

Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

Ulex europaeus	2112	Gorse	2
Urtica dioica	2126	Common Nettle	2
Veronica chamaedrys	2168	Germander Speedwell	4
Veronica serpyllifolia	2180	Thyme-leaved Speedwell	1
Vicia sativa	2516	Common Vetch	1
Vulpia bromoides	2226	Squirreltail Fescue	3
TotalSpeciesRecords - 291			

Group : 15 - Lepidoptera

Field records 10

Species recorded 6

Name	Code	Name	No of TNs from which recorded	Status
Inachis io	1597	Peacock	1	
Maniola jurtina	1626	Meadow Brown	2	
Pararge aegeria	1614	Speckled Wood	3	
Pieris brassicae	1549	Large White	1	
Polyommatus icarus	1574	Common Blue	1	
Vanessa cardui	1591	Painted Lady	4	
TotalSpeciesRecords - 12				

Group : 37 - Birds

Field records 6

Species recorded 6

Name	Code	Name	No of TNs from which recorded	Status
Blue Tit	1462	Parus caeruleus	1	
European Goldfinch	1653	Carduelis carduelis	1	
Great Tit	1464	Parus major	1	
Green Woodpecker	856	Picus viridis	1	
Herring Gull	592	Larus argentatus	2	Sect.7, Red List
Wood Nuthatch	1479	Sitta europaea	1	
TotalSpeciesRecords - 7				

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APPENDIX 4**ECOLOGY, SURVEY METHODS, CONSERVATION STATUS AND PROTECTION
LEGISLATION OF PROTECTED AND SIGNIFICANT FAUNA**

Not all of the species included below may be present at this site but are included here for completeness.

Bats (Chiroptera)**Ecology and conservation status**

Different bat species have different life-cycle strategies but, in general, each requires the following features:

- hibernation roost sites, where stable winter temperatures allow a period of winter torpor (e.g. underground sites such as caves and mines, or crevices and hollows in mature standing trees),
- nursery roost sites, where females gather in the spring/early summer to give birth and rear their single offspring (e.g. roof spaces, crevices and hollows in mature standing trees),
- roost sites for individual, or small congregations of, males during spring-autumn (e.g. roof spaces, or crevices and hollows in mature standing trees),
- an insect-productive (usually ecologically diverse) feeding environment,
- additionally, there is, as yet, a poorly understood need for social-gathering sites at certain times of the year (e.g. the autumn mating season) for some, or all, species.

Most, if not all, British bat species are believed to be in decline; main threats to bat populations can be summarised as:

- the loss of invertebrate-rich foraging areas (eg. woodland, hedgerows, ponds),
- the loss of nursery and hibernation roosts (eg. Caves and mines, roof spaces, large standing trees), and
- the effects of toxic chemicals (eg. timber preservatives in roof-space roosts, agricultural insecticides which reduce prey species).

All British bats are protected under Schedule 5 of the Wildlife and Countryside Act (as amended by the Countryside and Rights of Way Act 2000), and are listed in Schedule 2 of the Conservation (Natural Habitats &c.) Regulations 1994 (the "Habitat Regulations", which implement the EC Habitats and Species Directive in the UK). These legal instruments make it an offence to kill, injure or disturb a bat or to damage, destroy or obstruct a place of rest or shelter (roost), even when unoccupied.

A licence, issued by Natural Resources Wales under regulation 44(2)(e) of the Habitats Regulations, is required for actions or works which compromise the protection afforded to European Protected Species.

Following an August 2007 re-interpretation of the two key legislations, the concept of "significance" is now applied to "disturbance" issues. In some situations, it can be considered that a proposed disturbance falls below a significance threshold and a licence from the Welsh Government will not be required. However, in such circumstances, disturbing a bat remains an offence under the Wildlife and Countryside Act. To avoid such an offence, the Statutory Nature Conservation Organisation (in Wales, Natural Resources Wales) must be allowed a reasonable time to advise and comment (Ref: *Disturbance and protected species: understanding and applying the law in England and Wales. A view from Natural England and the Countryside Council for Wales. Aug 2007.*)

The two Pipistrelles, Greater and Lesser Horseshoe, Barbastelle and Bechstein bats are UK Biodiversity Action Plan Priority Species and are *Species of Principal Importance for Conservation of*

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Biological Diversity in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. All bats are also covered by a Species Action Plan implemented in most Local Biodiversity Action Plans.

Applications for Planning Consent

In the event of bat presence at a proposed development site where planning consent is sought, appropriate mitigation measures will be required prior to the disturbance or demolition of the buildings or other features used as bat roosts in order to ensure that replacement roosts are provided before the existing roosts are destroyed.

Where development may result in disturbance to bat roosts, mitigation measures will be recommended which are based on the surveyors' experience of similar situations, with reference to *Bat Mitigation Guidelines* (English Nature, 2004) and the *Bat Workers' Manual* 3rd ed. (JNCC, 2004) and, where necessary, in consultation with Natural Resources Wales.

These measures will need to be approved by Natural Resources Wales (NRW) prior to an application to the Welsh Government for a *Licence to Disturb a European Protected Species*. NRW will need to be consulted, approve and endorse the mitigation proposals before the application for planning consent can be considered by the Local Planning Authority's Development Control staff. This early consideration seeks to

- i) avoid changes in planning designs following the granting of planning consent,
- ii) ensure that Local Planning Authorities comply with regulation 3(4) of the Habitats Regulations, and
- iii) allow NRW to properly advise the Local Planning Authority.

Survey Methods

An external and internal daytime search of potential roost features is carried out, searching for possible bat entry/exit points, other evidence, principally faeces, of bat entry to buildings and direct evidence of roosting bats.

On-site trees are visually examined from the ground with the aid of x10 binoculars and x15-45 telescope, as necessary, seeking physical characteristics which might shelter bats including:

- *cracks*: including inter-stem interstices, deeply fissured bark and/or lifted bark plates, elongated holes, twisted and breaking limbs (used by eg pipistrelle and *Myotis* spp.)
- *splits*: including shattered or broken limbs and trunks (used by eg Barbastelle)
- *holes*: including lost-limb rot at main stem, woodpecker holes (used by eg Noctule)
- *deadwood/basal rot*: a good indicator of internal cavities/hollow stems
- *ivy*: where ivy stems are sufficiently mature to form plates behind which bats might roost and/or which are sufficiently massive to obscure other roost-potential (eg holes).

Evidence of use is sought including urine staining, faeces, etc.

Assessment is also made of

- i) the potential foraging value of the site during the spring-summer-autumn period of bat activity,
- ii) potential bat-travel lines through/around the site.

Bat activity is assessed by direct observation of potential roosts before and after dusk (ie the period when bats emerge from roost sites) in order to detect any bat use of the feature. Electronic, eg heterodyne and time-expansion ultrasound, detectors are used to ensure detection of all species, including low- and high-range frequency bats.

Bat Roost potential

Trees should be assessed for their potential to provide bat roosting sites and scored using the following classification system:

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<i>Tree assessment category</i>	<i>Stage 1</i>	<i>Stage 2</i>	<i>Constraints to tree felling or disturbance</i>
Known or confirmed roost	European Protected Species Licence is required in order to carry out the felling or disturbance legally. This will require further input from a licenced bat ecologist		
Category 1* multiple features suitable for multi-animal use	further assessment required pre-works to determine use using either <u>direct examination survey</u> and/or <u>direct observation emergence/ entry survey</u>	<i>Either</i> Proceed as for a "known or confirmed roost" (above) <i>or</i> "soft felling" supervised by the ecologist	<i>Either</i> European Protected Species Licence must be procured <i>or</i> "soft felling" supervised by the ecologist
Category 1 Fewer or less suitable features, <i>and/or</i> potential for individual roosting	Further assessment will be required pre-works to determine bat use by means of a general bat-activity survey,	<i>Either</i> Proceed as for a "known or confirmed roost" (above) <i>or</i> as category 2 (below)	<i>Either</i> European Protected Species Licence must be procured <i>or</i> Take reasonable care during works- stop work & seek advice if potential roost features found
Category 2 No features visible from the ground but the size or age of the tree might or obscuring ivy might point to the potential for roost features	None unless new evidence is found during works	none	Take reasonable care during works- stop work & seek advice if potential roost features found
Category 3 no potential to host roosting bats	none	none	none

Otter (*Lutra lutra*)

Ecology and conservation status

The Otter is a semi-aquatic mammal, dependent on fish/ amphibians for food, and requiring dense vegetation and/or bankside holes for sheltered resting/breeding sites ("holts"). Individual animals inhabit territories which may extend along many kilometres of watercourse: such territories include many holts.

The Otter is a species of high conservation concern in the UK, having disappeared from most of its range during the 1950/60s. The species has made a dramatic recovery during the past 10-15 years,

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following i) the withdrawal of various (largely agricultural) chemical pollutants, and ii) efforts to improve water quality and riparian habitats.

The Otter is protected by its inclusion on Schedule 5 of the Wildlife & Countryside Act 1981 (as amended), Appendix II of the Bern Convention, Annexes II and IV of the Habitats Directive, Schedule 2 of the Conservation (Natural Habitats) Regulations, 1994, and Appendix 1 of CITES. Section 9 of the Wildlife & Countryside Act provides that it is an offence to kill, injure or take an animal, to have an animal in one's possession, to offer an animal (or parts/derivatives thereof) for sale, or **to damage, destroy or obstruct access** to a place or structure being used for shelter or protection.

Any development work to be carried out which affects a holt or is in the vicinity of a holt (generally taken to be 30m radius) can only be undertaken following the granting of a licence by Natural Resources Wales (NRW) acting under regulation 44(2)(e) of the Habitats Regulations, which is a requirement for actions/works which may affect European Protected Species. NRW will only issue such a licence when it is satisfied that the well-being of the protected species will not be compromised.

The Otter is a Priority Species in the UK Biodiversity Action Plan and is a *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. It is also a species for which a Species Action Plan has been implemented in the most Local Biodiversity Action Plans.

Survey Methods:

Otter survey methodology includes the examination of all watercourses for field evidence of Otter presence within the site and its vicinity. An assessment of the potential for Otter usage of the site at other seasons is also made.

Otter field signs are sought. These include spraint (characteristic faeces, often deposited in prominent positions along watercourses), footprints, holts and feeding remains. The habitat along and in the vicinity of the watercourse is also assessed for potential Otter rest-sites. Potential other-season feeding sites are also sought, eg sites that may support amphibian assemblages in late winter to early spring.

Watercourses are also assessed for their potential as Otter travel routes, eg between main rivers and streams, across watersheds and to likely off-site feeding areas.

Reedbeds, dense bankside bramble scrub and other heavily vegetated river or stream banks may offer potential resting sites for otters, ie sites that might be used for single-day lying-up. These potential sites are also assessed and recorded during the survey.

Dormouse (*Muscardinus avellanarius*)**Ecology and conservation status**

The dormouse is a nocturnal animal that lives and feeds among the branches of trees and shrubs. When active animals rarely descend to the ground and are reluctant to cross open spaces. Dormice become torpid in cold temperatures in order to conserve energy and retire into spherical nests woven from grass, stripped honeysuckle bark etc, often located low in dense vegetation or hedge-bottoms. Depending upon the season, animals can be expected to be torpid between October to May inclusive.

Dormice live at low population densities (up to 5/ha), so single small woodlands generally do not contain viable populations. Generally, woodlands less than 20 hectares in size are unlikely to sustain Dormice indefinitely, unless they form part of a network linked by hedges or woodland strips. Dormice do not have large ranges (typically less than 1 ha in the course of a whole summer) and rarely go more than 70m from their daytime nest.

Dormice feed on flowers (nectar and pollen), fruits (berries and nuts) and some insects (especially aphids and caterpillars). In spring and early summer, the dormouse must move from one tree species to another, as the different flowers become available. In the autumn there is abundant food, but as

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most berries and nuts are not ripe before about August there is a period of potential plant food shortage. Insects may be particularly important in the diet at this season, but insects (particularly aphids and caterpillars) are consumed at all times. A high diversity of trees and shrubs is most likely to ensure that an unbroken sequence of foods is available. Valuable species include Hazel, Oak, Honeysuckle, Sycamore, Wayfaring tree, Yew, Hornbeam, Sallow, Birch, Sweet Chestnut, Blackthorn, Hawthorn, Cherry, Crab-apple, Rowan, Ash, Holly, Bramble, Bracken, Broom and rank Heather.

Dormice require high species diversity of trees and shrubs in a mosaic of age classes with a multi-storied canopy structure and an abundance of edge-habitat, with plenty of links between them and suitable hedgerows and other connecting scrubby habitats across the landscape. The best habitats seem to have a vigorous, unshaded shrub layer producing plenty of food with some mature canopy trees. Coppice with standards woodlands managed on a long rotation is probably the ideal environment for Dormice, although coupe management is also an important management consideration.

Any development work to be carried out which may affect either individual dormice or their habitat must only be undertaken following the granting of a licence by Natural Resources Wales (NRW) acting under regulation 44(2)(e) of the Habitats Regulations, which is a requirement for actions/works which may affect European Protected Species. NRW will only issue such a licence when it is satisfied that the well-being of the protected species will not be compromised. See further details under bats (above).

The Dormouse is a Priority Species in the UK Biodiversity Action Plan and is a *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. It is also covered by a Species Action Plan implemented in most Local Biodiversity Action Plans.

Survey Methods:

The habitats within the study area are assessed for their suitability to support Dormice, those habitat characteristics described above, searching for field-signs, indicative but not diagnostic of dormouse presence such as nests, stripped honeysuckle bark, frayed honeysuckle bark (evidence of nest building), chewed ash keys and chewed honeysuckle flowers) and characteristically opened hazel nut shells. The classic survey method is to make timed searches for characteristically opened hazel nuts in the vicinity of hazel bushes in hedgerows, scrub, coppices and woodland. However, this method can only detect the species where hazel is present. A more reliable method is to place survey tubes in suitable habitat, eg hedgerow corridors, and check these on a monthly basis during late spring to early autumn, examining them for hair samples collected by a sticky pad in the tube. Other survey methods may involve nest box monitoring and radio-tracking.

Water Vole (*Arvicola terrestris*)**Ecology and conservation status**

Principally found in slow running rivers and ponds with plentiful emergent vegetation, on which they largely feed, this species is believed to have declined nationally by some 90% in the last thirty years. Predation by Mink is considered to be an important factor; other factors include pollution and habitat loss/degradation.

Water Voles and their habitats are protected under schedule 5 of the Wildlife & Countryside Act 1981, (as amended), appendix II of the Bern Convention, annexes II and IV of the Habitats Directive, schedule 2 of the Conservation (Natural Habitats) Regulations 1994, and appendix 1 of CITES. Advice must be sought from Natural Resources Wales prior to the commencement of any development works within or within the vicinity of water vole habitat. NRW will generally require mitigation measures to be undertaken to ensure that the habitat available for the species is not reduced.

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Survey Methods:

Survey all on-site watercourses for field evidence of Otter and Water Vole activity or presence.

Water Vole survey is best carried out in late May and June which allows the maximum opportunity for field-signs to develop following the Voles' winter period of semi-hibernation. Survey is conducted by systematic hand-search, on one bank of all watercourses for faeces, burrows and runways, feeding sites and footprints.

Badger (*Meles meles*)**Ecology and conservation status**

Badgers are opportunistic omnivores, taking a range of fruits, nuts and cereals. In Britain, earthworms are the single most important food item. Varied habitats, with a range of natural and semi-natural features, support the greatest numbers of animals. Woodland is usually chosen for main setts and areas of agriculturally-improved grazing are important sources of earthworms.

Badgers live in social groups, comprising 2-25 animals (average 6). The group defends a territory of 10 - 300 hectares (average 50ha), depending on habitat quality. Such territories are stable over time and contain adequate food resources and underground shelters known as setts to support the social group.

Setts comprise a series of tunnels and chambers in which Badgers rest and breed. Typically, they are dug on south facing slopes in free-draining soils and woodland is favoured for sett sites. Different types of sett are recognised as follows:

- the main sett is in continuous use (in some cases for several hundred years) and is used for breeding.
- annexe setts are close (usually < 150m) to main setts and smaller; they are used infrequently as an alternative to the main sett (perhaps by individuals temporarily excluded because of breeding activity in the main sett).
- subsidiary and outlier setts are used sporadically, typically have one or two holes, and may be located anywhere in the territory.

The Badger and its underground "sett" are protected by various legislation. Schedule 6 of the Wildlife & Countryside Act, 1981, the Bern Convention III and The Protection of Badgers Act 1992. This latter legislation makes it illegal to kill or injure any Badger or to intentionally or recklessly damage, destroy or obstruct access to a sett. Cases have been brought to court by the RSPCA on welfare grounds where significant losses of foraging resources have occurred during development schemes. Any development work to be carried out within the vicinity (generally 30m) of a sett requires a licence to be obtained in advance from Natural Resources Wales or the Welsh Government. Best practice protocols for carrying out developments in the vicinity of Badger setts are outlined at appendix 5.

Survey Methods:

The study area is examined for evidence of Badger presence and activity. Such field signs as setts (the underground breeding/resting holes of Badgers), latrines (dung pits, often used as territory-markers), footpaths (identified by footprints, hairs caught on wire fences) and feeding areas (identified by characteristically disturbed or uprooted ground) would indicate site usage by Badgers and are recorded.

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Other Mammals**Brown Hare (*Lepus europaeus*)**

Populations of Brown Hare are known to have decreased dramatically over the last thirty years, most particularly in pastoral western Britain. The Brown Hare is a Priority Species in the UK Biodiversity Action Plan and is a *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. It is also covered by a Species Action Plan implemented in most Local Biodiversity Action Plans.

Hedgehog (*Erinaceus europaeus*)

Populations of Hedgehog have declined significantly in recent years, so much so that it has recently been added to the list of *Species of Principal Importance for Conservation of Biological Diversity* in Wales at Section 42 of the Natural Environment and Rural Communities Act 2006 and subsequently listed under section 7 of the Environment (Wales) Act 2016.

The provision of suitable-sized apertures at the base of fencing and walls between plots and to adjacent land will allow access and egress for Hedgehogs. Holes should be 130mm x130mm in size in order to allow free passage to Hedgehogs but deter cats and other larger animals. At least one hole should be provided in each side of a garden plot with a maximum distance between holes of 10m, typically to include five different hedgehog holes in each garden to allow them access freely. Further information can be seen at www.britishhedgehogs.org.uk/leaflets/Hedgehog-Street-top-tips.pdf

In order to provide potential refuges for Hedgehogs, habitat piles constructed from arisings produced during site clearance works should be sited in convenient undisturbed areas as advised by the site ecologist.

Water Shrew (*Neomys fodiens*)**Harvest Mouse (*Micromys minutus*),**

The Water Shrew and Harvest Mouse are little known species whose habitats appear to include reedbed and ditch habitats in south Wales.

For each of these species, long-term and/or season-specific investigation is generally necessary.

Reptiles

Six native reptile species occur in Britain: the Adder (*Vipera berus*), the Grass Snake (*Natrix natrix*), the Smooth Snake (*Coronella austriaca*), the Sand Lizard (*Lacerta agilis*), Common Lizard (*Lacerta vivipara*) and the Slow Worm (*Anguis fragilis*). The Wildlife & Countryside Act 1981 (as amended and including any amendments within the Countryside and Rights of Way Act, 2001) provides varying levels of protection for these species. The Smooth Snake and Sand Lizard are afforded complete protection under schedule 5 of the Act; neither of these species is recorded in Wales. The other four species are protected in respect of killing, injuring and sale. Reptiles are also *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016. They are also covered by a Species Action Plan implemented in most Local Biodiversity Action Plans.

Grass snakes are most commonly associated with wet habitats, and frequently feed on aquatic animals such as frogs. The Adder and Slow Worm are typically associated with drier, heathland habitat and the Common Lizard is found in a wide range of habitats. All these species are cold blooded, and need to bask in sunlight: such basking opportunities are readily found on south-facing slopes, eg free-draining railway and road embankments, and are traditionally good sites to find these species.

Reptile surveys include

1. the assessment of habitats for their suitability for supporting the various species;

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2. opportunistic turning of debris to search for animals;
3. surveys by artificial-refugia sheet survey and/or drift-fence/pit-fall trap survey.

In order to provide potential refuges for reptiles, habitat piles constructed from arisings produced during site clearance works should be sited in convenient undisturbed areas as advised by the site ecologist.

Amphibians

Six native amphibian species occur in Britain: the Common Frog (*Rana temporaria*), the Common Toad (*Bufo bufo*), the Natterjack Toad (*Bufo calamita*), the Smooth Newt (*Triturus vulgaris*), the Palmate Newt (*T. helveticus*) and the Great Crested Newt (*T. cristatus*). All amphibians have aquatic egg and larval stages and are therefore dependent on water for successful breeding. Eggs are laid, in suitable ponds, during the early spring, and the larvae (tadpoles) remain in the water for several weeks or months. Adults of each of these species typically spend 6-9 months on land in invertebrate-rich feeding areas and in over-winter hibernacula.

The Wildlife & Countryside Act 1981 provides varying levels of protection for these species: the Great Crested Newt is afforded complete protection under schedule 5 of the Act. Any development work to be carried out within an area where this species occurs requires a licence to be obtained in advance from Natural Resources Wales. The Great Crested Newt, Common Toad and Natterjack Toad are *Species of Principal Importance for Conservation of Biological Diversity* in Wales listed under Section 74 of the Countryside and Rights of Way Act 2000 as reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006, listed at Section 42 of that Act and subsequently listed under section 7 of the Environment (Wales) Act 2016 and are Priority Species in the UK Biodiversity Action Plan. Amphibians are also covered by a Species Action Plan implemented in most Local Biodiversity Action Plans.

Amphibian surveys include

1. the assessment of habitats for their suitability for supporting the various species;
2. opportunistic turning of debris to search for animals eg terrestrial phase tailed amphibians (newts) and Common Toad;
3. surveying ponds during the breeding season by direct observation, bottle trapping, netting, torch-light survey and/or egg-observation and
4. terrestrial surveys by opportunistic turning-over of stones and other debris, artificial-refugia sheet survey and/or drift-fence/pit-fall trap survey.

In order to provide potential refuges for amphibians, habitat piles constructed from arisings produced during site clearance works should be sited in convenient undisturbed areas as advised by the site ecologist.

Barn Owl

Ecology

Barn Owls require an undisturbed site in which to nest and a relatively wide area of land over which to hunt. Their diet comprises principally of small-mammals and their hunting territory is usually land which includes a variety of grassland habitats which support good populations of mice, voles, etc. Their nest sites are invariably high-up in barns or dry outbuildings but they will also nest in suitable boxes placed in trees.

Legal status

All bird species receive legal protection under the Wildlife and Countryside Act 1981 with degrees of greater or lesser protection being detailed in various schedules of the Act. For instance, all nests occupied or being built by breeding birds are protected against disturbance and scarce bird species listed on schedule 1 of the Act are afforded comprehensive protection. The Barn Owl is included on schedule 1. Also, many species are protected by international conventions and directives including

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The EC Birds Directive, The Bonn Convention and the Bern Convention. Barn Owl is included on schedule 2 of the Bern Convention.

The UK Biodiversity Action Plan identifies species and habitats for which conservation action is a priority. In Wales, the list of Priority Species has been amended by the Welsh Assembly Government under Section 74 of the Countryside and Rights of Way Act 2000. This list of species was subsequently reviewed under Section 40 of the Natural Environment and Rural Communities Act 2006 and amended to provide a list of *Species of Principal Importance for Conservation of Biological Diversity* in Wales under Section 42 of that Act, replaced in Wales by the list under section 7 of the Environment (Wales) Act 2016. Whilst the Barn Owl is not included as a *Species of Principal Importance*, most Local Biodiversity Action Plans include it as a species for which conservation action has been implemented. The Pembrokeshire Local Biodiversity Action Plan has implemented such action.

Bird species which have suffered serious population or range declines over the past 25 years are highlighted in *Birds of Conservation Concern* (RSPB, 2002). The Red List includes those species which have suffered >50% decline and the Amber List includes those species which have undergone a 25-50% decline in the past 25 years. The Barn Owl is included on the Amber List.

Other Birds

Birds occupy all habitats and the various species range from being widespread and common, which are unlikely to pose a significant constraint to planned development works, to those which are rare and therefore of high conservation concern and which may pose a significant constraint.

All bird species receive legal protection under the Wildlife and Countryside Act 1981, with degrees of greater or lesser protection being detailed in various schedules of the Act. Schedule 1 of the Act gives comprehensive protection to scarce species. Also, many species are protected by international conventions and directives including The EC Birds Directive, The Bonn Convention and the Bern Convention.

All bird's nests occupied or being built by breeding birds are protected against disturbance by the Wildlife and Countryside Act 1981. It is therefore recommended that no vegetation clearance or disturbance to other potential nesting habitat is undertaken during the bird breeding season (March to July inclusive) unless it is judged, by a qualified ornithologist, that site operations will not disturb any nesting birds. Such a survey needs to be undertaken immediately prior to the commencement of such works.

The UK Biodiversity Action Plan identifies species and habitats for which conservation action is a priority. In Wales, this list has been slightly amended by the Welsh Assembly Government under Section 74 of the Countryside and Rights of Way Act 2000 which was endorsed when reviewed under Section 42 of the Natural Environment and Rural Communities Act 2006 and subsequently under section 7 of the Environment (Wales) Act 2016. *Species of Principal Importance for Conservation of Biological Diversity* in Wales are those in need of urgent action because, for example, of severe decline in population size or contraction in range.

Bird species which have suffered serious population or range declines over the past 25 years are highlighted in *Birds of Conservation Concern* (RSPB, 2002, frequently updated). The Red List includes those species which have suffered >50% decline and the Amber List includes those species which have undergone a 25-50% decline in the past 25 years.

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Land at Collier's Row, Heol Gerrig, Merthyr Tydfil: Preliminary Ecological Appraisal

APPENDIX 5**BEST PRACTICE PROTOCOL FOR TREE FELLING WHERE TREES HAVE THE POTENTIAL FOR SUPPORTING ROOSTING OR HIBERNATING BATS**

Mature trees with trunk/branch cavities and/or a covering of ivy are particularly valuable bird nesting and bat roost sites, and will be retained wherever possible; compensatory planting with appropriate species will be undertaken where felling is inevitable.

Where tree felling or lopping is planned, such work will only be carried out between August and February to avoid the bird-breeding season.

All bats are protected by the Wildlife and Countryside Act 1981. Bat tree-roosts are extremely difficult to identify, and it should be assumed that any mature native-species tree is an actual roost. Every effort should be made to avoid disturbance or damage to these trees during construction work. It is an offence under the Wildlife and Countryside Act to knowingly disturb bat roosts or hibernacula. To minimise disturbance to bat populations by the removal of trees the following protocol will be followed.

- As far as possible all trees having bat roost potential should be preserved. If it is necessary for trees to be removed, all felling operations will bear due regard to this protocol.
- If bats are found during tree work, then all work will stop and Natural Resources Wales must be informed immediately.
- If the tree trunk is smaller than 200mm diameter and if it has no dense ivy, suitable holes, loose bark, and no holes associated with the root system, then work can be carried out on the tree between September and February (ie avoiding the bird breeding season).
- To avoid disturbing nursery roosts, work must never be carried out between June and August inclusive.
- If the tree does have any of the above or has a trunk size greater than 200mm, it must be cut only in September and October when bats, including young of the year, are still mobile and able to fly-out. If cutting must take place at other times, summer is probably best as bats can be more easily seen, can fly away and may take young with them, thus enabling a better chance of survival. But due regard must also be taken of nesting birds and the presence of other breeding fauna.
- If felling were to take place during hibernation (November to March) the bats will be torpid, difficult to see and the whole roost may be lost as they will be unable to escape.
- Any timber cut will be left lying for at least 24 hours to allow bats the opportunity to escape.
- It is also important to consider to what extent the habitat that is being removed is available elsewhere locally. For example, if only one tree in twenty of similar age or structure is to be felled, then it is likely that the impact of the loss will be less important. If the tree to be felled is solitary and in an area with few or no mature trees, then the impact may be significant.

Where the loss of mature trees is unavoidable, compensatory planting with appropriate locally native species of local provenance should be undertaken.

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: Flow chart to determine timing of works

[illegible]

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APPENDIX 6**BEST PRACTICE PROTOCOL PROVIDING FOR THE WELL-BEING OF BADGERS**

If evidence of Badger activity is identified during site surveys or construction works, in order to comply with the Protection of Badgers Act, 1992, it will be necessary to protect all existing setts against disturbance and interference during site works. In general, any disturbance is prohibited within 30m of any active sett unless licensed by Natural Resources Wales or the Welsh Government and then only between the months of July to November inclusive. Significant destruction of foraging grounds may also be judged as an infringement of the law on animal welfare grounds and, in extreme cases, prosecutions have been brought by the RSPCA.

Best practice principles advise that:

- All site personnel are made aware of the presence of setts and foraging grounds
- All site personnel are aware of the implications of the law
- If any setts are found during site works, a substantial fence will be erected, consisting of posts with three plain wires and with clearly visible bunting strung along the top, around each sett, a minimum distance of 30m from any entrance in order to prevent accidental access by any vehicle. A line of bunting supported on road pins is inadequate.
- Fragmentation of Badger territories is minimised during construction works.
- Existing Badger paths will not be obstructed during site works.
- All trenches dug on site will be provided with escape ramps, sloping boards or battered sides to allow any trapped animals to escape. As few trenches as possible will remain open on site over night.
- Fires will not be built near any sett.
- Any chemicals or other noxious substances stored on site will be in an area which is proofed against Badgers.
- If necessary, replacement foraging resources will be provided for the duration of the works.
- Landscaping proposals will bear due regard to the needs of foraging Badgers by the provision of infrequently cut grass verges and native species fruiting trees and shrubs.

APPENDIX 7 PROTECTED and OTHER SIGNIFICANT SPECIES and HABITATS: Recommended Times of Work to avoid undue disturbance												
Feature	January	February	March	April	May	June	July	August	September	October	November	December
Bats and their breeding and resting sites (European Protected Species, WCA, 1981, sch. 5, NERC sect.42)								Limited disturbance to roosts permitted under licence but preferable in September & October	Felling under licence best done now. Felled trees of >20cm diameter must be left to lie on the ground for 24hrs to allow any bats to escape			
Otter and its breeding and resting sites (European Protected Species, WCA, 1981, sch.5, E(WJA) sect 7)									Disturbance to Otter sites limited to between Sept and Jan and is subject to licence from NRW			
Dormouse and its habitat (European Protected Species, WCA, 1981, sch.5, E(WJA) sect 7)				Disturbance subject to licence from NRW					Disturbance subject to licence from NRW			
Water vole habitat and places of shelter (WCA, 1981, sch.5, E(WJA) sect 7)				Disturbance subject to NRW approval					Disturbance subject to NRW approval			
Badger (Protection of Badgers Act 1992)								Work within 30m of a sett or annex permitted and sett closure permitted: all subject to NRW licence				
Hedgehog, Harvest Mouse, Brown Hare, Water Shrew (E(WJA) sect 7)								Consult a qualified ecologist before carrying out any works in areas identified as supporting these species				
Red Kite and some other protected bird's nests (WCA, 1981, sch.1)								No disturbance at any time				
All other Breeding Birds: nest sites (WCA, 1981)		Vegetation clearance permissible	Avoid disturbance to potential nesting habitat during this period unless, immediately prior to commencement of works a qualified ornithologist certifies that no active bird's nests will be disturbed.							Vegetation clearance permissible		
Great Crested Newt and its breeding & hibernation sites (European Protected Species, WCA, 1981, sch. 5)									Disturbance of breeding or terrestrial habitat should only be carried out between September and January and is subject to licence from NRW			
Other newts frogs & toads (except Natterjack) (WCA, 1981, sch. 5, E(WJA) sect 7) Breeding ponds								Disturbance of amphibian breeding ponds should only be carried out during August to January inclusive				
Other newts frogs & toads (except Natterjack) (WCA, 1981, sch. 5, E(WJA) sect 7) Terrestrial habitat								Disturbance to potential terrestrial habitat should be preceded by a capture and translocate operation or 'destructive search'				
Reptiles (except Smooth Snake) (WCA, 1981, sch.5, E(WJA) sect 7)								Disturbance to potential terrestrial habitat should be preceded by a capture and translocate operation or 'destructive search'				
Marsh Fritillary butterfly (WCA, 1981, sch.5, E(WJA) sect 7)								Areas supporting Marsh Fritillanes must not be disturbed except after consultation and advice from NRW				
Other Protected & Significant Invertebrates (WCA, 1981, E(WJA) sect 7)								Consult a qualified ecologist before carrying out any works in areas identified as supporting these species				
Habitats of Principal Importance for Conservation of Biological Diversity in Wales (E(WJA) sect 7)								Habitats of Principal Importance should not be disturbed at any time of year without prior consultation with a qualified ecologist				
Important Hedgerows as defined in the Hedgerow Regulations, 1997								Important hedgerows may only be removed following the issue of a Hedgerow Removal Order or a valid planning consent issued by the local planning authority				
Uncultivated or semi-natural habitats subject to the Environmental Impact Assessment (EIA) (Agriculture) (Wales) Regulations 2007								Changes to qualifying habitats may only be undertaken after a favourable Screening Decision is given by the Welsh Government or an application for change of use has been approved				
KEY TO COLOURS								ABBREVIATIONS				
Avoid disturbance at any time								NRW	Natural Resources Wales (successor to the Countryside Council for Wales)			
Best time to carry out site work subject to advice and/or licence								WCA	Wildlife and Countryside Act 1981 (as amended)			
Most suitable times for works to take place								E(WJA)	Environment (Wales) Act 2016			

APPENDIX 8

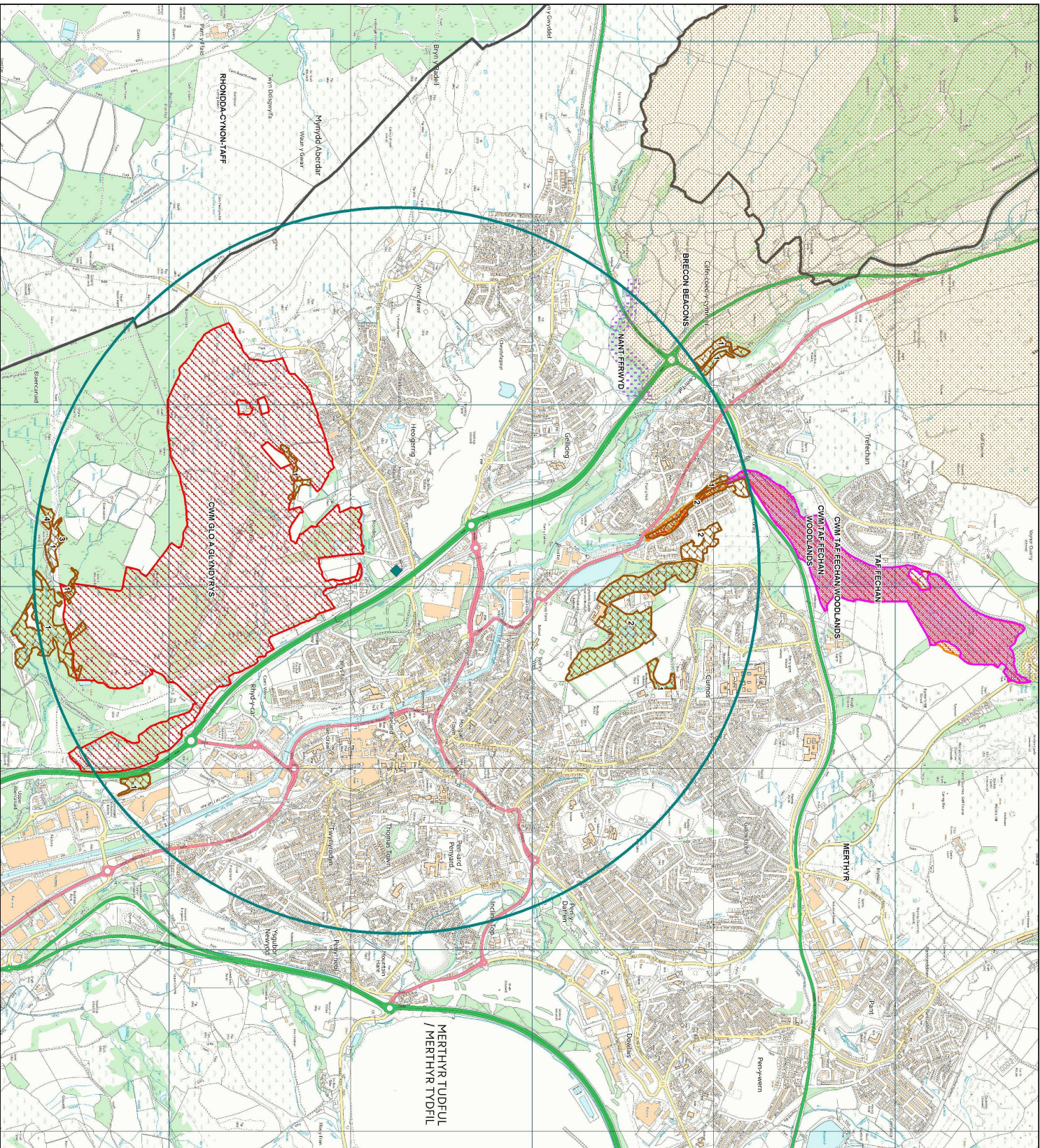
DATA RECEIVED FROM THE SOUTH-EAST WALES BIOLOGICAL RECORDS CENTRE (SEWBRcC)

The following pages include the maps provided by SEWBRcC of protected and significant sites from within 2km radius of the survey site, centred at SO 03912 06251.

A summary of protected and significant species data is provided at Tables 2.1 – 2.5 in the text above. The complete species dataset received from SEWBRcC has not been included in this document but is available on request.

BIODIVERSITY INFORMATION SEARCH (SPECIES AND DESIGNATED SITES):

COLLIERS ROW
S00391206251



- Centre of Search Area
- 2km Search Buffer
- Site of Special Scientific Interest
- National Park
- Local Nature Reserve
- Wildlife Trust Reserve
- Regionally Important Geological Site (RIGS)
- Ancient Woodland
1: ASNW; 2: RAWs; 3: PAWS; 4: AWSU
See report for full descriptions
- Unitary Authority

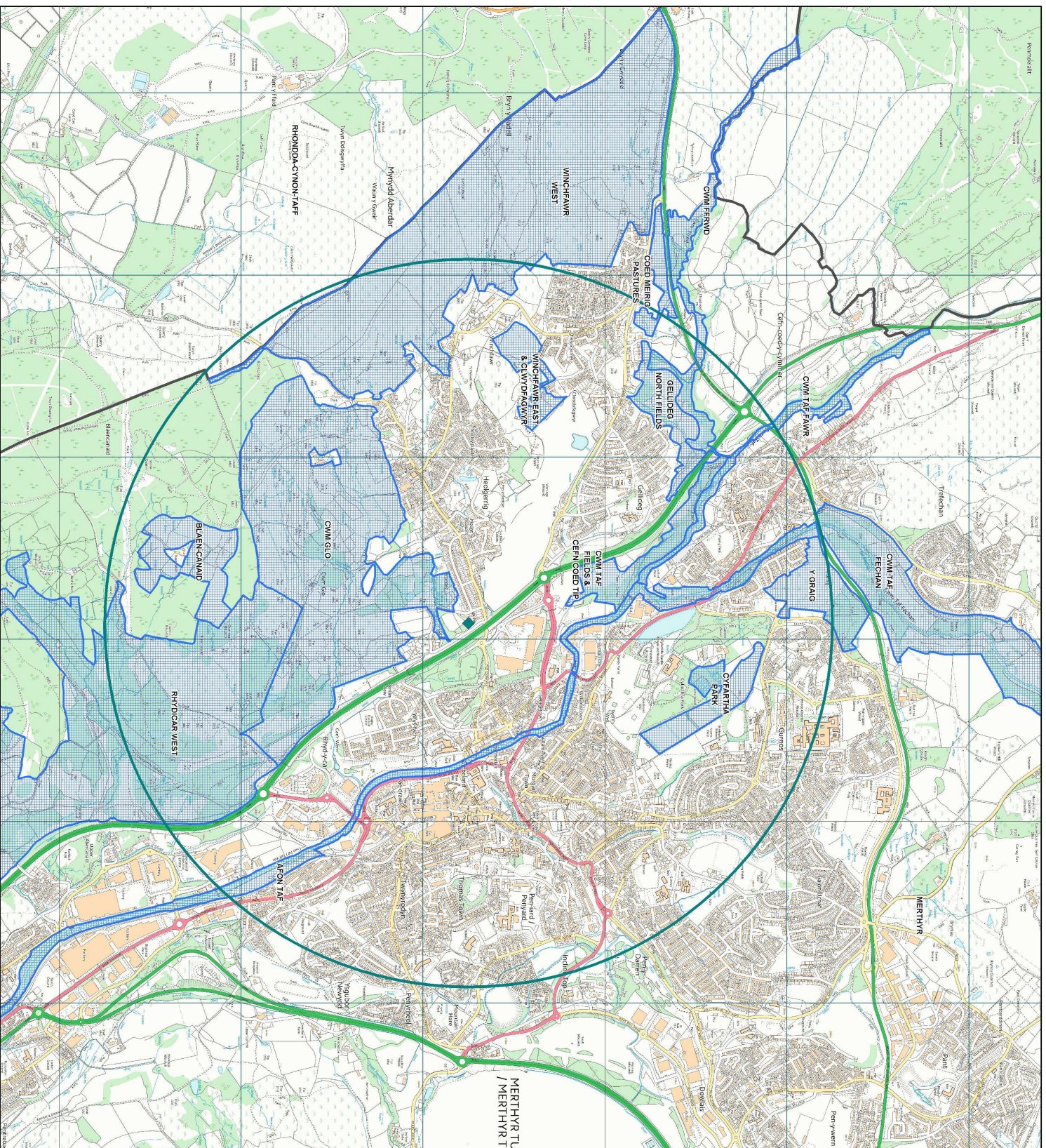
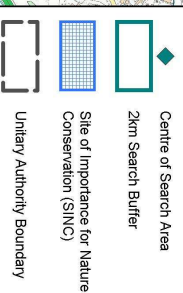
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BIODIVERSITY INFORMATION SEARCH (SPECIES AND DESIGNATED SITES):

**COLLIERS ROW
S00391206251**



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