



Hallam Land Management

Bognor Regis Golf Club

APPENDIX 8.5 - GREAT CRESTED NEWT SURVEYS (SITE A)

December 2021

FPCR Environment and Design Ltd

Registered Office: Lockington Hall, Lockington, Derby DE74 2RH

Company No. 07128076. [REDACTED]

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1.0 INTRODUCTION

- 1.1 The following report has been prepared by FPCR Environment and Design Ltd on behalf of Hallam Land Management Ltd (HLM) to present the results of great crested newt (GCN) *Triturus cristatus* surveys completed on the site at Bognor Regis Golf Course, Bognor Regis, West Sussex (central OS grid reference SU 95019 01235).
- 1.2 The scope and objectives of the report are to:
- present the findings of the GCN surveys undertaken in 2016;
 - assess the relative importance of the survey area for GCN; and
 - review the site proposals and provide recommendations for mitigation, compensation and enhancement, if required.

Site Context

- 1.3 The Site covers an area of approximately 40ha and currently comprises the existing Bognor Regis Golf Course and associated club house and car parking. Vehicular and pedestrian access is provided from Golf Links Road. The golf course comprises fairways, fairway trees with occasional drainage ditches. A practice green is also located close to the club house.
- 1.4 The Site is located to the north of Felpham and Bognor Regis, and is adjacent to the north-western edge of the built-up area of Felpham. It is bounded to the west by Lidsey Rife, beyond which is the LEC Airfield, the railway line and areas of commercial development. To the north is the A259. To the east is the existing residential environs of Felpham and Downview Primary School. To the south are open fields extending to the B2259 and further afield Felpham.

Development Proposals

- 1.5 Outline planning application with all matters reserved, except means of access, for the erection of up to 480 new homes (C3), the formation of a new means of access onto Golf Links Road, together with the creation of new surface water drainage, new landscaping and habitat creation, ground works and other infrastructure. The retention and re-purposing of the retained club house (F2(b)).

2.0 LEGISLATION AND POLICY

- 2.1 Great crested newts and the places they use for refuge and breeding are protected under Schedule 2 of the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats & Species Regulations 2019 (Amendment)(EU Exit).
- 2.2 They are also a European Protected Species (EPS) and protected under Annexes II and IV of the EU Habitats and Species Directive and Appendix II of the Bern Convention.
- 2.3 In summary, it is an offence to:
- deliberately or recklessly take, injure or kill a great crested newt;
 - intentionally or recklessly damage, destroy or obstruct access to any structure or place used for breeding, shelter or protection by the species;
 - intentionally or recklessly disturb while it is occupying a structure or place which it uses for such purpose; and
 - intentionally take or destroy the eggs of a great crested newt.
- 2.4 This legislation equally protects all life stages, including eggs, efts and adults.
- 2.5 Proposals which could lead to any of the above would require a derogation licence from Natural England alongside appropriate avoidance, mitigation and compensation measures.

3.0 METHODOLOGY

Desk Study

3.1 In order to compile existing baseline information, relevant ecological information was requested from both statutory and non-statutory nature conservation organisations including:

- Multi Agency Geographic Information for the Countryside (MAGIC) ; and
- Sussex Biodiversity Records Centre (SBRC);

3.2 When handling data, species records were filtered to those from the previous ten years. Older records were reviewed but only included where they were considered relevant to the site assessment.

Habitat Suitability Survey

3.3 The habitats within the survey area were assessed for their potential to support GCNs during both their breeding and terrestrial phases, including an assessment of waterbodies. In addition, access was sought to assess waterbodies within a 250m radius of the site which had suitable connective habitat.

3.4 Waterbodies were assessed for their potential suitability to support GCN using the Habitat Suitability Index (HSI). The HSI provides a measure of the likely suitability that a waterbody will support newts. In general, waterbodies with a higher score are more likely to support GCNs than those with a lower score and there is a positive correlation between HSI scores and waterbodies with newts recorded. Ten separate attributes are assessed for each waterbody:

- Geographic location
- Pond area
- Pond drying
- Water quality
- Shade
- Presence of waterfowl
- Presence of fish
- Number of linked ponds
- Terrestrial habitat
- Macrophytic coverage

3.5 A score is assigned for each attribute and a total score is calculated between 0 and 1. Pond suitability is then determined according to the scale in *Table 1*.

Table 1: HSI Scale

HSI Score	Pond Suitability
<0.5	Poor
0.5-0.59	Below average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

- 3.6 Using OS maps and aerial photography waterbodies within a 250m radius of the site were identified where possible, see *Figure 1*. Three waterbodies were present in site (P1, P2 and P3), with an additional four waterbodies (P4, P5, P6 and P7) within 250m radius of the site. There is also a network of ditches running through the site.
- 3.7 An assessment of the suitability of the terrestrial habitats to support GCNs was also completed. Suitable terrestrial habitat includes riparian corridors along the ditch network and the Lidsey Rife, semi-improved grassland, hedgerow bases and woodland.

eDNA Survey

- 3.8 eDNA sampling was undertaken on the onsite waterbody in accordance with the protocol recommended by Natural England
- 3.9 Sampling was undertaken on 7th June 2016 by an appropriately licenced and experienced ecologist who collected a water sample from P1, P2, P3 and P4. This comprised taking samples of agitated water from 20 locations around each pond and mixing thoroughly; 15 ml of this water was then placed into each of the six sterile sample tubes containing preservative, precipitates and a DNA sequence that was used for degradation control. This was then transported under suitable conditions to the Food and Environment Research Agency (Fera) laboratory at Sand Hutton, York for analysis. Following analysis, results provided by the laboratory could have one of three outcomes which are described in *Table 2* below.

Table 2: Possible Results of eDNA Analysis

Result	Description
Positive	A positive result means GCN eDNA was detected and they have been present within the water in the 20 days preceding sampling. A score is provided indicating the number of positive replicates from a series of twelve.
Negative	GCN eDNA was not detected. Where samples are negative, further testing for PCR inhibitors and degradation of the sample is undertaken.
Inconclusive	Controls indicate degradation or inhibition of the sample. Therefore, the lack of detection of GCN eDNA is not conclusive evidence for determining the absence of this species using the sample provided.

Limitations

- 3.10 The species data collated for the desk study is derived from records submitted by members of the public, amateur naturalists and from specialist volunteer group surveys. It does not represent a

definitive list of species that occur in the local area, and the absence of records does not necessarily imply absence of such species.

- 3.11 Owing to the timing of commission, it has not been possible to update the surveys undertaken in 2016, however owing to the predominant habitats present, which comprised intensively managed amenity grassland utilised as a golf course, it is unlikely that GCN have colonised the site during the intervening time.

4.0 RESULTS

Desk Study

- 4.1 One record of GCN was provided by SBRC. This record was from 2016 and was located c. 534m east (*Figure 2*).

Field Surveys

- 4.2 Three ponds were present on-site, and pond P4 which abuts the northern boundary, provided suitable breeding habitat for GCN, particularly as they all supported aquatic / marginal plant species. Further details are provided below:
- Pond 1: c. 15 x 8m, large amount of aquatic / emergence vegetation present including lesser bulrush *Typha angustifolia*, water mint *Mentha aquatica* and parrot's feather *Myriophyllum aquaticum*.
 - Pond 2: c. 15 x 10m, located at end of wet drain running along northern site boundary, largely shaded and heavily vegetated with common reed *Phragmites australis* and duck weed *Lemna* sp., with some additional aquatic / marginal vegetation present including false watercress *Apium nodiflorum*, yellow flag iris *Iris pseudacorus* and water mint.
 - Pond 3: c. 10 x 4m, located in ditch 2 in south of site, partially shaded, aquatic / marginal species present including common reed, soft rush *Juncus effusus* yellow flag iris, water forget me not *Myosotis scorpioides* and parrot feather.
 - Pond 4: c. 10 x 6m, located at northern end of ditch 1 on northern site boundary. Heavily shaded by the large amount of aquatic / marginal vegetation present including common reed, water mint, and great willowherb *Epilobium hirsutum*.
- 4.3 The Lidsey Rifle is present abutting the western boundary of the site and comprised a flowing watercourse, which gently meanders south to the English Channel, and does not provide suitable breeding habitat for GCN.
- 4.4 Suitable terrestrial habitat within the site was limited to scrub around ponds, taller grass around the site boundaries, hedgerows and woodlands. Potential refugia and hibernacula in the form of log piles were also present adjacent to ponds P1 and P4.

Habitat Suitability (HSI)

- 4.5 Ponds P1 and P4 were categorised as having 'good' suitability for GCN with a predicted presence of 0.79 from the HSI scores. Pond P2 was categorised as having 'moderate' suitability with a predicted presence of 0.55, and pond P3 was categorised as having 'below average' suitability for GCN with a predicted presence of 0.2. A full break down of the scores is shown in *Appendix A*, the overall scores are as found within *Table 3* below.

Table 3: HSI Scores and Pond Suitability

Pond	HSI Score	HSI Category	Predicted Presence
P1	0.71	Good	79%
P2	0.69	Average	55%
P3	0.49	Below average	20%
P4	0.73	Good	79%

eDNA Survey

- 4.6 eDNA surveys returned negative results for all four ponds surveyed.

5.0 DISCUSSION AND RECOMMENDATIONS

- 5.1 Three ponds have been identified as being on-site, with an additional four ponds located within 250m of the site boundary. Pond P5 was discounted from surveys as it is separated from the site by the busy A259 which acts as a barrier to dispersal. Ponds P6 and P7 were dry at the time of survey and therefore do not offer suitable breeding habitat for this species.
- 5.2 Ponds P1, P2, P3 and P4 were all subject to eDNA surveys whereby a negative result was returned for each pond; ponds P1 and P3 will be lost to the development. GCN are therefore not considered to pose a constraint to development.



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Key

 Site Boundary

 250m Buffer

Waterbody

 Dry

 Wet

 Lidsey Rife

Phase 1 Lines

 Ditch (Standing water)

 Ditch (Dry)

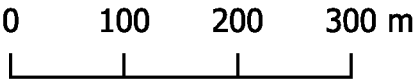
Waterbody Number	Distance
P1	On-site
P2	On-site
P3	On-site
P4	1m
P5	112m
P6	126m
P7	180m
D1	On-site
D2	On-site
D3	On-site
D3a	On-site
D4	On-site
D5	On-site
D6	On-site
D7	On-site
D7a	On-site
D8	On-site
D9	On-site
D10	On-site
D11	On-site
D12	On-site
D13	On-site

FPCR Environment and Design Ltd, Lockington Hall, Lockington, Derby, DE74 2RH ☎ t:01509 672 772 ☎ f:01509 674 565☎ e: mail@fpcr.co.uk☎ w: www.fpcr.co.uk

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ARUN DISTRICT COUNCIL M/16/22/PL



Hallam Land Management
Bognor Regis Golf Club,
West Sussex

WATERBODY LOCATIONS PLAN



scale
1:6664

drawn
RM

issue
7/12/2021

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Figure 1

rev



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Key

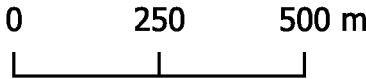
 Site Boundary

 1km Buffer

 Great Crested Newt

FPCR Environment and Design Ltd, Lockington Hall, Lockington, Derby, DE74 2RH ☎ t:01509 672 772 ☎ f:01509 674 565☎ e: mail@fpcr.co.uk☎ w: www.fpcr.co.uk

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Hallam Land Management

Bognor Regis Golf Club,
Bognor Regis

GREAT CRESTED NEWT CONSULTATION PLAN

scale
1:13000

drawn
LC

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7/12/2021

drawing / figure number

Figure 2

rev

7338-E-08.2



APPENDIX A – DETAILED HSI SCORES

Pond	SI -1		SI -2		SI -3		SI -4		SI -5		SI -6		SI -7		SI -8		SI -9		SI -10		HSI score	Pond suitability	Predicted presence
	geographical location		pond area		pond drying		water quality		shade (perimeter)		fowl		fish		ponds		terrestrial habitat		macrophytes				
	Field result (A,B,C)	SI score	Field result (m ²)	SI score	Field result	SI score	Field result	SI score	Field result (% cover)	SI score	Field result	SI score	Field result	SI score	Field result	SI score	Field result	SI score	Field result	SI score			
1	A	1	160	0.3	Sometimes	0.5	Good	1	10	1	Minor	0.67	Possible	0.67	6	0.82	Moderate	0.67	90	0.9	0.71	Good	79%
2	A	1	220	0.4	Sometimes	0.5	Good	1	90	0.9	Minor	0.67	Possible	0.67	6	0.82	Good	1	5	0.35	0.69	Average	55%
3	A	1	100	0.2	Annually	0.1	Moderate	0.67	40	1	Minor	0.67	Absent	1	6	0.82	Poor	0.33	5	0.35	0.49	Below Average	20%
4	A	1	150	0.3	Rarely	1	Moderate	0.67	20	1	Absent	1	Absent	1	6	0.82	Poor	0.33	100	0.8	0.73	Good	79%