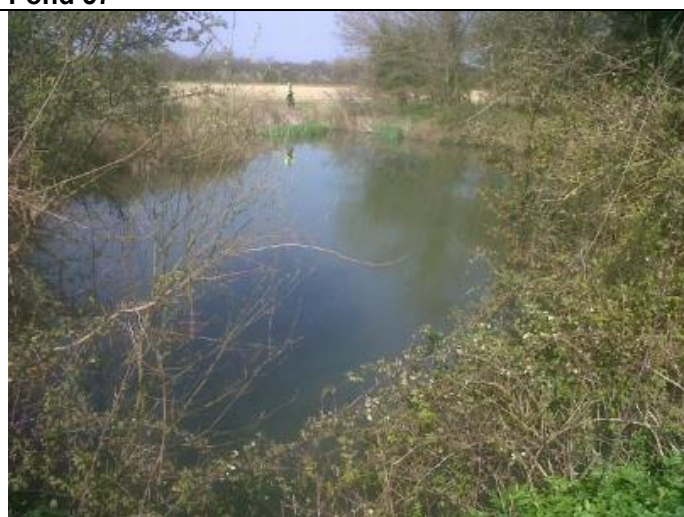
Pond 54	
	
<b>Grid reference</b>	TM438644
<b>Description</b>	A shallow, highly shaded pond within a copse between four fields. Very heavy duckweed cover, with little other emergent vegetation noted. There are opportunities for hibernation and foraging within the copse itself, including within shallow tree-lined earthen banks which line the pond, as well as within a patch of scrub and rough grassland to the north of the pond. Grazed sheep pasture to the east, with arable fields to the south and west. Good hedgerow connectivity to other nearby ponds.
<b>Area</b>	340m <sup>2</sup>
<b>Depth</b>	0.5m
<b>Perimeter</b>	80m
<b>Scoped in/out</b>	In

Pond 55	
	
<b>Grid reference</b>	TM439643
<b>Description</b>	A small, shaded pond within the garden of Hill Farm. Some small patches of flag iris, otherwise little emergent vegetation noted. Steep banks are heavily vegetated with scrub and small trees. Short, grazed pasture lies to the south and west beyond the garden, with arable fields to the east. Good connectivity via hedges.
<b>Area</b>	150m <sup>2</sup>
<b>Depth</b>	1.5m
<b>Perimeter</b>	50m
<b>Scoped in/out</b>	In





## Blue Rail Route (cont.)

Pond 56	
	
<b>Grid reference</b>	TM440644
<b>Description</b>	A large pond within a farmyard. The pond is well stocked with fish, including roach and carp, and is occasionally visited by waterfowl. Amenity grassland and grazed pasture borders to the west, with paved farm yard to the north and east. Little emergent vegetation was present, likely limited by heavy fish presence. Suitable terrestrial habitat for great crested newt nearby is limited.
<b>Area</b>	650m <sup>2</sup>
<b>Depth</b>	2m
<b>Perimeter</b>	100m
<b>Scoped in/out</b>	In

Pond 57	
	
<b>Grid reference</b>	TM441645
<b>Description</b>	A large pond on the western edge of a copse, with arable fields to three sides (north, west, south) beyond a 10 metre buffer of short grass. Connectivity via hedgerows and woodland, which also provide some opportunities for foraging and shelter. Small amount of flag iris and <i>Typha spp.</i> along the banks, otherwise little emergent vegetation present. Occasionally used by waterfowl.
<b>Area</b>	250m <sup>2</sup>
<b>Depth</b>	2m
<b>Perimeter</b>	80m
<b>Scoped in/out</b>	In


**Blue Rail Route (cont.)**


<b>Pond 4</b>	
	
<b>Grid reference</b>	TM444642
<b>Description</b>	An open pond full of emergent vegetation, surrounded by improved grassland and buildings to the north and east, and arable fields to the south-west.
<b>Area</b>	90m <sup>2</sup>
<b>Perimeter</b>	70m
<b>Depth</b>	0.7m
<b>Scoped in/out</b>	In

<b>Pond 2</b>	
	
<b>Grid reference</b>	TM441645
<b>Description</b>	A pond surrounded by trees in Leiston Abbey grounds, with arable fields to the north and scrub/rough grass to south.
<b>Area</b>	90m <sup>2</sup>
<b>Perimeter</b>	70m
<b>Depth</b>	2m
<b>Scoped in/out</b>	In





Blue Rail Route (cont.)

Pond 3	
	
<b>Grid reference</b>	TM444643
<b>Description</b>	A shallow tree-lined pond in an area of woodland, with arable fields to the north, and scrub/rough grass to south.
<b>Area</b>	90m <sup>2</sup>
<b>Perimeter</b>	70m
<b>Depth</b>	0.7m
<b>Scoped in/out</b>	In

Pond 5	
	
<b>Grid reference</b>	TM445646
<b>Description</b>	Small, shaded pond within a hedgerow between two arable fields. Narrow perimeter of willow and blackthorn, and grassy banks around pond itself. The pond is well vegetated with a range of emergent species, and has some continuation via hedgerows to small patches of woodland which provide further foraging opportunities.
<b>Area</b>	150m <sup>2</sup>
<b>Depth</b>	1.5m
<b>Perimeter</b>	50m
<b>Scoped in/out</b>	In

## Blue Rail Route (cont.)

Pond 8	
	
<b>Grid reference</b>	TM448642
<b>Description</b>	A small, shallow depression in an arable field, likely to dry out regularly. Dominant rush cover, hedgerow connectivity to nearby Ash Wood.
<b>Area</b>	120m <sup>2</sup>
<b>Perimeter</b>	50m
<b>Depth</b>	0.1m
<b>Scoped in/out</b>	In

Pond 58	
	
<b>Grid reference</b>	TM428639
<b>Description</b>	A small, deep pond immediately to the east of a former runway, and close to pond 50. Dominant bull rush cover. A small buffer of rough grassland around the pond itself, otherwise Pond 58 is bordered by the paved runway to the north and west and arable fields to east. Limited opportunities for foraging and hibernating near to the pond itself, aside from a patch of rough grassland on the other side of the runway and to the west. There is connectivity along hedgerows and strips of short grass to more suitable habitat, and other nearby ponds.
<b>Area</b>	25m <sup>2</sup>
<b>Depth</b>	2m
<b>Perimeter</b>	20m
<b>Scoped in/out</b>	In

## Appendix 4: Great Crested Newt Pond Survey Results for AD Sites

Key to table:

Wind speed: (1: no wind; 2: light wind; 3: strong wind)

Rain: (heavy/light/none)

Turbidity score (0-5): (0=completely clear, 5=very turbid)

Vegetation cover score (0-5): (0=no vegetation obscuring water, 5=water completely obscured by vegetation)

## Campus site

<b>Pond 2</b>	Visit 1		15/04/14				
Temperature:	7°C		Rain			None	
Wind speed	Light		Cloud cover			None	
Turbidity score	-		Vegetation cover			-	
Survey constraints	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
% of perimeter surveyed	75%		Other amphibians			None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None					1	1
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 2</b>	Visit 2		23/04/14				
Temperature:	10°C		Rain			None	
Wind speed	Light		Cloud cover			None	
Turbidity score	2		Vegetation cover			1	
Survey constraints	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
% of perimeter surveyed	30%		Other amphibians			None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None				1		1
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 2</b>	Visit 3		30/04/14				
Temperature:	11°C		Rain			None	
Wind speed	Light		Cloud cover			Overcast	
Turbidity score	3		Vegetation cover			2	
Survey constraints	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
% of perimeter surveyed	-		Other amphibians			None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None					1	1
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 2</b>	Visit 4		13/05/14				
Temperature:	11°C		Rain			None	
Wind speed	Light		Cloud cover			Overcast	
Turbidity score	3		Vegetation cover			2	
Survey constraints	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
% of perimeter surveyed			Other amphibians			None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None				1		1
Smooth newt	None						
Palmate newt							
Smooth/palmate newt							



**Campus site (cont.)**

<b>Pond 2</b>	<i>Visit 5</i>		27/05/14				
<i>Temperature:</i>	16°C		<i>Rain</i>			Heavy	
<i>Wind speed</i>	No wind		<i>Cloud cover</i>			Overcast	
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			-	
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>				<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	Yes						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 2</b>	<i>Visit 6</i>		29/05/14				
<i>Temperature:</i>	16°C		<i>Rain</i>			None	
<i>Wind speed</i>	No wind		<i>Cloud cover</i>			Overcast	
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			-	
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>				<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	None					1	<b>1</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

## Campus site (cont.)

<b>Pond 3</b>	Visit 1		15/04/14				
Temperature:	7°C		Rain		None		
Wind speed	Light		Cloud cover		None		
Turbidity score	2		Vegetation cover		1		
Survey constraints	No access for trapping; too much debris in pond for netting						
% of perimeter surveyed	100%		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 3</b>	Visit 2		23/04/14				
Temperature:	10°C		Rain		None		
Wind speed	No wind		Cloud cover		None		
Turbidity score	2		Vegetation cover		1		
Survey constraints	No access for trapping; too much debris in pond for netting						
% of perimeter surveyed	65%		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 3</b>	Visit 3		30/04/14				
Temperature:			Rain		None		
Wind speed	Light wind		Cloud cover		Overcast		
Turbidity score	1		Vegetation cover		0		
Survey constraints	No access for trapping; too much debris in pond for netting						
% of perimeter surveyed	-		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 3</b>	Visit 4		13/05/14				
Temperature:			Rain		Light		
Wind speed	Light wind		Cloud cover		-		
Turbidity score	2		Vegetation cover		2		
Survey constraints	No access for trapping; too much debris in pond for netting						
% of perimeter surveyed	-		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0



## Campus site (cont.)

<b>Pond 4</b>	Visit 1		15/04/14				
Temperature:	7°C		Rain		None		
Wind speed	Light		Cloud cover		None		
Turbidity score	0		Vegetation cover		2		
Survey constraints	No access for trapping						
% of perimeter surveyed	90%		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	Yes					2	2
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 4</b>	Visit 2		23/04/14				
Temperature:	10°C		Rain		None		
Wind speed	No wind		Cloud cover		None		
Turbidity score	0		Vegetation cover		2		
Survey constraints	No access for trapping						
% of perimeter surveyed	100%		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	na					2	2
Smooth newt	None				1		1
Palmate newt							0
Smooth/palmate newt					3	1	4

<b>Pond 4</b>	Visit 3		30/04/14				
Temperature:	11°C		Rain		None		
Wind speed	Light wind		Cloud cover		Overcast		
Turbidity score	0		Vegetation cover		4		
Survey constraints	No access for trapping						
% of perimeter surveyed	-		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	na				1	3	4
Smooth newt	None				1	1	2
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 4</b>	Visit 4		13/05/14				
Temperature:			Rain		None		
Wind speed	Light wind		Cloud cover		Overcast		
Turbidity score	0		Vegetation cover		5		
Survey constraints	No access for trapping						
% of perimeter surveyed	-		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	na					2	2
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt					1	1	1

**Campus site (cont.)**

<b>Pond 4</b>	Visit 5		27/05/14					
Temperature:	16°C		Rain			Heavy		
Wind speed	No wind		Cloud cover			Overcast		
Turbidity score	-		Vegetation cover			-		
Survey constraints	No access for trapping							
% of perimeter surveyed				Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey						
		Larvae	Eft	Immature	Adult			Total
				Male	Female	Unknown		
Great crested newt	na				11	20	5	<b>36</b>
Smooth newt	None				3	2		<b>5</b>
Palmate newt								<b>0</b>
Smooth/palmate newt								<b>0</b>

<b>Pond 4</b>	Visit 6		29/05/14					
Temperature:	12°C		Rain			None		
Wind speed	Light wind		Cloud cover			Overcast		
Turbidity score	0		Vegetation cover			2		
Survey constraints	No access for trapping							
% of perimeter surveyed	-			Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey						
		Larvae	Eft	Immature	Adult			Total
				Male	Female	Unknown		
Great crested newt	Yes		4		14	30		<b>48</b>
Smooth newt	None				2	1		<b>3</b>
Palmate newt								<b>0</b>
Smooth/palmate newt						3		<b>3</b>

**Campus site (cont.)**

<b>Pond 5</b>	<i>Visit 1</i>	14/04/14					
<i>Temperature:</i>	7°C	<i>Rain</i>			None		
<i>Wind speed</i>	No wind	<i>Cloud cover</i>			None		
<i>Turbidity score</i>	3	<i>Vegetation cover</i>			4		
<i>Survey constraints</i>	Deep water and vegetation on banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	60%	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt					1		<b>1</b>
Smooth newt							<b>0</b>
Palmate newt						1	<b>1</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 5</b>	<i>Visit 2</i>	22/04/14					
<i>Temperature:</i>	10°C	<i>Rain</i>			None		
<i>Wind speed</i>	Light wind	<i>Cloud cover</i>			None		
<i>Turbidity score</i>	4	<i>Vegetation cover</i>			3		
<i>Survey constraints</i>	Too turbid to torch. Deep water and vegetation on banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	80%	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None				3	3	<b>6</b>
Smooth newt	None						<b>0</b>
Palmate newt						1	<b>1</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 5</b>	<i>Visit 3</i>	29/04/14					
<i>Temperature:</i>	-	<i>Rain</i>			-		
<i>Wind speed</i>	-	<i>Cloud cover</i>			-		
<i>Turbidity score</i>	-	<i>Vegetation cover</i>			-		
<i>Survey constraints</i>	Too turbid to torch. Deep water and vegetation on banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	-	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None				2	6	<b>8</b>
Smooth newt	None				1		<b>1</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 5</b>	<i>Visit 4</i>	22/05/14					
<i>Temperature:</i>	-	<i>Rain</i>			-		
<i>Wind speed</i>	-	<i>Cloud cover</i>			-		
<i>Turbidity score</i>	-	<i>Vegetation cover</i>			-		
<i>Survey constraints</i>	Too turbid to torch. Deep water and vegetation on banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	-	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None				2		<b>2</b>
Smooth newt	None				2	2	<b>4</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

**Campus site (cont.)**

<b>Pond 5</b>	<i>Visit 5</i>		27/05/14				
<i>Temperature:</i>	-		<i>Rain</i>		Heavy		
<i>Wind speed</i>	No wind		<i>Cloud cover</i>		Overcast		
<i>Turbidity score</i>	5		<i>Vegetation cover</i>		3		
<i>Survey constraints</i>	Too turbid to torch. Deep water and vegetation on banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>			<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 5</b>	<i>Visit 6</i>		30/05/14				
<i>Temperature:</i>	13°C		<i>Rain</i>		-		
<i>Wind speed</i>	-		<i>Cloud cover</i>		-		
<i>Turbidity score</i>	-		<i>Vegetation cover</i>		-		
<i>Survey constraints</i>	Too turbid to torch. Deep water and vegetation on banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	-		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None			1			<b>1</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

## Campus site (cont.)

<b>Pond 8</b>	Visit 1		14/04/14				
Temperature:	7°C		Rain		None		
Wind speed	No wind		Cloud cover		None		
Turbidity score	1		Vegetation cover		2		
Survey constraints	Too shallow to bottle trap						
% of perimeter surveyed	100%		Other amphibians			None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None				4		4
Palmate newt							0
Smooth/palmate newt						18	18

<b>Pond 8</b>	Visit 2		24/04/14				
Temperature:	10°C		Rain		None		
Wind speed	Light		Cloud cover		None		
Turbidity score	2		Vegetation cover		2		
Survey constraints	Too shallow to bottle trap						
% of perimeter surveyed	100%		Other amphibians			None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt						7	7

<b>Pond 8</b>	Visit 3		28/04/14				
Temperature:	11°C		Rain		None		
Wind speed	No wind		Cloud cover		Overcast		
Turbidity score	-		Vegetation cover		-		
Survey constraints	Too shallow to bottle trap						
% of perimeter surveyed	-		Other amphibians			None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None				1		1
Palmate newt							0
Smooth/palmate newt						7	7

<b>Pond 8</b>	Visit 4		12/05/14				
Temperature:	10°C		Rain		Light		
Wind speed	Light		Cloud cover		Overcast		
Turbidity score	5		Vegetation cover		3		
Survey constraints	Too shallow to bottle trap						
% of perimeter surveyed	100%		Other amphibians			None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt						1	1

## Leiston East Visitor Centre

<b>Pond 19</b>	<i>Visit 1</i>	15/04/14					
<i>Temperature:</i>	4°C	<i>Rain</i>			None		
<i>Wind speed</i>	Light	<i>Cloud cover</i>			None		
<i>Turbidity score</i>	1	<i>Vegetation cover</i>			4		
<i>Survey constraints</i>	None						
<i>% of perimeter surveyed</i>	100%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 19</b>	<i>Visit 2</i>	22/04/14					
<i>Temperature:</i>	10°C	<i>Rain</i>			None		
<i>Wind speed</i>	Light	<i>Cloud cover</i>			None		
<i>Turbidity score</i>	4	<i>Vegetation cover</i>			3		
<i>Survey constraints</i>	Difficult to torch – turbid water between reeds						
<i>% of perimeter surveyed</i>	100%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
				Male	Female	Unknown	
Great crested newt							0
Smooth newt				3	2		5
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 19</b>	<i>Visit 3</i>	29/04/14					
<i>Temperature:</i>	13°C	<i>Rain</i>			None		
<i>Wind speed</i>	No wind	<i>Cloud cover</i>			Overcast		
<i>Turbidity score</i>	0	<i>Vegetation cover</i>			4		
<i>Survey constraints</i>	None						
<i>% of perimeter surveyed</i>	100%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt					8		8
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
				Male	Female	Unknown	
Great crested newt							0
Smooth newt				2	3		5
Palmate newt							0
Smooth/palmate newt							0

**Leiston East Visitor Centre (cont.)**

<b>Pond 19</b>	Visit 4		12/05/14				
Temperature:	10°C		Rain		None		
Wind speed	No wind		Cloud cover		Overcast		
Turbidity score	4		Vegetation cover		3		
Survey constraints	Difficult to torch – turbid water related to earlier rainfall						
% of perimeter surveyed	100%		Other amphibians		None		
<b>Species</b>	Egg search	<b>Torchlight survey</b>					
		Larvae	Eft	Immature	Adult		
Great crested newt	None			Male	Female	Unknown	<b>0</b>
Smooth newt	None					2	<b>2</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							1
<b>Species</b>		<b>Trap</b>					
		Larvae	Eft	Immature	Adult		
Great crested newt				Male	Female	Unknown	<b>0</b>
Smooth newt				1			<b>1</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

## Wickham Market (Southern Park and Ride)

<b>Pond 60</b>	<i>Visit 1</i>	14/04/14					
<i>Temperature:</i>	6°C	<i>Rain</i>			None		
<i>Wind speed</i>	Light	<i>Cloud cover</i>			None		
<i>Turbidity score</i>	0	<i>Vegetation cover</i>			1		
<i>Survey constraints</i>	Steep banks, heavy vegetation cover on banks						
<i>% of perimeter surveyed</i>	100%	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None				1	1	2
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt							0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 60</b>	<i>Visit 2</i>	28/04/14					
<i>Temperature:</i>	12°C	<i>Rain</i>			None		
<i>Wind speed</i>	No wind	<i>Cloud cover</i>			Overcast		
<i>Turbidity score</i>	4	<i>Vegetation cover</i>			4		
<i>Survey constraints</i>	None						
<i>% of perimeter surveyed</i>	100%	<i>Other amphibians</i>			Common frog		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt						1	1
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 60</b>	<i>Visit 3</i>	12/05/14					
<i>Temperature:</i>	9°C	<i>Rain</i>			None		
<i>Wind speed</i>	Light	<i>Cloud cover</i>			Overcast		
<i>Turbidity score</i>	0	<i>Vegetation cover</i>			0		
<i>Survey constraints</i>	None						
<i>% of perimeter surveyed</i>	100%	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt							0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0



**Wickham Market (Southern Park and Ride) (cont.)**

<b>Pond 60</b>	Visit 4		15/05/14				
Temperature:	10°C		Rain			None	
Wind speed	No wind		Cloud cover			None	
Turbidity score	4		Vegetation cover			1	
Survey constraints	None						
% of perimeter surveyed	80%		Other amphibians			None	
<b>Species</b>	Egg search	<b>Torchlight survey</b>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>
<b>Species</b>		<b>Trap</b>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt							<b>0</b>
Smooth newt							<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

**Wickham Market (Southern Park and Ride) (cont.)**

<b>Pond 61</b>	<i>Visit 1</i>	14/04/14					
<i>Temperature:</i>	5°C	<i>Rain</i>			None		
<i>Wind speed</i>	No wind	<i>Cloud cover</i>			None		
<i>Turbidity score</i>	4	<i>Vegetation cover</i>			4		
<i>Survey constraints</i>	Heavy algal cover, silt and deep water rendered torching difficult, western bank could not be accessed.						
<i>% of perimeter surveyed</i>	60%	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt							0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 61</b>	<i>Visit 2</i>	28/04/14					
<i>Temperature:</i>	12°C	<i>Rain</i>			None		
<i>Wind speed</i>	Light	<i>Cloud cover</i>			Overcast		
<i>Turbidity score</i>	3	<i>Vegetation cover</i>			1		
<i>Survey constraints</i>	Torching difficult – turbid water when deep						
<i>% of perimeter surveyed</i>	60%	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt							0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 61</b>	<i>Visit 3</i>	12/05/14					
<i>Temperature:</i>	9°C	<i>Rain</i>			None		
<i>Wind speed</i>	Light	<i>Cloud cover</i>			Overcast		
<i>Turbidity score</i>	4	<i>Vegetation cover</i>			0		
<i>Survey constraints</i>	Torching difficult – turbid water when deep						
<i>% of perimeter surveyed</i>	60%	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt							0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

**Wickham Market (Southern Park and Ride) (cont.)**

<b>Pond 61</b>	<i>Visit 4</i>		15/05/14					
<i>Temperature:</i>	10°C		<i>Rain</i>			None		
<i>Wind speed</i>	No wind		<i>Cloud cover</i>			None		
<i>Turbidity score</i>	4		<i>Vegetation cover</i>			1		
<i>Survey constraints</i>	None							
<i>% of perimeter surveyed</i>	60%		<i>Other amphibians</i>			Common frog		
<b>Species</b>	<i>Egg search</i>	<b>Torchlight survey</b>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
					Male	Female	Unknown	
Great crested newt	None						<b>0</b>	
Smooth newt	None						<b>0</b>	
Palmate newt							<b>0</b>	
Smooth/palmate newt							<b>0</b>	
<b>Species</b>		<b>Trap</b>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
					Male	Female	Unknown	
Great crested newt							<b>0</b>	
Smooth newt							<b>0</b>	
Palmate newt							<b>0</b>	
Smooth/palmate newt							<b>0</b>	

## Green Rail Route

<b>Pond 23</b>	Visit 1		16/04/14				
Temperature:	6°C		Rain		None		
Wind speed	Light wind		Cloud cover		None		
Turbidity score	4		Vegetation cover		0		
Survey constraints	Torching difficult – turbid water						
% of perimeter surveyed	50%		Other amphibians		Common toad		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
Great crested newt	None			Male	Female	Unknown	0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		Trap					
		Larvae	Eft	Immature	Adult		
Great crested newt				Male	Female	Unknown	0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 23</b>	Visit 2		30/04/14				
Temperature:	11°C		Rain		None		
Wind speed	Light wind		Cloud cover		Overcast		
Turbidity score	4		Vegetation cover		0		
Survey constraints	Torching difficult – turbid water						
% of perimeter surveyed	50%		Other amphibians		Common toad		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
Great crested newt	None			Male	Female	Unknown	0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		Trap					
		Larvae	Eft	Immature	Adult		
Great crested newt				Male	Female	Unknown	0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 23</b>	Visit 3		14/05/14				
Temperature:	10°C		Rain		None		
Wind speed	Light wind		Cloud cover		None		
Turbidity score	4		Vegetation cover		0		
Survey constraints	Torching difficult – turbid water						
% of perimeter surveyed	33%		Other amphibians		Common toad		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
Great crested newt	None			Male	Female	Unknown	0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		Trap					
		Larvae	Eft	Immature	Adult		
Great crested newt				Male	Female	Unknown	0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

**Green Rail Route (cont.)**

<b>Pond 23</b>	<i>Visit 4</i>		27/05/14				
<i>Temperature:</i>	12°C		<i>Rain</i>			Heavy	
<i>Wind speed</i>	No wind		<i>Cloud cover</i>			Overcast	
<i>Turbidity score</i>	5		<i>Vegetation cover</i>			1	
<i>Survey constraints</i>	Very turbid water due to heavy rainfall - torching suspended						
<i>% of perimeter surveyed</i>	80%		<i>Other amphibians</i>			None	
<b>Species</b>	<i>Egg search</i>	<b>Trap</b>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

## Green Rail Route (cont.)

<b>Pond 25</b>	<i>Visit 1</i>		16/04/14				
<i>Temperature:</i>	8°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	3		<i>Vegetation cover</i>		4		
<i>Survey constraints</i>	Difficult to torch and trap due to steep banks, rapidly deepening water, silt and heavy algal and duckweed cover						
<i>% of perimeter surveyed</i>	25%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt	None			Male	Female	Unknown	
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt					1		1
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt				Male	Female	Unknown	
Smooth newt				3	1		4
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 25</b>	<i>Visit 2</i>		28/04/14				
<i>Temperature:</i>	12°C		<i>Rain</i>		None		
<i>Wind speed</i>	No wind		<i>Cloud cover</i>		Overcast		
<i>Turbidity score</i>	n/a		<i>Vegetation cover</i>		5		
<i>Survey constraints</i>	Heavy duckweed – torching ineffective. Steep banks						
<i>% of perimeter surveyed</i>	25%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt	None			Male	Female	Unknown	
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt				Male	Female	Unknown	
Smooth newt				2			2
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 25</b>	<i>Visit 3</i>		14/05/14				
<i>Temperature:</i>	10°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	1		<i>Vegetation cover</i>		4		
<i>Survey constraints</i>	Heavy duckweed cover, deep silt, steep banks						
<i>% of perimeter surveyed</i>	20%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt	None			Male	Female	Unknown	
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt				Male	Female	Unknown	
Smooth newt				1			1
Palmate newt					1		1
Smooth/palmate newt							0



**Green Rail Route (cont.)**

<b>Pond 25</b>	<i>Visit 4</i>		15/05/14				
<i>Temperature:</i>	9°C	<i>Rain</i>			None		
<i>Wind speed</i>	Light	<i>Cloud cover</i>			None		
<i>Turbidity score</i>	3	<i>Vegetation cover</i>			4		
<i>Survey constraints</i>	Water shrew found drowned in previous survey – cannot trap, heavy duckweed						
<i>% of perimeter surveyed</i>	20%	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						<b>0</b>
Smooth newt	None				1	1	<b>2</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

**Green Rail Route (cont.)**

<b>Pond 26</b>	Visit 1		16/04/14				
Temperature:	6°C		Rain		None		
Wind speed	No wind		Cloud cover		None		
Turbidity score	2		Vegetation cover		3		
Survey constraints	Can only survey southern section of pond and bank by footpath due to lack of access to eastern bank, and deep water.						
% of perimeter surveyed	15%		Other amphibians		None		
<b>Species</b>	Egg search	<b>Torchlight survey</b>					
		Larvae	Eft	Immature	Adult		
Great crested newt	None			Male	Female	Unknown	0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<b>Trap</b>					
		Larvae	Eft	Immature	Adult		
Great crested newt				Male	Female	Unknown	0
Smooth newt				1	2		0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 26</b>	Visit 2		28/04/14				
Temperature:	10°C		Rain		None		
Wind speed	No wind		Cloud cover		Overcast		
Turbidity score	3		Vegetation cover		3		
Survey constraints	Can only survey southern section of pond and bank by footpath due to lack of access to eastern bank, and deep water.						
% of perimeter surveyed	20%		Other amphibians		None		
<b>Species</b>	Egg search	<b>Torchlight survey</b>					
		Larvae	Eft	Immature	Adult		
Great crested newt	None			Male	Female	Unknown	0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<b>Trap</b>					
		Larvae	Eft	Immature	Adult		
Great crested newt				Male	Female	Unknown	0
Smooth newt				2	2		4
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 26</b>	Visit 3		14/05/14				
Temperature:	10°C		Rain		None		
Wind speed	Light		Cloud cover		None		
Turbidity score	2		Vegetation cover		3		
Survey constraints	Can only survey southern section of pond and bank by footpath due to lack of access to eastern bank, and deep water.						
% of perimeter surveyed	20%		Other amphibians		None		
<b>Species</b>	Egg search	<b>Torchlight survey</b>					
		Larvae	Eft	Immature	Adult		
Great crested newt	None			Male	Female	Unknown	0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<b>Trap</b>					
		Larvae	Eft	Immature	Adult		
Great crested newt				Male	Female	Unknown	0
Smooth newt				3			3
Palmate newt							0
Smooth/palmate newt							0

**Green Rail Route (cont.)**

<b>Pond 26</b>	Visit 4		28/05/14				
Temperature:	11°C		Rain	None			
Wind speed	No wind		Cloud cover	Overcast			
Turbidity score	2		Vegetation cover	3			
Survey constraints	Can only survey southern section of pond and bank by footpath due to lack of access to eastern bank, and deep water.						
% of perimeter surveyed	20%		Other amphibians	None			
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	Total
Great crested newt	None				1		1
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>	Egg search	Trap					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	Total
Great crested newt							0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 26</b>	Visit 5		29/05/14				
Temperature:	13°C		Rain	None			
Wind speed	Light		Cloud cover	Overcast			
Turbidity score	3		Vegetation cover	4			
Survey constraints	Can only survey southern section of pond and bank by footpath due to lack of access to eastern bank, and deep water.						
% of perimeter surveyed	20%		Other amphibians	None			
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	Total
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>	Egg search	Trap					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	Total
Great crested newt	None						0
Smooth newt	None			5	1		6
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 26</b>	Visit 6		02/06/14				
Temperature:	15°C		Rain	None			
Wind speed	Light		Cloud cover	Overcast			
Turbidity score	4		Vegetation cover	3			
Survey constraints	Can only survey southern section of pond and bank by footpath due to lack of access to eastern bank, and deep water.						
% of perimeter surveyed	20%		Other amphibians	None			
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	Total
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>	Egg search	Trap					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	Total
Great crested newt							0
Smooth newt				3	1		4
Palmate newt							0
Smooth/palmate newt							0

**Green Rail Route (cont.)**

<b>Pond 27</b>	<i>Visit 1</i>		16/04/14				
<i>Temperature:</i>	6°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	2		<i>Vegetation cover</i>		0		
<i>Survey constraints</i>	Trapping limited due to dangerous deep silt, access to most of perimeter limited due to dense scrub						
<i>% of perimeter surveyed</i>	40% torched		<i>Other amphibians</i>		Common frog		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt							<b>0</b>
Smooth newt				1	2		<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 27</b>	<i>Visit 2</i>		24/04/14				
<i>Temperature:</i>	10°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		Light		
<i>Turbidity score</i>	5		<i>Vegetation cover</i>		0		
<i>Survey constraints</i>	Too turbid to torch, trapping limited due to dangerous deep silt, too much debris in pond to net, access to most of perimeter limited due to dense scrub						
<i>% of perimeter surveyed</i>	20% torched		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 27</b>	<i>Visit 3</i>		14/05/14				
<i>Temperature:</i>	10°C		<i>Rain</i>		None		
<i>Wind speed</i>	No wind		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	1		<i>Vegetation cover</i>		0		
<i>Survey constraints</i>	Too turbid to torch, trapping limited due to dangerous deep silt, too much debris in pond to net, access to most of perimeter limited due to dense scrub						
<i>% of perimeter surveyed</i>	20% torched		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None				1		<b>1</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt							<b>0</b>
Smooth newt							<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 27</b>	<i>Visit 4</i>		15/05/14				
<i>Temperature:</i>	11°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	2		<i>Vegetation cover</i>		0		
<i>Survey constraints</i>	Silt too deep to safely trap – trapping suspended. Silt and leaf litter obscure view, steep banks, access to most of perimeter limited due to dense scrub.						
<i>% of perimeter surveyed</i>	40% torched		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

## Green Rail Route (cont.)

<b>Pond 27</b>	<i>Visit 5</i>		27/05/14				
<i>Temperature:</i>	13°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		Overcast		
<i>Turbidity score</i>	1		<i>Vegetation cover</i>		0		
<i>Survey constraints</i>	Silt too deep to safely trap – trapping suspended. Silt and leaf litter obscure view, steep banks, access to most of perimeter limited due to dense scrub.						
<i>% of perimeter surveyed</i>	40% torched			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
				Male	Female	Unknown	
Great crested newt	None						<b>0</b>
Smooth newt	None				1		<b>1</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 27</b>	<i>Visit 6</i>		30/05/14				
<i>Temperature:</i>	15°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		Overcast		
<i>Turbidity score</i>	2		<i>Vegetation cover</i>		0		
<i>Survey constraints</i>	Silt too deep to safely trap – trapping suspended. Silt and leaf litter obscure view, steep banks, access to most of perimeter limited due to dense scrub.						
<i>% of perimeter surveyed</i>	40% torched			<i>Other amphibians</i>		Common toad	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
				Male	Female	Unknown	
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

## Green Rail Route (cont.)

<b>Pond 30</b>	<i>Visit 1</i>	15/04/14						
<i>Temperature:</i>	6°C	<i>Rain</i>			None			
<i>Wind speed</i>	No wind	<i>Cloud cover</i>			Light			
<i>Turbidity score</i>	3	<i>Vegetation cover</i>			3			
<i>Survey constraints</i>	Steep banks limit access to much of perimeter							
<i>% of perimeter surveyed</i>	25% torched	<i>Other amphibians</i>			None			
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt	Yes				2			2
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt								0
<b>Species</b>		<i>Trap</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt					3			3
Smooth newt						2		2
Palmate newt								0
Smooth/palmate newt								0

<b>Pond 30</b>	<i>Visit 2</i>	30/04/14						
<i>Temperature:</i>	11°C	<i>Rain</i>			None			
<i>Wind speed</i>	Light	<i>Cloud cover</i>			Overcast			
<i>Turbidity score</i>	3	<i>Vegetation cover</i>			3			
<i>Survey constraints</i>	Steep banks limit access to much of perimeter							
<i>% of perimeter surveyed</i>	25% torched	<i>Other amphibians</i>			Common frog			
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt	n/a							0
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt						2		2
<b>Species</b>		<i>Trap</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt			1		7	4		12
Smooth newt								0
Palmate newt								0
Smooth/palmate newt								0

<b>Pond 30</b>	<i>Visit 3</i>	13/05/14						
<i>Temperature:</i>	11°C	<i>Rain</i>			None			
<i>Wind speed</i>	Light	<i>Cloud cover</i>			Overcast 90%			
<i>Turbidity score</i>	3	<i>Vegetation cover</i>			3			
<i>Survey constraints</i>	Steep banks limit access to much of perimeter							
<i>% of perimeter surveyed</i>	25% torched	<i>Other amphibians</i>			None			
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt	n/a							0
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt						1		1
<b>Species</b>		<i>Trap</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt								0
Smooth newt					1	3		4
Palmate newt								0
Smooth/palmate newt								0



**Green Rail Route (cont.)**

<b>Pond 30</b>	Visit 4		14/05/14					
Temperature:	8°C	Rain	None					
Wind speed	Light	Cloud cover	None					
Turbidity score	3	Vegetation cover	3					
Survey constraints	Steep banks limit access to much of perimeter							
% of perimeter surveyed	25% torched	Other amphibians			None			
<b>Species</b>	Egg search	<b>Torchlight survey</b>					<b>Total</b>	
		Larvae	Eft	Immature	Adult			
					Male	Female	Unknown	
Great crested newt	n/a							0
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt								0
<b>Species</b>		<b>Trap</b>					<b>Total</b>	
		Larvae	Eft	Immature	Adult			
					Male	Female	Unknown	
Great crested newt					1	3		4
Smooth newt								0
Palmate newt								0
Smooth/palmate newt								0

<b>Pond 30</b>	Visit 5		28/05/14					
Temperature:	13°C	Rain	None					
Wind speed	Light	Cloud cover	Overcast					
Turbidity score	2	Vegetation cover	3					
Survey constraints	Steep banks limit access to much of perimeter							
% of perimeter surveyed	25% torched	Other amphibians			None			
<b>Species</b>	Egg search	<b>Torchlight survey</b>					<b>Total</b>	
		Larvae	Eft	Immature	Adult			
					Male	Female	Unknown	
Great crested newt	n/a				1	1		0
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt								0
<b>Species</b>		<b>Trap</b>					<b>Total</b>	
		Larvae	Eft	Immature	Adult			
					Male	Female	Unknown	
Great crested newt					5	3		8
Smooth newt								0
Palmate newt								0
Smooth/palmate newt								0

<b>Pond 30</b>	Visit 6		29/05/14					
Temperature:	13°C	Rain	None					
Wind speed	Light	Cloud cover	Overcast					
Turbidity score	3	Vegetation cover	3					
Survey constraints	Steep banks limit access to much of perimeter							
% of perimeter surveyed	25% torched	Other amphibians			Common frog			
<b>Species</b>	Egg search	<b>Torchlight survey</b>					<b>Total</b>	
		Larvae	Eft	Immature	Adult			
					Male	Female	Unknown	
Great crested newt	n/a							0
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt								0
<b>Species</b>		<b>Trap</b>					<b>Total</b>	
		Larvae	Eft	Immature	Adult			
					Male	Female	Unknown	
Great crested newt					3	1		4
Smooth newt								0
Palmate newt								0
Smooth/palmate newt								0

**Green Rail Route (cont.)**

<b>Pond 4</b>	Visit 1		15/04/14				
Temperature:	7°C		Rain			None	
Wind speed	Light		Cloud cover			None	
Turbidity score	0		Vegetation cover			2	
Survey constraints	No access for trapping						
% of perimeter surveyed	90% torched			Other amphibians		None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	Yes					2	2
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 4</b>	Visit 2		23/04/14				
Temperature:	10°C		Rain			None	
Wind speed	No wind		Cloud cover			None	
Turbidity score	0		Vegetation cover			2	
Survey constraints	No access for trapping						
% of perimeter surveyed	100% torched			Other amphibians		None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	na					2	2
Smooth newt	None				1		1
Palmate newt							0
Smooth/palmate newt						3	1

<b>Pond 4</b>	Visit 3		30/04/14				
Temperature:	11°C		Rain			None	
Wind speed	Light		Cloud cover			Overcast	
Turbidity score	0		Vegetation cover			4	
Survey constraints	No access for trapping						
% of perimeter surveyed	-			Other amphibians		None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	na				1	3	4
Smooth newt	None				1	1	2
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 4</b>	Visit 4		13/05/14				
Temperature:	11°C		Rain			None	
Wind speed	Light wind		Cloud cover			Overcast	
Turbidity score	0		Vegetation cover			5	
Survey constraints	No access for trapping						
% of perimeter surveyed	-			Other amphibians		None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	na					2	2
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt						1	1

<b>Pond 4</b>	Visit 5		27/05/14				
Temperature:	16°C		Rain			Heavy rain	
Wind speed	No wind		Cloud cover			Overcast	
Turbidity score	-		Vegetation cover			-	
Survey constraints	No access for trapping						
% of perimeter surveyed	-			Other amphibians		None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	na				11	20	5
Smooth newt	None				3	2	5
Palmate newt							0
Smooth/palmate newt							0

## Green Rail Route (cont.)

<b>Pond 4</b>	<i>Visit 6</i>	29/05/14						
<i>Temperature:</i>	12°C	<i>Rain</i>			None			
<i>Wind speed</i>	Light wind	<i>Cloud cover</i>			Overcast			
<i>Turbidity score</i>	0	<i>Vegetation cover</i>			2			
<i>Survey constraints</i>	No access for trapping							
<i>% of perimeter surveyed</i>	-			<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt	Yes		4		14	30		<b>48</b>
Smooth newt	None				2	1		<b>3</b>
Palmate newt								<b>0</b>
Smooth/palmate newt						3		<b>3</b>

**Green Rail Route (cont.)**

<b>Pond 2</b>	<i>Visit 1</i>		15/04/14				
<i>Temperature:</i>	7°C		<i>Rain</i>			None	
<i>Wind speed</i>	Light		<i>Cloud cover</i>			None	
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			-	
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	75%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None					1	<b>1</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 2</b>	<i>Visit 2</i>		23/04/14				
<i>Temperature:</i>	10°C		<i>Rain</i>			None	
<i>Wind speed</i>	Light		<i>Cloud cover</i>			None	
<i>Turbidity score</i>	2		<i>Vegetation cover</i>			1	
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	30%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						<b>0</b>
Smooth newt	None				1		<b>1</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 2</b>	<i>Visit 3</i>		30/04/14				
<i>Temperature:</i>	11°C		<i>Rain</i>			None	
<i>Wind speed</i>	Light		<i>Cloud cover</i>			Overcast	
<i>Turbidity score</i>	3		<i>Vegetation cover</i>			2	
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	-			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None					1	<b>1</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 2</b>	<i>Visit 4</i>		13/05/14				
<i>Temperature:</i>	11°C		<i>Rain</i>			None	
<i>Wind speed</i>	Light		<i>Cloud cover</i>			Overcast	
<i>Turbidity score</i>	3		<i>Vegetation cover</i>			2	
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	-			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None				1		<b>1</b>
Smooth newt	None						
Palmate newt							
Smooth/palmate newt							

## Green Rail Route (cont.)

<b>Pond 2</b>	Visit 5		27/05/14				
Temperature:	16°C		Rain			Heavy	
Wind speed	No wind		Cloud cover			Overcast	
Turbidity score	-		Vegetation cover			-	
Survey constraints	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
% of perimeter surveyed	-			Other amphibians			None
<b>Species</b>	Egg search	<b>Torchlight survey</b>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	Yes						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 2</b>	Visit 6		29/05/14				
Temperature:	16°C		Rain			None	
Wind speed	No wind		Cloud cover			Overcast	
Turbidity score	-		Vegetation cover			-	
Survey constraints	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
% of perimeter surveyed	-			Other amphibians			None
<b>Species</b>	Egg search	<b>Torchlight survey</b>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None					1	<b>1</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

## Green Rail Route (cont.)

<b>Pond 3</b>	<i>Visit 1</i>		15/04/14				
<i>Temperature:</i>	7°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	2		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting						
<i>% of perimeter surveyed</i>	100%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 3</b>	<i>Visit 2</i>		23/04/14				
<i>Temperature:</i>	10°C		<i>Rain</i>		None		
<i>Wind speed</i>	No wind		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	2		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting						
<i>% of perimeter surveyed</i>	65%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 3</b>	<i>Visit 3</i>		30/04/14				
<i>Temperature:</i>	-		<i>Rain</i>		None		
<i>Wind speed</i>	Light wind		<i>Cloud cover</i>		Overcast		
<i>Turbidity score</i>	1		<i>Vegetation cover</i>		0		
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting						
<i>% of perimeter surveyed</i>	-		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 3</b>	<i>Visit 4</i>		13/05/14				
<i>Temperature:</i>	-		<i>Rain</i>		Light		
<i>Wind speed</i>	Light wind		<i>Cloud cover</i>		-		
<i>Turbidity score</i>	2		<i>Vegetation cover</i>		2		
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting						
<i>% of perimeter surveyed</i>	-		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0



**Green Rail Route (cont.)**

<b>Pond 35</b>	<i>Visit 1</i>		15/04/14				
<i>Temperature:</i>	7°C		<i>Rain</i>			None	
<i>Wind speed</i>	No wind		<i>Cloud cover</i>			None	
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			5	
<i>Survey constraints</i>	Torching difficult due to heavy duckweed cover						
<i>% of perimeter surveyed</i>	70%			<i>Other amphibians</i>			None
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt							0
Smooth newt				5	1		6
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 35</b>	<i>Visit 2</i>		23/04/14				
<i>Temperature:</i>	11°C		<i>Rain</i>			None	
<i>Wind speed</i>	None		<i>Cloud cover</i>			None	
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			5	
<i>Survey constraints</i>	Torching suspended due to heavy duckweed cover						
<i>% of perimeter surveyed</i>	70%			<i>Other amphibians</i>			None
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None			18			18
Palmate newt					2		2
Smooth/palmate newt							0

<b>Pond 35</b>	<i>Visit 3</i>		12/05/14				
<i>Temperature:</i>	9°C		<i>Rain</i>			None	
<i>Wind speed</i>	Light		<i>Cloud cover</i>			Overcast	
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			5	
<i>Survey constraints</i>	Torching suspended due to heavy duckweed cover						
<i>% of perimeter surveyed</i>	70%			<i>Other amphibians</i>			None
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	n/a						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 35</b>	<i>Visit 4</i>		28/05/14				
<i>Temperature:</i>	13°C		<i>Rain</i>			None	
<i>Wind speed</i>	No wind		<i>Cloud cover</i>			Overcast	
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			5	
<i>Survey constraints</i>	Torching suspended due to heavy duckweed cover						
<i>% of perimeter surveyed</i>	70%			<i>Other amphibians</i>			None
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	n/a						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

## Blue Rail Route

<b>Pond 50</b>	<i>Visit 1</i>	14/04/14					
<i>Temperature:</i>	7°C	<i>Rain</i>			None		
<i>Wind speed</i>	No wind	<i>Cloud cover</i>			None		
<i>Turbidity score</i>	1	<i>Vegetation cover</i>			1		
<i>Survey constraints</i>	Steep banks limit access to much of perimeter for trapping						
<i>% of perimeter surveyed</i>	75% torched, 33% trapped			<i>Other amphibians</i>		Common frog	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	Yes				1	5	6
Smooth newt	None				1		1
Palmate newt							0
Smooth/palmate newt						4	
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt				3			3
Smooth newt					2		2
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 50</b>	<i>Visit 2</i>	22/04/14					
<i>Temperature:</i>	13°C	<i>Rain</i>			None		
<i>Wind speed</i>	No wind	<i>Cloud cover</i>			Overcast		
<i>Turbidity score</i>	0	<i>Vegetation cover</i>			1		
<i>Survey constraints</i>	Steep banks limit access to much of perimeter for trapping						
<i>% of perimeter surveyed</i>	75% torched, 33% trapped			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	n/a				1	6	7
Smooth newt	None				3		3
Palmate newt							0
Smooth/palmate newt						3	
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt				1	4		5
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 50</b>	<i>Visit 3</i>	29/04/14					
<i>Temperature:</i>	8°C	<i>Rain</i>			None		
<i>Wind speed</i>	Light	<i>Cloud cover</i>			None		
<i>Turbidity score</i>	0	<i>Vegetation cover</i>			1		
<i>Survey constraints</i>	Steep banks limit access to much of perimeter for trapping						
<i>% of perimeter surveyed</i>	75% torched, 33% trapped			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	n/a				10	16	26
Smooth newt	None				2		2
Palmate newt							0
Smooth/palmate newt						10	
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt				3	3		6
Smooth newt							0
Palmate newt					1		1
Smooth/palmate newt							0

## Blue Rail Route (cont.)

<b>Pond 50</b>	<i>Visit 4</i>		14/05/14				
<i>Temperature:</i>	8°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	0		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	Trapping suspended after water shrew found drowned on visit 3. Steep banks limit access to much of perimeter						
<i>% of perimeter surveyed</i>	75%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	n/a		3		4	12	<b>19</b>
Smooth newt	None				7		<b>7</b>
Palmate newt							<b>0</b>
Smooth/palmate newt						12	<b>12</b>

<b>Pond 50</b>	<i>Visit 5</i>		27/05/14				
<i>Temperature:</i>	13°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		Overcast		
<i>Turbidity score</i>	2		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	Trapping suspended after water shrew found drowned on visit 3. Steep banks limit access to much of perimeter. Visibility heavily constrained by rain – torching difficult.						
<i>% of perimeter surveyed</i>	75%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	n/a				3	11	<b>14</b>
Smooth newt	None				3		<b>3</b>
Palmate newt							<b>0</b>
Smooth/palmate newt						6	<b>6</b>

<b>Pond 50</b>	<i>Visit 6</i>		28/05/14				
<i>Temperature:</i>	13°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		Overcast		
<i>Turbidity score</i>	2		<i>Vegetation cover</i>		3		
<i>Survey constraints</i>	Trapping suspended after water shrew found drowned on visit 3. Steep banks limit access to much of perimeter						
<i>% of perimeter surveyed</i>	25%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	n/a		3		1	4	<b>5</b>
Smooth newt	None		1		2	6	<b>21</b>
Palmate Newt						12	
Smooth/palmate newt							

## Blue Rail Route (cont.)

<b>Pond 25</b>	Visit 1		16/04/14				
Temperature:	8°C		Rain		None		
Wind speed	Light		Cloud cover		None		
Turbidity score	3		Vegetation cover		4		
Survey constraints	Difficult to torch and trap due to steep banks, rapidly deepening water, silt and heavy algal and duckweed cover						
% of perimeter surveyed	25%			Other amphibians		None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		Total
Great crested newt	None			Male	Female	Unknown	
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt					1		1
<b>Species</b>	Trap						
		Larvae	Eft	Immature	Adult		Total
Great crested newt				Male	Female	Unknown	
Smooth newt				3	1		4
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 25</b>	Visit 2		28/04/14				
Temperature:	12°C		Rain		None		
Wind speed	No wind		Cloud cover		Overcast		
Turbidity score	n/a		Vegetation cover		5		
Survey constraints	Heavy duckweed – torching ineffective. Steep banks						
% of perimeter surveyed	25%			Other amphibians		None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		Total
Great crested newt	None			Male	Female	Unknown	
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>	Trap						
		Larvae	Eft	Immature	Adult		Total
Great crested newt				Male	Female	Unknown	
Smooth newt				2			2
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 25</b>	Visit 3		14/05/14				
Temperature:	10°C		Rain		None		
Wind speed	Light		Cloud cover		None		
Turbidity score	1		Vegetation cover		4		
Survey constraints	Heavy duckweed cover, deep silt, steep banks						
% of perimeter surveyed	20%			Other amphibians		None	
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		Total
Great crested newt	None			Male	Female	Unknown	
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>	Trap						
		Larvae	Eft	Immature	Adult		Total
Great crested newt				Male	Female	Unknown	
Smooth newt				1			1
Palmate newt					1		1
Smooth/palmate newt							0

**Blue Rail Route (cont.)**

<b>Pond 25</b>	<i>Visit 4</i>		15/05/14					
<i>Temperature:</i>	9°C		<i>Rain</i>			None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>			None		
<i>Turbidity score</i>	3		<i>Vegetation cover</i>			4		
<i>Survey constraints</i>	Water shrew found drowned in previous survey – cannot trap, heavy duckweed							
<i>% of perimeter surveyed</i>	20%		<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
					Male	Female	Unknown	
Great crested newt	None						<b>0</b>	
Smooth newt	None				1	1	<b>2</b>	
Palmate newt							<b>0</b>	
Smooth/palmate newt							<b>0</b>	

**Blue Rail Route (cont.)**

<b>Pond 52</b>	Visit 1		16/04/14				
Temperature:	6°C		Rain		None		
Wind speed	No wind		Cloud cover		None		
Turbidity score	3		Vegetation cover		2		
Survey constraints	Steep bramble covered banks prevent access to much of perimeter						
% of perimeter surveyed	20%		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		Trap					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt							0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 52</b>	Visit 2		23/04/14				
Temperature:	10°C		Rain		None		
Wind speed	No wind		Cloud cover		None		
Turbidity score	4		Vegetation cover		3		
Survey constraints	Steep bramble covered banks prevent access to much of perimeter, difficult to torch due to turbid water with a heavy algal cover and challenging access.						
% of perimeter surveyed	20%		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		Trap					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt							12
Smooth newt				2	1		0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 52</b>	Visit 3		13/05/14				
Temperature:	10°C		Rain		None		
Wind speed	Light		Cloud cover		Overcast		
Turbidity score	-		Vegetation cover		-		
Survey constraints	Torching suspended due to difficult access and turbid water with heavy algal cover.						
% of perimeter surveyed	25%		Other amphibians		None		
<b>Species</b>	Egg search	Trap					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None				1		1
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 52</b>	Visit 4		28/05/14				
Temperature:	-		Rain		-		
Wind speed	-		Cloud cover		-		
Turbidity score	-		Vegetation cover		-		
Survey constraints	Torching suspended due to difficult access and turbid water with heavy algal cover. Trapping suspended due to drowned water shrew in trap on visit 4.						
% of perimeter surveyed	25%		Other amphibians		None		
<b>Species</b>	Egg search	Netting survey					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt	n/a						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0



**Blue Rail Route (cont.)**

<b>Pond 53</b>	Visit 1		16/04/14				
Temperature:	6°C		Rain		None		
Wind speed	No wind		Cloud cover		None		
Turbidity score	3		Vegetation cover		1		
Survey constraints	Steep banks limit access to much of perimeter, deep water						
% of perimeter surveyed	40%		Other amphibians		Frog/toad tadpole		
<b>Species</b>	Egg search	Torchlight survey					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	Yes						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							1
<b>Species</b>		Trap					<b>Total</b>
		Larvae	Eft	Immature	Adult		
					Male	Female	Unknown
Great crested newt							0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 53</b>	Visit 2		23/04/14				
Temperature:	11°C		Rain		None		
Wind speed	No wind		Cloud cover		None		
Turbidity score	3		Vegetation cover		2		
Survey constraints	Steep banks limit access to much of perimeter, difficult to torch due to heavy silt, deep water						
% of perimeter surveyed	33%		Other amphibians		Common frog		
<b>Species</b>	Egg search	Torchlight survey					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	n/a						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		Trap					<b>Total</b>
		Larvae	Eft	Immature	Adult		
					Male	Female	Unknown
Great crested newt					1		1
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 53</b>	Visit 3		13/05/14				
Temperature:	10°C		Rain		-		
Wind speed	-		Cloud cover		-		
Turbidity score	-		Vegetation cover		-		
Survey constraints	Torching suspended due to turbid water. Steep banks limit access to much of perimeter. Deep water.						
% of perimeter surveyed	33%		Other amphibians		Common frog		
<b>Species</b>	Egg search	Trap					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	n/a						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 53</b>	Visit 4		27/05/2014				
Temperature:	12°C		Rain		-		
Wind speed	-		Cloud cover		-		
Turbidity score	-		Vegetation cover		-		
Survey constraints	Torching suspended due to turbid water. Steep banks limit access to much of perimeter. Deep water.						
% of perimeter surveyed	33%		Other amphibians		None		
<b>Species</b>	Egg search	Trap					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	n/a			3	4		7
Smooth newt	None			3	3		6
Palmate newt							0
Smooth/palmate newt							0

## Blue Rail Route (cont.)

<b>Pond 53</b>	<i>Visit 5</i>		28/05/14					
<i>Temperature:</i>	13°C		<i>Rain</i>			-		
<i>Wind speed</i>	-		<i>Cloud cover</i>			-		
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			-		
<i>Survey constraints</i>	Torching suspended due to turbid water. Steep banks limit access to much of perimeter. Deep water.							
<i>% of perimeter surveyed</i>	33%			<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
Great crested newt	n/a				Male	Female	Unknown	
Smooth newt	None				1	1		2
Palmate newt								0
Smooth/palmate newt								0

<b>Pond 53</b>	<i>Visit 6</i>		29/05/14					
<i>Temperature:</i>	14°C		<i>Rain</i>			-		
<i>Wind speed</i>	-		<i>Cloud cover</i>			-		
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			-		
<i>Survey constraints</i>	Torching suspended due to turbid water. Steep banks limit access to much of perimeter. Deep water.							
<i>% of perimeter surveyed</i>	33%			<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
Great crested newt	n/a				Male	Female	Unknown	
Smooth newt	None					1		1
Palmate newt								0
Smooth/palmate newt								0

**Blue Rail Route (cont.)**

<b>Pond 54</b>	<i>Visit 1</i>		15/04/14				
<i>Temperature:</i>	7°C		<i>Rain</i>		None		
<i>Wind speed</i>	No wind		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	0		<i>Vegetation cover</i>		4		
<i>Survey constraints</i>	Torching difficult due to heavy duckweed cover. Unsafe to trap all of pond due to deep silt.						
<i>% of perimeter surveyed</i>	75%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt							0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 54</b>	<i>Visit 2</i>		24/04/14				
<i>Temperature:</i>	10°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	3		<i>Vegetation cover</i>		5		
<i>Survey constraints</i>	Torching not effective due to total duckweed cover, unsafe to trap all of pond due to deep silt.						
<i>% of perimeter surveyed</i>	60%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt							0
Smooth newt							0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 54</b>	<i>Visit 3</i>		13/05/14				
<i>Temperature:</i>	13°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		Light		
<i>Turbidity score</i>	5		<i>Vegetation cover</i>		5		
<i>Survey constraints</i>	Torching suspended due to turbid water and total duckweed cover, unsafe to trap all of pond due to deep silt.						
<i>% of perimeter surveyed</i>	60%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

**Blue Rail Route (cont.)**

<b>Pond 54</b>	<i>Visit 4</i>		15/05/14					
<i>Temperature:</i>	11°C		<i>Rain</i>			-		
<i>Wind speed</i>	-		<i>Cloud cover</i>			-		
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			-		
<i>Survey constraints</i>	Steep banks limit access to much of perimeter							
<i>% of perimeter surveyed</i>	25%		<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
					Male	Female	Unknown	
Great crested newt	None						<b>0</b>	
Smooth newt	None						<b>0</b>	
Palmate newt							<b>0</b>	
Smooth/palmate newt							<b>0</b>	

**Blue Rail Route (cont.)**

<b>Pond 55</b>	<i>Visit 1</i>		15/04/14				
<i>Temperature:</i>	7°C		<i>Rain</i>		None		
<i>Wind speed</i>	No wind		<i>Cloud cover</i>		Light		
<i>Turbidity score</i>	3		<i>Vegetation cover</i>		2		
<i>Survey constraints</i>	Difficult to torch due to quite turbid water, heavy vegetation on banks so survey possible only from within pond.						
<i>% of perimeter surveyed</i>	50%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt	None			Male	Female	Unknown	
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt				Male	Female	Unknown	
Smooth newt				1	2		1
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 55</b>	<i>Visit 2</i>		24/04/14				
<i>Temperature:</i>	10°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		Light		
<i>Turbidity score</i>	3		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	Difficult to torch due to quite turbid water, heavy vegetation on banks so survey possible only from within pond.						
<i>% of perimeter surveyed</i>	50%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt	None			Male	Female	Unknown	
Smooth newt	None			1			0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt	None			Male	Female	Unknown	
Smooth newt	None				1		0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 55</b>	<i>Visit 3</i>		13/05/14				
<i>Temperature:</i>	14°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		Overcast		
<i>Turbidity score</i>	-		<i>Vegetation cover</i>		-		
<i>Survey constraints</i>	Torching suspended due to turbid water, survey possible only from within pond due to heavy vegetation on banks.						
<i>% of perimeter surveyed</i>	50%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		<b>Total</b>
Great crested newt	None			Male	Female	Unknown	
Smooth newt	None				4		4
Palmate newt							0
Smooth/palmate newt							0

## Blue Rail Route (cont.)

<b>Pond 55</b>	Visit 4		15/05/14					
Temperature:	11°C		Rain	-				
Wind speed	-		Cloud cover	-				
Turbidity score	-		Vegetation cover	-				
Survey constraints	Torching suspended due to turbid water, survey possible only from within pond due to heavy vegetation on banks.							
% of perimeter surveyed	50%		Other amphibians	None				
<b>Species</b>	Egg search	Trap						
		Larvae	Eft	Immature	Adult			Total
				Male	Female	Unknown		
Great crested newt	None					1		1
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt								0

<b>Pond 55</b>	Visit 5		27/05/14					
Temperature:	12°C		Rain	Heavy				
Wind speed	None		Cloud cover	Overcast				
Turbidity score	5		Vegetation cover	2				
Survey constraints	Torching suspended due to turbid water, survey possible only from within pond due to heavy vegetation on banks.							
% of perimeter surveyed	50%		Other amphibians	None				
<b>Species</b>	Egg search	Trap						
		Larvae	Eft	Immature	Adult			Total
				Male	Female	Unknown		
Great crested newt	None				5	1		6
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt								0

<b>Pond 55</b>	Visit 6		29/05/14					
Temperature:	13°C		Rain	-				
Wind speed	-		Cloud cover	-				
Turbidity score	5		Vegetation cover	2				
Survey constraints	Torching suspended due to turbid water, survey possible only from within pond due to heavy vegetation on banks.							
% of perimeter surveyed	50%		Other amphibians	None				
<b>Species</b>	Egg search	Trap						
		Larvae	Eft	Immature	Adult			Total
				Male	Female	Unknown		
Great crested newt	None					2		2
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt								0



**Blue Rail Route (cont.)**

<b>Pond 56</b>	<i>Visit 1</i>		15/04/14				
<i>Temperature:</i>	7°C		<i>Rain</i>		None		
<i>Wind speed</i>	No wind		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	4		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	Torching difficult due to turbid water, trap locations limited by gravel substrate.						
<i>% of perimeter surveyed</i>	80%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt							<b>0</b>
Smooth newt							<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 56</b>	<i>Visit 2</i>		24/04/14				
<i>Temperature:</i>	10°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		Light		
<i>Turbidity score</i>	4		<i>Vegetation cover</i>		2		
<i>Survey constraints</i>	Difficult to torch due to turbid water. Trap locations limited by gravel substrate.						
<i>% of perimeter surveyed</i>	80%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt							<b>0</b>
Smooth newt							<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 56</b>	<i>Visit 3</i>		13/05/14				
<i>Temperature:</i>	14°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		Overcast		
<i>Turbidity score</i>	5		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	Torching not effective due to very turbid water. Trap locations limited by gravel substrate.						
<i>% of perimeter surveyed</i>	20%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

**Blue Rail Route (cont.)**

<b>Pond 56</b>	<i>Visit 4</i>	14/05/14					
<i>Temperature:</i>	8°C	<i>Rain</i>			None		
<i>Wind speed</i>	Light	<i>Cloud cover</i>			Light		
<i>Turbidity score</i>	4	<i>Vegetation cover</i>			1		
<i>Survey constraints</i>	Difficult to torch due to turbid water. Trap locations limited by gravel substrate.						
<i>% of perimeter surveyed</i>	80%	<i>Other amphibians</i>			None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

**Blue Rail Route (cont.)**

<b>Pond 57</b>	<i>Visit 1</i>		14/04/14				
<i>Temperature:</i>	7°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	3		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	Access to pond perimeter limited by steep bramble covered banks.						
<i>% of perimeter surveyed</i>	33%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None					2	2
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt							0
Smooth newt							0
Palmate newt							1
Smooth/palmate newt							0

<b>Pond 57</b>	<i>Visit 2</i>		22/04/14				
<i>Temperature:</i>	10°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	2		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	Access to pond perimeter limited by steep bramble covered banks.						
<i>% of perimeter surveyed</i>	33%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt				1			1
Smooth newt				2			2
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 57</b>	<i>Visit 3</i>		29/04/14				
<i>Temperature:</i>	12°C		<i>Rain</i>		-		
<i>Wind speed</i>	-		<i>Cloud cover</i>		-		
<i>Turbidity score</i>	5		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	Torching not effective due to very turbid water, access to pond perimeter limited by steep bramble covered banks.						
<i>% of perimeter surveyed</i>	33%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						0
Smooth newt	None			1	1		2
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 57</b>	<i>Visit 4</i>		14/05/2014				
<i>Temperature:</i>	8°C		<i>Rain</i>		None		
<i>Wind speed</i>	Light		<i>Cloud cover</i>		None		
<i>Turbidity score</i>	4		<i>Vegetation cover</i>		1		
<i>Survey constraints</i>	Difficult to torch due to very turbid water, trapping suspended due to drowned water shrew recorded in visit 3. Access to pond perimeter limited by steep bramble covered banks.						
<i>% of perimeter surveyed</i>	33%		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

## Blue Rail Route (cont.)

<b>Pond 2</b>	<i>Visit 1</i>		15/04/14				
<i>Temperature:</i>	7°C		<i>Rain</i>			None	
<i>Wind speed</i>	Light		<i>Cloud cover</i>			None	
<i>Turbidity score</i>	-		<i>Vegetation cover</i>			-	
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	75%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	None					1	<b>1</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 2</b>	<i>Visit 2</i>		23/04/14				
<i>Temperature:</i>	10°C		<i>Rain</i>			None	
<i>Wind speed</i>	Light		<i>Cloud cover</i>			None	
<i>Turbidity score</i>	2		<i>Vegetation cover</i>			1	
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	30%			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None			1			<b>1</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 2</b>	<i>Visit 3</i>		30/04/14				
<i>Temperature:</i>	11°C		<i>Rain</i>			None	
<i>Wind speed</i>	Light		<i>Cloud cover</i>			Overcast	
<i>Turbidity score</i>	3		<i>Vegetation cover</i>			2	
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	-			<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	None				1		<b>1</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 2</b>	<i>Visit 4</i>		13/05/14				
<i>Temperature:</i>	11°C		<i>Rain</i>			None	
<i>Wind speed</i>	Light		<i>Cloud cover</i>			Overcast	
<i>Turbidity score</i>	3		<i>Vegetation cover</i>			2	
<i>Survey constraints</i>	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>				<i>Other amphibians</i>		None	
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
Male	Female				Unknown		
Great crested newt	None			1			<b>1</b>
Smooth newt	None						
Palmate newt							
Smooth/palmate newt							

## Blue Rail Route (cont.)

<b>Pond 2</b>	Visit 5		27/05/14				
Temperature:	16°C		Rain			Heavy	
Wind speed	No wind		Cloud cover			Overcast	
Turbidity score	-		Vegetation cover			-	
Survey constraints	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
% of perimeter surveyed				Other amphibians		None	
<b>Species</b>	Egg search	<b>Torchlight survey</b>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	Yes						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 2</b>	Visit 6		29/05/14				
Temperature:	16°C		Rain			None	
Wind speed	No wind		Cloud cover			Overcast	
Turbidity score	-		Vegetation cover			-	
Survey constraints	No access for trapping; too much debris in pond for netting; deep water and steep banks limits access to perimeter for H&S reasons						
% of perimeter surveyed				Other amphibians		None	
<b>Species</b>	Egg search	<b>Torchlight survey</b>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None					1	<b>1</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

## Blue Rail Route (cont.)

<b>Pond 3</b>	Visit 1		15/04/14				
Temperature:	7°C		Rain		None		
Wind speed	Light		Cloud cover		None		
Turbidity score	2		Vegetation cover		1		
Survey constraints	No access for trapping; too much debris in pond for netting						
% of perimeter surveyed	100%		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 3</b>	Visit 2		23/04/14				
Temperature:	10°C		Rain		None		
Wind speed	No wind		Cloud cover		None		
Turbidity score	2		Vegetation cover		1		
Survey constraints	No access for trapping; too much debris in pond for netting						
% of perimeter surveyed	65%		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 3</b>	Visit 3		30/04/14				
Temperature:	-		Rain		None		
Wind speed	Light wind		Cloud cover		Overcast		
Turbidity score	1		Vegetation cover		0		
Survey constraints	No access for trapping; too much debris in pond for netting						
% of perimeter surveyed	-		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 3</b>	Visit 4		13/05/14				
Temperature:	-		Rain		Light		
Wind speed	Light wind		Cloud cover		-		
Turbidity score	2		Vegetation cover		2		
Survey constraints	No access for trapping; too much debris in pond for netting						
% of perimeter surveyed	-		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					<b>Total</b>
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

## Blue Rail Route (cont.)

<b>Pond 4</b>	Visit 1		15/04/14				
Temperature:	7°C		Rain		None		
Wind speed	Light		Cloud cover		None		
Turbidity score	0		Vegetation cover		2		
Survey constraints	No access for trapping						
% of perimeter surveyed	90%		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	Yes					2	2
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 4</b>	Visit 2		23/04/14				
Temperature:	10°C		Rain		None		
Wind speed	No wind		Cloud cover		None		
Turbidity score	0		Vegetation cover		2		
Survey constraints	No access for trapping						
% of perimeter surveyed	100%		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	na					2	2
Smooth newt	None				1		1
Palmate newt							0
Smooth/palmate newt					3	1	4

<b>Pond 4</b>	Visit 3		30/04/14				
Temperature:	11°C		Rain		None		
Wind speed	Light wind		Cloud cover		Overcast		
Turbidity score	0		Vegetation cover		4		
Survey constraints	No access for trapping						
% of perimeter surveyed	-		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	na				1	3	4
Smooth newt	None				1	1	2
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 4</b>	Visit 4		13/05/14				
Temperature:			Rain		None		
Wind speed	Light wind		Cloud cover		Overcast		
Turbidity score	0		Vegetation cover		5		
Survey constraints	No access for trapping						
% of perimeter surveyed	-		Other amphibians		None		
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	na					2	2
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt						1	1



## Blue Rail Route (cont.)

<b>Pond 4</b>	<i>Visit 5</i>	27/05/14						
<i>Temperature:</i>	16°C	<i>Rain</i>			Heavy			
<i>Wind speed</i>	No wind	<i>Cloud cover</i>			Overcast			
<i>Turbidity score</i>	-	<i>Vegetation cover</i>			-			
<i>Survey constraints</i>	No access for trapping							
<i>% of perimeter surveyed</i>		<i>Other amphibians</i>			None			
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt	na				11	20	5	<b>36</b>
Smooth newt	None				3	2		<b>5</b>
Palmate newt								<b>0</b>
Smooth/palmate newt								<b>0</b>

<b>Pond 4</b>	<i>Visit 6</i>	29/05/14						
<i>Temperature:</i>	12°C	<i>Rain</i>			None			
<i>Wind speed</i>	Light wind	<i>Cloud cover</i>			Overcast			
<i>Turbidity score</i>	0	<i>Vegetation cover</i>			2			
<i>Survey constraints</i>	No access for trapping							
<i>% of perimeter surveyed</i>	-	<i>Other amphibians</i>			None			
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt	Yes		4		14	30		<b>48</b>
Smooth newt	None				2	1		<b>3</b>
Palmate newt								<b>0</b>
Smooth/palmate newt						3		<b>3</b>

## Blue Rail Route (cont.)

<b>Pond 5</b>	Visit 1		14/04/14				
Temperature:	7°C	Rain	None				
Wind speed	No wind	Cloud cover	None				
Turbidity score	3	Vegetation cover	4				
Survey constraints	Deep water and vegetation on banks limits access to perimeter for H&S reasons						
% of perimeter surveyed	60%	Other amphibians	None				
<b>Species</b>	Egg search	Torchlight survey					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt	None						0
Smooth newt	None						0
Palmate newt							0
Smooth/palmate newt							0
<b>Species</b>		Trap					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt				1			1
Smooth newt							0
Palmate newt					1		1
Smooth/palmate newt							0

<b>Pond 5</b>	Visit 2		22/04/14				
Temperature:	10°C	Rain	None				
Wind speed	Light wind	Cloud cover	None				
Turbidity score	4	Vegetation cover	3				
Survey constraints	Too turbid to torch. Deep water and vegetation on banks limits access to perimeter for H&S reasons						
% of perimeter surveyed	80%	Other amphibians	None				
<b>Species</b>	Egg search	Trap					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt	None				3	3	6
Smooth newt	None						0
Palmate newt						1	1
Smooth/palmate newt							0

<b>Pond 5</b>	Visit 3		29/04/14				
Temperature:	-	Rain	-				
Wind speed	-	Cloud cover	-				
Turbidity score	-	Vegetation cover	-				
Survey constraints	Too turbid to torch. Deep water and vegetation on banks limits access to perimeter for H&S reasons						
% of perimeter surveyed	-	Other amphibians	None				
<b>Species</b>	Egg search	Trap					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt	None				2	6	8
Smooth newt	None				1		1
Palmate newt							0
Smooth/palmate newt							0

<b>Pond 5</b>	Visit 4		22/05/14				
Temperature:	-	Rain	-				
Wind speed	-	Cloud cover	-				
Turbidity score	-	Vegetation cover	-				
Survey constraints	Too turbid to torch. Deep water and vegetation on banks limits access to perimeter for H&S reasons						
% of perimeter surveyed	-	Other amphibians	None				
<b>Species</b>	Egg search	Trap					
		Larvae	Eft	Immature	Adult		Total
				Male	Female	Unknown	
Great crested newt	None				2		2
Smooth newt	None				2	2	4
Palmate newt							0
Smooth/palmate newt							0

## Blue Rail Route (cont.)

<b>Pond 5</b>	<i>Visit 5</i>		27/05/14				
<i>Temperature:</i>	-		<i>Rain</i>		Heavy		
<i>Wind speed</i>	No wind		<i>Cloud cover</i>		Overcast		
<i>Turbidity score</i>	5		<i>Vegetation cover</i>		3		
<i>Survey constraints</i>	Too turbid to torch. Deep water and vegetation on banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>			<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None						<b>0</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

<b>Pond 5</b>	<i>Visit 6</i>		30/05/14				
<i>Temperature:</i>	13°C		<i>Rain</i>		-		
<i>Wind speed</i>	-		<i>Cloud cover</i>		-		
<i>Turbidity score</i>	-		<i>Vegetation cover</i>		-		
<i>Survey constraints</i>	Too turbid to torch. Deep water and vegetation on banks limits access to perimeter for H&S reasons						
<i>% of perimeter surveyed</i>	-		<i>Other amphibians</i>		None		
<b>Species</b>	<i>Egg search</i>	<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
			Male	Female	Unknown		
Great crested newt	None			1			<b>1</b>
Smooth newt	None						<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>

**Blue Rail Route (cont.)**

<b>Pond 8</b>	Visit 1		14/04/14					
Temperature:	7°C		Rain			None		
Wind speed	No wind		Cloud cover			None		
Turbidity score	1		Vegetation cover			2		
Survey constraints	Too shallow to bottle trap							
% of perimeter surveyed	100%			Other amphibians		None		
Species	Egg search	Torchlight survey						Total
		Larvae	Eft	Immature	Adult			
					Male	Female	Unknown	
Great crested newt	None							0
Smooth newt	None				4			4
Palmate newt								0
Smooth/palmate newt						18		18

<b>Pond 8</b>	Visit 2		24/04/14					
Temperature:	10°C		Rain			None		
Wind speed	Light		Cloud cover			None		
Turbidity score	2		Vegetation cover			2		
Survey constraints	Too shallow to bottle trap							
% of perimeter surveyed	100%			Other amphibians		None		
Species	Egg search	Torchlight survey						Total
		Larvae	Eft	Immature	Adult			
					Male	Female	Unknown	
Great crested newt	None							0
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt							7	7

<b>Pond 8</b>	Visit 3		28/04/14					
Temperature:	11°C		Rain			None		
Wind speed	No wind		Cloud cover			Overcast		
Turbidity score	-		Vegetation cover			-		
Survey constraints	Too shallow to bottle trap							
% of perimeter surveyed	-			Other amphibians		None		
Species	Egg search	Torchlight survey						Total
		Larvae	Eft	Immature	Adult			
					Male	Female	Unknown	
Great crested newt	None							0
Smooth newt	None				1			1
Palmate newt								0
Smooth/palmate newt						7		7

<b>Pond 8</b>	Visit 4		12/05/14					
Temperature:	10°C		Rain			Light		
Wind speed	Light		Cloud cover			Overcast		
Turbidity score	5		Vegetation cover			3		
Survey constraints	Too shallow to bottle trap							
% of perimeter surveyed	100%			Other amphibians		None		
Species	Egg search	Torchlight survey						Total
		Larvae	Eft	Immature	Adult			
					Male	Female	Unknown	
Great crested newt	None							0
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt							1	1

## Blue Rail Route (cont.)

<b>Pond 58</b>	Visit 1		22/04/14					
Temperature:	7°C	Rain		None				
Wind speed	Light	Cloud cover		None				
Turbidity score	3	Vegetation cover		3				
Survey constraints	Bottle trapping survey not done as unsure of pond ownership.							
% of perimeter surveyed	80%	Other amphibians		None				
<b>Species</b>	Egg search	Torchlight survey						
		Larvae	Eft	Immature	Adult			Total
				Male	Female	Unknown		
Great crested newt	Yes				3	2		5
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt						2		2

<b>Pond 58</b>	Visit 2		23/04/14					
Temperature:	10°C	Rain		None				
Wind speed	Light	Cloud cover		None				
Turbidity score	1	Vegetation cover		3				
Survey constraints	Parts of pond inaccessible due to bramble covered banks. Significant algae and <i>Typha</i> cover.							
% of perimeter surveyed	75%	Other amphibians		None				
<b>Species</b>	Egg search	Torchlight survey						
		Larvae	Eft	Immature	Adult			Total
				Male	Female	Unknown		
Great crested newt	None				1	4		5
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt								0
<b>Species</b>		Trap						
		Larvae	Eft	Immature	Adult			Total
				Male	Female	Unknown		
Great crested newt					12	3		15
Smooth newt								0
Palmate newt								0
Smooth/palmate newt								0

**Blue Rail Route (cont.)**

<b>Pond 58</b>	<i>Visit 3</i>	29/04/14						
<i>Temperature:</i>	13°C	<i>Rain</i>			None			
<i>Wind speed</i>	Light	<i>Cloud cover</i>			Overcast			
<i>Turbidity score</i>	3	<i>Vegetation cover</i>			4			
<i>Survey constraints</i>	Torchlight survey limited by heavy algal cover.							
<i>% of perimeter surveyed</i>	75%	<i>Other amphibians</i>			None			
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt	None				1	3		4
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt						1		1
<b>Species</b>		<i>Trap</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt					2	1		3
Smooth newt								0
Palmate newt								0
Smooth/palmate newt								0

<b>Pond 58</b>	<i>Visit 4</i>	15/05/2014						
<i>Temperature:</i>	8°C	<i>Rain</i>			None			
<i>Wind speed</i>	Light	<i>Cloud cover</i>			None			
<i>Turbidity score</i>	3	<i>Vegetation cover</i>			5			
<i>Survey constraints</i>	Torch survey limited by almost total algal cover							
<i>% of perimeter surveyed</i>	75%	<i>Other amphibians</i>			None			
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt	None							0
Smooth newt	None							0
Palmate newt								0
Smooth/palmate newt						1		1
<b>Species</b>		<i>Trap</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt					2	5		7
Smooth newt								0
Palmate newt								0
Smooth/palmate newt								0

<b>Pond 58</b>	<i>Visit 5</i>	27/05/2014						
<i>Temperature:</i>	13°C	<i>Rain</i>			Heavy			
<i>Wind speed</i>	Light	<i>Cloud cover</i>			Overcast			
<i>Turbidity score</i>	3	<i>Vegetation cover</i>			4			
<i>Survey constraints</i>	Torch survey limited by heavy rain and almost total algae cover							
<i>% of perimeter surveyed</i>	75%	<i>Other amphibians</i>			None			
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt	None					1		1
Smooth newt	None					1		1
Palmate newt								0
Smooth/palmate newt								0
<b>Species</b>		<i>Trap</i>						
		Larvae	Eft	Immature	Adult			<b>Total</b>
				Male	Female	Unknown		
Great crested newt						1		1
Smooth newt								0
Palmate newt								0
Smooth/palmate newt								0

**Blue Rail Route (cont.)**

<b>Pond 58</b>	Visit 6	28/05/2014					
Temperature:	15°C	Rain			None		
Wind speed	No wind	Cloud cover			Overcast		
Turbidity score	3	Vegetation cover			4		
Survey constraints	Torch survey limited by heavy algal cover						
% of perimeter surveyed	75%	Other amphibians			None		
<b>Species</b>	<i>Egg search</i>	<i>Torchlight survey</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt	None						<b>1</b>
Smooth newt	None						<b>1</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>
<b>Species</b>		<i>Trap</i>					
		Larvae	Eft	Immature	Adult		
				Male	Female	Unknown	
Great crested newt					2	2	<b>4</b>
Smooth newt							<b>0</b>
Palmate newt							<b>0</b>
Smooth/palmate newt							<b>0</b>