

Ecological Appraisal and Impact Assessment **at**
Buildings on Ruabon Road

Johnstown, Wrexham

LL14 2AD

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1. Summary

The purpose of the report is to assess the potential ecological impacts of a proposed development at a site on the Ruabon Road, Johnstown and advise on any mitigation measures to comply with local planning policy and government legislation.

The proposed scheme involves demolition of the buildings and construction of ten new dwellings with associated garages and parking.

The buildings and adjacent land were 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 by bats and birds, of the interiors and exteriors of the buildings. One dusk emergence survey and one pre-dawn re-entry survey were carried out. No bats were found to be using any of the buildings.

Impacts for birds should be low provided that no bird nests are constructed or occupied while work is taking place. 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. The ash tree must be checked for use by bats and birds immediately prior to felling. There is not considered to be any significant threat to the conservation status of bats or danger of harm to individuals as the building was not being used by roosting bats. However precautions must be taken to avoid harm to any transient bats which may roost there in future. No pointing or repairs of any gaps or crevices should take place which cannot be seen to be empty to minimise the possibility of incarcerating bats. Supervision of roof removal by a licensed bat worker is recommended.

If bats are found at any stage of the development then work in that area must stop and a licensed bat worker contacted for advice.

The site should be enclosed by temporary newt fencing for the duration of the work due to the close proximity of the nearby Johnstown Newt Sites. A method statement should be followed to minimise the risk of harm to great crested newts.

There is not considered to be any significant impact on any other protected species or habitat as long as the recommended mitigation and compensation measures are followed.

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 Gower Homes, Wrexham.

The site, at Ruabon Road, Johnstown, comprises several industrial buildings of various constructions including two stone barns with tile roofs.

The proposed scheme involves demolition of the buildings and construction of ten new dwellings with associated garages and parking.

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 preliminary bat roost and nesting bird assessment, 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. The area around the site might be used by badgers, dormice, amphibians and reptiles, and might contain protected plant species.

Two bat activity surveys were carried out in accordance with *Bat surveys for professional ecologists: Good Practice Guidelines (3rd Edn)* (Collins 2016).

3.2. Desk Study

Wrexham Planning Portal was consulted for a review of previous ecological surveys carried out in the area. Magic Maps was consulted for the presence of designated sites and protected habitats.

3.3. Field Survey

The buildings were examined to establish the presence of or evidence of use by protected species of animals. A risk assessment was made before entering the buildings. A visual inspection was carried out to assess the potential or actual use by bats, of the exterior of the buildings. They were searched systematically for any signs of bats, including droppings, rub marks and urine stains at entrances to roosts and insect remains, such as moth or butterfly wings. Crevices were checked where possible.

Powerful lamps (LED Lenser H14) were used for examination under eaves. Binoculars were used to examine parts which were not otherwise accessible. Photographs were taken of all areas and those of relevance are shown in the appendices.

The preliminary survey was carried out on 27th July 2020 by Susan Worsfold. A dusk emergence survey was carried out on 11th August by Susan Worsfold, Hannah Williams and Joy Miles. A dawn re-entry survey was carried out on 27th August 2020 by Susan Worsfold, Hannah Williams, Amelia Bailey and Joy Miles.

These were done in accordance with *Bat surveys for professional ecologists: Good Practice Guidelines (3rd Edn)* (Collins 2016).

Frequency division detectors were used to record any bat sounds in and around the building for later analysis on the computer. These were Peersonic RPA3, Song Meter SMZC, Anabat Express and Echo Meter EM3.

4. Baseline Ecological Conditions/Results

4.1 Designated Sites

The nearest designated site is Johnstown Newt Sites (Special Area of Conservation) and Stryt a'r las Hafod (Site of Special Scientific Interest) 90 m west.

4.2 Habitats

Site: Total area approximately 0.4 ha. Residential area, village location, 3.5 km from the nearest town of Wrexham. The buildings are surrounded by hard standing and ruderal vegetation.

Buildings 1 and 2 are of stone with unlined tile roofs. They are of one story but with a loft space. Doors and windows mostly intact but with some missing panes. Ridge tiles are present but no verge boards. They are considered to have medium potential for use by bats.

The remaining buildings are of brick with corrugated steel, felt or asbestos roofs and are not considered to have any potential for use by bats.

Adjacent land: There are three ponds within 250 metres of the site which are known to be inhabited by great crested newts. They are surrounded by woodland. There are no other waterbodies apparent. Surrounding hedgerows are domestic and well managed.

4.3 Species and Species Groups

Plants

No significant vegetation is to be affected. No rare or threatened plants were identified.

Amphibians and Reptiles

None seen during the survey. However the site is less than 100 m from Johnstown Newt Sites where great crested newts have been recorded.

Birds

No bird nests were found in any of the buildings. The ash tree has potential for use by birds.

Bats

There was considered to be medium potential for use of the building by bats in two of the buildings. The ash tree also has some potential for use by bats. The site is suitable for use by foraging and commuting bats. No evidence of use of the building as a roost or resting place by bats was found.

Badgers

There were no badger setts, tracks or latrines found on the site or within 30 m of the site.

Dormice

No hazelnuts were found which indicated gnawing by dormice and the site was not favourable for use by them.

No species of conservation value or Schedule 9 species were seen on site.

5. Description of the Development

The proposed scheme involves demolition of several industrial buildings and two stone barns and the construction of nine new dwellings with associated garages and parking. A small amount of ruderal vegetation and a mature ash tree will be removed.

6. Assessment of Effects and Mitigation Measures

Designated Sites:

It is not considered that the development will have any significant lasting impact on any nearby Johnstown Newt Site due to the small scale of the development and limited suitability of the site for use by foraging, commuting or breeding newts. However, newt fencing will need to be erected prior to any work taking place and a method statement followed to prevent harm to any foraging or commuting newts.

Habitats:

No priority habitat is affected by the proposal and no net loss of potential roosting or nesting sites should occur if enhancements are provided.

Species:

Birds

The impacts which the proposed work might have on birds will be small, providing that no nests are occupied or being built at the time the work is done. If birds should gain access to the building and begin building nests during the work, then the work in that area must stop until the young have left the nests. The ash tree to be felled will need to be checked before felling to ensure no bird nests are present or partially built. If any birds are building nests or hatching or rearing chicks, work will be suspended until the chicks have left the nest.

Bats

There is not considered to be any threat to the conservation status of bats or danger of harm to individuals as the building was not being used by roosting bats. However, the buildings and site are being used by foraging and commuting bats and three species of bat were identified on site. It is possible that transient bats may temporarily roost or perch in the building in the future, therefore precautions must be taken. No pointing or repairs of any gaps or crevices should take place which cannot be seen to be empty to minimise the possibility of incarcerating bats. Supervision of roof tile removal by a licensed bat worker is recommended.

The ash tree is covered with ivy which may provide shelter to bats and also cover potential roost features. Therefore it should be checked by a licensed bat worker and arborist with an endoscope immediately prior to felling.

If bats are found at any stage of the development then work in that area must stop and a licensed bat worker contacted for advice.

A lighting plan should be designed in accordance with the Bat Conservation Trust guidelines: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

Non-bitumen coated roofing membranes (NBCRM's) are very hazardous for bats. It is recommended that bituminous felt that does not contain polypropylene threads is used for any roof linings to prevent entanglement and death of bats which may gain access. If NBCRM's are used it is important that the roof is completely sealed to prevent access by bats

Reptiles and amphibians

The site should be enclosed by temporary newt fencing for the duration of the work due to the close proximity of the nearby Johnstown Newt Sites. Plastic flaps fixed to the proposed Heras fencing and entrance gate may be suitable if done correctly. This will need to be checked by an ecologist to ensure it is fit for purpose. The fence will remain in place for the duration of the groundworks and major civil engineering work.

Residual Effects

No significant residual effects anticipated.

7. Compensation

At least one native species of tree should be planted to replace the ash tree which is due for felling. This could be another ash, or 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*).

8. Enhancement Recommendations

A woodcrete bat box e.g. Schwegler 1FF to be fitted externally to two of the new buildings. 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.

One woodcrete nests suitable for small birds such as robin, blackbird, tit species and sparrow to be incorporated into two of the new buildings.

House Sparrow Terrace - Wooden (or woodcrete) nest box with 3 sub-divisions to support 3 nesting pairs. To be placed under the eaves 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. These should be placed under eaves, leaving a distance of at least 6cm above the top of the nest.

Further planting of trees and shrubs as above will take place in the recreational areas of the site.

Hedgerows: New hedgerows to be agreed before final layout submitted. Hedges will comprise at least four native species such as ash (*Fraxinus excelsior*), holly, hazel, blackthorn (*Prunus spinosa*), hawthorn, elder (*Sambucus nigra*). There is potential for hedging around the perimeter of the site and between houses.

9. Ecological Constraints

There was light rain for a short time during the first activity survey, but this was not sustained and the timings were such that no effect on emergence behaviour was anticipated.

10. Monitoring

Installation of the newt fence should be overseen by a licensed ecologist and checked periodically for the duration of the work.

11. Conclusions

If the recommended mitigation, compensation and enhancement measures are taken the overall ecological impacts of the proposed development should be low.

12. Bibliography

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

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/>

Collins J. (Ed) (2016) *Bat surveys for professional ecologists: Good Practice Guidelines (3rd Edn)*. The Bat Conservation Trust, London

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

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

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

Mitchell-Jones, A. J. and McLeish, A. P. (2004) *Bat Worker's Manual*, Peterborough: Joint Nature Conservation Committee

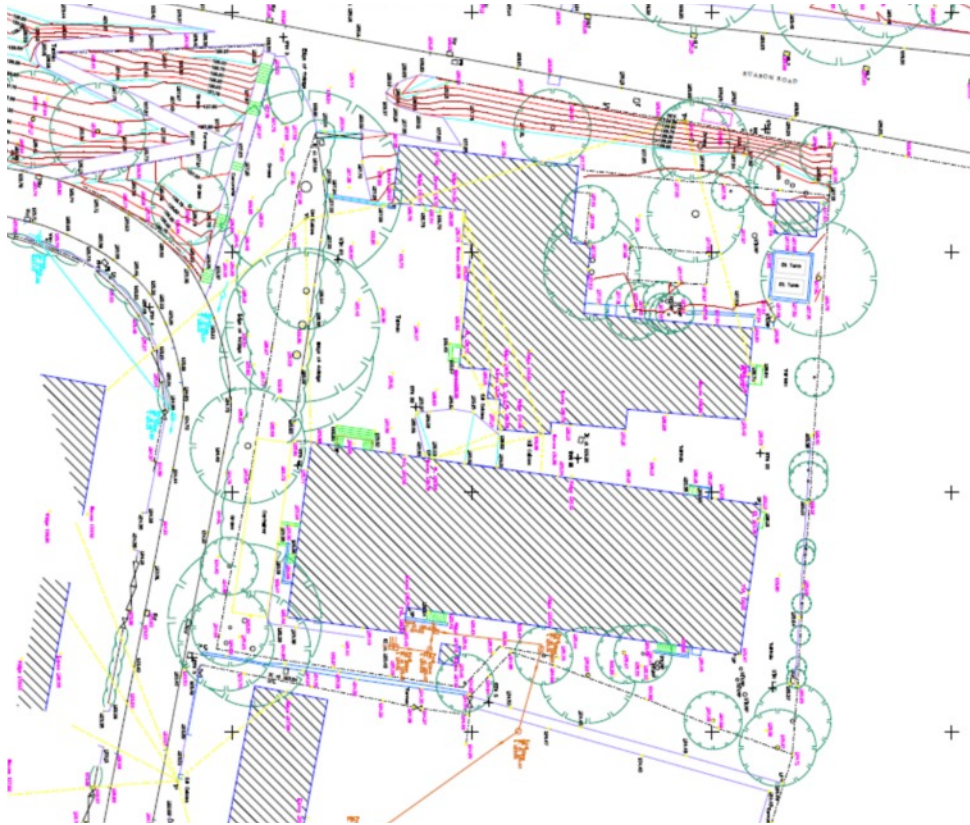
Natural Resources Wales available at: <https://naturalresources.wales/?lang=en>

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>

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

Appendix 13.1: Plan as Existing (Battlefield Land Surveys Ltd.)



Appendix 13.1: Plan as Proposed (Parry Davies Architects)



Appendix 13.2: Activity Surveys

11/8/20

<i>Observer or area</i>	<i>Equipment</i>
Susan Worsfold (SW)	Peersonic RPA3
Joy Miles (JM)	Peersonic RPA3
Hannah Williams (HM)	Echo Meter EM3
Loft, building 2	Song Meter SMZC
Loft, building 2	Anabat Express

Bats recorded:

Noctule (*Nyctalus noctula*)

Common pipistrelle (*Pipistrellus pipistrellus*)

Soprano pipistrelle (*Pipistrellus pygmaeus*)

Plecotus sp. Presumed brown long eared bat (*Plecotus auritus*)

Bats observed:

<i>Observer or Area</i>	<i>Time</i>	<i>Observation</i>	<i>Identification from visual or correlation with sonograms</i>
SW	21:16	2 bats flying north west to south east.	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)
HW	21:14	1 bat flying south to north	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)
HW	21:16	1 bat flying above roof of building 2	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)
JM	21:14	1 bat flying south to north	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)
JM	21:16	2 bats came over roof of building 2	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)

No bats were recorded in either loft

Appendix 13.2: Activity Surveys

27/8/20

Observer or area

Susan Worsfold (SW)
Hannah Williams (HW)
Joy Miles (JM)
Amelia Bailey (AB)

Equipment

Peersonic RPA3
Echo Meter EM3
Peersonic RPA3
Song Meter SMZC

Bats recorded:

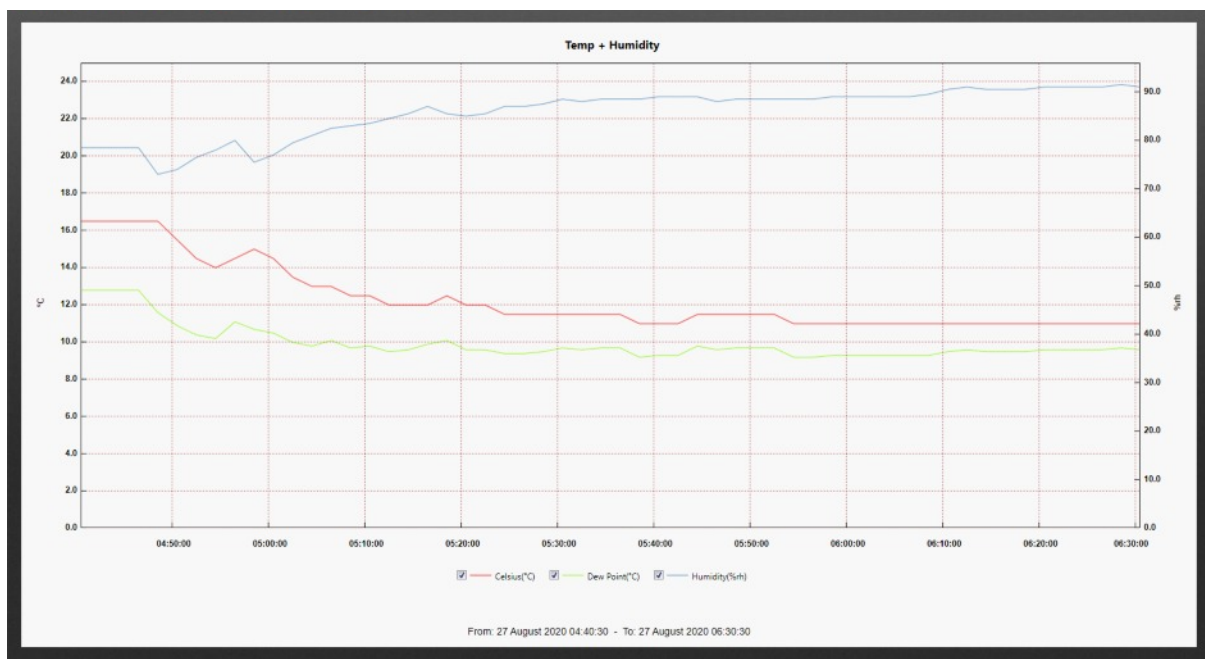
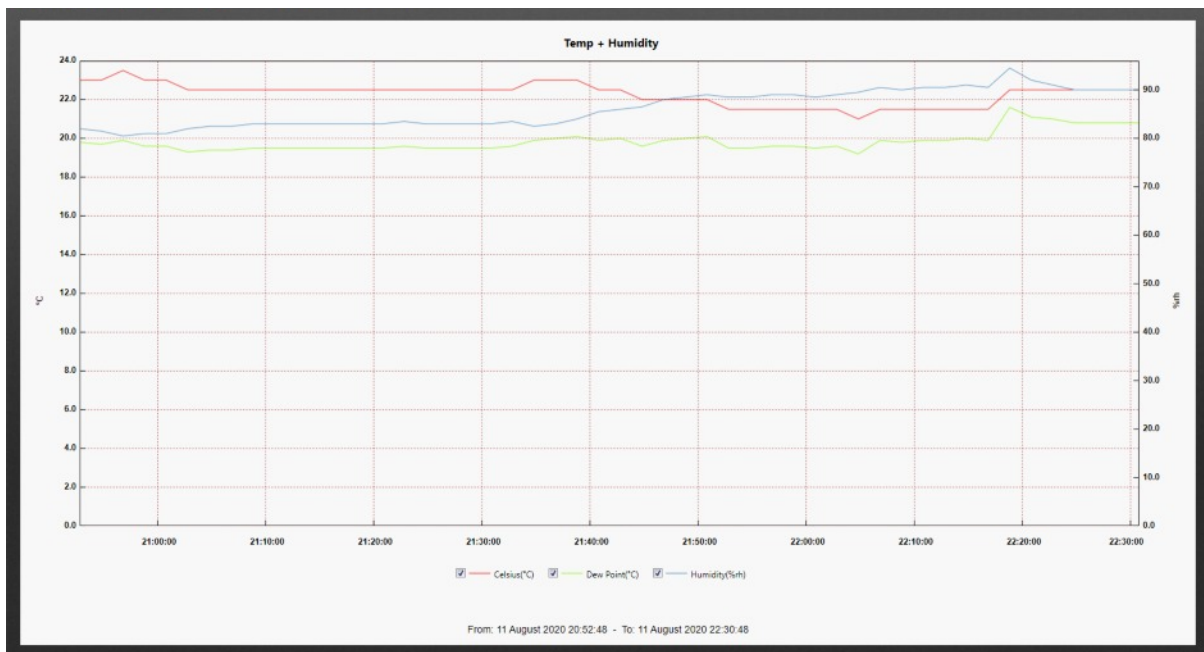
Common pipistrelle (*Pipistrellus pipistrellus*)

Bats observed: None

<i>Observer or Area</i>	<i>Time</i>	<i>Observation</i>	<i>Identification from visual or correlation with sonograms</i>

Appendix 13.3: Survey Conditions

Date	Sunset/ Sunrise	Start Time	End Time	Temp. Start °C	Relative Humidity Start %	Temp. End °C	Relative Humidity End %	Cloud %	Wind 0-6
11/8/20	20.46	20.30	22.25	23	81	21	90	80	0-0
27/8/20	06:15	04:40	06:30	14	78	11	91	50	0-0



Appendix 13.4: Aerial Photographs \Showing Positions of Observers

11.8.20



27.8.20

- ★ Bat detector
- ★ Bat detector and observer

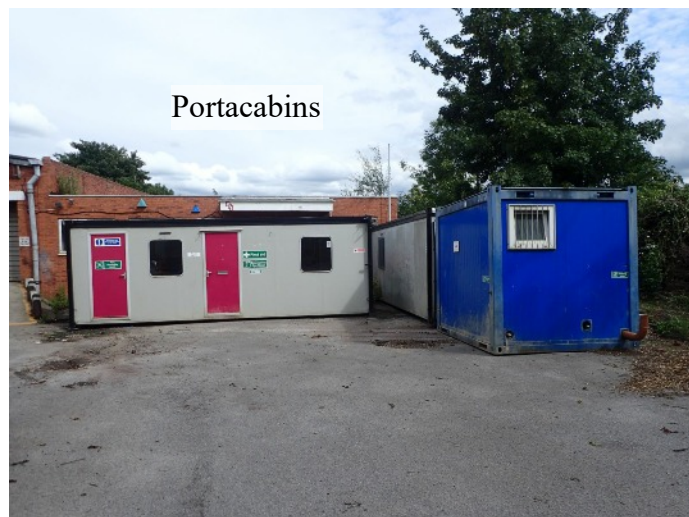


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Appendix 13.6: Photographs of the Site



Appendix 13.6: Photographs of the Site



Appendix 13.6: Photographs of the Site



Appendix 13.6: Photographs of the Site



Appendix 13.6: Photographs of the Site



Appendix 13.7: Method Statement with Regard to Great Crested Newts

It is a criminal offence to harm a great crested newt.

Great crested newts (GCN) spend most of their time on land, returning to still water only to breed once they are mature at about 3-4 years of age.

They may travel more than kilometre from their breeding pond.

They move about mostly at night, and by day creep underground or beneath shelter such as stones or logs. They hibernate during the winter, which is generally from the beginning of November until late March, depending on the weather. Hibernation is underground in burrows made by other small animals or beneath substantial cover such as large stones or piles of logs.

1. A temporary amphibian and reptile fence will be erected around the site, to enclose all works, apart from any trenches for pipe work relating to sewerage or other utilities. Initially this will be supervised by a licensed GCN worker, who will act as the ecological clerk of works (ECoW). The fence may be lowered temporarily while such trenches are dug, then replaced the same day and sealed with loose earth.
2. The supervisor or other designated contractor for the development will be charged with the responsibility of communicating any information relating to GCN on site to the Ecological Clerk of Works (ECoW) dealing with the site. This person will be briefed by the ECoW on how to recognise GCN and the procedures for safeguarding them. All contractors will be made aware of the protected status of GCN and the possibility of finding them on site during the development.
3. The site will be hand searched by the ECoW once the fence is in place. Any GCN will be placed carefully into a container and released in the Johnstown Newt Site.
4. Any vegetation will be kept below 10 cm. Vegetation removal will begin in the centre of the site and continue to the outer edges so that any animals present are able to move away.
5. Any rubble which is present on site is a potential refuge for GCN. These will be removed carefully and by hand. This will take place once the fence has been erected.
6. All trenches will be inspected carefully before infilling, and any animals carefully removed and removed from the area to a place of safety.

Appendix 13.8: Legislation Relating to Bats

All species of bats in the UK are European Protected Species (EPS). It is against the law to damage or destroy a bat's breeding site or resting place (known as a roost), or deliberately to capture, kill, injure or disturb a bat

Bats are the only mammals which can fly. They are warm blooded, they suckle their babies and are intelligent, social animals. British bats feed only on insects, of which they consume vast numbers to sustain their energetic lifestyles. A pipistrelle bat can eat up to 3000 midges in a single night!

We have 12 species of bat breeding in Wales. Many of these have suffered severe declines, not just in Britain but throughout Europe.

All British bat species are protected under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations'. Bats have a unique relationship with humans, sometimes sharing our homes for part of the year. For this reason, Natural Resources Wales (NRW) deals with many hundreds of bat enquiries each year from householders.

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
damage or destroy a breeding site or resting place of such an animal
Disturbance includes, but is not limited to, any disturbance which is likely:

1. to impair their ability –
to survive, to breed or reproduce, or to rear or nurture their young, or
in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
2. to affect significantly the local distribution or abundance of the species to which they belong.

Defra and the Welsh Government will publish a joint guidance document on the interpretation of the offences relating to disturbance, and to damage and destruction of breeding sites and resting places.

There are other offences relating to possession, transport and sale.

NRW issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

If you are a householder and have concerns about bats at your property (other than queries related to planning applications or a development), contact the NRW Enquiry Line for advice, telephone 0300 065 3000

Appendix 13.9: 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.