

Great crested newt surveys for proposed new prison on land adjacent to HMP Gartree, Gallow Field Road, Market Harborough, Leicestershire

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Non-technical summary

Introduction

CGO Ecology Ltd (CGO) was instructed by Mace Ltd, on behalf of the Ministry of Justice (MoJ), to conduct a series of great crested newt (GCN) surveys of land adjacent to HMP Gartree, Market Harborough, Leicestershire. The MoJ proposes a development as part of its New Prisons Programme on land used to graze sheep, centred on (SP 7052 8873). The Local Planning Authority (LPA) is Harborough District Council.

<u>Methodology</u>

A Leicestershire and Rutland Environment Records Centre (LRERC) data search was conducted for GCN records within 2km, and desk study was used to identify all ponds within 500m. CGO subconsultant Brindle & Green Ltd (B&G) conducted Habitat Suitability Index assessment and GCN presence-absence surveys of three ponds on MoJ land, extended to a population survey on one pond, following standard guidance. Permission was not granted for access to any ponds on third-party land. Surveys were conducted between 19th April and 28th May 2021, with at least half the visits during the mid-April to mid-May optimal period.

<u>Results</u>

There are 15 ponds within 500m of the red line boundary, of which eight are within 250m. Surveys on MoJ land in spring 2021 identified a small population of GCN in pond 1 (peak count 8) within the proposed development site. No GCN were detected in ponds 2 and 3 outside the development. LRERC data shows a small GCN population in pond 10 35m east of the site (peak count 5 in 2008). Pond 8 210m south of the site had a small GCN population (peak count 13 in 2008). A medium GCN population is present in four mitigation ponds (P12-15) for the Airfield Farm housing development 250-350m east of the site (peak count 42 in 2018).

Conclusions, mitigation and enhancement recommendations

A small population of GCN is present on site (pond 1). The population, its breeding habitat, and terrestrial habitat will be lost to the development. Low numbers of GCN associated with off-site ponds to the south and east could also be present on site. They and their terrestrial habitat would also be lost to the development.

Without licensed mitigation, offences under the Habitats Regulations 2017 (as amended) will be committed. A Natural England mitigation licence will therefore be necessary. This could be either a traditional mitigation licence, or a District Level Licence (DLL) under the Natural England-led scheme covering Leicestershire.

The traditional route would involve a lengthy Natural England application process, replacement habitat creation, capture/translocation over a year or so involving drift fencing, bucket traps, refugia, bottle-traps, 30 days nights of capture, destructive search. Post-development monitoring would also be necessary for five years. The DLL route would involve a scoping process, payment to enter the Natural England Leicestershire DLL scheme, and no mitigation or post-development monitoring.

The creation of two new ponds and grassland enhancement north of Welland Avenue for BNG purposes will yield a net gain in potential GCN breeding habitat in the area. Tree management could also be used to bring ponds 2 and 3 into suitable condition for GCN breeding.

The costs associated with DLL are usually comparable with traditional schemes, but the timeline can be compressed significantly, as there is no need for capture/translocation or habitat creation for small populations (provided that the DLL scheme has enough banked ponds already).

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1. Introduction

1.1. Background

CGO Ecology Ltd (CGO) was instructed by Mace Ltd, on behalf of the Ministry of Justice (MoJ), to conduct a series of great crested newt (GCN, *Triturus cristatus*) surveys of land adjacent to HMP Gartree, Market Harborough, Leicestershire. The MoJ proposes a development as part of its New Prisons Programme on land used to graze sheep (*Ovis aries*), centred on (SP 7052 8873). The Local Planning Authority (LPA) is Harborough District Council.



Figure 1 – Development application boundary (red line) and MoJ ownership boundary (blue line).

GCN is strictly protected by the Habitats Regulations 2017 (as amended) and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). The Habitats Regulations protect the newts themselves, and their breeding ponds ('breeding places') and terrestrial habitat ('resting places').

A Preliminary Ecological Appraisal (PEA) conducted by Ramboll (Molesworth, 2020). An Ecological Impact Assessment (EcIA) was conducted by CGO (Gleed-Owen, 2021).

CGO subconsultant Brindle & Green Ltd (B&G) was commissioned to carry out the GCN surveys in spring 2021.

Dr Chris Gleed-Owen MCIEEM is Director and Principal Ecologist of CGO, and project lead for the Gartree 2 GCN surveys and other phase 2 ecological surveys.

This report aims to follow CIEEM (2017) guidance and provide sufficient information to enable an EcIA conforming to CIEEM (2018) guidance.



Figure 2 – Proposed development and landscaping plan, including BNG enhancement areas, produced by Pick Everard.

1.2. Site context

The development site is land to the south of HMP Gartree, predominantly used to graze sheep. It comprises fields of poor semi-improved grassland, with hedgerows, and lines of trees. The red line includes a wider area to the northwest of Welland Avenue, set aside for Biodiversity Net Gain (BNG) habitat enhancements.

The wider landscape in which HMP Gartree is situated is rural, with arable and pasture farming. It is primarily open in nature, with scattered residential properties and pockets of woodland. Hedgerows and treelines create interconnecting ecological corridors throughout the area. Within 1km to the southeast, a large new residential development at Airfield Farm is expanding the urban area of the town of Market Harborough.

1.3. Proposed works

An Outline Planning Application (OPA) has been submitted, with all matters reserved except for access and scale for the construction of a new Category B prison of up to 82,555m² GEA (gross external area) within a secure perimeter fence together with access parking, landscaping, and associated engineering works on land adjacent to HMP Gartree, Gallow Field Road, Market Harborough, Leicestershire, LE16 7RP.

The indicative site layout proposes a range of buildings and facilities typical of a Category B resettlement prison, including seven new houseblocks (1,715 prisoners in total), supporting development including kitchen and other facilities, ancillary development including car parking (c.523 spaces), internal road layout, and perimeter fencing. The house blocks will be four storeys in height, whilst the other buildings will range from one to three storeys.

The new prison will be designed and built to be highly sustainable and to exceed local and national planning policy requirements in terms of sustainability. MoJ's aspirations include targeting near-zero carbon operations, 10% BNG, and at least BREEAM 'Excellent' certification, with endeavours to achieving BREEAM 'Outstanding'.

2. Methodology

2.1. Desk study

The Ramboll PEA (Molesworth, 2020) included a 2km data search by Leicestershire and Rutland Environment Records Centre (LRERC). An updated LRERC data search was sought in July 2021 to ensure the latest data were captured. A GCN mitigation licence search of the Defra MAGIC Application (<u>https://magic.defra.gov.uk/MagicMap.aspx</u>) was also conducted. Following identification of some grid reference errors in the LRERC data, a corrected dataset was provided by LRERC in September 2021.

An online meeting was held in July 2021 with the Leicestershire County Council and LRERC ecologist Sue Timms, and a field meeting was held in October 2021. Summary data from the Airfield Farm mitigation site were provided by FPCR Environment and Design Ltd which is monitoring the site for the housing developer (FPCR, 2016).



Figure 3 – Ponds within a 250m and 500m radius of the application boundary for the proposed development.

2.2. Habitat Suitability Index

B&G and CGO conducted scoping surveys of the whole site in early February 2021. B&G conducted GCN Habitat Suitability Index (HSI) surveys of three ponds on MoJ land in March 2021 (a fourth was dry), following standard guidance (ARGUK, 2010). CGO conducted an HSI assessment, remotely, of two off-site ponds on unregistered land at Chapel Farm to the west of Foxton Road on 13th April 2021. The surveyors were Ellen Marshall (CL08 licensed), Amy Trewick (CL08 licensed), other B&G staff, and Chris Gleed-Owen of CGO (CL09 licensed).

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MoJ sought third-party permissions for access to all off-site ponds, but this was not forthcoming for any third-party ponds. HSI assessment was therefore not possible on any off-site ponds to the south and east of the proposed development site where LRERC data showed previous GCN records.

2.3. Presence-absence surveys

GCN presence-absence surveys were conducted on all accessible ponds. Normally, it is acceptable to survey only those ponds with HSI scores in the 'average', 'good', or 'excellent' Brady categories (cf. ARGUK, 2010). However, as only three ponds on MoJ land (P1-3) were accessible and holding water, all were surveyed.

Following standard survey methodologies (English Nature, 2001), four nocturnal visits using three techniques (torch, bottle-trap, egg-search) were conducted at P1-3. The surveys were conducted between 19th April and 28th May 2021, in all cases with at least half the visits taking place in the mid-April to mid-May optimal period.

Surveys were conducted in suitable weather conditions, times of day and night, and following accepted guidance (English Nature, 2001). All GCN and other amphibians were recorded, sexed where possible, their lifestages recorded, and other observations noted. All trapped animals were released immediately at the location of capture.

The surveyors were Ellen Marshall (CL08 licensed), Amy Trewick (CL08 licensed), Clare Cashon (CL08 licensed), Richard Else, and Emma Sutton.

2.4. Population size class surveys

As per standard guidance (English Nature, 2001), GCN presence led to population size class assessment of one pond (P1). The two additional surveys were conducted on 25-26th and 27-28th May 2021. When considered alongside the four presence-absence visits to P1, at least half the visits took place during the mid-April to mid-May optimal period.

Methodology followed the same standard techniques and timings as above. The surveyors were Ellen Marshall (CL08 licensed), Amy Trewick (CL08 licensed), Clare Cashon (CL08 licensed), Richard Else, and Emma Sutton.

2.5. Incidental observations

Phase 2 surveys for bats, badger (*Meles meles*), reptiles, Invasive Non-Native Species, Phase 1 habitats, and barn owl (*Tyto alba*) presented opportunities to gather incidental sightings of GCN, particularly when lifting various debris that exists on site, and when checking artificial refugia used for the reptile survey. Both of these types of location are often effective at finding terrestrial GCN.

Equally, other notable wildlife observed during GCN surveys was also recorded, including mammals, birds, fish, and invertebrates.

2.6. Limitations

The survey sought access to all 15 ponds within 500m of the development, but only those four on MoJ land were accessed. Access permission was not forthcoming for any of the 11 ponds on third-party land. Two were HSI-assessed at a distance (P5-6) and ruled unlikely to support GCN. However, 2018 GCN data from the Airfield Farm mitigation ponds (P12-15) was provided by LRERC, a summary of 2021 monitoring was provided by FPCR (R. Ormerod, pers. comm.). Hence, only five ponds within 500m were not assessed or surveyed at all.

Air and water temperatures were too cold for bottle-trapping throughout March and much of April; hence the surveys did not commence until late April 2021. However, this did not affect the overall presence-absence results for the ponds in question. The peak count was on visit 5 of 6 in late May 2021.



Figure 4 – Defra MAGIC map showing GCN mitigation licences (green squares) and presence records (purple dots) from Natural England's mitigation licence database and targeted surveys.



Figure 5 – GCN records within 2km from LRERC's database.

3. Results

3.1. Desk study

The Ramboll PEA (Molesworth, 2020) described the data obtained from LRERC and MAGIC. Both sources were revisited during this desk study, with updated LRERC and MAGIC searches. There are 15 ponds within 500m of the red line boundary, of which eight are within 250m.

MAGIC shows that Natural England has issued five GCN mitigation licences within 5km for GCN, two of them within 2km (Airfield Farm). All of them are to the northeast, east, or southeast of the site. MAGIC also shows 12 GCN occurrence records from surveys within 5km. Again, all of these are to the northeast, east, or southeast.

The updated LRERC data (September 2021) contains 62 GCN records within 2km. These include a small GCN population in pond 10, 35m east of the site, with a peak count 5 in 2008. Pond 8, 210m south of the site, had a small GCN population (peak count 13 in 2008). A medium GCN population is present in four mitigation ponds (P12-15) for the Airfield Farm housing development 250-350m east of the site (peak count 42 in 2018). FPCR has conducted monitoring in 2021, which confirmed that a medium population size is still present (R. Ormerod, pers. comm.).

Suitability Index	Pond 1		Pond	2	Pond	3
SI1 Location	А	1	А	1	А	1
SI2 Pond Area	169	0.4	70	0.1	25	0.1
SI3 Pond Drying	Rarely	1	Rarely	1	Rarely	1
SI4 Water Quality	Moderate	0.67	Poor	0.33	Poor	0.33
SI5 Shade	0-60%	1	100%	0.2	100%	0.2
SI6 Waterfowl	Minor	0.67	Minor	0.67	Absent	1
SI7 Fish	Absent	1	Absent	1	Absent	1
SI8 Ponds	11	0.9	11	0.9	11	0.9
SI9 Terrestrial Hab	Good	1	Good	1	Good	1
SI10 Macrophytes	15%	0.45	1%	0.3	0%	0.3
Product	0.073		0.001		0.002	2
HSI score (10th root)	0.77		0.51		0.53	
Brady category	Good		Below Ave	erage	Below Ave	erage

Table 1 – GCN HSI results for ponds 1-3 on MoJ land. Pond 4 was dry.

Suitability Index	Pond	5	Pond	6	
SI1 Location	А	1	А	1	
SI2 Pond Area	70	0.1	25	0.1	
SI3 Pond Drying	Rarely	1	Rarely	1	
SI4 Water Quality	Poor	0.33	Poor	0.33	
SI5 Shade	100%	0.2	100%	0.2	
SI6 Waterfowl	Minor	0.67	Absent	1	
SI7 Fish	Absent	1	Absent	1	
SI8 Ponds	11	0.9	11	0.9	
SI9 Terrestrial Hab	Good	1	Good	1	
SI10 Macrophytes	1%	0.3	0%	0.3	
Product	0.001		0.002	2	
HSI score (10th root)	0.51		0.53		
Brady category	Below Ave	erage	Below Ave	erage	

Table 2 – GCN HSI results for ponds 5-6 on unregistered land.

3.2. Habitat Suitability Index

Of the five ponds assessed for HSI, the Brady classes (cf. ARGUK, 2010) were 'good' for one (P1), and 'below average' for the other four (P2-3, P5-6).

All three MoJ ponds (P1-3) were put forward for GCN presence-absence surveys.



Figure 6 – Ponds which could be HSI-assessed (5 out of 15 ponds within 500m).

3.3. Presence-absence and population size class

A small population of GCN is present in pond 1 (P1) at SD 50210 20058. The maximum count was eight GCN on visit 5 on 25th May 202. The peak count on that occasion was seven male, one female, obtained from torchlight survey. GCN presence was detected on five out of six visits. Bottle-trap counts were higher than torchlight survey on four visits. P1 is located within the entrance/reception area of the proposed new prison. Two other ponds (P2-3) returned no GCN presence. Low numbers of smooth newt (*Lissotriton vulgaris*) were recorded in P1 (peak count 9). No other amphibians were recorded.

Survey 1	Torch	า	Net		Bottle	Bottle		Eggs		strial	
	М	F	М	F	М	F	Y	N	М	F	Peak Adult Count
GCN	0	0			1	1	Y				2
Smooth Newt	0	0			0	0		Ν			
Palmate Newt	0	0			0	0		Ν			
Common Frog		0				0	Ν				
Common Toad		0				0	Ν				

Survey 2	Torch	า	Net		Bottle	Bottle		Eggs		strial	
	М	F	м	F	М	F	Y	N	М	F	Peak Adult Count
GCN	0	0			0	0					0
Smooth Newt	2	3			0	0					5
Palmate Newt	0	0			0	0					
Common Frog		0									
Common Toad		0									

Survey 3	Torch	orch Net		Bottle	Bottle		Eggs		strial		
	М	F	М	F	М	F	Y	N	м	F	Peak Adult Count
GCN	1	0			3	1					4
Smooth Newt	7	2			1	1					9
Palmate Newt	0	0			0	0					0
Common Frog		0				0					0
Common Toad		0				0					0

Survey 4	Torch Net		Net		Bottle	Eggs		Terrestrial			
	М	F	М	F	М	F	Y	Z	М	F	Peak Adult Count
GCN	0	0			2	0	0	0			2
Smooth Newt	2	0			1	0	0	0			2
Palmate Newt	0	0			0	0	0	0			
Common Frog											
Common Toad											

Survey 5	Torch		Net		Bottle		Eggs		Terrestrial		
	М	F	М	F	М	F	Y	N	М	F	Peak Adult Count
GCN	7	1			3	2					8
Smooth Newt	5	3			1						8
Palmate Newt											
Common Frog											
Common Toad											

Survey 6	Torch	orch Net			Bottle			Eggs		strial	
	М	F	М	F	М	F	Y	N	М	F	Peak Adult Count
GCN	3				4	1					5
Smooth Newt	1										1
Palmate Newt											
Common Frog											
Common Toad											

Table 3 – GCN presence-absence counts for pond 1 on MoJ land.



Figure 7	 Schematic 	plan of	GCN	presence-absence	from	2021	surveys	(P1-3)	and
LRERC da	ata.								

Evenings		Mornings		
Date	Times	Weather	Date	Times
19/04/2021	1930-2200	Overcast, dry, 10C	20/04/2021	0830-1000
26/04/2021	2000-2200	Clear, dry, 9C	27/04/2021	0830-1000
11/05/2021	2030-2300	Clear, dry, 12C	12/05/2021	0800-0930
14/05/2021	2030-2300	Overcast, light rain, 8C	15/05/2021	0900-1000
25/05/2021	2030-2300	Clear, dry, 13C	26/05/2021	0830-0930
27/05/2021	2100-2300	Overcast, dry, 17C	28/05/2021	0800-0900

Table 4 – Survey timings and conditions.

Pond	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6
P1	20	15	20	20	20	15
P2	5	4	5	5	n/a	n/a
P3	10	10	9	0	n/a	n/a

Table 5 – Number of bottle-traps used per pond.

4. Baseline Ecological Conditions

A small population of GCN is present in pond 1 within the development site, with a peak count of eight adults (7 male, 1 female).

Low numbers of GCN associated with off-site ponds to the south and east could also be present on site. However, the nearest pond (35m east) has a peak count of five in 2008, and the medium population at Airfield Farm is centred on ponds over 250m east. Hence, the number of GCN coming from third-party land is likely to be low.



Figure 8 – Schematic plan of GCN presence-absence and peak count in 2021 surveys.

5. Impact Assessment

The small population of GCN on site, as well as its breeding habitat (P1), and surrounding terrestrial habitat, will be lost to the development during the construction phase.

Low numbers of GCN elsewhere on site, originating from ponds on third-party land, would also be lost to the development, along with the associated terrestrial habitat.

The importance of these populations is of local level.

6. Mitigation

Without licensed mitigation, offences under the Habitats Regulations 2017 (as amended) will be committed. A Natural England mitigation licence will therefore be necessary. This could be either a traditional mitigation licence, or a District Level Licence (DLL) under the Natural England-led scheme covering Leicestershire.

The traditional mitigation route would involve a lengthy Natural England application process, potentially taking several months, and with the risk of Further Information Requests. The mitigation would involve replacement habitat creation (ponds, terrestrial habitat, hibernacula), capture/translocation over an extended period (likely to be one year or so), with drift fencing, bucket traps, artificial refugia, bottle-traps, 30 days nights of capture (for a small population), and destructive search. Post-development monitoring would also be necessary for five years.

The DLL route would involve a scoping process, payment to enter the Natural England Leicestershire DLL scheme, and for a low impact, no mitigation or post-development monitoring.

The creation of two new ponds and grassland enhancement north of Welland Avenue for BNG purposes will yield a net gain in potential GCN breeding habitat in the area. Tree management could also be used to bring ponds 2 and 3 into suitable condition for GCN breeding.

The costs associated with DLL are reportedly comparable with traditional schemes, but the time-line can be compressed significantly. This is because there is no need to conduct lengthy programmes of capture/translocation or habitat creation for small populations (provided that the DLL scheme has enough banked ponds already).

7. Residual effects and enhancements

Once the agreed mitigation route is implemented, no residual effects on GCN are anticipated. The loss of one GCN breeding pond (P1) will be offset by the traditional or DLL route process.

In addition, the creation of two new ponds and grassland enhancement north of Welland Avenue for BNG purposes (Gleed-Owen, 2021) will yield a net gain in GCN breeding habitat in the area.

Tree management could be used to bring ponds 2 and 3 into suitable condition for GCN breeding. Therefore, regardless of the mitigation route, there will be a net gain for GCN in the area.

Three further ponds, primarily for ornamental and amenity purposes within the prison car park area, are unlikely to contribute to GCN breeding in the area.

8. References

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