





Protected Species Survey

Church Barn, Morston

Prepared by Glaven Ecology

on behalf of Robert Lord Associates

June 2023 232-2200-GE-RLA

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Version	Status	Changes	Date	Author
1.1	Draft	Site visit and desktop results	21/04/2023	Sally McColl BSc, MCIEEM
1.2	PRA	Reviewed	24/04/2023	Carolyn Smith MSc, BSc (Hons), MCIEEM
1.3	Issued	Nocturnal survey	23/06/2023	Sally McColl MCIEEM

The data contained within the report are accurate to the best of our knowledge and have been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.

The report conforms to the British Standard 42020:2013 Biodiversity – Code of practice for planning and development.

We confirm that any opinions expressed are our best and professional true opinions. This report has been prepared by an ecology specialist and does not purport to provide legal advice.



1 Summary

- 1.1 Glaven Ecology was commissioned to undertake a Preliminary Roost Assessment (PRA) at Church Barn, Morston. NR25 7AA. The survey work was completed by Sally McColl MCIEEM on 15th April 2023 with a follow-up emergence survey undertaken on 13th June 2023.
- 1.2 Planning is sought to extend the existing house replacing the current outbuilding.
- 1.3 The survey area included a two storey flint and brick house, outbuilding, adjacent garage, and grounds.
- 1.4 Approximately 0.008ha of lawn and flower bed and one pine tree will be lost to the works.
- 1.5 No signs of bats were found during the visual inspections. The house, outbuilding, garage and three pine trees were assessed as having low potential to support roosting bats. A nocturnal survey for bats was carried out on 13th June 2023 to determine if bats are roosting within the house or outbuilding. No emergence was observed.
- 1.6 The ivy on the eastern elevation of the property and the pine tree should be removed outside of the bird breeding season (March to August) or following a nesting bird check.
- 1.7 Full mitigation plans can be recommended after the required surveys have taken place, but other measures should include:
 - Protection of adjacent trees as per guidelines within BS 5832 (2012);
 - Soft felling techniques of the pine tree are to be removed;
 - a low level lighting scheme to minimise impacts on bats. Warm white lights should be used at <2700k. This reduces the ultraviolet component or that has high attraction effects on insects which can lead to a reduction in prey availability for some light sensitive bat species.
- 1.8 Enhancement suggestions include native planting and the installation of bat and bird boxes.



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2 Introduction

2.1 Background

- 2.1.1 Glaven Ecology was commissioned to undertake a Preliminary Roost Assessment (PRA) Church Barn, Morston, Norfolk. NR25 7AA. The survey work was completed by Sally McColl MCIEEM on 15th April 2023. A follow-up emergence survey was undertaken on 13th June 2023.
- 2.1.2 The survey and report aim to describe how the building supports birds, bats and any other protected species. It assesses potential impacts on these features as a result of the works and advises on the need for further surveys or mitigation strategies.

2.2 Site Location and Description

- 2.2.1 The Site was located at OS Grid Reference TG 008 439 (Appendix 1) on the eastern edge of Morston to the north of the main coast road.
- 2.2.2 The Site consisted of a detached, two-storey flint and brick house with pantile roof with single storey outbuilding on the eastern elevation. There was a separate shared garage block adjacent to the property. The house was set next to a gravel driveway with mature garden and trees to the east and north. There was a grass field adjacent to the east and an area of scrub and trees adjacent to the south.
- 2.2.3 The wider environment is dominated by saltmarsh to the north, the village of Morston to the west, and arable land and blocks of woodland to the east and south.

2.3 Project Overview

2.3.1 Planning is sought to extend the existing house replacing the current outbuilding.

3 Legal Protection

- 3.1.1 The main piece of legislation relating to nature conservation in Great Britain is The Wildlife and Countryside Act 1981 (as amended). This Act is supplemented by provision in The Countryside and Rights of Way (CRoW) Act 2000 and The Natural Environment and Rural Communities Act 2006 (in England and Wales). This act provides varying degrees of protection for the listed species of flora and fauna, including comprehensive protection of wild birds and their nests and eggs.
- 3.1.2 UK wildlife is also protected under The Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. In 2010, these Regulations, together with subsequent amendments, were consolidated into The Conservation of Habitats and Species Regulations 2010.

32 Birds

3.2.1 All birds, their nests and eggs are protected by law under Part 1 of the Wildlife and Countryside Act 1981 (as amended).

3.3 **Bats**

- 3.3.1 All bat species are listed under Annex IV (and certain species also under Annex II) of the European Union's Council Directive 92/43/EEC (The Habitats Directive) and are given UK protected status by Schedule 2 of the Conservation of Habitats and Species Regulations 2010. All UK bat species are also protected under The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).
- 3.3.2 This legislation fully protects bats and their breeding sites or resting places, making it an offence to deliberately capture, injure or kill bats, deliberately disturb bats, damage or destroy a bat breeding or resting place.

3.4 Statutory Designated Conservation Sites

3.4.1 National designations such as Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR), are afforded statutory protection. SSSIs are notified and protected under the Wildlife and Countryside Act 1981 as amended. SSSIs are notified based on specific criteria, including the general representativeness and rarity of the site and of the species or habitats supported by it.



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4 Survey Methods

4.1 Desk Study

4.1.1 Records held on Magic.gov.uk on Designated Sites and granted European Protected Species Licences were reviewed in April 2023 as was the map of Norfolk County Wildlife Sites on data.gov.uk.

4.2 Protected Species Survey

4.2.1 The initial survey was undertaken on 15th April 2023 by Sally McColl MCIEEM (Natural England Level 1 Licence for bats [reference 2019-39376-CLS-CLS] and Great Crested Newts [reference 2017-32812-CLS-CLS]). Sally has over 15 years' experience of working in the ecology and conservation sectors.

Bats

- 4.2.2 A Preliminary Roost Assessment was completed in accordance with the Bat Conservation Trust's "Bat Surveys for Professional Ecologists" (Collins, 2016). A scoring system was applied to the building and trees using the criteria shown in Table 1.
- 4.2.3 The properties and trees within the grounds were investigated for evidence of bat use and evaluated for bat roosting potential. The visual search for signs of bats consisted of a slow methodical search both internally and externally for actual roosting bats and their signs:
 - Droppings on walls, windowsills and floors can be used to identify species;
 - Scratch marks and staining at roosts and exit holes can be used to identify the presence of bats;
 - Dense spider webs at a potential roost can often indicate bat absence;
 - The presence of butterfly wings may be an indication of bat presence.

Table 1: Assessing the potential suitability of a development site for bats (Collins, 2016)

Suitability	Description of roosting habitats	Description of commuting and foraging habitat
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features onsite likely to be used by commuting or foraging bats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat
	A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed)	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge

4.2.4 A dusk emergence survey was undertaken on the house and outbuilding on 13th June 2023.

4.2.5 Surveyors were:

- Sally McColl (Natural England Level 1 Licence for bats [reference 2019-39376-CLS-CLS], 15 years' experience of bat surveying)
- John Gibson (NE Level 1 for bats [reference 2021-55471-CLS-CLS] and 6 years bat surveying experience).
- 4.2.6 The survey took place 20 minutes before sunset until 1.5 hours after sunset.



- 4.2.7 Weather conditions were suitable throughout: dry with 10% cloud cover with a gentle breeze. The temperature at sunset was 12°C, with an end temperature of 11°C.
- 4.2.8 Bat species were detected and analysed using Echo Meter Touch2 detectors with automatic recording facilities. Bat calls were analysed using AnalookW and Kaleidoscope software by Sally McColl.
- 4.2.9 One infra-red camera (Panasonic HC-VX990) and two infra-led lamps (2 x Infrared Illuminators) were also deployed during the survey.
- 4.2.1 Camera footage was watched back in real time by Sally McColl the day after the survey.
 Birds
- 4.2.2 On-site habitats were assessed for their potential to support breeding (nesting) birds.
 This consisted of a methodical search for actual nesting birds or their signs.

Great Crested Newt

- 4.2.3 One pond within 250m of Church Farm Barn was appraised for its suitability for great crested newts using the Habitat Suitability Index (HSI). The HSI is an indicative tool used to rate the suitability of waterbodies for great crested newts.
- 4.2.4 A total of ten characteristics and features of waterbodies, such as their size, water quality, shading and vegetation cover are assessed and classified according to prescribed criteria. These scores allow the HSI to categorise waterbodies into one of five ratings which indicate their suitability for occupation by great crested newts. The five categories are excellent, good, average, below average and poor.
- 4.2.5 Table 2 shows the criteria used when assessing the likelihood of a protected species being present within the survey area:



Table 2: Criteria considered when assessing the likelihood of occurrence of protected species.

Assessment Category	Criteria
Present	Species are confirmed as present from the current survey or historical confirmed records.
High	Habitat and features of high quality for species/species assemblage. Species known to be present in wider landscape. Good quality surrounding habitat and good connectivity.
Moderate	Habitat and features of moderate quality. The site in combination with surrounding land provides all habitat/ecological conditions required by the species/assemblage. Within known national distribution of species and local records in desk study area. Limiting factors to suitability, including small area of suitable habitat, some severance/poor connectivity with wider landscape, poor to moderate habitat suitability in local area.
Low	Habitats within the survey area poor quality or small in size. Few or no records from data search. Despite above, presence cannot be discounted as within national range, all required features/conditions present on site and in surrounding landscape. Limiting factors could include isolation, poor quality landscape, or disturbance.
Negligible	Very limited poor quality habitats and features. No local records from desk study; site on edge of, or outside, national range. Surrounding habitats considered unlikely to support species/species assemblage.



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5 Results

5.1 Designated Sites

- 5.1.1 Nine Statutory Designated Sites were identified within 2km of the site via the desk study searches along with one non-Statutory Designated sites.
- 5.1.2 The Statutory Designated sites were:
 - The North Norfolk Coast SSSI, Ramsar and SPA, The North Norfolk Coast and The Wash and North Norfolk Coast SAC and Holkham NNR 265m north,
 - Wiveton Downs SSSI 675m east.
 - Morston Cliff SSSI 1,785m west
 - Stiffkey Valley SSSI 1,830m west.
- 5.1.3 The site sits within SSSI Impact Risk Zones for The North Norfolk Coast SSSI, Wiveton Downs SSSI, Morston Cliff SSSI and Stiffkey Valley SSSI. However, the proposal does not fall within the categories requiring further consultation with Natural England which is for residential development of 10 units or more.
- 5.1.4 The nearest County Wildlife Site, Morston Marshes, CWS 1122, was 332m to the west.

5.1 Habitats

- 5.1.1 The habitat to the front of the house was gravel which extended to the road. The curtilage of the property was completely enclosed by a brick and flint wall to the, west and south and post and wire fencing to the north and east.
- 5.1.2 There was a length of hedgerow along the north with species such as hawthorn Crataegus monogyna and cherry Prunus spp.
- 5.1.3 The garden was a maintained lawn with a short sward with mature pine trees *Pinus spp.*, fruit trees, and garden shrubs and plants. There was a recently managed horse chestnut *Aesculus hippocastanum* to the south of the property.

5.2 Protected Species - Bats

5.2.1 There was one record of a granted European Protected Species Mitigation Licence within 2km of the site:

X

 2018-36146-EPS-MIT: damage and destruction of a resting place for brown long eared, common and soprano pipistrelle bats. This was approximately 80m southeast of site.

Foraging and Commuting

- 5.2.2 The habitats immediately around the site were considered to have moderate potential to support foraging and commuting bats especially to the south-east where there was dense scrub and trees.
- 5.2.3 Whilst the wider area was predominantly arable farmland to the east, west and south, the landscape offered high foraging and commuting opportunities particularly along hedgerows which connected to blocks of woodland.

Visual inspection

House and outbuilding

- 5.2.4 The house was of typical north Norfolk flint and brick construction with pantile roof (Figures 1-3). There was a separate outbuilding attached to the east (Figures 4-6) which was used as a storage and laundry area.
- 5.2.5 In general, the roof was in good condition and the ridge tiles well fitted. Bird guards were evident at the eaves.
- 5.2.6 There were some small gaps where the lead flashing around the chimney and skylights joined the tiles and some small gaps underneath the pantiles.
- 5.2.7 The windows and doors within the main property were a mixture of wood, metal and plastic surrounds. All were well fitted with no gaps noted.
- 5.2.8 The brickwork was in good condition with no gaps or cracks noted.
- 5.2.9 The outbuilding had a low, single-pitch pantile roof with some rotting of the lintel above the door.



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Figure 1: Eastern aspect of house



Figure 2: Southern elevation of house



Figure 3: Western and southern aspects of house



Figure 4: Outbuilding to the east



Figure 5: Northern aspect of house



Figure 6: Lintel of outbuilding to the east

- 5.2.10 Internally the majority of the main property had vaulted ceilings however there was one roof void over the bathroom.
- 5.2.11 The roof void was small and shallow (Figure 7). There was a mix of traditional and machine cut beams and a boarded floor.
- 5.2.12 There was insulation between the roof beams which was held in place with plastic sheeting. The roof space was open and empty and very densely cobwebbed.



- 5.2.13 There was an airbrick on the southern gable where daylight was evident, and some gaps around the flints but this was densely cobwebbed (Figure 8).
- 5.2.14 A small patch of daylight was evident around the eastern side of the chimney, however this was also densely cobwebbed (Figure 9).
- 5.2.15 The outbuilding roof had a north facing single-pitch pantile roof which was in a good state of repair, with moss covering the western extent (Figure 10).
- 5.2.16 Internally the roof was fully lined and the lining was intact with no splits or loose sheets visible. The beams were very narrow and in good condition. There was no roof void.
- 5.2.17 The outbuilding was cluttered with stored items making it generally unsuitable for roost flying species such as brown long-eared bats.
- 5.2.18 There were no signs of bats found during the inspection of the house or the outbuilding.



Figure 7: House roof void



Figure 9: Dense cobwebbing around chimney



Figure 8: House - Southern gable end



Figure 10: Outbuilding roof

5.2.19 The house and outbuilding were assessed as having low suitability to support roosting bats, with the main roosting opportunities being under lifted flashing on the house or the rotting lintel of the outbuilding.

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Trees

5.2.20 The three pine trees all had relatively thin trunks with flaking bark but no visible holes or dead branches evident from the ground and were assessed as having low suitability to support roosting bats (Figure 11).



Figure 11: Pine trees

Dusk emergence survey -13tt June 2023

- 5.2.21 Sunset was at 21.20 with the survey starting at 21:00 and ending at 22.50.
- 5.2.22 The first bat (common pipistrelle) was recorded at 21.52. The bat was detected by the surveyor at the southern end of the site flying from west to east.
- 5.2.23 The only other species detected was soprano pipistrelle, first recorded at 21.53 and observed commuting from the garden to the north, over the outbuilding and in front of the house commuting to the south.
- 5.2.24 Bat activity across the site was low, with the intermittently foraging within the garden to the south and east of the house by common and soprano pipistrelle, a maximum of two bats were seen at any one time foraging (Figure 12).

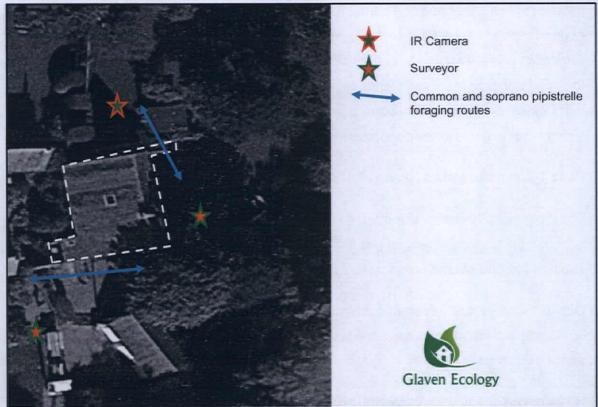


Figure 12: Bat activity around site and surveyor locations.

5.3 Birds

- 5.3.1 Bird guards were evident at the eaves of the roofs of the main house and outbuilding.
- 5.3.2 There was dense ivy growing around the central section of the eastern aspect of the main house and planting to the east of the outbuilding. These areas and the wider surrounding garden presented good nesting opportunities for birds.
- 5.3.3 On the dusk survey sparrow hawks were noted as nesting in one of the pine trees and tawny owl in trees adjacent to the east.
- 5.3.4 The likelihood of nesting birds being present within the working footprint is moderate.

5.4 Great Crested Newt

- 5.4.1 The site straddles and Amber and Green Risk Zone for great crested newts (GCN), meaning it is on the boundaries of main population centres and areas with sparsely distributed GCN.
- 5.4.2 Pond 1 was a parish pond, 180m to the south separated from the Site by the main A149.
 It had recently been restored and extensive efforts had been undertaken to control the

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invasive species that had dominated the pond. It was 30m x 20m with marginal species of greater pond sedge *Carex riparia*, yellow flag iris *Iris pseudocorus*, alexanders *Smyrnium olusatrum*, and bramble *Rubus fruticosus* with some willow *Salix spp.* around the pond edge. Some small stands of New Zealand Pigmyweed *Crassula helmseii*, parrots feather *Myriophyllum aquaticum* and water mint *Menthus aquaticus* were evident, but in general the pond was shallow and devoid of aquatic vegetation.

- 5.4.3 Pond 1 was assessed as having an HSI score of 0.69 average.
- 5.4.4 The maintained lawns on site offered little in the way of foraging for amphibians, although the boundary hedgerows, flint walls and adjacent vegetation to the east and south of the Site offered some cover and foraging opportunities.
- 5.4.5 Due to the main road separating the pond from the Site and the small footprint of the works within a maintained lawn, the likelihood of amphibians being present within the working footprint is low.
- 5.4.6 No evidence of any other protected species were found during the survey.

5.5 Survey Limitations

5.5.1 There were no significant constraints to the survey.



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6 Impact Assessment

6.1 Site proposals

- 6.1.1 Proposals at the Site comprise the following:
 - · Extend the house and remove the current outbuilding.

6.2 Designated sites and habitats

- 6.2.1 Although the proposal falls within the impact risk zones of a number of SSSIs (the nearest 265m north), the proposal does not fall within the categories requiring further consultation with Natural England.
- 6.2.2 No impacts to Designated Sites are envisaged given the scale of the development and location of the Designated Sites.

6.1 Habitats

- 6.1.1 Approximately 0.008ha of lawn and flower bed will be lost to the works and one of the pine trees which falls within the root protection zone (RPZ), which is considered of low ecological significance.
- 6.1.2 Accidental damage to remaining adjacent pine trees may occur during the construction phase of works.
- 6.1.3 No other habitats of ecological significance will be impacted by the proposed works.

62 Bats

- 6.2.1 The field survey and desk study conclude bats are highly unlikely to be present on site, although they may occasionally pass through the site when commuting or foraging in low numbers.
- 6.2.2 It is assessed that the project will have no impact on bat commuting routes and will not cause fragmentation of foraging areas.



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6.3 Birds

- 6.3.1 There were nesting opportunities within the garden trees and boundary hedgerows, and within the ivy on the eastern elevation of the house.
- 6.3.2 Birds may be injured or nests destroyed if the ivy or pine tree is removed within the bird breeding season.
- 6.3.3 It is considered that the works will have a low impact on local bird populations.

6.4 Great Crested Newts

- 6.4.1 Pond 1 was subjected to the Natural England Rapid risk Assessment which gave a result of Green: Offence highly Unlikely (Appendix 2). This indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed.
- 6.4.2 The rapid risk assessment takes into consideration the whole of the site boundary even though only a small amount of low value habitat will be affected; therefore no significant adverse effects or legal infringements are predicted.



7 Recommendations

7.1 General

7.1.1 As good practice, any trenches or holes created during the works must be backfilled at the end of the day or covered overnight and materials should be stored on the gravel area or raised off the ground on pallets to ensure any wildlife passing through the site, such as hedgehogs, do not get trapped.

7.2 Habitats

7.2.1 Construction works to be carried out in accordance with British Standards Institution (2012), BS 5837:2012, Trees in relation to design, demolition and construction, to protect adjacent trees.

7.3 Bats

- 7.3.1 The pine tree to be removed should be removed by soft felling, where each limb is slowly lowered to the ground and any cavities or flaking bark inspected for bats before discarding.
- 7.3.2 Any external lights associated with the finished project should be of a low light level to minimise impacts on bats that might forage and commute in the vicinity. Warm white lights should be used at <2700k. This reduces the ultraviolet component or that has high attraction effects on insects which can lead to a reduction in prey availability for some light sensitive bat species.</p>

7.4 Birds

7.4.1 To avoid committing an offence under the Wildlife and Countryside Act 1981 (as amended), ivy and the pine tree will be removed outside of the bird nesting period (i.e. outside of March to August), or failing that, following confirmation by a suitably qualified ecologist that nesting birds are absent from the habitats to be cleared.



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8 Enhancements

8.1 Habitats

- 8.1.1 Planting of native shrubs and plants to encourage pollinators within the wider garden.
- 8.1.2 There is scope to plant a native species hedgerow along the eastern boundary of the wider garden, where there is currently a fence, to provide a more robust commuting corridor around the site.

8.2 Bats

8.2.1 Two bat boxes to be situated on a sunny aspect at least 3m high on one of the garden trees. An example of a suitable box is a <u>2F Schwegler bat box</u>.

8.3 Birds

8.3.1 Install two bird boxes around the garden boundaries. Suitable boxes include the <u>Schwegler 1B nest box</u> and the <u>robin and wren FSC nest box</u>. The open fronted robin box would suit the spotted flycatchers which are red-listed and have undergone a prolonged decline, but they are present in North Norfolk as a sparsely distributed summer visitor.



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9 References

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Appendix 1 – Site Location



(Source Google Earth Pro: 2023)



Appendix 2 – HSI Assessment and NE Rapid Risk Assessment

ARGUK GCN HSI Calculator

	Date Pond	15/04/2023 1
SI No	SI Description	SI Value
1	Geographic location	1
2	Pond area	1
3	Pond permanence	0.5
4	Water quality	0.33
5	Shade	1
6	Waterfowl effect	1
7	Fish presence	1
8	Pond Density	0.65
9	Terrestrial habitat	0.67
10	Macrophyte cover	0.35
	HSI Score	0.69
Pon	d suitability (see below)	Average

Pond 1 - Rapid Risk Assessment Results

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	



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