

The Drax Power (Generating Stations) Order

Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire

Environmental Statement

Appendix 9.8 - Great Crested Newt Survey



The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure)

Regulations 2009 – Regulation 5(2)(a)

Drax Power Limited

Drax Repower Project

Applicant: DRAX POWER LIMITED
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EXECUTIVE SUMMARY

Drax Power Limited are submitting a Development Consent Order (DCO) application to the Planning Inspectorate for a Proposed Scheme. This will include the repowering up to two existing coal-fired units with gas at the Existing Drax Power Station Complex, along with the construction of a battery storage facility and Gas Pipeline.

Records of great crested newt (GCN) (*Triturus cristatus*) were identified within 5 km of the Site during the desk study which forms part of the Preliminary Ecological Appraisal (PEA) undertaken by WSP in 2017. A number of waterbodies were also identified on Site during the Extended Phase 1 habitat survey. Consequently, WSP were commissioned to undertake GCN surveys of the Site to determine presence or likely absence of GCN from the Site.

All waterbodies within 250 m of the Site were subject to an initial scoping exercise and then a Habitat Suitability Index (HSI) assessment to evaluate their suitability for supporting breeding populations of GCN. Those with suitability were then subjected to presence/likely absence surveys to determine the presence of GCN on Site.

A total of ten waterbodies were identified within a 250 m of the Site. Of these, three waterbodies were scoped out at the initial scoping stage and seven taken forward for Habitat Suitability Index (HSI) surveys. A further four waterbodies were scoped out at the HSI stage and so three were subjected to presence/likely absence surveys.

The presence/likely absence surveys comprised four visits to each waterbody identified for survey, spread across the recommended survey period (mid-March to mid-June, with at least two of the visits falling between mid-April and mid-May). At least three survey techniques were used during each survey visit to search for the presence of GCN, which included all or a combination of; bottle trapping, torching, netting and egg searching.

No GCN or signs of GCN (eggs or larvae), were identified during the presence/likely absence surveys of the three waterbodies. It is therefore concluded that GCN are likely absent from the Site.

Refer to the Environmental Statement for information on embedded mitigation and enhancement for GCN.

1 INTRODUCTION

1.1 Project Background

- 1.1.1. Drax Power Limited intends to repower part of the existing Drax Power Station to run on natural gas. It is intended that consent for the Proposed Scheme will be secured via an application to the Planning Inspectorate for a Development Consent Order (DCO).
- 1.1.2. The scheme comprises a series of proposed upgrades for repowering the existing plant (hereafter referred to as the 'Proposed Scheme'). Additionally a gas pipeline is required in order to connect the power station to the National Grid national transmission system. The pipeline route extends to approximately 3 km east of the plant ending adjacent to Rusholme Lane (approximate National Ordnance grid reference SE 698 266). These areas are hereafter collectively referred to as 'the Site' and are shown on Figure 1.
- 1.1.3. WSP conducted a preliminary ecological appraisal (PEA) (Ref 1) of land within and adjacent to Drax Power Station (Yorkshire, approximate central National Ordnance grid reference SE 661 272) including the land required to install a gas pipeline.
- 1.1.4. Existing records of great crested newt (GCN) (*Triturus cristatus*) within 5 km of the Site were identified during the desk study. Furthermore, habitats assessed as suitable to support GCN were recorded during the extended Phase 1 habitat survey, including a number of ponds. Targeted GCN surveys were subsequently commissioned by Drax Power Limited.
- 1.1.5. The purpose of these surveys was to establish whether GCN are present or likely to be absent from the Site.
- 1.1.6. This report was prepared to accompany the Environmental Statement (Ref 2) and should be read in conjunction with it.

1.2 Legislation and Planning Policy Context

- 1.2.1. GCN are fully protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) (Ref 3) and also receive protection under the Wildlife and Countryside Act 1981 (as amended) (Ref 4). It is an offence to kill, injure or take this species, damage or destroy places of rest or shelter, or disturb this species (whether in a resting place or not). Additionally, it is illegal to possess, transport, sell, barter or exchange any part of a GCN.
- 1.2.2. Development activities that could result in impacts to GCN should avoid/minimise the likelihood of an impact occurring. If impacts are unavoidable then the works may need to be carried out under a European Protected Species (EPS) development licence.
- 1.2.3. The great crested newt is also listed as a Species of Principal Importance (SPI) for the Conservation of Biodiversity in England in accordance with Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (Ref 5). Under Section 40 of the NERC Act (2006) public bodies (including local planning

authorities) have a duty to have regard for the conservation of SPI when carrying out their functions, including determining planning applications.

- 1.2.4. The United Kingdom Biodiversity Action Plan (UKBAP) (Ref 6) is a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The priority species generally correlate with those listed in accordance with Section 41 of the NERC Act. The national BAP is supplemented by Local Biodiversity Action Plans (LBAP) which identify habitats and species of particular value or concern at the local level. The UKBAP has now been replaced by the UK Post-2010 Biodiversity Framework (Ref 7), however, it contains useful information on how to characterise important species assemblages and habitats which is still relevant.
- 1.2.5. At the national level the National Planning Policy Framework (2012) (Ref 8) forms the basis for planning development decisions with respect to conserving and enhancing the natural environment, including GCN; the ODPM circular 06/05 (Ref 9) also provides supplementary guidance, including confirmation that:
 - *“The presence of a protected species is a material consideration when a planning authority is considering a development proposal.”*
- 1.2.6. The NPPF (Ref 8) sets out, amongst other points how at an overview level the “planning system should contribute to and enhance the natural and local environment by:
 - *“Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government’s commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...”*
- 1.2.7. The NPPF (Ref 8) also sets out how planning policies should “*minimise impacts on biodiversity by the:*
 - *-[promotion of] the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations...”*
- 1.2.8. At a local level the Selby District Local Plan (2005) (Ref 10) states that:
 - *“Development and other land use changes which may harm badgers and other species protected by Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981, as amended, or the EC Habitats and Species Directive will not be permitted.”*
- 1.2.9. The Selby District Core Strategy Local Plan (2013) (Ref 11) adds to this by:
 - *“Ensuring developments retain, protect and enhance features of biological and geological interest and provide appropriate management of these features and that unavoidable impacts are appropriately mitigated and compensated for, on or off-site.”*
- 1.2.10. GCN are also listed in the Selby Local Biodiversity Action Plan (LBAP) (2004) (Ref 12), with the objective to:

- *“Expand the great crested newt population by working with planners, developers and land managers to protect existing and create new breeding ponds and foraging habitat.”*

2 METHODS

2.1 Initial Scoping Exercise

- 2.1.1. All waterbodies within the Site and a 250 m radius of the Site were identified during the Extended Phase 1 habitat survey and using 1:25,000 OS mapping; this was cross-referenced against aerial photography.
- 2.1.2. Waterbodies separated from the Site by a major barrier to dispersal, such as a major road, were scoped out of further assessment.
- 2.1.3. Waterbodies that would not provide suitable breeding habitat for GCN were also scoped out. For example, waterbodies were scoped out if they were:
 - A stocked fishing lake/pond.
 - Running water.
 - Larger than 2 ha in size.
 - Slurry ponds or other industrial usage.
 - Saline or chlorinated.
 - Dried annually.

2.2 Habitat Suitability Index (HSI) Assessment

- 2.2.1. All waterbodies within the Site and a 250 m radius of the Site, were assessed for their suitability to support GCN, using the standard HSI assessment method:
 - Amphibian and Reptile Groups of the United Kingdom (2010). ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. ARG UK (Ref 13).
 - Oldham R.S., Keeble J., Swan M.J.S., and Jeffcote M. (2000). Evaluating the suitability of habitat for the great crested newt. Herpetological Journal 10: 143-155 (Ref 14).
- 2.2.2. Waterbodies were assessed and scored on ten key variables which are known to influence breeding populations of GCN, in accordance with standard methods. These variables are:
 - Geographic location.
 - Waterbody area.
 - Waterbody permanence.
 - Water quality.
 - Waterbody shading.
 - Impact of waterfowl.
 - Fish stocks.
 - Number of waterbodies within 1 km.
 - Terrestrial habitat around the waterbody.
 - Macrophyte cover of the waterbody.
- 2.2.3. Scores for each of the above variables were used to calculate an overall HSI value for each waterbody. This was then cross-referenced with the guidelines (Ref 13) to assign the pond to one of five categories, poor, below average, average, good or excellent. Index calculation is not a failsafe method of identifying whether a waterbody supports GCN or not; therefore, professional judgement and availability of records of GCN in the locality has also been used to inform the requirement for

further survey. For example, even if a pond were to score a poor HSI value then it may still be subject to further survey.

2.3 Presence/Likely Absence Survey

- 2.3.1. All waterbodies that were found to provide suitable habitat for supporting GCN, were subject to further survey to determine the presence or likely absence of this species.
- 2.3.2. The survey comprised four visits to each waterbody identified for survey, spread across the recommended survey period (mid-March to mid-June, with at least two of the visits falling between mid-April and mid-May). Survey visits were completed under suitable weather conditions, when overnight temperatures were above 5°C, and wind and rain were not sufficient to affect the torchlight survey results (through disturbance to the water surface).
- 2.3.3. At least three survey techniques were used during each survey visit to search for the presence of GCN in line with good practice: English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough. (Ref 15); these included:
 - **Torchlight searching** (torching) – each waterbody was searched systematically for amphibians after dark using a bright torch; all amphibians observed were recorded, with the number of male, female and juvenile newts of each species noted. The duration of the torchlight survey was determined by the time taken to walk slowly around the waterbody perimeter.
 - **Bottle-trapping** – each waterbody was trapped using bottle traps constructed and set in accordance with standard guidance: Gent, A. and Gibson, S. (1998). Herpetofauna Workers Manual, Joint Nature Conservation Committee, Peterborough. (Ref 16). Traps were set at a ratio of one for every 2 m of waterbody perimeter. The traps were set prior to dusk, and checked and removed the following morning.
 - **Netting** – a net was used to sample each waterbody at regular intervals (every 2 m) around the waterbody perimeter.
 - **Egg searching** – suitable vegetation in each water body was searched for newt eggs which are laid on submerged or floating leaves and folded around the egg. The duration of the egg search was either the amount of time required to search thoroughly all vegetation present, or a maximum of 15 minutes per survey visit.¹
- 2.3.4. The specific methods used on each waterbody are detailed in the Result section below.

2.4 Survey Information

- 2.4.1. HSI surveys of all waterbodies were carried out on 12 March 2018. Presence/likely absence surveys were carried out between 21 March 2018 and 3 May 2018.
- 2.4.2. Surveys were led by ecologists with experience of carrying out GCN surveys across a range of sites supporting similar habitats. All surveyors hold a Natural England

¹ Once a great crested newt egg had been recorded, no egg searching occurred on subsequent visits to avoid unnecessary uncovering of eggs which would then be at an increased risk of predation.

licence (licence no. 2017-27598-CLS-CLS and 2016-22569-CLS-CLS) or are listed as accredited agents (licence no. 2015-17874-CLS-CLS).

2.5 Limitations

- 2.5.1. Approximately 75% of the perimeter of waterbodies 1, 2 & 7 were surveyed during the presence/absence surveys. The whole perimeters could not be surveyed either due to dense vegetation or unsuitable ground conditions. The first presence/absence survey on waterbody 7 was undertaken three weeks later than waterbodies 1 & 2 due to access constraints. These were not considered significant limitations to the surveys.

3 RESULTS

3.1 Initial Scoping Exercise

- 3.1.1. Waterbodies 8, 9 and 10 were scoped out during the initial scoping exercise. Waterbodies 9 and 10 were associated with the infrastructure of Drax Power Station and were constructed of concrete. They also provided negligible suitable terrestrial habitat. Waterbody 8 was very large and likely a fishing pond, therefore considered unlikely to support GCN. All ditches within the Site were scoped out during the initial scoping exercise as they either contained running water or dried annually.
- 3.1.2. Waterbodies 1, 2, 3, 4, 5, 6 & 7 were taken forward to HSI assessment.

3.2 Habitat Suitability Index (HSI) Assessment

- 3.2.1. At the HSI assessment stage, waterbodies 3, 4, 5 and 6 were found to be dry and therefore no longer ponds, so could not be subject to HSI assessments. They were not taken forward for presence/likely absence surveys.
- 3.2.2. Waterbodies 1, 2 and 7 were ponds at the time of the HSI assessment stage and so were subject to HSI assessment. Waterbodies 1 and 2 scored 'poor' and waterbody 7 scored 'average.' Despite the 'poor' HSI scores, all three waterbodies were carried forward for presence/likely absence surveys. This is because records of GCN in the area were identified during the PEA (Ref 1).
- 3.2.3. A summary of the HSI results and location of the waterbodies is included in Table 9.8.1. Waterbody numbers and their survey results are shown in Figure 2, with photographs of each waterbody in Appendix 1. The full HSI calculations are included in Appendix 2.

Table 9.8.1 - Summary of HSI Results

Waterbody Reference	Grid Reference	Proximity to Site	Connectivity to Site	HSI Score	HSI Category
Waterbody 1	SE 66551 27806	Within Power Station Site	On Site	0.42	Poor
Waterbody 2	SE 66988 28219	25 m north of Power Station Site	Grassland and hedgerows	0.41	Poor
Waterbody 3	SE 67635 27476	100 m north of Pipeline Area	Woodland and hedgerows	No HSI as pond was dry	N/A
Waterbody 4	SE 67883 27119	Within Pipeline Area	On Site	No HSI as pond was dry	N/A

Waterbody Reference	Grid Reference	Proximity to Site	Connectivity to Site	HSI Score	HSI Category
Waterbody 5	SE 69226 26558	100 m south of Pipeline Area	Arable field	No HSI as pond was dry	N/A
Waterbody 6	SE 66881 27356	Within Pipeline Area	On Site	No HSI as pond was dry	N/A
Waterbody 7	SE 67441 27240	Immediately adjacent to Pipeline Area	Arable fields and hedgerows	0.63	Average

3.3 Presence/Likely Absence Survey

- 3.3.1. Presence/likely absence surveys were undertaken on waterbodies 1 and 2, commencing on 21 March 2018 and on waterbody 7 commencing on 09 April 2018 (due to access constraints). A summary of the surveys are given in Table 9.8.2 below and full survey results and weather data are shown in Appendix 3.

Table 9.8.2 - Summary of Presence/Likely Absence Results

Visit No.	Date	Survey Methods Used				Results Summary
		Bottle trapping	Torching	Egg Searching	Netting	
Waterbody 1						
1	22/03/2018	√	√		√	No GCN. No further surveys due to presence of fish.
Waterbody 2						
1	22/03/2018	√	√		√	No GCN.
2	10/04/2018	√	√			No GCN. No further surveys due to presence of fish.

- 3.3.2. All surveys were completed under appropriate conditions, with overnight minimum temperatures ranging between 9°C and 11°C and pond conditions suitable for methods used to be effective.

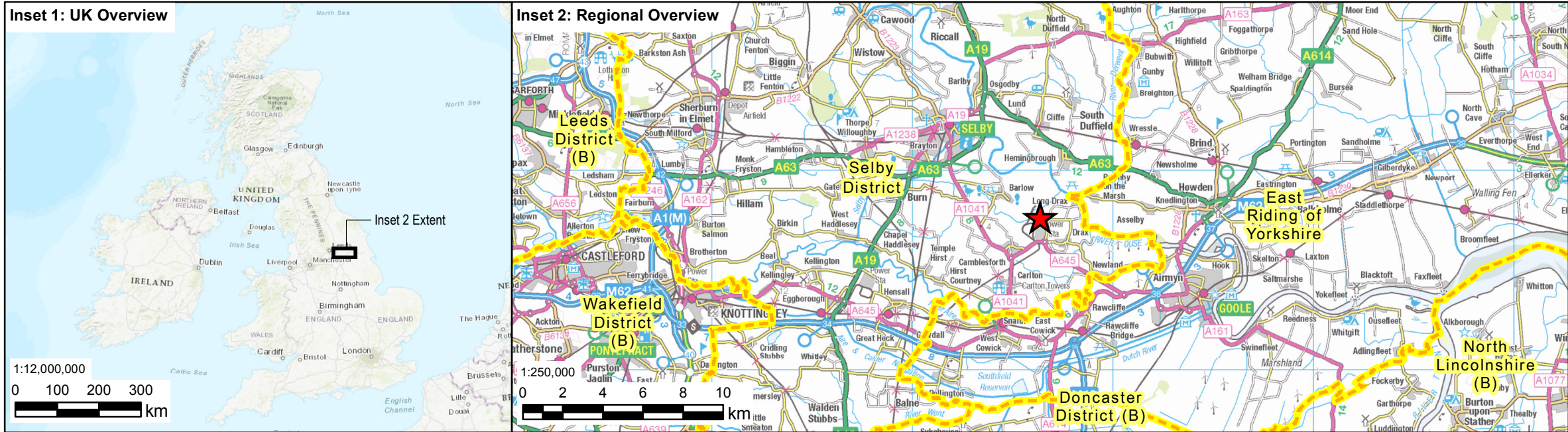
- 3.3.3. No further surveys were conducted on waterbody 1 after the initial visit as the pond had a very high population of three-spined stickleback (*Gasterosteus aculeatus*).
- 3.3.4. No further surveys were conducted on waterbody 2 after the second visit as the pond was found to support perch (*Perca fluviatilis*).
- 3.3.5. A single female newt (*Lissotriton* sp.) was identified in waterbody 7 during the torching survey of the first visit. It was not possible to identify whether the newt was a smooth newt (*L. vulgaris*) or a palmate newt (*L. helveticus*).
- 3.3.6. Two female and two male newts (*Lissotriton* sp.) were identified on waterbody 7 during the torching survey of the second visit. It was not possible identify whether the newts were smooth newt or a palmate newt.
- 3.3.7. No GCN or signs of their presence (i.e. eggs or larvae) were recorded during the surveys. Therefore the survey results indicate the likely absence of great crested newts from the Site.

4 INTERPRETATION OF RESULTS

- 4.1.1. No evidence of GCN was found during any of the surveys undertaken on the Site between 21 March 2018 and 03 May 2018. Therefore it is considered that this species is likely to be absent from the Site. One final survey visit is required to complete the survey programme for waterbody 7. It anticipated that no GCN will be encountered during this survey visit
- 4.1.2. Refer to the WSP (2018). Drax Repower Project, Environmental Statement (Ref 2) for information on avoidance, embedded mitigation and enhancement for GCN.

REFERENCES

- Ref 1: WSP (2017). Drax Repower Project Preliminary Ecological Appraisal.
- Ref 2: WSP (2018). Drax Repower Project Environmental Statement.
- Ref 3: Her Majesty's Stationary Office (HMSO) (2017). Conservation of Habitats and Species Regulations.
- Ref 4: HMSO (1981). Wildlife and Countryside Act (as amended by the Countryside and Rights of Way Act 2000).
- Ref 5: HMSO (2006). Natural Environment and Rural Communities (NERC) Act.
- Ref 6: The UK Biodiversity Action Plan; available online at: <http://jncc.defra.gov.uk/page-5155>. [Accessed: 25/04/2018].
- Ref 7: The UK Post-2010 Biodiversity Framework; available online at: <http://jncc.defra.gov.uk/page-6189>. [Accessed: 25/04/2018].
- Ref 8: Department for Communities and local Government (2012). National Planning Policy Framework (NPPF).
- Ref 9: Office of the Deputy Prime Minister (ODPM) (2005) Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System.
- Ref 10: Selby District Local Plan (SDLP) (2005).
- Ref 11: The Selby District Core Strategy Local Plan (2013).
- Ref 12: Selby Local Biodiversity Action Plan (BAP) (2004).
- Ref 13: Amphibian and Reptile Groups of the United Kingdom (2010). ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. ARG UK, UK.
- Ref 14: Oldham, R.S., Keeble, J., Swan, M.J.S., and Jeffcote, M. (2000). Evaluating the suitability of habitat for the great crested newt. *Herpetological Journal* 10: 143-155.
- Ref 15: English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough.
- Ref 16: Gent, A. and Gibson, S. (1998). Herpetofauna Workers Manual, Joint Nature Conservation Committee, Peterborough.



Key

Site Boundary

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- Regulation 5(2)(a)

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DRAWING STATUS: **FINAL**

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PROJECT: **The Drax Power (Generating Stations) Order**

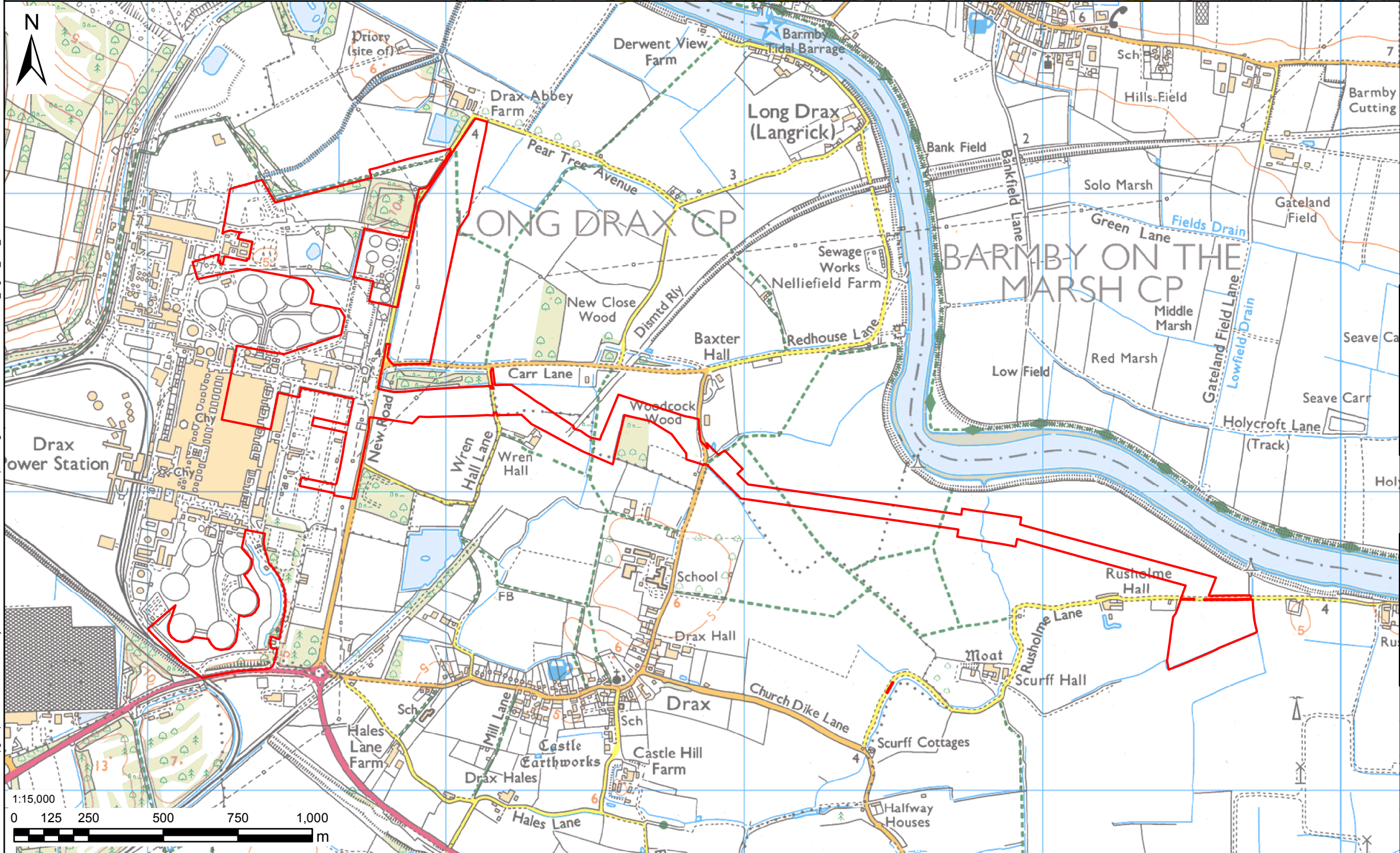
TITLE: **Figure 1
Site Location**

SCALE @ A3:	CHECKED:	APPROVED:
See map @ A3	CS	CT

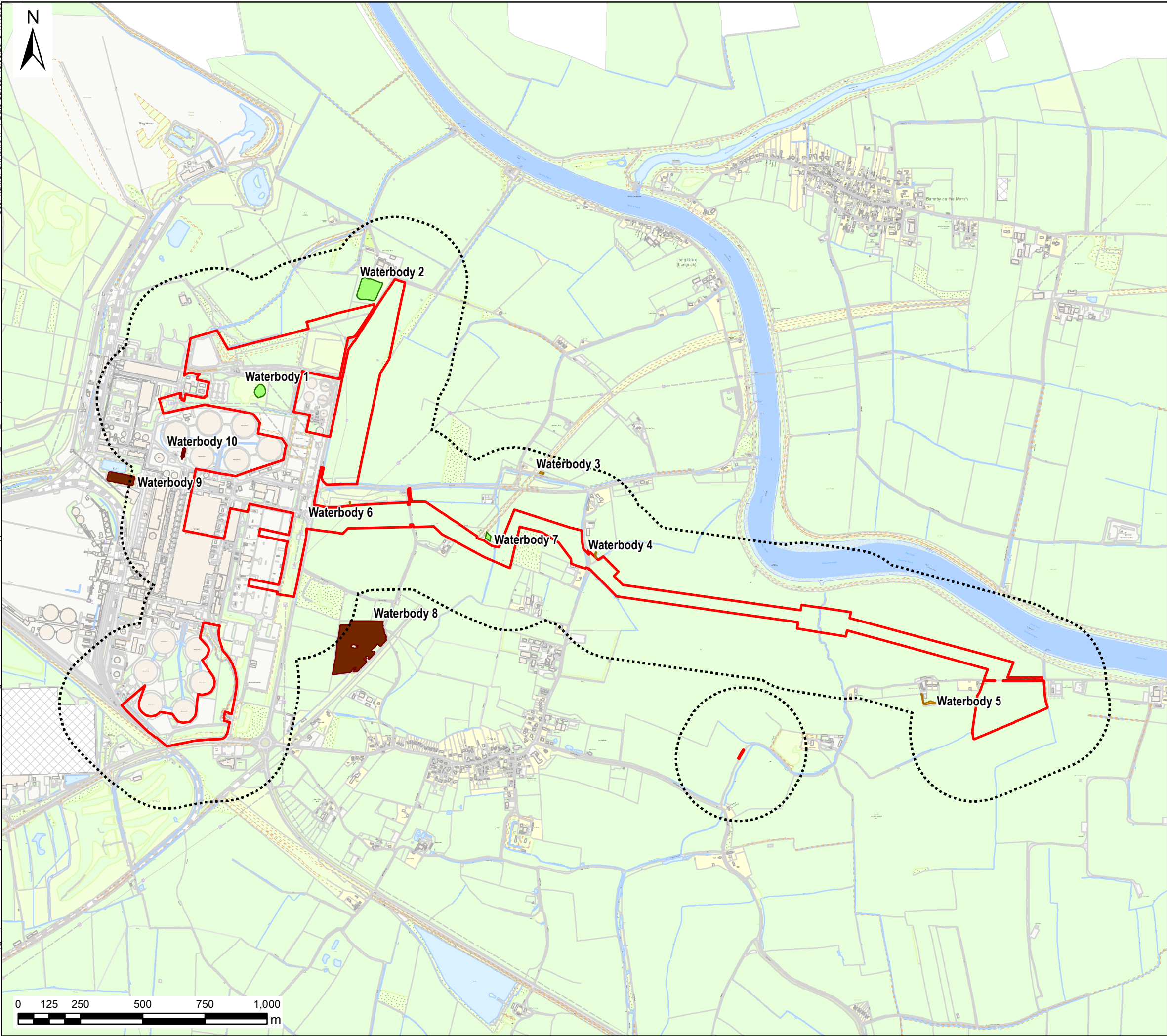
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Key

- Site Boundary
- 250m Buffer

Waterbodies

- Waterbodies subject to initial scoping exercise, HSI assessment and presence/likely absence surveys
- Waterbodies scoped out at HSI assessment stage
- Waterbodies scoped out at initial scoping exercise stage

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Figure 2
Great Crested Newt Survey Results

SCALE @ A3: 15,000 @ A3	CHECKED: PD	APPROVED: CT
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DATE: 23/04/2018		
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APPENDIX 1: PHOTOGRAPHS

Waterbody Reference	Image
1	
2	
7	

APPENDIX 2: HSI CALCULATIONS

Waterbody Reference	S1: Geographic location	S2: Waterbody area	S3: Waterbody permanence	S4: Water quality	S5: % Shade (1m from bank)	S6: Impact of waterfowl	S7: Fish stocks	S8: Number of waterbodies <1km	S9: Terrestrial habitat	S10: Macrophyte cover (%cover)	HSI SCORE	HSI Category
1	1	0.85	0.5	0.67	0.3	1	0.01	0.85	0.67	0.35	0.420	Poor
2	1	0.35	0.9	0.33	1	0.01	0.67	0.85	0.33	0.7	0.41	Poor
7	1	0.4	0.1	0.67	0.7	1	1	0.85	1	0.6	0.63	Average

APPENDIX 3: PRESENCE / LIKELY ABSENCE SURVEY RESULTS

Waterbody 1 Survey Results

Waterbody reference:				Method:	Torch			Bottle-trap			Egg searching	Larvae
Waterbody 1					Torch power:			No. of traps used in pond:			Eggs found ?	Larvae found? (any method)
No. of survey visits to this pond:		1			1,000,000 candles			23 traps				
Sex/life stage:					Male	Female	Imm.*	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover**	Turbidity**		0	0	0	0	0	0	No	No
22/03/2018	9 °C	3	1	GCN Adult totals:	0			0				
Peak adult count for this pond in any one visit (by torch or bottle-trap):								0				
Other species:				>100 x three-spined stickleback caught in bottle-traps on visit 1.								
Comments and constraints:				75% of pond perimeter surveyed due to dense vegetation. No further visits carried out due to presence of fish.								

* Imm. = Immature / Juvenile GCN

** Vegetation cover score (0 – 5); 0 = no vegetation obscuring survey; 5 = water completely obscured by vegetation

*** Turbidity score (0 – 5); 0 = completely clear; 5 = very turbid

Waterbody 2 Survey Results

Waterbody reference:				Method:	Torch			Bottle-trap			Egg search	Larvae
Waterbody 2					Torch power:			No. of traps used in pond:			Eggs found ?	Larvae found? (any method)
No. of survey visits to this pond:		2			1,000,000 candles			33 traps				
Sex/life stage:					Male	Female	Imm.*	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover**	Turbidity**		0	0	0	0	0	0	No	No
22/03/2018	9 °C	1	4	GCN Adult totals:	0			0				
(2) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	No	No
10/04/2018	8 °C	2	4	GCN Adult totals:	0			0				
Peak adult count for this pond in any one visit (by torch or bottle-trap):								0				
Other Species:			2 x perch caught in bottle-traps on visit 2.									
Comments and constraints:			75% of pond perimeter surveyed due to unsafe ground. No further visits carried out due to presence of fish.									

Waterbody 7 Survey Results

Waterbody reference:				Method:	Torch			Bottle-trap			Egg search	Larvae
Waterbody 7					Torch power:			No. of traps used in pond:			Eggs found ?	Larvae found? (any method)
No. of survey visits to this pond:		4			1,000,000 candles			18 traps				
Sex/life stage:					Male	Female	Imm.*	Male	Female	Imm.		
(1) Date:	Air temp	Veg cover**	Turbidity**		0	0	0	0	0	0	No	No
10/04/2018	8 °C	4	3	GCN Adult totals:	0			0				
(2) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	No	No
17/04/2018	11 °C	4	3	GCN Adult totals:	0			0				
(3) Date:	Air temp	Veg cover	Turbidity		0	0	0	0	0	0	No	No
03/05/2018	10 °C	4	2	GCN Adult totals:	0			0				
				GCN Adult totals:	0			0				
Peak adult count for this pond in any one visit (by torch or bottle trap):								0				

Other species:	1 x female smooth/palmate newt torches on visit 1. 2 x female smooth/palmate newt and 2 x male smooth/palmate newt torched on visit 2.	
Comments and constraints:	75% of pond perimeter surveyed due to unsafe ground.	

