

Ecological Impact Assessment **at**

Hugmore Lane, Llan y Pwll,

Wrexham LL13 9YD

Grid Ref. SJ 3779 5153

on 1st July 2020

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1. Summary

The purpose of the report is to assess the potential ecological impacts of a proposed development at Llan y Pwll, Wrexham and advise on any mitigation measures to comply with local planning policy and government legislation.

The proposed scheme entails the construction of two dwellings with associated access, gardens and garages.

The land was examined to establish the presence of or evidence of use by protected species of animals. A visual inspection was carried out to assess the potential or actual use of the site by bats, great crested newts (GCN), badgers, dormice and birds.

No rare or threatened species of plants or animals were found on site or near the site. Ecological impacts should be mitigated and compensated for as described in sections 6,7 and 8. If birds are building nests or any are occupied at any stage of the development work in that area must stop until the young have left the nest. Trees should not be felled between the beginning of March and the end of September to prevent harm to nesting birds. Further surveys are needed on the adjacent pond between the beginning of April and the end of June to establish whether it is being used by great crested newts.

2. Introduction

Susan Worsfold BSc (Hons) ACIEEM is an experienced wildlife surveyor, licensed bat worker and voluntary bat roost visitor. Registration number CLS0895 2015-12555-CLS-CLS (CL15 Bat Roost Visitor Level 1) and registration number CLS 0895 2015-12556-CLS-CLS (CL18 Bat Survey Level 2) (Natural England) and S086005/1 (Natural Resources Wales);

Licensed great crested newt worker, registration number 2016-19947-CLS-CLS (NE) and S086057/1 (NRW)

This report was commissioned by Blueprint Architectural Services, Wrexham..

The area of the site, at Llan y Pwll, Wrexham, is approximately 0.2 ha.

The proposed scheme entails the construction of two dwellings with associated access, gardens and garages.

The purpose of the report is to identify and address any significant ecological effects which are likely to occur as a result of the proposed development. This is necessary to comply with local planning policy and government legislation and avoid any offence being committed. Also, to describe any compensation, mitigation and enhancement measures which should be taken.

3. Methodology

3.1. Scope of the Assessment

The report incorporates an extended phase 1 habitat survey, while also searching for use or potential use by any rare, threatened, endemic and non-native invasive species which might be associated with such a site in accordance with:

The Conservation of Habitats and Species Regulations 2017 and listed in:

Schedule 2. European protected species of animals

Schedule 5. European protected species of plants

The protection of Badgers Act 1992

Protected species which might be associated with such a site include bats, owls and other breeding birds, badgers, dormice, amphibians and reptiles, and might contain protected plant species. Zones of influence for great crested newts (GCN) were considered to evaluate the impacts of the development in the absence of any licensed mitigation. The adjacent pond was assessed for suitability of use by great crested newts using the Habitat Suitability Index model.

3.2. Desk Study

Wrexham planning portal was consulted for records of protected species nearby. Magic Maps was consulted for the presence of designated sites and protected habitats.

3.3. Field Survey

The site and surrounding habitat was examined to establish the presence of any protected species or habitats, and for evidence of use by protected species of animals. Maps of the site and surrounding environment were examined to identify any nearby waterbodies suitable for use by great crested newts within an influencing distance of the site. The variety of plant species was mapped according to the convention of Phase 1 habitat surveys as described by the JNCC (2010). Photographs were taken of all areas.

The visual assessment of the site was carried out in accordance with CIEEM guidelines (CIEEM 2017) on 1st July 2020 by Susan Worsfold BSc (Hons) ACIEEM.

4. Baseline Ecological Conditions/Results

4.1 Designated Sites

The nearest designated site is Vicarage Moss, (Site of Special Scientific Interest and Ramsar Site) 2.9 km north west.

4.2 Habitats

The site is in a village location 2 km east of the nearest town of Wrexham. The approximate area of the land to be affected is 0.2 ha. It is adjacent to a minor road. The north east half of the proposed area is currently in use as grazing for horses. The south west section is not used for any particular purpose and is relatively unmanaged. The boundaries of the site are formed by fencing and semi mature trees and shrubs. A species list follows. The nearest pond is adjacent, at the north west corner of the site. It is suitable for use by great crested newts as it has a H.S.I. score of 'good'.

Adjacent land: Pastoral and arable fields, some houses. Wrexham Industrial Estate is 600 m south. It appeared suitable for use by great crested newts. There are eight ponds apparent within 500 m. There are no rivers or significant woodland within 500 m. There is a good network of hedgerows surrounding the site with several trees.

4.3 Species and Species Groups

Plants: Species found on site:

Perennial ryegrass (<i>Lolium perenne</i>)	Ivy (<i>Hedera helix</i>)	Dock (<i>Rumex</i> sp.)
Creeping buttercup (<i>Ranunculus repens</i>)	Creeping cinquefoil (<i>Potentilla reptans</i>)	Hawthorn (<i>Crataegus monogyna</i>)
Ash (<i>Fraxinus excelsior</i>)	Creeping buttercup (<i>Ranunculus repens</i>)	Willow (<i>Salix</i> sp.)
Oak (<i>Quercus</i> sp.)	Sycamore (<i>Acer pseudoplatanus</i>)	Common hogweed (<i>Heracleum sphondylium</i>)
Great willowherb (<i>Epilobium hirsutum</i>)	Rosebay willowherb (<i>Chamaenerion angustifolium</i>)	Nettle (<i>Urtica dioica</i>)
Creeping thistle (<i>Cirsium arvense</i>)	Garlic mustard (<i>Alliaria petiolata</i>)	Sow thistle (<i>Sonchus oleraceus</i>)
Lords and ladies (<i>Arum maculatum</i>)	Bramble (<i>Rubus fruticosus</i>)	

Birds

The boundaries and trees on site could provide food and shelter for birds and also nesting potential.

Bats

The site is suitable for use by foraging and commuting bats.

Badgers

There was evidence of use of the coppice by badgers. There were several holes in the bank which leads up to the road. Most of these were too small for badger use so were probably rabbit holes. There was also a latrine in the coppice. The only hole large enough for use by badgers had been deliberately blocked with bricks, rocks and logs. This is illegal. However it did not appear to be a very recent act and no attempt seems to have been made by badgers to re-open the sett or start a new one nearby.

Reptiles and amphibians

None seen during the survey but the adjacent pond is suitable for use by great crested newts.

Dormice

No evidence of use by dormice was found and the site was not favourable for use by them

No rare or threatened species of plants were found on site or near the site.

5. Description of the Development

The proposed scheme entails the construction of two dwellings and associated garages, access and gardens. Some trees will be felled and vegetation removed.

6. Assessment of Effects and Mitigation Measures

Designated Sites:

It is not considered that the development will have any significant impact on any designated sites due to the small scale of the development and distance from the sites.

Habitats:

No priority habitat is affected by the proposal. Creeping cinquefoil is an important plant in the life cycle of the grizzled skipper so it will be necessary to transplant the plants to be affected into an area which is to remain undisturbed, such as the one suggested. Several large rocks should also be added to the new area as these are also used by the grizzled skipper. The trees surrounding the pond should remain.

Species:

Amphibians and Reptiles

Due to the close proximity of the nearest pond and the presence of others nearby it will be necessary to carry out further surveys on the pond to establish whether it is being used by great crested newts as a breeding pond. This can be done using environmental DNA analysis from water samples or by setting traps in the pond and will need to be done between the beginning of April and the end of June.

Birds

Trees should not be felled or pruned between the beginning of March and the end of September to avoid destruction of any nests which may be present. If any nests are discovered during any time of the development work in that area must stop until the young have fledged.

Bats

The site is suitable for use by foraging and commuting bats. If lighting is proposed a lighting plan should be designed in accordance with the BCT and ILP Guidance Note 8 Bats and Artificial Lighting available at: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

Residual Effects

The loss of an area of habitat will have an effect on future foraging and commuting for some species. However this should be offset by the compensation and enhancement measures suggested.

7. Compensation

Planting of native trees and shrubs should take place in the new gardens and also an area of land left unmanaged with a pile of logs and stones to be used as a potential hibernacula for amphibians and reptiles. An appropriate area and location would be near the pond as shown on the diagram. The following trees are not too big and would be attractive to birds and insects and also to humans: bird cherry (*Prunus padus*), wild cherry (*Prunus avium*), crab apple (*Malus sylvestris*), rowan (*Sorbus aucuparia*), hazel (*Corylus avellana*) and hawthorn (*Crataegus monogyna*).

The new hedgerow along the south west boundary should comprise at least five native species, e.g. hazel (*Corylus avellana*), hawthorn, oak (*Quercus robur*), blackthorn (*Prunus spinosa*), hornbeam (*Carpinus betulus*), small leaved lime (*Tilia cordata*), white willow (*Salix alba*), alder (*Alnus glutinosa*) and beech (*Fagus sylvaticus*).

8. Enhancement Recommendations to provide net gain for biodiversity

Bats: A bat box e.g. Schwegler 1FF to be fitted externally to each new building. Further information is given in the bat box information pack available at <http://www.bats.org.uk/index.php>. Bat boxes should be placed in a south east to south west facing position if possible.

Birds: One woodcrete nests suitable for small birds such as robin, blackbird, tit species and sparrow to be incorporated into each the new building, and one swallow nest.

House Sparrow Terrace - Wooden (or woodcrete) nest box with 3 sub-divisions to support 3 nesting pairs. To be placed under the eaves of buildings or incorporated into walls. Entrance holes: 32mm diameter. Dimensions: H310 x W370 x D185mm. Also suitable for tits, redstarts and spotted flycatchers. Place at least 2 m from the ground.

Swallow nests - H110mm x W250mm x D140mm. The nests should be placed inside an enclosed outbuilding or shed, porch or garage leaving a distance of at least 6cm between the top of the nest and the ceiling. There must be access for the birds through an open window or sky-light. A car port or refuse bin shelter, or an outbuilding with a permanently open window or half door, or simply a space over the door, would suffice. Under the eaves of the buildings would be acceptable but less suitable.

Other designs of nest boxes may also be suitable.

9. Ecological Constraints

Further surveys are needed on the adjacent pond to establish whether it is being used as a breeding pond by great crested newts. These can be done using environmental DNA analysis from water samples or by setting traps in the pond and will need to be done between the beginning of April and the end of June.

10. Monitoring

None considered necessary.

11. Conclusions

The overall ecological impacts of the proposed development should be low due if the recommended compensation and enhancement measures are taken.

12. Bibliography

Bat Conservation Trust available at: <http://www.bats.org.uk>

CIEEM (2017) *Guidelines on Ecological Report Writing*. Winchester: Chartered Institute of Ecology and Environmental Management

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora available at: jncc.defra.gov.uk

English Nature (2001) *Great Crested Newt Mitigation Guidelines* Peterborough: English Nature

Gent A.H, Gibson S.D (eds) (1998) *Herpetofauna Workers' Manual*. Peterborough: Joint Nature Conservation Committee

Great crested newts: surveys and mitigation for development projects available at: <https://www.gov.uk/great-crested-newts-surveys-and-mitigation-for-development-projects>

Google Maps available at: <https://maps.google.com/maps>

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000) Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*) *Herpetological Journal* 10 (4), 143-155.

Magic Maps available at: <http://magic.defra.gov.uk>

Natural Resources Wales available at: <https://naturalresources.wales/?lang=en>

Rapid Risk Assessment Tool available at: <https://www.gov.uk/government/publications/great-crested-newts-apply-for-a-mitigation-licence>

Wrexham Council Planning Portal available at:
<http://planning.wrexham.gov.uk/Planning/lg/GFPlanningSearch.page>

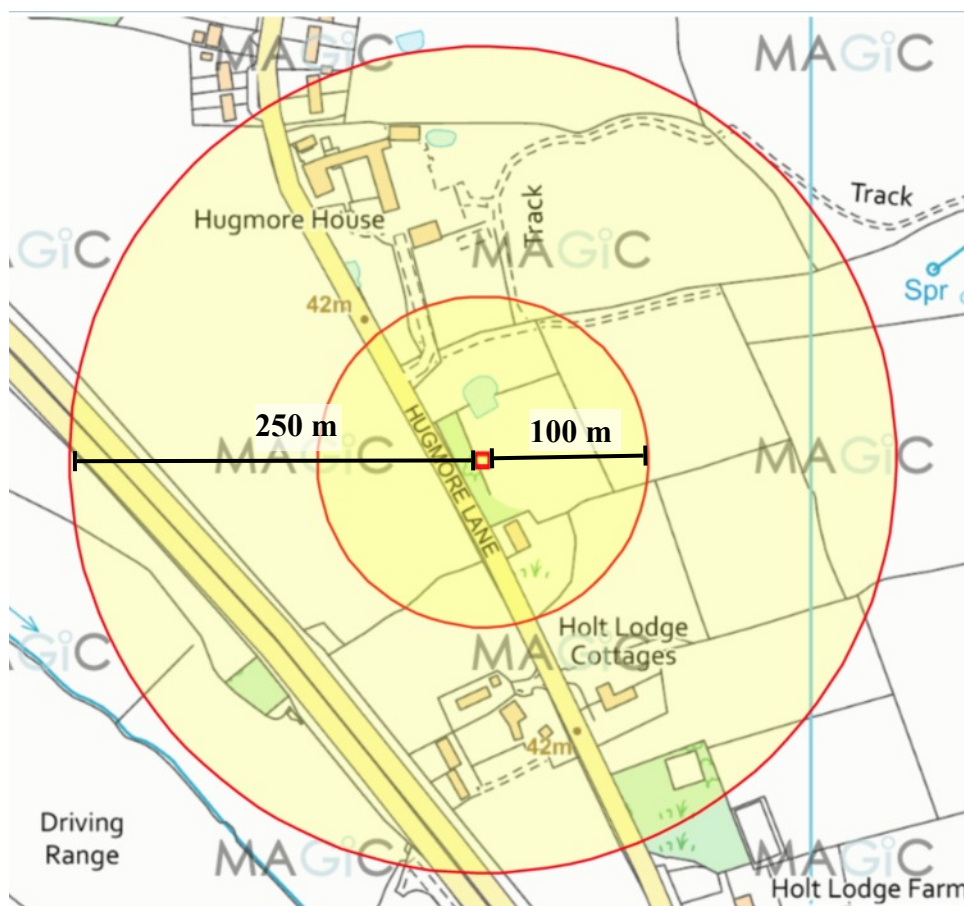
UK BAP Priority Habitats available at: jncc.defra.gov.uk

Wildlife and Habitat Conservation available at: <https://www.gov.uk/topic/environmental-management/wildlife-habitat-conservation>

Appendix 13.1: OS Location Map



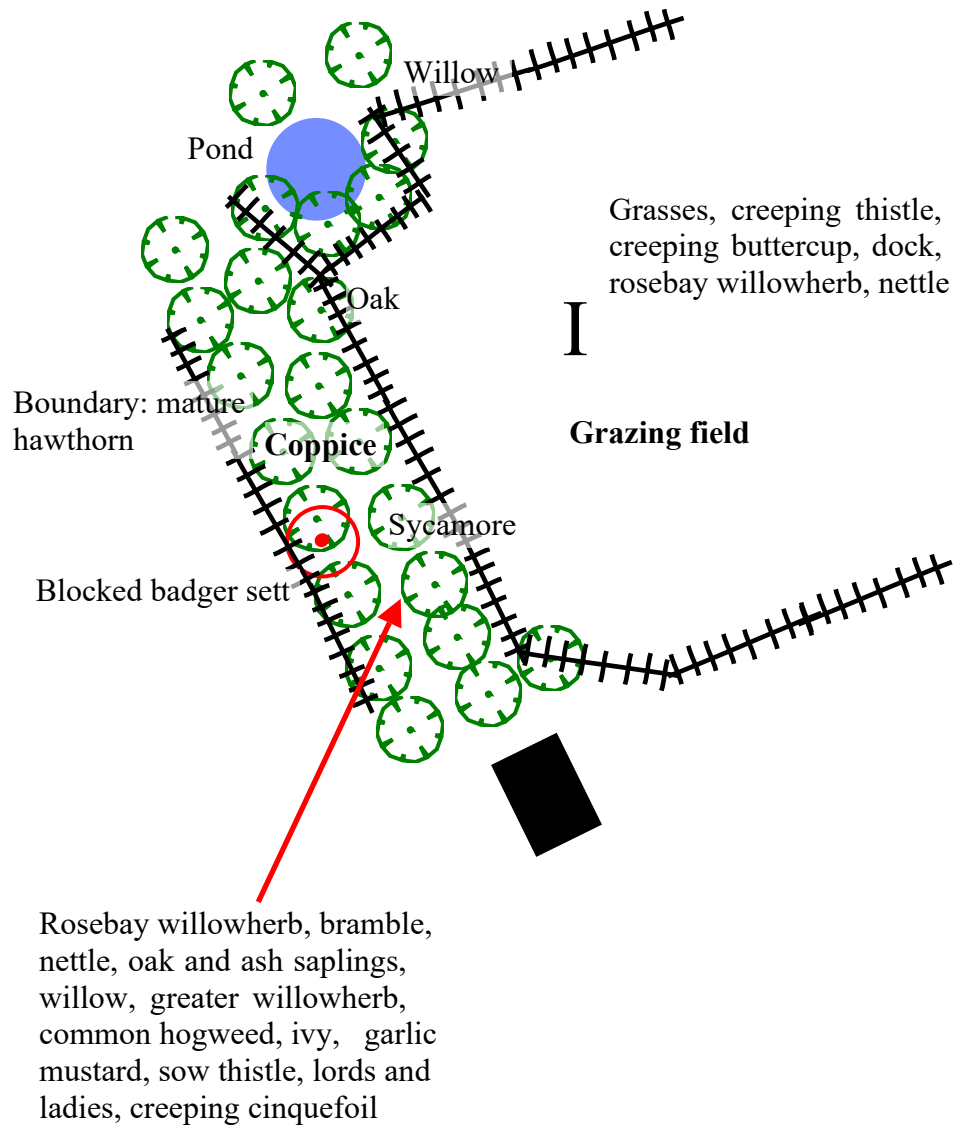
Appendix 13.2: Map Showing Zones of Influence



Appendix 13.3: Aerial Photograph



Appendix 13.4: Phase 1 Diagram



Appendix 13.5: Habitat Suitability Index for Great Crested Newts for the Pond

	Score	SI
Location	A	1
Pond Area	300	0.6
Pond drying	never	0.9
Water quality (invertebrate density & character)	moderate	0.67
Shade perimeter shaded to 1m from shore	70	0.8
Fowl	absent	1
Fish	absent	1
Number of ponds within 1km	25	1
Terrestrial Habitat	moderate	0.67
Macrophytes % surface area occupied by macrophyte cover	10	0.4
Product		0.0775699
HSI score		0.774

Pond suitability for great crested newts is Good

HSI Pond suitability

<0.5 = poor

0.5 – 0.59 = below average

0.6 – 0.69 = average

0.7 – 0.79 = good

> 0.8 = excellent

Appendix 13.6: Proposed Plan



Appendix 13.7: Photographs of the Site and Pond



Pond from the south west



South west boundary from the west



View from the east

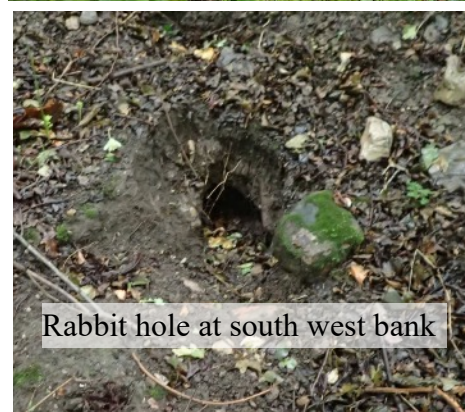


Boundary between field and coppice



Coppice from the north

Appendix 13.7: Photographs of the Site



Appendix 13.8: Legislation Relating to Badgers

Badgers are the heaviest of our wild predators with adult males weighing over 11kg. They mainly eat earthworms, insects, roots and berries. Badgers are highly social, living in networks of underground tunnels called setts.

The Protection of Badgers Act 1992 fully protects badgers and their setts. Offences include:

killing, injuring and taking (or attempting these)

possession of a dead badger (or derivative)

cruelly ill-treating a badger

damaging a badger sett or any part of it

destroying a badger sett

obstructing access to / entrance of a badger sett

causing a dog to enter a badger sett

disturbing a badger whilst occupying a sett

Badgers are also listed on Schedule 6 of the Wildlife and Countryside Act 1981, which prohibits certain methods of killing and capture.

You can obtain a licence from Natural Resources Wales for activities which would otherwise be illegal.

Appendix 13.9: Legislation Relating to Great Crested Newts

Wales is home to six amphibian species. They need fresh water in which to lay their eggs or spawn and enough suitable habitat nearby to spend the rest of their year. They have declined in recent decades as ponds have disappeared or become polluted or acidified. Pond restoration and creation (even in gardens) is a great help to amphibian conservation.

All amphibian species spend a large part of their year foraging on dry land, and they need sheltered places to hibernate. Hedgerows and other areas of semi-natural habitat are vital for their survival.

UK legislation:

The most common species are protected from sale under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). They are:

Common frog, *Rana temporaria*

Common toad, *Bufo bufo*

Palmate newt, *Triturus helveticus*

Smooth / common newt, *Triturus vulgaris*

The legislation protects them from being sold or offered for sale to protect them from exploitation in the pet trade or laboratory use.

European legislation:

Our rarest amphibians are protected under the Conservation of Habitats and Species Regulations 2017 (known as 'the Habitats Regulations'). The Habitats Regulations lists the following amphibian European Protected Species (EPS):

great crested (or warty) newt, *Triturus cristatus*

natterjack toad, *Bufo calamita*

Under the Habitats Regulations, it is an offence if you:

deliberately capture, injure or kill any wild animal of an EPS,

deliberately disturb wild animals of any such species,

deliberately take or destroy the eggs of such an animal, or

damage or destroy a breeding site or resting place of such an animal

Disturbance is defined as that which is likely to impair the ability to survive, breed, reproduce, or nurture young, or to hibernate or migrate.

There are other offences relating to possession, transport and sale. See 'Possession and Sale of Protected Species' for more information.

The great crested newt and natterjack toad also receive protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) from the following:

disturbing whilst occupying a place of shelter or protection,

obstructing access to a place of shelter or protection,

sale / offering for sale

Licensing for activities involving European Protected Species:

In certain circumstances Natural Resources Wales may issue licences for activities involving European protected species, that would otherwise be offences.

Appendix 13.10: Legislation Relating to Birds

All wild birds, their nests and eggs are protected. It is an offence to intentionally:

kill, injure or take any wild bird,
take, damage or destroy the nest of a Golden Eagle, White-tailed Eagle or Osprey (even if disused),
take, damage or destroy the nest of any wild bird whilst it is in use or being built,
take, damage or destroy an egg or any wild bird,
possess any live or dead wild bird or the egg of any wild bird, or any derivative

Many rare birds are listed on Schedule 1, which makes it an offence to intentionally or recklessly:

disturb a Schedule 1 bird while it is building a nest or is in, on or near a nest containing eggs or young; or
disturb dependent young of such a bird

Natural Resources Wales (NRW) issues licences for specific purposes, so that you can undertake legitimate work without breaking the law. See 'Bird licensing' for more information.