Great Crested Newt eDNA Survey

Site Adjacent to 74 Old Shoreham Road, New Monks Farm, Lancing, BN15 9HG

AY Developers Ltd

Status	Issue	Name	Date
Final	1	Megan Knapp BSc (Hons), Consultant Ecologist	02/08/2023

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

> The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.
>
> The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.
>
> (BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by AY Developers Ltd to undertake a great crested newt eDNA survey at Site adjacent to 74 Old Shoreham Road, New Monks Farm, Lancing, BN15 9HG (hereafter referred to as "the site"). The survey was required to inform a planning application for the demolition of the existing bungalow at 74 Old Shoreham Road and erection of approximately 10 no. new dwellinghouses with associated access road and parking facilities (hereafter referred to as "the proposed development").

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement where appropriate, are outlined in Table 3 of this report.

Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations
The eDNA analysis of the water course resulted in a negative result, meaning GCN are not currently using the water course. The site offers suitable terrestrial habitat which GCN can use for foraging and commuting. Although commuting via water courses is limited in the surrounding habitat, there is a low chance that GCN could still be present within the terrestrial habitat on site.	The tall ruderal/scrubby vegetation on site will be removed during construction. Areas are unknown. However, the loss of such habitats could result in a reduction in terrestrial amphibian habitat. Furthermore, site clearance could result in the death or injury of common amphibians and GCN, if present.	To reduce fragmentation in terrestrial habitat for amphibians and GCN, a buffer zone for a wildlife corridor will be implemented, where vegetation is allowed to grow. This should be at least ~10m from the water course. A precautionary working method will be implemented during construction, please refer to Table 3.

Contents

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by AY Developers Ltd to undertake a great crested newt eDNA survey at Site adjacent to 74 Old Shoreham Road, New Monks Farm, Lancing, BN15 9HG (hereafter referred to as "the site"). The survey was required to inform a planning application for the demolition of the existing bungalow at 74 Old Shoreham Road and erection of approximately 10 no. new dwellinghouses with associated access road and parking facilities (hereafter referred to as "the proposed development"). A plan showing the proposed development will be provided in Appendix 1 when available.

A Preliminary Ecological Appraisal (PEA) was completed by The Ecology Consultancy in July 2012 (The Ecology Consultancy, 2012). The PEA had assessed a wider area, however, the site was a small section of the 2012 PEA survey assessment. The site was considered to have ecological value. Further surveys are recommended for winter and breeding birds, roosting and foraging bats, widespread species of reptile, badgers, terrestrial and aquatic invertebrates, aquatic plants, water vole and great crested newts. No other survey reports could be found on the planning portal. More recently, a PEA was completed by Arbtech Consulting Ltd in June 2023 (Arbtech, 2023). eDNA surveys were recommended on the drainage ditch which borders the southern boundary of site.

1.2 Site Context

The site is located at National Grid Reference TQ 19063 05592 and has an area of approximately 0.6ha comprising a field of grass and waste land with outbuildings, a bungalow (B1) with associated garden and driveway. It is directly surrounded by residential dwellings to the north and west, a main A-road to the north, construction site and ditches to the east, agricultural fields to the south. The wider landscape comprises agricultural fields to the south, north and east with the town of Lancing to the west. The coast is located ~1680m south of site. A site location plan is provided in Appendix 2.

1.3 Scope of the Report

This report describes the suitability of the habitats on the site and any surveyed ponds for GCN and identifies the presence or absence of GCN in these ponds. It identifies possible constraints in relation to GCN as a result of the proposed development and summarises the requirements for further surveys and mitigation measures to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation.

To achieve this, the following steps have been taken:

- A field survey has been undertaken, including an assessment of the suitability of the site and any ponds within influencing distance of the site for GCN.
- An outline of potential impacts on GCN has been provided, based on the proposed development.
- Recommendations for further surveys and mitigation have been made, along with advice on the requirements for a European Protected Species Licence (EPSL) for GCN if appropriate.
- Opportunities for the enhancement of the site for GCN have been set out.

2.0 Methodology

2.1 Field Survey

Of the water courses identified in the PEA (Arbtech, 2023), the drainage ditch which borders the site's boundary was subject to survey. The remaining watercourses, such as one pond and other drainage ditches were not surveyed because lack of access to third party land and presence of urban and physical barriers.

The survey was undertaken by Olga Hermann, Graduate Ecologist [Accredited to Natural England GCN licence number 2022-10628-CL08-GCN] and Maddy Carter, Graduate Ecologist on 29th June 2023.

eDNA Survey

Sample kits and analysis was provided by SureScreen. Sampling followed the relevant sections of the method set out in the DEFRA funded study endorsed by Natural England (Biggs et al 2014). In summary the sampling protocol is as follows:

- 20 samples were taken from around the entire perimeter of the waterbody.
- The surveyor stayed out of the water while taking the samples (extension poles were used in situations where open/sufficiently deep water was at a distance from the dry banks.
- Survey locations were distributed around the pond perimeter but micro-siting was used to select locations most likely to be used by GCN.
- At each sample location the water column was stirred prior to taking the sample but care was taken to avoid disturbing the sediment on the base of the pond.
- Once all 20 samples were taken, 15ml of the total sample were pipetted into each of the 6 sampling tubes, whilst ensuring that the water in the sample bag was mixed before taking each 15ml sample and that only one sample tube was opened at any one time.
- At all times the surveyor ensured that the risk of contaminating the sampling equipment was minimised by avoiding the placement of the ladle or pipette on the ground or on any otherwise potentially contaminated surfaces and by changing gloves between the initial sampling stage and the pipetting stages of the method.

Samples were sent to SureScreen for analysis.

2.2 Limitations

This survey provides a 'snap-shot' of the assessed habitat and wildlife value of the site at the time of survey only and may require further survey effort to provide robust, scientifically valid evidence of GCN status.

Specific limitations include:

- The river was surrounded by overgrown vegetation, which limited access to the entire drainage ditch. However, most of the drainage ditch could be accessed.

3.0 Results and Evaluation

A plan showing the survey results is provided in Appendix 3.

3.1 Pond Descriptions

Table 1: Surveyed Ponds

Water course Ref	Description	Photograph
1	The water course is a coastal drain located to the south of site. The water was deep and has a regular flow. The river is covered by high value terrestrial vegetation.	

3.3 eDNA Survey

The SureScreen lab results are included in Appendix 4.

Table 2: eDNA Survey Results

Pond Ref	eDNA Result
1	Negative (0/12)

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

The great crested newt receives full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

This species are also listed on Schedule 5 of the Wildlife and Countryside Act and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

4.2 Evaluation

Taking the desk-based assessment and site survey results into account, the following evaluation and recommendations for GCN are provided below.

Table 3: Evaluation of survey

Survey assessment conclusions (with justification)	**Foreseen impacts**	**Recommendations**	***Biodiversity Enhancements*** *The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021)*
The eDNA analysis of the water course resulted in a negative result, meaning GCN are not currently using the water course. The site offers suitable terrestrial habitat which GCN can use for foraging and commuting. Although	The tall ruderal/scrubby vegetation on site will be removed during construction. Areas are unknown. However, the loss of such habitats could result in a reduction in terrestrial amphibian habitat. Furthermore, site clearance could result in the death or	To reduce fragmentation in terrestrial habitat for amphibians and GCN, a buffer zone for a wildlife corridor will be implemented, where vegetation is allowed to grow. This should be at least ~10m from the water course. A precautionary working method will be implemented during construction, including the following measures: • Site clearance will be undertaken outside of the amphibian hibernation season (November to February) insofar as is possible.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for amphibians: • The creation of a wildlife pond to include native plant species and no fish.

commuting via water courses is limited in the surrounding habitat, there is a low chance that GCN could still be present within the terrestrial habitat on site.	injury of common amphibians and GCN, if present.	• A toolbox talk will be given to contractors regarding the possible presence of amphibians, including great crested newt, at the site by an ecologist. • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where amphibians could be present. • A pre-commencement inspection of the site will be undertaken, by an ecologist, for amphibians. • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Best practice pollution prevention measures will be implemented to minimise impacts to retained habitats that amphibians could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any common amphibians are found in the working area these should be moved by hand to a vegetated area along the site boundaries or in retained habitats away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advise must be sought from a suitably qualified ecologist.	• Creation of amphibian refugia and hibernacula using debris and brash from site clearance. • Planting of native scrub and grassland to increase foraging opportunities.

5.0 Bibliography

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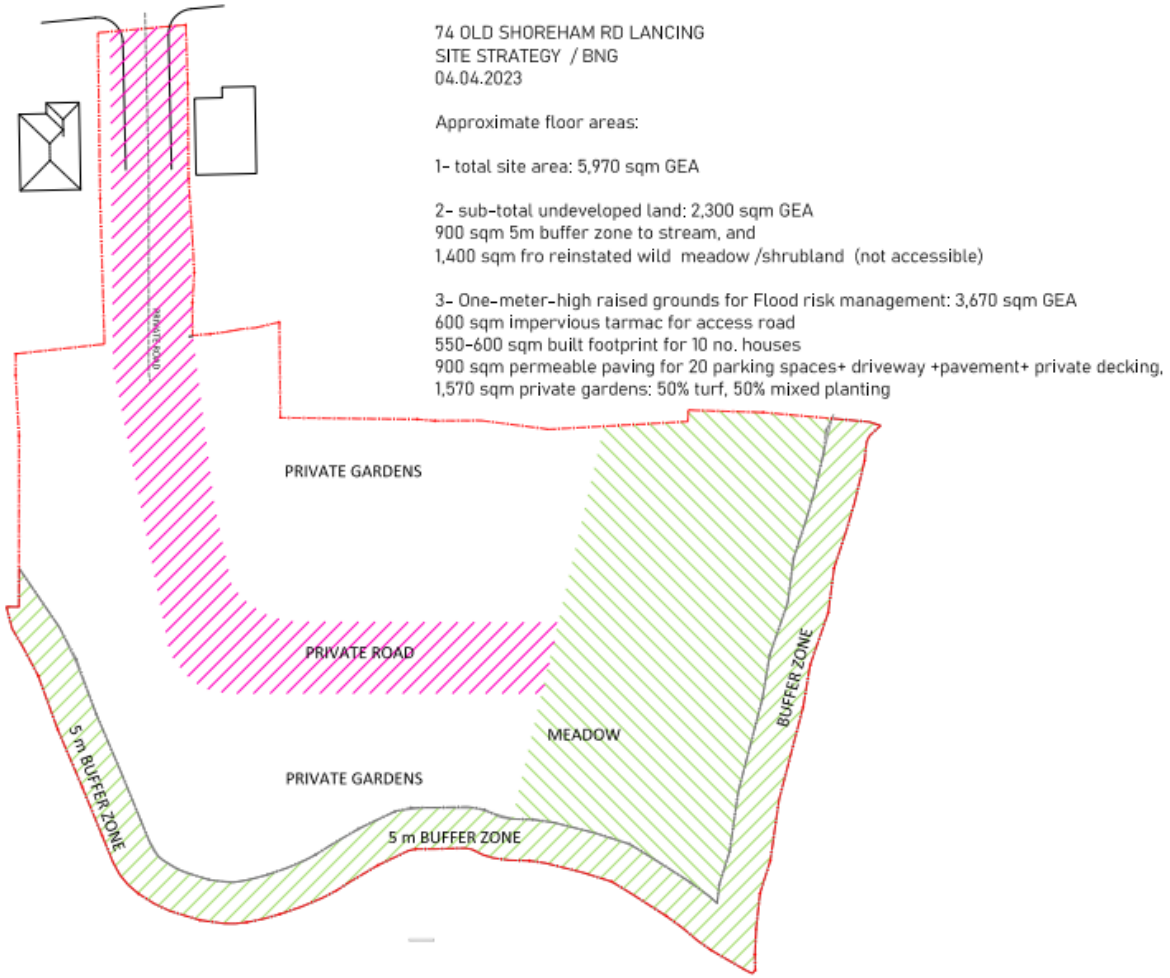
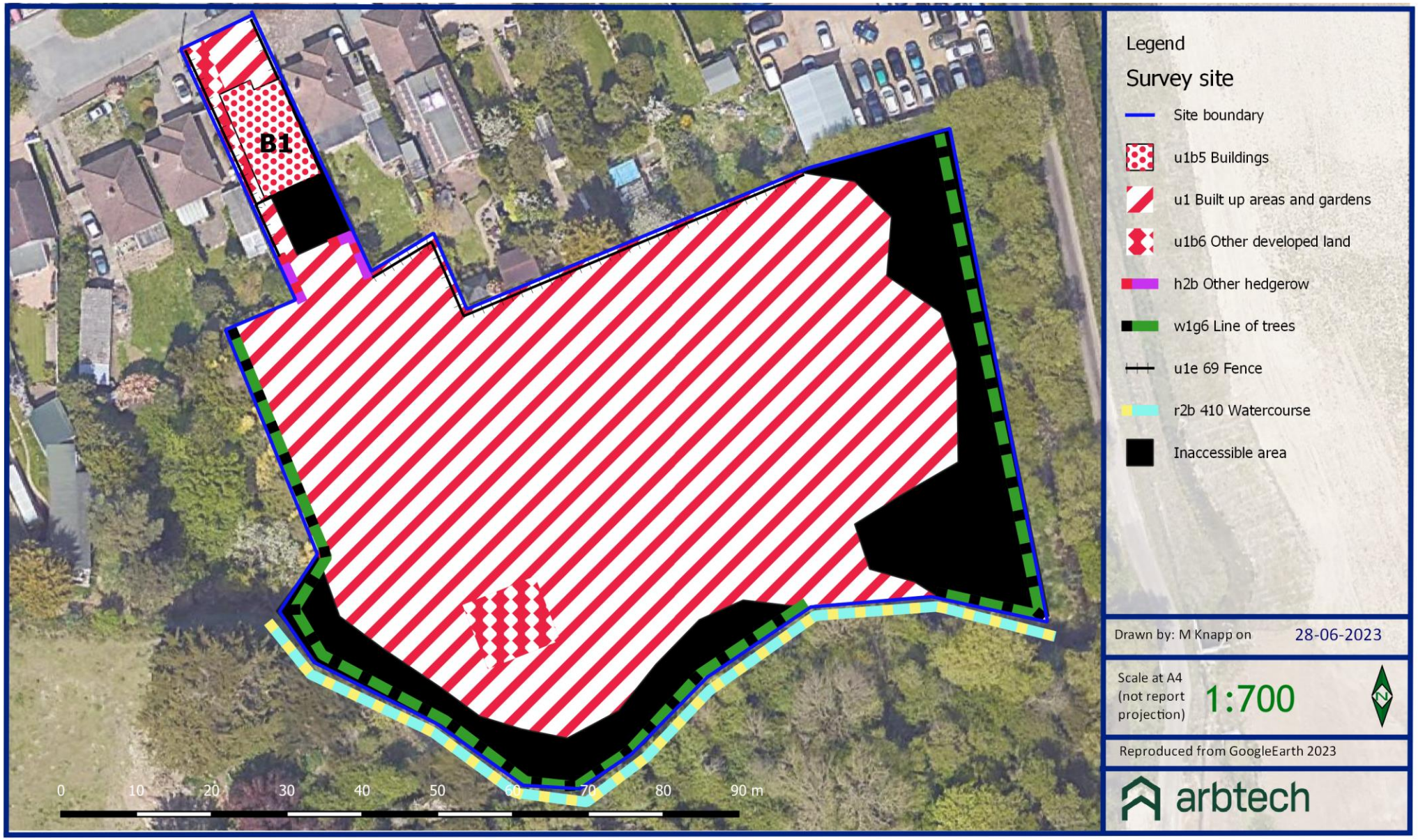
Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan

Appendix 3: GCN Survey Plan



Appendix 4: eDNA Results

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: 03/07/2023
Date Reported: 04/07/2023
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
0857	Land off 74 Old Shoreham RD - BN15 9HG	TQ 19063 05592	Pass	Pass	Pass	Negative	0

Appendix 5: Legislation and Planning Policy

LEGAL PROTECTION

The great crested newt receives full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
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- To affect significantly the local distribution or abundance of the species
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This species are also listed on Schedule 5 of the Wildlife and Countryside Act and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
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- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Effect on development works:

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places of great crested newts protected. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

NATIONAL PLANNING POLICY (ENGLAND)

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.