

Mrs Keeley Dixon
The Bower Pond Cottage
Hever Road
Edenbridge
Kent
TN8 7LE

Our ref: BG21.101.1
30th April 2021

Dear Mrs Dixon,

RE: Great Crested Newt and Water Vole Surveys at Newlands Barn, Delaware Farm, Edenbridge, Kent

Following the Preliminary Ecological Assessment at Newlands Barn in Edenbridge (BG21.101), great crested newt (*Triturus cristatus*) surveys and a precautionary check for water vole (*Arvicola amphibius*) were recommended on waterbodies in close proximity to the site. This letter outlines the results from surveys undertaken and recommended measures during site works.

Scheme Background

The red line boundary is approximately 0.13 ha in extent and comprises a barn (Building 1) set within an area of hardstanding, immediately bordered by grassland, scattered trees and hedgerow, with a brook running along the western and southern extent of the application boundary. The site is located to the south-east of Edenbridge, Kent and positioned within an agriculturally dominant landscape. The site is the subject of a full planning application for the conversion of the existing barn into a residential dwelling. Parking facilities and associated landscaping are also proposed within the scheme (Appendix 1).

The site supported rough unmanaged semi-improved grassland and hedgerows which are considered suitable to support the terrestrial phase for great crested newts (GCN). No waterbodies were present within the application boundary; however, eight waterbodies were identified within the 500m zone of influence from site (Appendix 2). The closest pond (WB1) was positioned within 10m of the eastern site boundary.

The pond had not been previously surveyed for great crested newts but supported a “good” HSI score (Appendix 3) indicating the potential for presence. The proposed development falls within the 50m core habitat area associated with WB1, and as such, further survey work was proposed and undertaken to determine if WB1 and the brooks on the southern (WB2) and western (WB3) site boundaries support a population of great crested newts.

The HSIs for these waterbodies are also included in Appendix 3, and range from good to excellent.

Survey Methodology

The surveys undertaken were to determine the presence/absence of GCN within the three identified waterbodies. Survey methodologies included bottle trapping of WB1 with a total of 40 bottles, torching, egg search and an eDNA test. WB2 and WB3 were subject to a search by torch light and egg searches. Waterbodies WB2 and WB3 were not bottle trapped due to the presence of running water, meaning bottle traps were at risk of being lost.

Surveys were undertaken by Amy Trewick BSc ACIEEM, GCN Level 1 class licence number 2015-1882-CLS-CLS (Senior Ecologist) and Veronica Cantero Sanchez MSc, (Consultant Ecologist) on 25/03/2021 and 29/03/2021. An eDNA sample of WB1 was also collected on 15/04/2021.

Results

GCN were confirmed as absent during the surveys. No GCN were caught in the bottle traps, recorded during the torch surveys, or identified during egg searches (Appendix 4). The eDNA result for WB1 was negative (Appendix 5).

WB2 and WB3 were further deemed unsuitable due to the presence of running water, as well as the presence of fish (stickleback (*Gasterosteidae* sp)).

WB1 was found to have a good population of toads (*Bufo bufo*) with a peak count of 33 individuals, and a small population of smooth newt (*Lissotriton vulgaris*) with a peak count of 4. Toad spawn and frog spawn was also recorded in the pond, as well as invertebrates such as whirligig beetles (*Gyrinus substriatus*) and water stick insect (*Ranatra linearis*).

Evaluation and Recommendations

The water bodies within the immediate surroundings of the proposed development were confirmed to be absent of GCN, and as such, the terrestrial habitats of the site are not situated within the immediate vicinity of breeding populations of GCN.

However, it should be noted that not all ponds within a 500m radius of the site were surveyed (access was not obtainable for these ponds) and as such, there is still the minor risk that individual GCN could pass through the site on a transitional basis. As such, it is recommended that a precautionary approach is undertaken and the following Reasonable Avoidance Measures (RAMs) followed during construction works. These include:

- Pre-works 'Toolbox Talk' provided to staff on the ecology and identification of great crested newts.
- Any storage of materials should be on pallets on areas of hardstanding.
- The grassland within the application boundary should be mown to a height of 10cm during the winter months and maintained at this height prior to and during the duration of construction.
- Immediately prior to development commencing, the grassland should be mown as short as possible when herptiles are active (March – October). The mowing should be directional, for example from the southern boundary to the north, to allow amphibians to disperse into the adjacent habitat.
- Waste materials should be disposed on within a skip or immediately removed from site. Rubble piles should be dismantled by hand.
- Any exposed excavations to be left overnight are to be covered at the end of each working day or include a means of escape for any fallen animals (e.g. a scaffolding plank).
- Any temporarily exposed open pipes are to be capped to prevent GCN gaining access.
- Should GCN be found during works, works must stop immediately and Brindle & Green consulted.

Water Vole

As a precautionary measure, WB2 was checked for evidence of water vole during the three site visits alongside the GCN surveys. No evidence such as burrows, feeding remains, latrines or footprints were found during the surveys, including 100m upstream and downstream of the proposed development. Water vole are therefore not considered to be a constraint to the development.

Yours Sincerely,

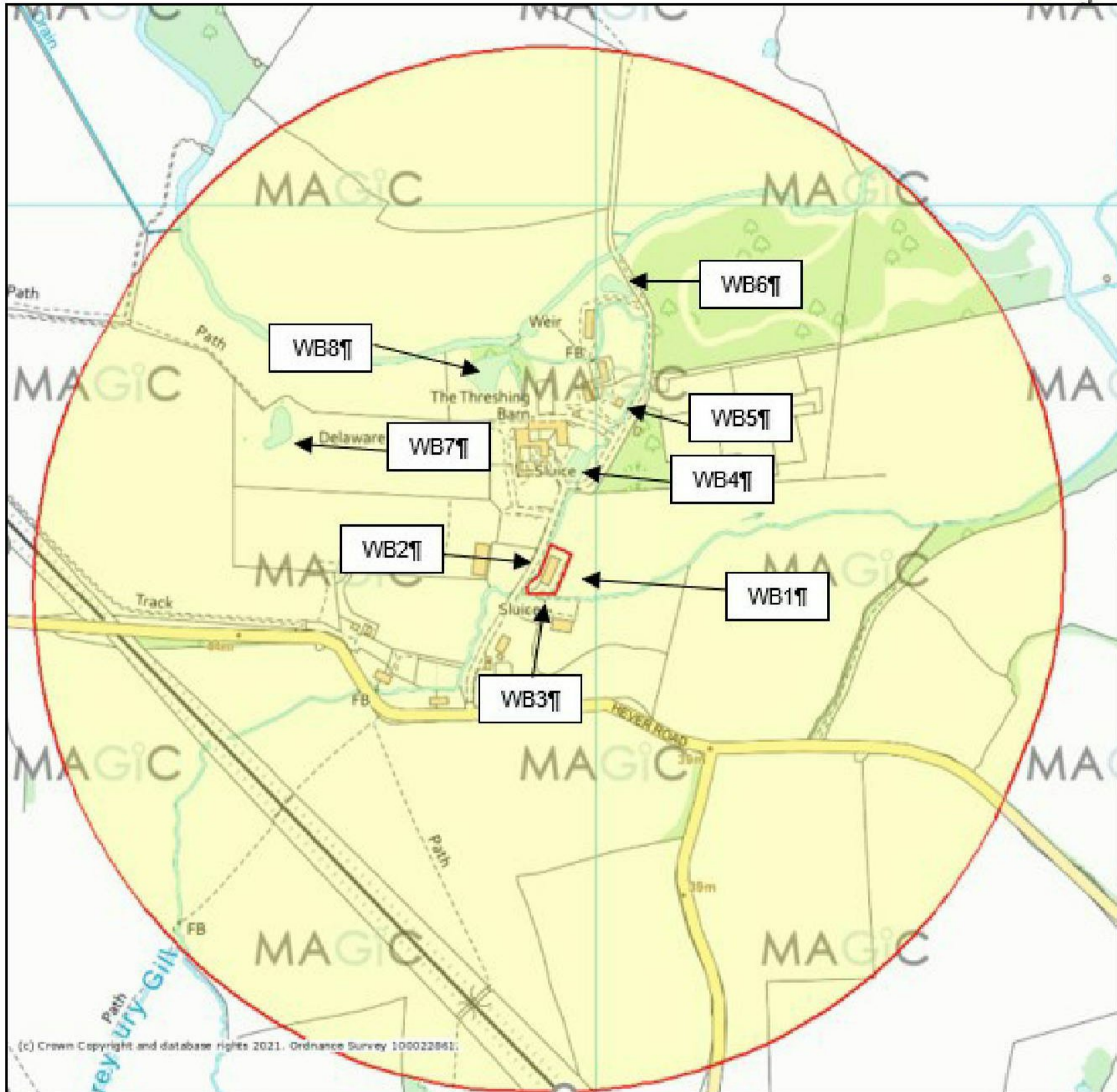


Amy Trewick BSc (Hons) ACIEEM

Appendix 1: Proposed Plans



Appendix 2: Pond Locations



Appendix 3: HSI Scores

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	T
W1	1	0.2	1	0.67	1	1	0.67	1	1	0.7	0.76
W2	1	0.7	1	0.67	1	0.67	1	1	1	0.7	0.86
W3	1	0.7	0.9	0.33	1	0.67	0.67	1	1	0.35	0.71
W4	1	1	0.9	0.67	1	1	0.67	1	1	0.3	0.81

Total HSI Score = $(S1 \times S2 \times S3 \times S4 \times S5 \times S6 \times S7 \times S8 \times S9 \times S10)^{1/10}$

Key:

W = Waterbody

S1 = Location

S2 = Pond Area

S3 = Pond Permanence

S4 = Water Quality

S5 = Shade

S6 = Water Fowl

S7 = Fish

S8 = Pond Numbers

S9 = Terrestrial Habitat Quality

S10 = Macrophyte Coverage

T = Total HSI Score

Appendix 4: Survey Results

1 Survey Date: 25/03/2021

Surveyors	AT+VC	Weather	mild
Date	3/25/2021	Temp	9
Start Time	7:12	Precipitation	0
End Time	7:12	Wind Strength	1
		Cloud Cover	2

WB1

Number Traps Used	40
Veg Cover	2
Turbidity	3
Max Depth	40cm

Survey 1	Torch		Bottle		Eggs		Peak Adult Count
	M	F	M	F	Y	N	
GCN	0	0	0	0		N	0
Smooth Newt	0	0	2	2		N	4
Palmate Newt	0	0	0	0		N	0
Common Frog	0		0		1000+		0
Toad	32		0		0		0
Other	0		0		0		0

WB2

Number Traps Used	0	Notes Not bottle trapped
Veg Cover	2	
Turbidity	1	
Max Depth	30cm	

Survey 1	Torch		Bottle		Eggs		Peak Adult Count
	M	F	M	F	Y	N	
GCN	0	0	0	0	0	N	0
Smooth Newt	0	0	0	0	0	N	0
Palmate Newt	0	0	0	0	0	N	0
Common Frog	0		0		100+		0
Toad	0		0		N		0
Other	0		0		N		0

WB3

Number Traps Used	0	Notes Not bottle trapped, running water, fish present
Veg Cover	2	
Turbidity	1	
Max Depth	40cm	

Survey 1	Torch		Bottle		Eggs		Peak Adult Count
	M	F	M	F	Y	N	
GCN	0	0	0	0		N	0
Smooth Newt	0	0	0	0		N	0
Palmate Newt	0	0	0	0		N	0
Common Frog	0		0		N		0
Toad	0		0		N		0
Other	0		0		N		0

2 - Survey Date:

Surveyors	AT+VC	Weather	mild
Date	3/29/2021	Temp	7
Start Time	20:00	Precipitation	0
End Time	21:30	Wind Strength	1
		Cloud Cover	2

WB1

Number Traps Used	40
Veg Cover	2
Turbidity	3
Max Depth	40cm

Survey 2	Torch		Bottle		Eggs		Peak Adult Count
	M	F	M	F	Y	N	
GCN	0	0	0	0		N	0
Smooth Newt	3	2	2	2		N	4
Palmate Newt	0	0	0	0		N	0
Common Frog	0		0		1000+		0
Toad	33		0		100+		0
Other	0		0		0		0

WB2

Number Traps Used	0	Notes Not bottle trapped
Veg Cover	2	
Turbidity	1	
Max Depth	30cm	

Survey 2	Torch		Bottle		Eggs		Peak Adult Count
	M	F	M	F	Y	N	
GCN	0	0	0	0	0	N	0
Smooth Newt	0	0	0	0	0	N	0
Palmate Newt	0	0	0	0	0	N	0
Common Frog	0		0		100+		0
Toad	0		0		N		0
Other	0		0		N		0

WB3

Number Traps Used	0	Notes Not bottle trapped, running water, fish present
Veg Cover	2	
Turbidity	1	
Max Depth	40cm	

Survey 2	Torch		Bottle		Eggs		Peak Adult Count
	M	F	M	F	Y	N	
GCN	0	0	0	0		N	0
Smooth Newt	0	0	0	0		N	0
Palmate Newt	0	0	0	0		N	0
Common Frog	0		0		N		0
Toad	0		0		N		0
Other	0		0		N		0

Appendix 5: eDNA result of WB1



Folio No: E9221
Report No: 1
Purchase Order: BG21.101
Client: BRINDLE GREEN
Contact: Nikki Scott, Amy Trewick

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (*TRITURUS CRISTATUS*)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 16/04/2021
Date Reported: 20/04/2021
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
2186	BG21.101 Newlands Farm, pond 1	TQ45964 45630	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Chris Troth

Approved by: Gabriela Danickova