



Gamford Farm, Rossett Ecological Assessment (TEP Report Ref: 5235.002) August 2015 Version 1.0

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Ecological Assessment**

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EXECUTIVE SUMMARY

1. TEP was commissioned in May 2015 by Cassidy and Ashton, on behalf of Ian Garden, to undertake an ecological assessment, with a focus on bats, of a site at Gamford Farm, Rossett. The survey was required to identify ecological constraints associated with redevelopment. There are several buildings which will all be either demolished or renovated. The proposals for the surrounding open land have not been confirmed, but it is understood they may be subject to public open space and/or landscaping works.
2. There are two ponds within 250m of the site boundary which were assessed in terms of their suitability to support great crested newts using the standard Habitat Suitability Index (HSI). Pond 1 scored "excellent" and Pond 2 was "good". Following this, both ponds were sampled using eDNA to determine presence/absence of great crested newts. Both samples returned negative results, so there are no potential constraints relating to great crested newts from the redevelopment.
3. Eleven buildings were subject to an external and internal bat roost assessment by a licensed bat worker. An additional concrete structure could not be accessed but had negligible bat roosting potential. Seven buildings were found to support evidence of bats or to provide some potential for roosting. As these buildings will be demolished or refurbished under the site proposals, nocturnal surveys are required to confirm whether bats are present and, if so, the species and status of roosts. A summary of the roosting potential of the buildings is provided below, together with the number of dusk emergence/dawn re-entry surveys which will be required (under Bat Conservation Trust guidelines) to confirm whether bats are roosting. These surveys must be carried out between mid-May and the end of August.

Table 1: Summary of bat roosting potential

Roosting Category	Building Ref	Survey Effort (Number of dusk or dawn surveys)
Confirmed Roost	House	Three
High	1, 3 (south-west section only)	Three
Moderate	5 (south-east section only)	Two
Low	2, 3, 5, 6 and 9 (south west of 4)	One
Negligible	1a, 4, 4a, 4b,7,8,10,11	None

4. One tree on the southern boundary of the site has been assigned as "Category 2" (under Bat Conservation Trust guidelines) in terms of its potential to support roosting bats. If this tree will be affected by the proposals, further assessment will be required.
5. Birds have been confirmed nesting within the main house and in Buildings 4,4a,4b,5,6 and 7, and Building 8 has good potential to support nesting birds. Any building demolition/renovation work should be undertaken outside the bird nesting season (March to August inclusive, but checks may also be needed outside this period for some species). If this is not possible a nesting bird check will be required a maximum of 24 hours in advance of any works. Similarly, any trees or scrub should also be removed outside the nesting season.
6. Precautionary working method statements will need to be developed to avoid potential impacts on reptiles, hedgehogs and common toads.
7. Opportunities for biodiversity enhancement within the site have been identified.

1.0 INTRODUCTION

- 1.1 TEP was commissioned in May 2015 by Cassidy and Ashton, on behalf of Ian Garden, to undertake an ecological assessment, with a focus on bats, of a site at Gamford Farm, Rossett. The survey was required to identify any potential ecological constraints associated with the redevelopment of the site. There are several buildings which will be either demolished or renovated. The proposals for the surrounding habitats have not been confirmed, but it is understood that there may be some public open space and/or landscaping of these areas.
- 1.2 An extended phase 1 habitat survey was carried out in June 2015 at the site, which included calculating a Habitat Suitability Index (HSI) of two ponds. In conjunction with this survey, a licensed bat worker also completed an external and internal bat roost assessment of all the buildings.
- 1.3 This report has the following objectives:
- to describe the existing site and give an overview of the habitats present;
 - to identify whether there are any features of conservation value such as legally protected species or habitats of biodiversity importance;
 - to advise further surveys or mitigation requirements that may be needed prior to development of the site; and
 - to outline opportunities to provide biodiversity enhancement.

2.0 SITE DESCRIPTION

- 2.1 The site covers approximately 3.3ha and is located to the east of Rossett which is situated between Chester and Wrexham. The site comprises a house with a number of outbuildings, a garden with a pond and two fields. The southern boundary of the site is formed by Gamford Lane and the site is surrounded by open farmland connected by a network of hedgerows, which links into an area of woodland surrounding a large body of open water to the north-west. The location of the site is indicated in Figure 1 below.

Figure 1: Gamford Farm, Rossett and surrounding area



3.0 METHODS

Desktop Study

- 3.1 Information regarding historic species records and protected sites within a 1km buffer was requested/gathered from the sources listed in Table 1.

Table 1: Ecological information and consultations

CONSULTEE/SOURCE OF INFORMATION	NATURE OF INFORMATION
COFNOD	Designated sites and protected species records
Multi-Agency Geographic Information for the Countryside (MAGIC) Map	Statutory protected sites and habitat inventory
Google Maps	Satellite imagery
Wrexham Biodiversity Action Plan	Local BAP habitats and species
S.42 Natural Environment and Rural Communities Act (NERC) Act (2006)	Habitats and Species of Principal Importance for the Conservation of Biodiversity
Wrexham Unitary Development Plan (2005)	Local Planning Policy

Phase 1 Habitat Survey and Amphibian Assessment

- 3.2 The Extended Phase 1 habitat survey was undertaken on 11th June 2015 by Linda Swankie (CEnv, MCIEEM, Grade 4 FISC¹). The survey was carried out in accordance with the Phase 1 habitat assessment methods (JNCC 2010) and Guidelines for Preliminary Ecological Appraisal (IEEM 2012). It provides an overview of key habitats and identifies any features of ecological value, as well as the presence, or potential presence, of any protected or notable species.
- 3.3 A habitat suitability index (HSI) assessment was calculated for two ponds, one pond within the site (Pond 1) and one pond approximately 50m to the south of the site boundary (Pond 2). This index, based on Oldham *et al.* 2000, incorporates ten suitability indices which are all factors known to affect the likelihood of great crested newts being present. The index varies from 0 to 1, with 0 indicating unsuitable habitat and 1 optimal habitat.
- 3.4 Following completion of the HSI Assessment eDNA testing of the two ponds was undertaken on 29th June 2015. Further information relating to this technique, including the field protocol followed, is provided in the Amphibian Assessment at Appendix 4.

Bat Roost Assessment

Bat Roost Potential of Trees

- 3.5 During the Phase 1 Habitat Survey, a ground based assessment of trees to identify any features of potential value to bats was also undertaken. This involved searching

trees with close focussing binoculars to look for any evidence of use by bats, such as droppings, staining or scratch marks. Potential roost features, such as holes, cracks, crevices or loose bark were also identified and noted. Trees were then categorised in accordance with Bat Conservation Trust (BCT): Bat Surveys, Good Practice Guidelines (Hundt, 2012). The criteria for tree roost assessment are as shown in Table 2.

Table 2: Bat Potential Tree Categories (BCT, 2012)

Confirmed	A tree where positive signs are found; e.g. emerging bats, droppings found or pre-emergence sounds heard.
Category 1*	Supporting larger roosts and situated in or near good foraging habitat or near a good commuting route leading to such habitat.
Category 1	A tree that has definite features of potential for roosting bats, supporting fewer suitable features than Category 1* trees (above) or with potential for use by single bats but are less than ideal in some way, for example, may have cluttered access.
Category 2	A tree that has no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features that may have limited potential to support bats.
Category 3	A tree that has no potential to support roosting bats.

Bat Roost Potential of Buildings

3.6 There are eleven buildings and a concrete tank which will either be demolished or renovated for the site proposals. These were all subject to a full external and internal bat roost assessment on 11th June 2015 by Candice Howe, a licensed bat worker (Licence Ref: 64865:OTH:CSAB:2015). The daytime assessment was undertaken in accordance with Bat Conservation Trust (BCT): Bat Surveys, Good Practice Guidelines (Hundt, 2012).

3.7 The buildings were searched externally for any evidence of use by bats, such as:

- Live or dead bats;
- Bat droppings;
- Feeding remains (e.g. stripped moth wings);
- Urine staining;
- Fur oil staining.

3.8 Following the assessment all buildings were categorised as having negligible, low, moderate or high potential to support roosting bats, or confirmed as a bat roost.

Limitations to Surveys

3.9 There were no limitations to the phase 1 habitat survey, as it was undertaken during the optimal survey season and full access was gained to all areas of the site.

3.10 There were limitations to the internal bat roost assessment survey as access was restricted in some buildings. The loft in the main house is split into three sections but it was not possible to physically access either the western or eastern sections, although it was possible to see into the eastern section. There was also no access into the northern section of Building 1.

3.11 Although there were some access limitations to part of the loft void in the house and in Building 1 during the bat roost assessment, this is not considered to impose serious constraints to the assessment as dusk emergence / dawn re-entry surveys will need to be completed and these will supplement the data from the day time assessment.

4.0 RESULTS

Desktop Survey

- 4.1 The full results of the desktop survey are provided in Appendix 1. It should be noted that absence of protected species records within the search area may be due lack of data for that area, rather than absence of a particular protected species.
- 4.2 There are no statutory sites protected for nature conservation within the 1km search area of Gamford Farm. The site does lie within a SSSI Impact Zone. These Impact Zones relate to specific development types which Natural England has identified as having the potential to impact on SSSIs, SACs, SPAs and/or Ramsar sites in the surrounding area. However, residential developments are not included within the list of developments likely to have an impact, so the SSSI Impact Zone is not of relevance to the proposals for the redevelopment of the site.
- 4.3 There is one local wildlife site within the 1km search area. This is Darland Wood which is immediately north-west of the site. Darland Wood is designated for its semi-natural broad-leaved woodland and standing water. It contains some ancient woodland flora including bluebell *Hyacinthoides non-scripta* and dog's mercury *Mercurialis perennis*.
- 4.4 Cofnod provided records of a number of protected and/or S.42 species within the 1km search area. These included:
- Bat species (including pipistrelle species);
 - Great crested newts;
 - Grass snakes;
 - Barn owl;
 - Hedgehog; and
 - Numerous S.42 bird species.

Habitat Survey

- 4.5 The site comprises a residential house and associated outbuildings, an overgrown garden with a pond and two fields bounded by hedgerows. A list of the habitats recorded on site are provided below. Summary descriptions for each habitat are given with further details of points of interest provided in Target Notes at Appendix 2. The phase 1 habitat plan, with associated target notes is provided at Figure G5235.002. Building numbers referred to in this report are also indicated on the Phase 1 habitat plan.
- Buildings and hard standing;
 - Species poor semi-improved grassland;
 - Semi-improved neutral grassland;
 - Tall ruderal vegetation;
 - Scattered and dense scrub;
 - Pond;
 - Scattered broadleaf trees;
 - Hedgerows; and
 - Amenity areas (garden) and ornamental planting.

Buildings and hardstanding

- 4.6 The building on site include a residential house, currently occupied and several outbuildings in various stages of disrepair. Detailed descriptions of the buildings on site are provided in the bat roost assessment at Appendix 3.

- Species-poor semi-improved grassland
- 4.7 There is a large field of species-poor semi-improved grassland in the north of the site. This area has been grazed historically but now appears unmanaged and rank. It is largely dominated by grasses which include perennial rye-grass *Lolium perenne*, rough meadow grass *Poa trivialis*, meadow foxtail *Alopecurus pratensis*, Yorkshire fog *Holcus lanatus* and soft brome *Bromus hordeaceus*. Broadleaf species include white clover *Trifolium repens*, common mouse-ear *Cerastium fontanum* and meadow buttercup *Ranunculus acris*.
- Semi-improved neutral grassland
- 4.8 There is a small area of semi-improved neutral grassland at the northern end of the buildings, but scrub and tall ruderal vegetation is spreading into this area. Similar species to those recorded in the species-poor semi improved grassland still occur but broadleaf species are more abundant and include oxeye daisy *Leucanthemum vulgare*, black medick *Medicago lupulina*, a hawk's-beard *Crepis* spp. and burdock *Arctium* spp. There are piles of tyres, wheels and corrugated roofing material in this area (TN1).
- 4.9 There is a larger area of grassland in the south-east of the site which was previously maintained as a lawn but has become overgrown and rank. This area is dominated by Yorkshire fog and red fescue *Festuca rubra*. Additional broadleaf species recorded in this area include common knapweed *Centaurea nigra* and common sorrel *Rumex acetosa*. Cock's foot *Dactylis glomerata*, false oat-grass *Arrhenatherum elatius* and cow parsley *Anthriscus sylvestris* occur around the boundary.
- Tall ruderal vegetation
- 4.10 There is abundant tall ruderal vegetation within the site. In particular there is a dense band of nettle *Urtica dioica* and creeping thistle *Cirsium arvense* around the pond in the south-east of the site. The small field in the south-west of the site also contains abundant nettle with hogweed *Heracleum sphondylium*.
- Scattered and dense scrub
- 4.11 There are several areas of dense scrub within the site dominated by bramble *Rubus fruticosus* agg, with elder *Sambucus nigra* frequently recorded and willow species *Salix* spp., hawthorn *Crataegus monogyna* and field maple *Acer campestre*, also present. There is also willow scrub around the northern end of the pond.
- Pond
- 4.12 The pond (Pond 1) has steep banks and a large area of open water in the centre, with a band of iris *Iris* spp. around the margins. There is a patch of willow trees at the north-eastern side of the pond and planted ornamental evergreens on the south. The steep banks and surroundings are covered by a dense band of nettle with creeping thistle, hogweed and cow parsley and bittersweet *Solanum dulcamara* was also recorded beneath the willows. No aquatic vegetation was visible on the surface but there was an abundant submerged aquatic plant, but it was not possible to physically access the water to confirm the species. There was abundant leaf litter in the water and pollen on the surface. Many damselflies were present during the survey.
- Scattered broadleaf trees
- 4.13 Scattered broadleaf trees are present, mostly in the south of the site, but there is also a line of planted apple *Malus* sp. trees along the eastern side of Building 10.

There is an overgrown area adjacent to the entrance to the site which also contains a number of apple trees. This area may be the remnants of a historic orchard.

Hedgerows

- 4.14 The boundary hedgerows around the west and north of the site are dominated by hawthorn with elder also present. Ground vegetation is dominated by nettle and cleavers *Galium aparine*. The tall, outgrown hedgerow along the south-eastern boundary also contains damson *Prunus domestica* with standard oak trees also present.
- 4.15 The section of hedgerow to the south-west of the entrance (TN2) is more diverse and contains a mix of hawthorn, damson, holly *Ilex aquifolium*, hazel *Corylus avellana* and blackthorn *Prunus spinosa* with ivy *Hedera helix* and traveller's joy *Clematis vitalba*.

Amenity and ornamental planting

- 4.16 There are a number of planted trees and shrubs in an overgrown garden area to the south of the house. These include broom *Cytisus scoparius* and ornamental species such as mahonia *Mahonia* spp and kerria *Kerria japonica*.
- 4.17 There is also an area of tree planting directly to the east of the entrance which contains a mix of native and non-native species. These include oak *Quercus* spp. horse chestnut *Aesculus hippocastanum*, laburnum *Laburnum anagyroides*, silver birch *Betula pendula* and ornamental evergreen species with rose shrubs and grassland below.

Habitats outside the site boundary

- 4.18 In addition to the pond within the site, there is a second pond (Pond 2) approximately 50m to the south of the site in a grazed field. This pond is approximately 20m x 20m and has areas of open water with an island in the middle covered with tall ruderal vegetation and willows. The banks of the pond are shallow and there are some macrophytes present including water plantain *Alisma plantago-aquatica*, fool's water-cress *Apium nodiflorum* and floating sweet-grass *Glyceria fluitans*.

Connectivity with the wider landscape

- 4.19 The site is surrounded by open farmland bounded by hedgerows. It is directly connected to an area of woodland to the north-east which is designated as a local wildlife site (Darnell Wood).

Fauna

Bats

Bat Roost Potential of Buildings

- 4.20 Eleven buildings and sub-buildings, plus one flat concrete structure, were assessed for their potential to support roosting bats. Of these, seven buildings were found to support evidence of bats or to provide some potential for roosting. A large number of bat droppings were found in the one of the central loft space of the main house during the survey, confirming this building as a roost. Bat droppings were also found in the upper floor of the living area in one of the bedrooms. Due to the high number of droppings recorded, this is likely to be a maternity roost. A summary of the roosting potential of the buildings is provided below and full details are provided in Appendix 3.

Table 3: Summary of bat roosting potential

Roosting Category	Building Ref
Confirmed Roost	House
High	1, 3 (south-west section only)
Moderate	5 (south-east section only)
Low	2, 3, 5, 6 and 9 (south west of 4)
Negligible	1a, 4, 4a, 4b, 7, 8, 10, 11

4.21 Only one oak tree, in the southern hedgerow, was assigned a Category 2 in terms of its bat roosting potential. The location of this is indicated on the phase 1 habitat plan. All other trees on site were assigned Category 3.

4.22 The site was also assessed in terms of its likely value to foraging and commuting bats. The pond, rank grassland, scrub, trees and tall ruderal vegetation are all likely to provide foraging opportunities for the local bat population. The site is also directly connected, by hedgerows, to an area of woodland with a large body of open water to the north-west which is also likely to provide high quality foraging opportunities. The hedgerows around the boundary of the site, which link to this woodland, are therefore likely to provide good quality commuting between roosting and foraging areas.

Great Crested Newts

4.23 There is one pond within the site (Pond 1) and another approximately 50m to the south (Pond 2). The results of the HSI Assessment indicate that Pond 1 is excellent in terms of its suitability to support breeding great crested newts and Pond 2 is good.

4.24 The eDNA analysis of the water samples from both ponds indicates that great crested newts are absent from both ponds. The results of the amphibian assessment are provided in Appendix 4.

Breeding Birds

4.25 The buildings on site provide nesting opportunities for a variety of birds and evidence of breeding was noted in a number of the buildings. House sparrows were observed entering and leaving the roof of the house. Old nests and whitewash were recorded in Building 4 and whitewash and small owl pellets in Building 4a. Swallows were recorded nesting in Buildings 4b and 6 and pigeons were nesting in Building 7. There was also evidence of bird nesting in Building 5. Building 8 had good potential to support nesting birds, although none were noted during the survey.

4.26 No barn owl nests or roosts were found. Some of the outbuildings have the potential to support breeding barn owls, and the surrounding grassland habitats would provide good quality foraging for this species.

4.27 The trees, scrub and hedgerows on site also provide suitable nesting habitat, but the grassland is likely to be too tall to be suitable for ground nesting birds, although skylark was noted singing in the adjacent field to the east.

Reptiles

4.28 Although no evidence of reptiles was recorded on site, the pond, rank grassland, scrub and hedgerows all provide suitable foraging, refuge and commuting habitat for grass snakes, and the shorter areas of vegetation and hard standing are suitable for basking. The piles of rubbish in the grassland area to the north of the buildings would also provide suitable refuge opportunities.

Section 42 Species

- 4.29 The habitats within the site also have the potential to support a number of S.42 species, with good quality foraging, refuge and hibernation habitat for hedgehogs and common toad. The pond is also suitable breeding habitat for common toad.

5.0 DISCUSSION AND CONCLUSIONS

Designated Sites

- 5.1 There are no international nor national sites designated for nature conservation within the 1km search area of Gamford Farm, but there is a local wildlife site, Darland Wood, which is directly connected to the north-west corner of the site. This site is designated for its woodland habitat and ground flora which, although sparse is considered relatively diverse. A large pond within the woodland is also included in the reasons for designation. There would be no direct impacts on this site from the proposed redevelopment of the site and no indirect impacts on any features for which it is designated.

Habitats

- 5.2 All the habitats within the site are common and widespread and no protected nor invasive plant species were recorded during the survey. The full proposals for the site are not known at this time but the intention is to retain and renovate Buildings 1, 2, 3, 4, 5 and 6. All other buildings within the site will be demolished. Any impacts on the surrounding grassland are likely to be minor as the works are largely restricted to the built area of the site, although there may be some landscaping works to the immediate surroundings.
- 5.3 The pond and hedgerows are both S.42 habitats, but none of the hedgerows will be affected by the proposals, and the pond will also be retained.
- 5.4 The main value of the habitats within the site lie in their suitability to support a variety of protected species, rather than having an intrinsic value themselves.

Bats

- 5.5 There are records of bat species within the 1km search area but no species is identified and it is not known if the records are roosting or foraging. However, the main house has been confirmed as a bat roost, due to a high number of droppings being found in the central section of the loft void. Buildings, 1,2,3,5,6 and 9 all have potential to support roosting bats. Bat dusk emergence / dawn re-entry surveys will be required on all these buildings to confirm whether they are currently used by roosting bats. The results of these surveys will be required to determine the level of impact likely to result from the proposed redevelopment of the site and inform any mitigation requirements. If bats are confirmed roosting, an application will need to be made Natural Resources Wales for a European Protected Species Licence (EPSL) to allow any works to these buildings.
- 5.6 The bat surveys will be required prior to submission of any planning application to provide sufficient information for the local planning authority (LPA) to determine the application. These surveys can only be undertaken between mid-May and the end of August. However, surveys which commence late in the season may not be accepted by the LPA as maternity roosts may already have started to disband. It is therefore likely that these surveys would need to be completed within the 2016 survey season.

- 5.7 In accordance with BCT Guidelines, all buildings with a low roost potential will require one dusk or dawn survey, moderate buildings two surveys and high and confirmed roosts will require three survey visits.
- 5.8 Buildings 4, 4a, 4b, 7, 8 and 10 can be demolished without further bat assessment. However, if demolition is not completed within 12 months of the date of the assessment (i.e. by 11th June 2016) the assessment may need to be updated due to the ephemeral nature of bat roosts.
- 5.9 Although Building 1a has been assigned a negligible potential for roosting bats, it is attached to Building 1 which has a high roost potential. Demolition of this building should therefore not take place until the status of roosting bats in Building 1 has been confirmed.
- 5.10 If no bat roosts are confirmed in any of the buildings during the further surveys, demolition and renovation of these buildings will still result in the loss of potential roosting space. Therefore replacement roosting opportunities will need to be provided to compensate for this loss. It is likely that these could be provided within the renovated buildings, but a detailed bat mitigation strategy will need to be prepared once the surveys are complete and the full impacts have been assessed.
- 5.11 There is a single oak tree on the southern boundary which has been assigned a Category 2 in terms of its bat roosting potential. As this tree is within the boundary hedgerow, it is assumed that it will not be affected by the proposals. It is also in an area of the site that will not be developed so should not be affected by any future lighting of the buildings. However, if for any reason this tree requires felling or pruning works, a further check will be required to confirm its suitability for roosting bats. Ideally this should be undertaken during the winter period when the tree is not in leaf, which restricts visibility for a thorough assessment. It would also be possible to carry out a more detailed aerial assessment of the tree prior to any works to confirm whether there are any features suitable for roosting bats.
- 5.12 A bat friendly lighting plan, both during the construction and post-development stages, will be needed to ensure no impacts on foraging and/or commuting bats. However, again, the specific requirements will be confirmed following completion of the bat surveys.

Great Crested Newts

- 5.13 There are records of great crested newts within the 1km search area, but the closest of these is approximately 625m to the south of the site. The results of the eDNA sampling, which is an accepted technique for confirming presence/absence of great crested newts, indicate that this species are not present in either of the two ponds within 250m of the site boundary, so there are no potential impacts on this species from the development proposals.

Birds

- 5.14 There are records of barn owl within the 1m survey area and some of the outbuildings provide suitable nesting opportunities for this species, although no evidence of barn owls was recorded during the survey. This species is listed on Schedule 1 of the Wildlife and Countryside Act (WCA) 1981 (as amended). The site also provides good quality foraging habitat for barn owls, although this should all largely be retained. The designers should explore the possibility of providing a barn owl roost associated with one or more of the renovated buildings.

- 5.15 House sparrow, a S.42 species, is breeding within the main house and evidence of nesting swallows, pigeons or other unidentified birds was also recorded in Buildings 4, 4a, 4b, 5, 6 and 7. Building 8 was also highlighted as having potential to support nesting birds, although no evidence was noted at the time of the survey. All nesting birds are protected under the WCA during the nesting season and it is an offence to take, damage or destroy the nest of any wild bird whilst it is in use or being built. The buildings will therefore need to be demolished outside the nesting bird season, which is usually accepted as running from early March to the end of August. If this is not possible for any reason, a nesting bird check will be required by a suitably qualified ecologist a maximum of 24 hours in advance of works. If evidence of nesting is observed, a buffer zone will need to be set up around the nest, the size of which is dependent upon the species nesting, and the ecologist will monitor the nest to confirm when any young have fledged and demolition or clearance works can proceed.
- 5.16 As with the demolition of the buildings, the hedgerows, trees and scrub could also support nesting birds, so vegetation clearance should also be undertaken outside the nesting bird season, or a nesting bird check will be required within 24 hours of clearance.
- 5.17 A number of S.42 bird species have been recorded within the search area which could potentially breed on site. These include house sparrow, recorded breeding in the main house, linnet, bullfinch, starling, song thrush and dunnoek. Demolition of the buildings will result in the loss of nesting habitat for some of these species, so replacement nesting habitat will be required. As with the bats, nesting features could be incorporated within or on the renovated buildings. Boxes could also be installed on suitable retained trees around the site.

Reptiles

- 5.18 There are several records of grass snake within the 1m search area, including one from 2014 approximately 225m to the north-west, with direct habitat connections to the site. There are also records to the south of the site from 2012. Although no evidence of grass snake was recorded during the survey, the habitats within the site provide good quality foraging, basking and refuge opportunities for this species which is often associated with water as amphibians are an important food resource. The scrub, dilapidated buildings and rubbish and rubble on site also provide good quality refuge and hibernation opportunities for reptiles. The redevelopment of the site therefore has the potential to cause harm or injury to reptiles, if present, during demolition and construction works, as well as loss of potential foraging, basking and hibernation habitat, although the foraging habitat would be largely unaffected.
- 5.19 It may be necessary to complete a reptile survey of the site to confirm whether reptiles are present and whether there are any potential impacts on this group of species. However, reptile surveys usually involve laying artificial refugia around a site and checking underneath these for any reptiles. Due to the high availability of existing refuge opportunities within the site this is unlikely to be effective.
- 5.20 In these circumstances, it is appropriate to prepare a precautionary working method statement (PWMS) to set out details of how impacts on reptiles will be avoided during site demolition and construction works. This should be discussed with the LPA to see if they would accept this approach. Methods of working should include dismantling by hand any rubble/rubbish piles and removing any roofing materials or potential refuge features within the site during the active season (i.e. May to September/October) to avoid disturbing any hibernating reptiles. Full details of the

methods to be implemented to ensure no harm or injury to reptiles will be provided within the PWMS.

Other S.42 species

- 5.21 There are records of hedgehogs in the 1km search area and, although no records of common toad were provided, it is likely that common toad is also present within the site as the pond is suitable for breeding and the terrestrial habitats provide good quality refuge and hibernation opportunities for both these species. Both hedgehogs and toads are listed under S.42 of the NERC Act so impacts on these species are a material consideration in determining planning applications.
- 5.22 As with reptiles, further surveys are unlikely to add value to the assessment, but it is appropriate to prepare a PWMS to detail the methods to be used during demolition and construction works to avoid potential harm or injury to either of these species. As with the reptiles, both these species could hibernate within the site and any animal disturbed during hibernation is unlikely to survive. Similar measures to avoid impacts on reptiles could also be employed for these two species.

6.0 RECOMMENDATIONS

- 6.1 Dusk emergence / dawn re-entry surveys will need to be undertaken on the main house and buildings 1,2,3,5,6 and 9 to confirm the status of roosting bats within the site to inform a mitigation strategy and European Protected Species Licence application.
- 6.2 If the Category 2 tree on the southern boundary of the site will be affected by the works, this will require a more detailed assessment to confirm its roosting potential. Following this recommendations would be made on whether further surveys would be required, or reasonable avoidance measures could be employed to avoid potential impacts on roosting bats.
- 6.3 The lighting scheme for the redevelopment of the site, both during construction and post-construction will need to be designed to avoid any impacts on roosting, foraging or commuting bats. Specific recommendations for this would be provided following completion of the bat surveys.
- 6.4 To compensate for the loss of potential bat roosting sites, replacement roosts will need to be provided. These could be designed into the fabric of the renovated buildings themselves or on the exterior. Additional bat boxes could also be provided on suitable retained trees around the site.
- 6.5 Buildings 4, 4a, 4b, 7, 8 and 10 can be demolished without further bat assessment. However, if demolition is not completed by 11th June 2016, the assessment may need to be updated due to the ephemeral nature of bat roosts. Although Building 1a has been assigned a negligible potential for roosting bats, it is attached to Building 1 which has a high roost potential. Demolition of this building should therefore not take place until the status of roosting bats in Building 1 has been confirmed.
- 6.6 Any demolition, renovation and/or vegetation clearance should be undertaken outside the nesting bird season. If this is not possible a nesting bird check will be required by a suitably qualified ecologist a maximum of 24 hours in advance of works.

- 6.7 To compensate for the loss of existing nesting sites, replacement nesting opportunities will need to be provided. As with the bats, there is the potential to design these into the fabric of the renovated buildings or onto the exterior. These should be targeted to the species currently nesting on site, particularly house sparrow, as a S.42 species. Boxes suitable for starling should also be provided as this species has been recorded in the area.
- 6.8 A precautionary working method statement will need to be developed to ensure no impacts on reptiles, particularly grass snake, during demolition and construction works. This will need to be agreed with the LPA.
- 6.9 Precautionary working methods will also need to be developed to avoid impacts on hedgehogs and common toads, which are likely to be present within the site.
- 6.10 There are good opportunities to provide further enhancement measures for biodiversity through the redevelopment of the site. These include:
- Planting wildflower belts incorporating scented plants to attract flying insects and improve foraging habitats for bats;
 - Including native nectar and berry bearing species within any landscaping scheme to increase foraging opportunities;
 - Providing additional bat roost and bird boxes to increase roosting and nesting opportunities;
 - Provide a barn owl roost within one or more of the renovated buildings;
 - Provide hedgehog boxes in suitable areas of cover to ensure that refuge/hibernation features remain within the site;
 - Provide brash or log piles for refuge for reptiles, toads and hedgehogs.

7.0 REFERENCES & FURTHER READING

Hundt L. (2012) Bat surveys: Good Practice Guidelines, 2nd Edition, Bat Conservation Trust.

Institute of Ecology and Environmental Management (IEEM) (2012) *Guidelines for Preliminary Ecological Appraisal*.

Joint Nature Conservation Committee (2010) Phase 1 Habitat Survey. JNCC. Peterborough

APPENDIX 1: Desktop Survey Results

Desk Based Ecology Assessment

Gamford Farm Rossett

Approximate Central Grid Reference: SJ 377 574

Contents

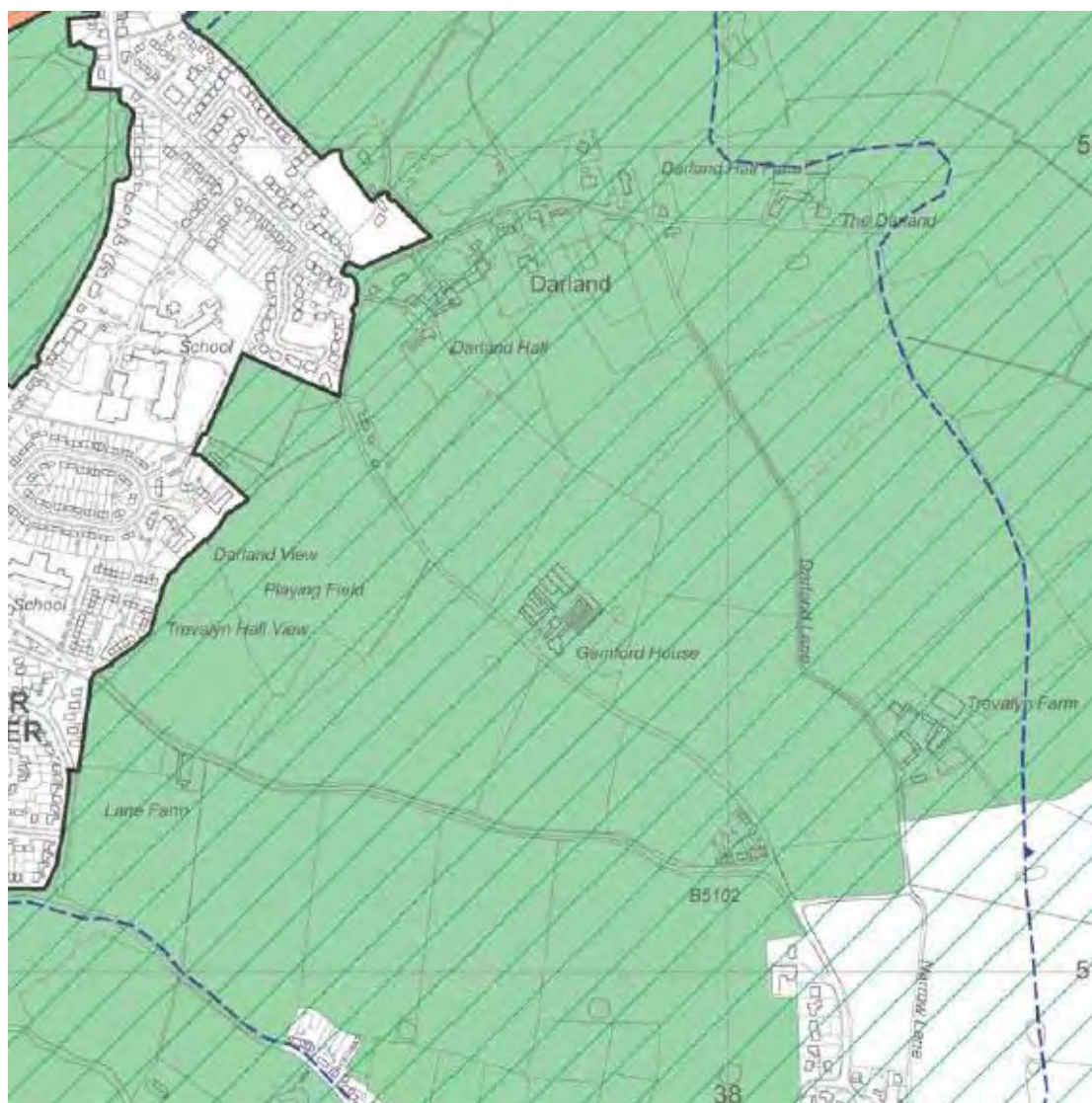
- **Site location plan**
- **Extract from local plan**
- **Extracts of relevant planning policies**
- **Local site designations**
- **Local species records**
- **National site designations**
- **Habitat inventory records**
- **Wildlife site citations**

Site location plan



Contains Ordnance Survey data © Crown copyright and database right 2015

Extract of Wrexham Council Unitary Development Plan (adopted Feb 2005) and supporting key



Inset Plan Notation / Nodiadau Map Mewnrosodiad

-  County Boundary / Ffin y Sir
-  Settlement Limit / Ffin Anheddiad - PS1
-  District Shopping Centre / Canolfan Stopa Cylch - S5
-  Employment / Gwaith - E1
-  Commercial Offices / Swyddfeydd Masnachol - E7
-  Green Barrier / Ffin Gwyrdd - EC1
-  Special Landscape Area / Ardal Tirlun Arbennig - EC5
-  Biodiversity Conservation / Cadwraeth Bioamrywiaeth - EC6
-  Conservation Area / Ardal Cadwraeth - EC7, EC8
-  Development and Flood Risk / Datblygiad a Perygl Llif - EC12
-  Housing / Tai - H1
-  Railway Station / Gorsaf Rheilffordd - T3
-  Protection of Mineral Resources / Diogelu Adnoddau Mwynau
-  Minerals Buffer Zone / Cylchfeydd Rhagod Mwynau - MW11

Extracts of relevant planning policies and supplementary planning guidance

Green Barriers

Policy EC1 Within Green Barriers, development will only be granted planning permission if it is for agriculture, forestry, essential facilities for outdoor sport and recreation, cemeteries and other uses of land which maintain the openness of the Green Barrier and do not conflict with the purpose of including land within it.

Hedgerows, Trees and Woodland

Policy EC4 Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.

Special Landscape Areas

Policy EC5 Within Special Landscape Areas, priority will be given to the conservation and enhancement of the landscape. Development, other than for agriculture, small-scale farm-based and other rural enterprises, and essential operational development by utility service providers, will be strictly controlled.

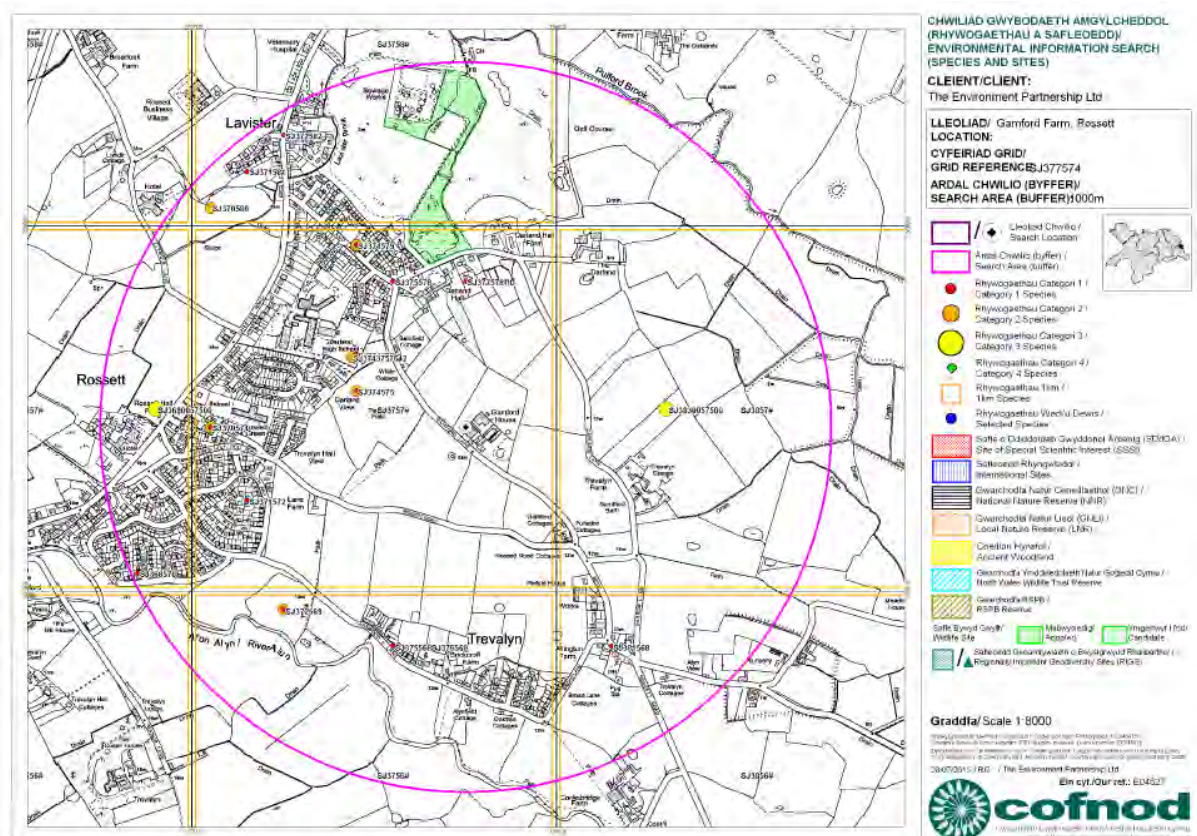
Development will be required to conform to a high standard of design and landscaping, and special attention will be paid to minimising its visual impact both from nearby and distant viewpoints.

Biodiversity Conservation

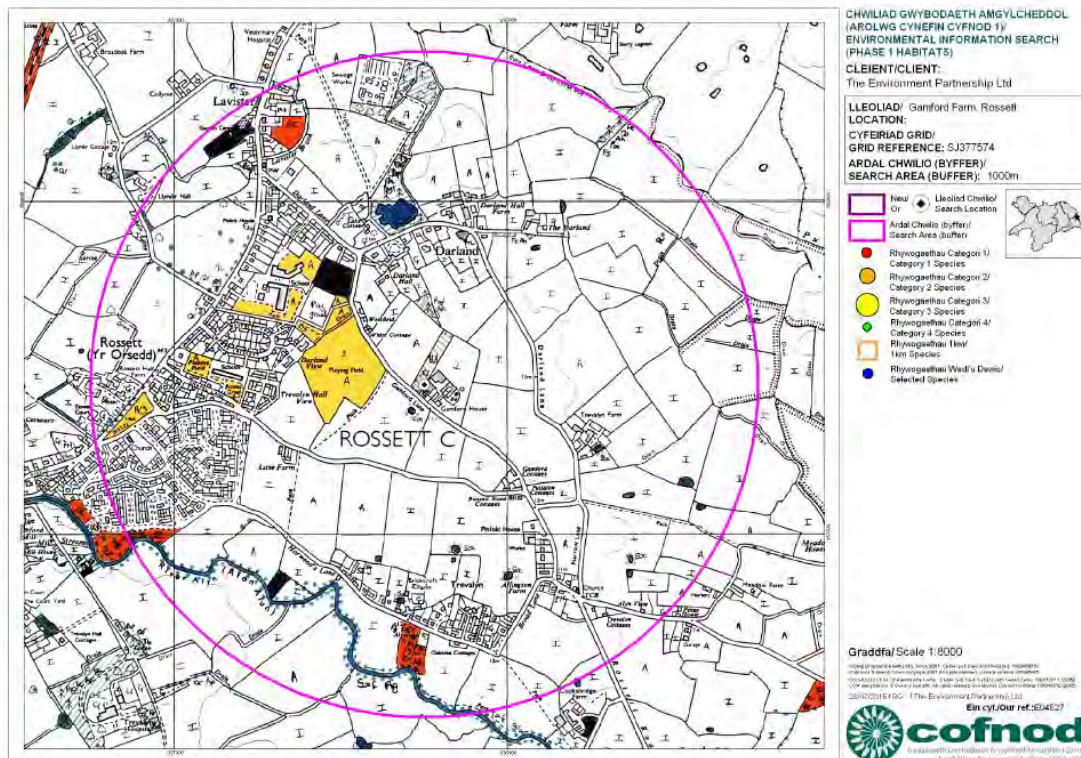
Policy EC6 Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported.

Map provided by COFNOD of site designations and species records within 1km

Not to be put into public domain



Map provided by COFNOD of phase 1 habitats within 1km



A Woodland and Scrub 1 Woodland 1 Broad-leaved 1 Semi-natural 2 Plantation 2 Coniferous 1 Semi-natural 2 Plantation 3 Mixed 1 Semi-natural 2 Plantation 2 Scrub 1 Dense/Continuous 2 Scattered 3 Parkland/Scattered Trees 1 Broad-leaved 2 Coniferous 3 Mixed 4 Recently-felled Woodland 1 Broad-leaved 2 Coniferous 3 Mixed	2 Upland Species-rich Ledges 3 Other 1 Tall Ruderal 2 Non-ruderal D Heathland 1 Dry Dwarf Shrub Heath 1 Acid 2 Basic 2 Wet Dwarf Shrub Heath 3 Lichen/Bryophyte Heath 4 Montane Heath/Dwarf Herb 5 Dry Heath/Acid Grassland Mosaic 6 Wet Heath/Acid Grassland Mosaic E Mire 1 Bog 6 Sphagnum Bog 1 Blanket Bog 2 Raised Bog 7 Wet Modified Bog 8 Dry Modified Bog 1 Acid/Neutral Flush 2 Basic Flush 3 Bryophyte-dominated Spring 3 Fen 1 Valley Mire 2 Basin Mire 3 Flood-Plain Mire 4 Basic 4 Bare Peat F Swamp, Marginal and Inundation 1 Swamp 2 Marginal and Inundation 1 Marginal Vegetation 2 Inundation Vegetation	G Open Water 1 Standing Water 1 Eutrophic 2 Mesotrophic 3 Oligotrophic 4 Dysotrophic 5 Marl 6 Brackish 2 Running Water 1 Eutrophic 2 Mesotrophic 3 Oligotrophic 4 Dysotrophic 5 Marl/Tufa 6 Brackish H Coastland 1 Intertidal 1 Mud/Sand 2 Shingle/Cobbles 3 Boulders/Rocks 2 Saltmarsh 3 Saltmarsh/Dune Interface 4 Scattered Plants 5 Dense Continuous 3 Shingle above High Tide 4 Rocks above High Tide 5 Strandline Vegetation 6 Sand Dune 4 Dune Slack 5 Dune Grassland 6 Dune Heath 7 Dune Scrub 8 Open Dune 8 Maritime Cliff and Slope 1 Hard Cliff 2 Soft Cliff 3 Crinoid/Ledge Vegetation 4 Coastal Grassland 5 Coastal Heathland	I Rock Exposure and Waste 1 Natural 1 Inland Cliff 1 Acid/Neutral 2 Basic 2 Scree 1 Acid/Neutral 2 Basic 3 Limestone Pavement 4 Other Exposure 1 Acid/Neutral 2 Basic 2 Artificial 1 Quarry 2 Spoil 3 Mine 4 Refuse Tip J Miscellaneous 1 Cultivated/Disturbed Land 1 Arable 2 Amenity Grassland 3 EpheMERAL/Short Perennial 4 Introduced Shrub 5 Gardens 2 Boundaries (mapping optional) 1 Inland Hedge 1 Species-rich 2 Species-poor 2 Defunct Hedge 1 Species-rich 2 Species-poor 3 Hedges and Trees 1 Species-rich 2 Species-poor 4 Fence 5 Wall 6 Dry Ditch 7 Boundary Removed 8 Earth Bank 3 Built-up Areas 4 Caravan Site 5 Sea Wall 6 Buildings 4 Bare Ground 5 Other Habitat
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Extract of species data provided by COFNOD within 1km

Cofnod Environmental Information Search
Please read Important Issues and Notes before interpreting this information

-PUBLIC VERSION-



Our Reference	Client Name	Date Run	Your Reference							
E04527	The Environment Partnership Ltd	28/07/2015	5235							
Search Location		Grid Reference								
Gamford Farm, Rossett		SJ377574								
Category 1 Species (Species with European and/or UK Legal Protection, Section 42 [NERC] Species or UK BAP Priority Species) within 1000m - 771 records										
Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V
<i>Acrionota psi</i> (Grey Dagger / Bidog Llwyd)	SJ374579	16 records, between 14/05/1982 and 29/07/2002	M.H.Grice	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Acrionota rufipes</i> (Knot Grass / Bidog Tafol)	SJ374579	6 records, between 06/06/1982 and 14/06/1992	M.H.Grice; M.Newstead	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Adscita staliacea</i> (Forester / Coediwr)	SJ3658	1946	E Eckford	Present - 0		Pulford	CONSIDERED AND ACCEPTED BY CMG PANEL MARCH 2008 record states 'fairly common near Pulford. Method: Not recorded	D1285/001/02	RD3(UK), S42_UKBAP, LBAP[DEN]	3
<i>Agrochola illura</i> (Brown-spot Pinion / Castan Smotyn Brown)	SJ3657	1966	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42_UKBAP, LBAP[GWY]	1
<i>Agrochola illura</i> (Brown-spot Pinion / Castan Smotyn Brown)	SJ374575	2 records, between 07/08/2008 and 19/09/2008	M.H.Grice	2 Adult		Rossett	Garden: rural. Method: MV Traps(s) (left overnight)	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Agrochola illura</i> (Brown-spot Pinion / Castan Smotyn Brown)	SJ374579	14 records, between 08/10/1996 and 09/10/2010	M.H.Grice; M.Newstead	4 Adult; 1 Adult		Darland lane Rossett	Garden: rural. Method: MV Traps(s) (left overnight); Garden: rural. Method: MV Light Trap	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Agrochola lychnidis</i> (Beaded Chestnut / Castan Leiniog)	SJ374579	11 records, between 01/10/1964 and 30/09/2009	M.H.Grice; M.Newstead	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light left overnight	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Alauda arvensis</i> (Skylark / Ehedydd)	SJ3758	17/12/2009	Hugh Linn	1		Site Name Withheld	Comments Withheld	D0062/001/01	BD1r2.2, S42_UKBAP, LBAP[ANG, CON, DEN, FLI, GWY, SNE]	3
<i>Alauda arvensis</i> (Skylark / Ehedydd)	SJ3856	06/11/2007	Julie Rogers	1		Site Name Withheld	Comments Withheld	D0062/001/01	BD1r2.2, S42_UKBAP, LBAP[ANG, CON, DEN, FLI, GWY, SNE]	3
<i>Alcedo althia</i> (Kingfisher / Glas y Dorian)	SJ3657	4 records, between 06/07/2009 and 21/08/2010	Hugh Linn; Norman Hallas	1; 2		Site Name Withheld; Rossett	Comments Withheld; Birdtrack:	D0062/001/01 D1297/005/01	BD1r1, Bern, UKBA, WBA, WCA1.1, LBAP[CON, DEN, FLI, GWY]	3
<i>Alcedo althia</i> (Kingfisher / Glas y Dorian)	SJ3856	3 records, between 14/03/2006 and 02/05/2011	Kevin Smith; Jason Newton	1		Site Name Withheld	Comments Withheld	D0062/003/01 D0062/001/01	BD1r1, Bern, UKBA, WBA, WCA1.1, LBAP[CON, DEN, FLI, GWY]	3
<i>Allophytes oxyacanthiae</i> (Green-brindled Crescent / Cilgant Brych)	SJ374579	11 records, between 04/10/1983 and 09/10/2010	M.H.Grice; M.Newstead	1 Adult; 2 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Traps(s) (left overnight); Garden: rural. Method: MV Light; Garden: rural. Method: MV Light left	D1285/001/02	S42_UKBAP, LBAP[GWY]	3

Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V
<i>Amphipoea oculata</i> (Ear Moth / Clustwyfyn Llygediog)	SJ374579	3 records, between 08/09/1980 and 03/09/1990	M.H.Grice	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Amphipyra fragopoginis</i> (Mouse Moth / Ô-adaim Lyghwyd)	SJ3657	1966	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42_UKBAP, LBAP[GWY]	1
<i>Amphipyra fragopoginis</i> (Mouse Moth / Ô-adaim Lyghwyd)	SJ374575	31/08/2008	M.H.Grice	1 Adult		Rossett	Garden: rural. Method: MV Traps(s) (left overnight)	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Amphipyra fragopoginis</i> (Mouse Moth / Ô-adaim Lyghwyd)	SJ374579	8 records, between 12/09/1985 and 03/09/2011	M.H.Grice	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light Traps	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Anguilla anguilla</i> (Eel / Llyswen)	SJ372569	01/08/1998	Anon - CCW			Trevalyn; River Alyn		D1153/001/02	RD1(UK), S42_UKBAP, LBAP[CON, GWY]	3
<i>Apamea nemosa</i> (Dusky Brocade / Brithyn Llwyddolau)	SJ374579	11 records, between 07/07/1962 and 21/06/2009	M.H.Grice	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light left overnight	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Aporophylla luteola</i> (Deep-brown Dart / Gwladwr Brownidd)	SJ3657	1966	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42_UKBAP	1
<i>Aporophylla luteola</i> (Deep-brown Dart / Gwladwr Brownidd)	SJ374579	6 records, between 11/09/1960 and 16/09/1982	M.H.Grice; M.Newstead	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light	D1285/001/02	S42_UKBAP	3
<i>Arcilia caja</i> (Garden Tiger / Teigr yr Ardd)	SJ3657	1968	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42_UKBAP, LBAP[GWY]	1
<i>Arcilia caja</i> (Garden Tiger / Teigr yr Ardd)	SJ374579	19 records, between 20/07/1971 and 25/06/2003	M.H.Grice; M.Newstead	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Asteroscopus sphinx</i> (Sprawler / Cwciwl Bwaog)	SJ3657	2 records, both in 1972	Newstead, Mr M.; Mr M.Newstead	Present	Field record	Rossett		D1050/003/01 D0217/001/01	S42_UKBAP	1
<i>Asteroscopus sphinx</i> (Sprawler / Cwciwl Bwaog)	SJ374575	1972	M.Newstead	1 Adult		Rossett	Garden: rural. Method: At street lamp	D1285/001/02	S42_UKBAP	3
<i>Asteroscopus sphinx</i> (Sprawler / Cwciwl Bwaog)	SJ374579	7 records, between 27/10/1966 and 12/11/1988	M.H.Grice; M.Newstead	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light	D1285/001/02	S42_UKBAP	3
<i>Aethya centroura</i> (Centre-banded Sallow / Melyn yr Ynn)	SJ374575	9 records, between 29/08/2008 and 31/08/2008	M.H.Grice	1 Adult; 2 Adult		Rossett	Garden: rural. Method: MV Traps(s) (left overnight)	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Aethya centroura</i> (Centre-banded Sallow / Melyn yr Ynn)	SJ374579	18 records, between 08/09/1970 and 10/09/2011	M.H.Grice	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light Traps; Garden: rural. Method: MV Light left overnight	D1285/001/02	S42_UKBAP, LBAP[GWY]	3
<i>Caradrina morpheus</i> (Mottled Rustic / Gwladwr Brith)	SJ374575	30/06/2008	M.H.Grice	2 Adult		Rossett	Garden: rural. Method: MV Traps(s) (left overnight)	D1285/001/02	S42_UKBAP, LBAP[GWY]	3

Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	
<i>Caradrina morpheus</i> (Mottled Rustic / Gwladwr Brith)	SJ374579	9 records, between 07/07/1965 and 18/08/2012	M.H.Grice	1 Adult; 2 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light Trap(s) (left overnight); Garden: rural. Method: MV Light left overnight	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	☑
<i>Celaena haworthi</i> (Haworth's Minor / Gwyfyn Plu'r Gweunydd)	SJ374579	03/09/1970	M.H.Grice	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	☑
<i>Celaena leucostigma</i> (Crescent / Clustwyfyn Cilgantog)	SJ3657	25/07/1971	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP	1	☑
<i>Celaena leucostigma</i> (Crescent / Clustwyfyn Cilgantog)	SJ374579	9 records, between 20/08/1966 and 15/08/2012	M.H.Grice	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light Traps; Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Light left overnight	D1285/001/02	S42, UKBAP	3	☑
<i>Chesias legatella</i> (Streak / Rhysen y Banadi)	SJ374579	2 records, between 11/11/1990 and 05/10/1996	M.H.Grice	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP	3	☑
<i>Chasma clathrata</i> (Latticed Heath / Sefyr Deltog)	SJ3657	1969	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP, LBAP[GWY]	1	☑
<i>Chasma clathrata</i> (Latticed Heath / Sefyr Deltog)	SJ374579	7 records, between 22/06/1971 and 14/07/1996	M.H.Grice, M.Newstead	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	☑
<i>Chiroptera</i> (Unknown Bat / Ystlum)	SJ3657	29/06/2000	Anon			Site Name Withheld	Comments Withheld	D1486/001/01	S42, WCA5, LBAP[ANG, DEN, FLI, SNP]	3	☑
<i>Chiroptera</i> (Unknown Bat / Ystlum)	SJ3757	28/08/1992	Anon			Site Name Withheld	Comments Withheld	D1486/001/01	S42, WCA5, LBAP[ANG, DEN, FLI, SNP]	3	☑
<i>Chroicocephalus ridibundus</i> (Black-headed Gull / Gwyllan Bendul)	SJ3857	27/11/2009	Neil Friswell	100		Site Name Withheld	Comments Withheld	D0062/001/01	B012 2, Bonn, S42, UKBA, WBR, LBAP[GWY]	3	☑
<i>Coenonympha pamphilus</i> (Small Heath / Gwerniyn Bach y Waun)	SJ3656	3 records, all in 1983	M.Newstead, Mr M. Newstead, Newstead, Mr M.		Field record	Marford Quarry		D0217/002/01 D0217/001/01 D1050/003/01	RD1(UK), S42, UKBAP, LBAP[GWY]	3	☑
<i>Coenonympha pamphilus</i> (Small Heath / Gwerniyn Bach y Waun)	SJ3657	1968	Grice, Mr M.H.	Present		Rossett		D1050/003/01	RD1(UK), S42, UKBAP, LBAP[GWY]	4	☑
<i>Cuculus canorus</i> (Cuckoo / Cog)	SJ375568 (Selected from Interactive Map)	25/08/2014	Steve Palin	1 Adult Male		Harwoods Lane	Calling from willows by River Alyn	D1117/001/01	S42, UKBA, UKBAP, UKBR, WBR, LBAP[CON, DEN, FLI, GWY]	1	☑
<i>Cuculus canorus</i> (Cuckoo / Cog)	SJ3757	2 records, between 24/05/2011 and 08/05/2011	Steve Palin	1		Site Name Withheld	Comments Withheld	D0062/003/01	S42, UKBA, UKBAP, UKBR, WBR, LBAP[CON, DEN, FLI, GWY]	3	☑
<i>Diansia rubi</i> (Small Square-spot / Smotyng Sgwar Bach)	SJ374576	2 records, between 21/06/2008 and 31/07/2008	M.H.Grice	4 Adult; 3 Adult		Rossett	Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	☑
<i>Diansia rubi</i> (Small Square-spot / Smotyng Sgwar Bach)	SJ374579	17 records, between 15/09/1963 and 21/08/2015	M.H.Grice	5 Adult; 1 Adult; 3 Adult; 4 Adult		Darland lane Rossett	Garden: rural. Method: MV Trap(s) (left overnight); Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	☑

Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	
<i>Diloba caeruleocephala</i> (Figure of Eight / Cwlbach Ffigwr Wyrh)	SJ374579	13 records, between 19/10/1964 and 29/10/2009	M.H.Grice, M.Newstead	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Light	D1285/001/02	S42, UKBAP	3	☑
<i>Ecliptopera silaestea</i> (Small Phoenix / Flenics Bach)	SJ374579	7 records, between 24/03/1963 and 06/06/2000	M.H.Grice, M.Newstead	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	☑
<i>Emberiza citrinella</i> (Yellowhammer / Bras Melyn)	SJ3656	12/04/2009	Jason Newton	1		Site Name Withheld	Comments Withheld	D0062/001/01	Bern, S42, UKBAP, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	3	☑
<i>Emberiza citrinella</i> (Yellowhammer / Bras Melyn)	SJ3657	14/04/2008	Alex Hatton	1+		Site Name Withheld	Comments Withheld	D0062/001/01	Bern, S42, UKBAP, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	3	☑
<i>Emberiza citrinella</i> (Yellowhammer / Bras Melyn)	SJ3756	12/04/2009	Jason Newton	1		Site Name Withheld	Comments Withheld	D0062/001/01	Bern, S42, UKBAP, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	3	☑
<i>Emberiza citrinella</i> (Yellowhammer / Bras Melyn)	SJ3856	6 records, between 19/03/2006 and 09/05/2008	Julie Rogers, Jason Newton, Neil Hughes	1; 9+; 1+; 1 Male; 1 Female		Site Name Withheld	Comments Withheld	D0062/001/01	Bern, S42, UKBAP, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	3	☑
<i>Ennomos erosaria</i> (September Thorn / Carpiog Medi)	SJ3657	1966	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP	1	☑
<i>Ennomos erosaria</i> (September Thorn / Carpiog Medi)	SJ374575	2 records, between 25/07/2008 and 04/08/2008	M.H.Grice	1 Adult		Rossett	Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP	3	☑
<i>Ennomos erosaria</i> (September Thorn / Carpiog Medi)	SJ374579	22 records, between 08/10/1965 and 11/08/2012	M.H.Grice, M.Newstead	1 Adult; 2 Adult; 3 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light Traps; Garden: rural. Method: MV Light Traps; Garden: rural. Method: MV Light left overnight	D1285/001/02	S42, UKBAP	3	☑
<i>Ennomos erosaria</i> (September Thorn / Carpiog Medi)	SJ3758	13/08/1998	Alan Creaser	1 Adult male		Pulford	Pulford Church SJ375588. Method: Unspecified trap	D1285/001/02	S42, UKBAP	3	☑
<i>Ennomos fuscantaria</i> (Dusky Thorn / Carpiog Tywyll)	SJ374575	5 records, between 16/08/2008 and 19/03/2008	M.H.Grice	4 Adult; 1 Adult; 2 Adult		Rossett	Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	☑
<i>Ennomos fuscantaria</i> (Dusky Thorn / Carpiog Tywyll)	SJ374579	21 records, between 15/09/1982 and 19/08/2012	M.H.Grice	1 Adult; 2 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Trap(s) (left overnight); Garden: rural. Method: MV Light Traps; Garden: rural. Method: MV Light left overnight	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	☑
<i>Erinaceus europaeus</i> (Hedgehog / Ddraenog)	SJ3657	14 records, between 04/07/2012 and 26/09/2013	Jeffrey, Sue			Rossett		D1596/001/01	Bern, S42, UKBAP, LBAP[ANG, CON, FLI, GWY]	3	☑
<i>Erinaceus europaeus</i> (Hedgehog / Ddraenog)	SJ371572	2003	Anon	1		11, West Way, Rossett, Wrexham, LL12 0DX	Alive	D0971/001/01	Bern, S42, UKBAP, LBAP[ANG, CON, FLI, GWY]	4	☑
<i>Erynnis tages</i> (Dingy Skipper / Gwibwr Llwyd)	SJ3656	3 records, all in 1983	M. Newstead, Mr M. Newstead, Newstead, Mr M.		Field record	Marford Quarry		D0217/002/01 D0217/001/01 D1050/003/01	RD1(UK), S42, UKBAP, LBAP[CON, FLI, GWY]	3	☑

Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	ca
<i>Eugonismia glareosa</i> (Autumnal Rustic / Gwladr yr Hydref)	SJ374579	4 records, between 04/09/1973 and 18/09/1982	M.H.Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Eulithis mellinata</i> (Spinach / Brychan Cwens)	SJ3657	1982	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP, LBAP[GWY]	1	ca
<i>Eulithis mellinata</i> (Spinach / Brychan Cwens)	SJ374579	10 records, between 02/07/1955 and 19/06/2011	M.H.Grice	1 Adult; 3 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Light Traps	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Euxoa nigricans</i> (Garden Dart / Dart y Gerdol)	SJ374579	3 records, between 27/07/1973 and 22/07/1992	M.H.Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Euxoa tritici</i> (White-line Dart / Dart Gwynnesog)	SJ374579	12/08/1994	M.H.Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Falco tinnunculus</i> (Kestrel / Cudyll Coch)	SJ3656	2 records, between 03/02/2009 and 07/06/2009	Julie Rogers; Kevin Smith	1		Site Name Withheld	Comments Withheld	D0062/001/01	Bem, Bonn, CITES, S42, UKBA, WBR, LBAP[ANG, CON, DEN, FLI, GWY]	3	ca
<i>Falco tinnunculus</i> (Kestrel / Cudyll Coch)	SJ3757	03/01/2008	Julie Rogers	1		Site Name Withheld	Comments Withheld	D0062/001/01	Bem, Bonn, CITES, S42, UKBA, WBR, LBAP[ANG, CON, DEN, FLI, GWY]	3	ca
<i>Falco tinnunculus</i> (Kestrel / Cudyll Coch)	SJ3656	2 records, between 04/11/2007 and 06/11/2007	Julie Rogers	4; 3		Site Name Withheld	Comments Withheld	D0062/001/01	Bem, Bonn, CITES, S42, UKBA, WBR, LBAP[ANG, CON, DEN, FLI, GWY]	3	ca
<i>Hepialus humuli</i> (Ghost Moth / Chwimwyfyn Rhithol)	SJ374575	25/06/2008	M.H.Grice	1 Adult		Rossett	Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Hepialus humuli</i> (Ghost Moth / Chwimwyfyn Rhithol)	SJ374579	14 records, between 20/05/1983 and 22/06/2010	M.H.Grice; M.Newstead	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light; Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Hepialus humuli</i> (Ghost Moth / Chwimwyfyn Rhithol)	SJ381568	25/07/1980	J.B. Formstone	1 Adult		Trevalyn	Garden: rural. Method: Netted	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Hipparchia semele</i> (Grayling / Gweirfyn Llwyd)	SJ3656	3 records, all in 1983	M. Newstead; Mr M. Newstead; Newstead, Mr M.		Field record	Marford Quarry		D0217/002/01 D0217/001/01 D1050/003/01	RD1(UK), S42, UKBAP, LBAP[GWY]	3	ca
<i>Hipparchia semele</i> (Grayling / Gweirfyn Llwyd)	SJ3657	1989	Wotherspoon, G.	Present female		Rossett		D1050/003/01	RD1(UK), S42, UKBAP, LBAP[GWY]	4	ca
<i>Hydracca micacaea</i> (Rosy Rustic / Gwladr Gwrdog)	SJ374575	26/09/2008	M.H.Grice	1 Adult		Rossett	Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Hydracca micacaea</i> (Rosy Rustic / Gwladr Gwrdog)	SJ374579	23 records, between 22/08/1965 and 03/09/2011	M.H.Grice; M.Newstead	1 Adult; 2 Adult; 3 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light; Garden: rural. Method: MV Trap(s) (left overnight); Garden: rural. Method: MV Light; Garden: rural. Method: MV Light Traps	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca

Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	ca
<i>Lasiommata megera</i> (Wall / Gweirfyn y Cloddiau)	SJ3656	3 records, all in 1983	M. Newstead; Mr M. Newstead; Newstead, Mr M.		Field record	Marford Quarry		D0217/002/01 D0217/001/01 D1050/003/01	RD1(UK), S42, UKBAP, LBAP[GWY]	3	ca
<i>Lasiommata megera</i> (Wall / Gweirfyn y Cloddiau)	SJ3657	1988	Grice, Mr M.H.	Present		Rossett		D1050/003/01	RD1(UK), S42, UKBAP, LBAP[GWY]	4	ca
<i>Linia cannabina</i> (Linnet / Linos)	SJ3856	06/12/2010	Bryan Formstone	700+		Site Name Withheld	Comments Withheld	D0062/003/01	Bem, S42, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY]	3	ca
<i>Lisotriton helveticus</i> (Palmate Newt / Madfall Ddwr Ballog)	SJ375568 (Selected from Interactive Map)	16/04/2014	Steve Palin	Many Adult		Harwoods lane, Rossett	Breeding population in garden pond. Together with smooth newts (see separate record)	D1117/001/01	Bem, WCA5, LBAP[ANG, CON, DEN, FLI]	1	ca
<i>Lisotriton helveticus</i> (Palmate Newt / Madfall Ddwr Ballog)	SJ375568 (Selected from Interactive Map)	17/01/2015 - 18/03/2015	Steve Palin	Many Adult		Harwoods lane	Returned to garden pond from 17th Jan with smooth newts	D1117/001/01	Bem, WCA5, LBAP[ANG, CON, DEN, FLI]	1	ca
<i>Lisotriton vulgaris</i> (Smooth Newt / Madfall Ddwr Gyffredin)	SJ375568 (Selected from Interactive Map)	16/04/2014	Steve Palin	Many Adult		Harwoods lane	Breeding population in garden pond with palmate newts	D1117/001/01	Bem, WCA5, LBAP[ANG, CON, DEN, FLI]	1	ca
<i>Lisotriton vulgaris</i> (Smooth Newt / Madfall Ddwr Gyffredin)	SJ375568 (Selected from Interactive Map)	17/01/2015 - 18/03/2015	Steve Palin	Many Adult		Harwoods lane	Many returned to garden pond together with palmate newts	D1117/001/01	Bem, WCA5, LBAP[ANG, CON, DEN, FLI]	1	ca
<i>Lutra lutra</i> (Otter / Dyfrig)	SJ3757	6 records, between 26/05/1996 and 24/12/2001	Gail Buttenil; Anon	Present	Dung/Droppings / Frass/Pellet, etc.	Site Name Withheld	Comments Withheld	D0969/001/04 D1118/006/01	Bem, CITES, EPS, HDY, RD1(UK), RD3(UK), S42, UKBAP, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP, WRE]	4	ca
<i>Lyca hirtaria</i> (Brindled Beauty / Rhisglyn Brith)	SJ3657	2 records, between 1989 and 1990	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP, LBAP[GWY]	1	ca
<i>Lyca hirtaria</i> (Brindled Beauty / Rhisglyn Brith)	SJ374579	3 records, between 06/05/1970 and 01/05/1990	M.H.Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Macaris waurana</i> (V-moth / Saffyr y Ffyrch)	SJ3657	1989	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP, LBAP[GWY]	1	ca
<i>Macaris waurana</i> (V-moth / Saffyr y Ffyrch)	SJ374579	4 records, between 08/08/1965 and 11/07/1994	M.H.Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Malacosoma neustria</i> (Lackey / Gwaswyfyn)	SJ3657	27/07/1986	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP, LBAP[GWY]	1	ca
<i>Malacosoma neustria</i> (Lackey / Gwaswyfyn)	SJ374579	27/09/1986	M.H.Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Melanchra persicariae</i> (Dot Moth / Gwyfyn Dotiog)	SJ374579	16 records, between 06/07/1965 and 10/07/2011	M.H.Grice; M.Newstead	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light Traps; Garden: rural. Method: Bred ex larvae	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca
<i>Melanchra psi</i> (Broom Moth / Gwyfyn Banadi)	SJ374579	12 records, between 17/06/1967 and 02/06/2002	M.H.Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	ca

Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	EN
<i>Melanthia procellata</i> (Pretty Chalk Carpet / Brychan Hardd y Calch)	SJ3657	1969	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP, LBAP[GWY]	1	EN
<i>Melanthia procellata</i> (Pretty Chalk Carpet / Brychan Hardd y Calch)	SJ3658	1969	Mike Grice	1 Adult		Pulford	Referred to as a single specimen taken at Pulford. 2nd county record. Method: Not recorded	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	EN
<i>Melanthia procellata</i> (Pretty Chalk Carpet / Brychan Hardd y Calch)	SJ374579	3 records, between 02/07/1969 and 04/08/1986	M.H. Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	EN
<i>Meles meles</i> (Badger / Mochyn Daeiar)	SJ3656	16/01/2007	Clywd Badger Group (CBG)		Badger Sett	Site Name Withheld	Comments Withheld	D0059/001/01	BA, Bern, LBAP[CON, DEN, FLI, WRE]	3	EN
<i>Meles meles</i> (Badger / Mochyn Daeiar)	SJ3658	10/07/2001	Clywd Badger Group (CBG)		Badger Sett	Site Name Withheld	Comments Withheld	D0059/001/01	BA, Bern, LBAP[CON, DEN, FLI, WRE]	3	EN
<i>Meles meles</i> (Badger / Mochyn Daeiar)	SJ3758	2 records, between 10/07/2001 and 03/03/2008	Anon; Clywd Badger Group (CBG)	Present	Badger Sett	Site Name Withheld	Comments Withheld	D0969/001/04 D0059/001/01	BA, Bern, LBAP[CON, DEN, FLI, WRE]	4	EN
<i>Meiolia litorea</i> (Rosy Minor / Corrach Gwilog)	SJ374579	7 records, between 29/06/1965 and 07/07/1999	M.H. Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	EN
<i>Muscicapa striata</i> (Spotted Flycatcher / Gwybedog Mannog)	SJ3657	02/06/2009	Hugh Linn	2		Site Name Withheld	Comments Withheld	D0062/001/01	Bern, Bonn, S42, UKBAP, UKBR, WBR, LBAP[CON, DEN, FLI, GWY]	3	EN
<i>Muscicapa striata</i> (Spotted Flycatcher / Gwybedog Mannog)	SJ3758	28/06/2010	Hugh Linn	1+		Site Name Withheld	Comments Withheld	D0062/003/01	Bern, Bonn, S42, UKBAP, UKBR, WBR, LBAP[CON, DEN, FLI, GWY]	3	EN
<i>Myiophila corama</i> (Shoulder-striped Wainscot / Gwensgod Gwar Rhosog)	SJ374579	6 records, between 28/06/2009 and 28/06/1993	M.H. Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	EN
<i>Natrix natrix</i> (Grass Snake / Neidr y Gwair)	SJ3657	1907	Benden	Few		Rossett		D0035/002/01	Bern, S42, UKBAP, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNF]	4	EN
<i>Natrix natrix</i> (Grass Snake / Neidr y Gwair)	SJ375568 (Selected from Interactive Map)	September 2012	Steve Palin	1 Juvenile		Harwoods lane, rossett	Juvenile 10cm long dead on road	D1117/001/01	Bern, S42, UKBAP, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNF]	4	EN
<i>Natrix natrix</i> (Grass Snake / Neidr y Gwair)	SJ377578 (Approximate)	19/06/2014	Nigel Bruce	1 Adult Female	Live Sighting	Rossett	Trapped (and then released) in netting in garden of Woodlands, off Darlant Lane LL12 0BA	D0035/002/01	Bern, S42, UKBAP, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNF]	4	EN
<i>Natrix natrix</i> (Grass Snake / Neidr y Gwair)	SJ371581	01/08/2007	Justin Dempsey	1		Beech Hollows cul-de- sac	curled in corner of garden, moved into neighbour's garden through slot in fence, approx 3 foot long	D1117/001/01	Bern, S42, UKBAP, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNF]	4	EN
<i>Natrix natrix</i> (Grass Snake / Neidr y Gwair)	SJ372582	Summer 2014	Shiela Black	1 Juvenile	Live Sighting	Lavister	Found in garden compost bin. Post code: LL12 0DN. Information to MB via her son, John Jones.	D0035/002/01	Bern, S42, UKBAP, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNF]	4	EN
<i>Numerus anquata</i> (Curlew / Gylfinir)	SJ3756	2 records, between 28/06/2009 and 05/07/2009	Julie Rogers	1; 5		Site Name Withheld	Comments Withheld	D0062/001/01	BDr2.2, Bonn, RD1(UK), S42, UKBA, UKBAP, WBR, LBAP[ANG, CON, DEN, FLI, GWY, SNF]	3	EN

Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	EN
<i>Orthotomus vittata</i> (Oblique Carpet / Brychan Lietraws)	SJ374575	02/06/2008	M.H. Grice	2 Adult		Rossett	Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP	3	EN
<i>Orthotomus vittata</i> (Oblique Carpet / Brychan Lietraws)	SJ374579	6 records, between 28/08/1967 and 16/08/1991	M.H. Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP	3	EN
<i>Orthotomus vittata</i> (Oblique Carpet / Brychan Lietraws)	SJ374579	10 records, between 05/05/1965 and 01/04/2009	M.H. Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP[GWY]	3	EN
<i>Passer domesticus</i> (House Sparrow / Aderyn y To)	SJ3656	19/11/2007	Julie Rogers	17		Site Name Withheld	Comments Withheld	D0062/001/01	S42, UKBAP, UKBR, WBA, LBAP[CON, FLI, GWY]	3	EN
<i>Passer domesticus</i> (House Sparrow / Aderyn y To)	SJ3657	26/04/2009	Jason Newton	3		Site Name Withheld	Comments Withheld	D0062/001/01	S42, UKBAP, UKBR, WBA, LBAP[CON, FLI, GWY]	3	EN
<i>Passer domesticus</i> (House Sparrow / Aderyn y To)	SJ370574	15/12/2013	Bonnington, C	4		Chapel Lane, Rossett		D1297/012/01	S42, UKBAP, UKBR, WBA, LBAP[CON, FLI, GWY]	1	EN
<i>Passer domesticus</i> (House Sparrow / Aderyn y To)	SJ3758	23/08/2011	Jim Hulse, Val Hulse	2		Site Name Withheld	Comments Withheld	D0062/003/01	S42, UKBAP, UKBR, WBA, LBAP[CON, FLI, GWY]	3	EN
<i>Passer domesticus</i> (House Sparrow / Aderyn y To)	SJ3656	2 records, between 04/11/2007 and 09/11/2007	Julie Rogers	20+; 14		Site Name Withheld	Comments Withheld	D0062/001/01	S42, UKBAP, UKBR, WBA, LBAP[CON, FLI, GWY]	3	EN
<i>Passer montanus</i> (Tree Sparrow / Gofan y Mynydd)	SJ3656	3 records, between 08/08/2007 and 02/04/2008	Julie Rogers	2 Fulgroun; 1 juvenile, 2		Site Name Withheld	Comments Withheld	D0062/001/01	S42, UKBAP, UKBR, WBR, LBAP[ANG, CON, DEN, FLI, GWY]	3	EN
<i>Pelurga comitata</i> (Dark Spinach / Brychan Llygwyn)	SJ374579	4 records, between 06/08/1992 and 06/08/2012	M.H. Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP	3	EN
<i>Pelurga comitata</i> (Dark Spinach / Brychan Llygwyn)	SJ381568	01/08/1981	J.B. Formstone	1 Adult		Trevalyn	Garden: rural. Method: Netted	D1285/001/02	S42, UKBAP	3	EN
<i>Perizoma albulata</i> (Grass Rivulet / Gwregys y Gwair)	SJ374579	27/06/1986	M.H. Grice	1 Adult		Darlant lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP	3	EN
<i>Pipistrellus pipistrellus</i> agg. (Pipistrelle agg. / Ystlum Lleiaf)	SJ3656	1987	Schofield, Henry			Rossett		D1072/001/02	Bern, Bonn, EPS, HDr, RD2(UK), S42, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNF]	3	EN
<i>Pipistrellus pipistrellus</i> agg. (Pipistrelle agg. / Ystlum Lleiaf)	SJ3657	1987	Schofield, Henry			Rossett		D1072/001/02	Bern, Bonn, EPS, HDr, RD2(UK), S42, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNF]	3	EN
<i>Pipistrellus pipistrellus</i> agg. (Pipistrelle agg. / Ystlum Lleiaf)	SJ3757	1987	Schofield, Henry			Rossett nr		D1072/001/02	Bern, Bonn, EPS, HDr, RD2(UK), S42, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNF]	3	EN

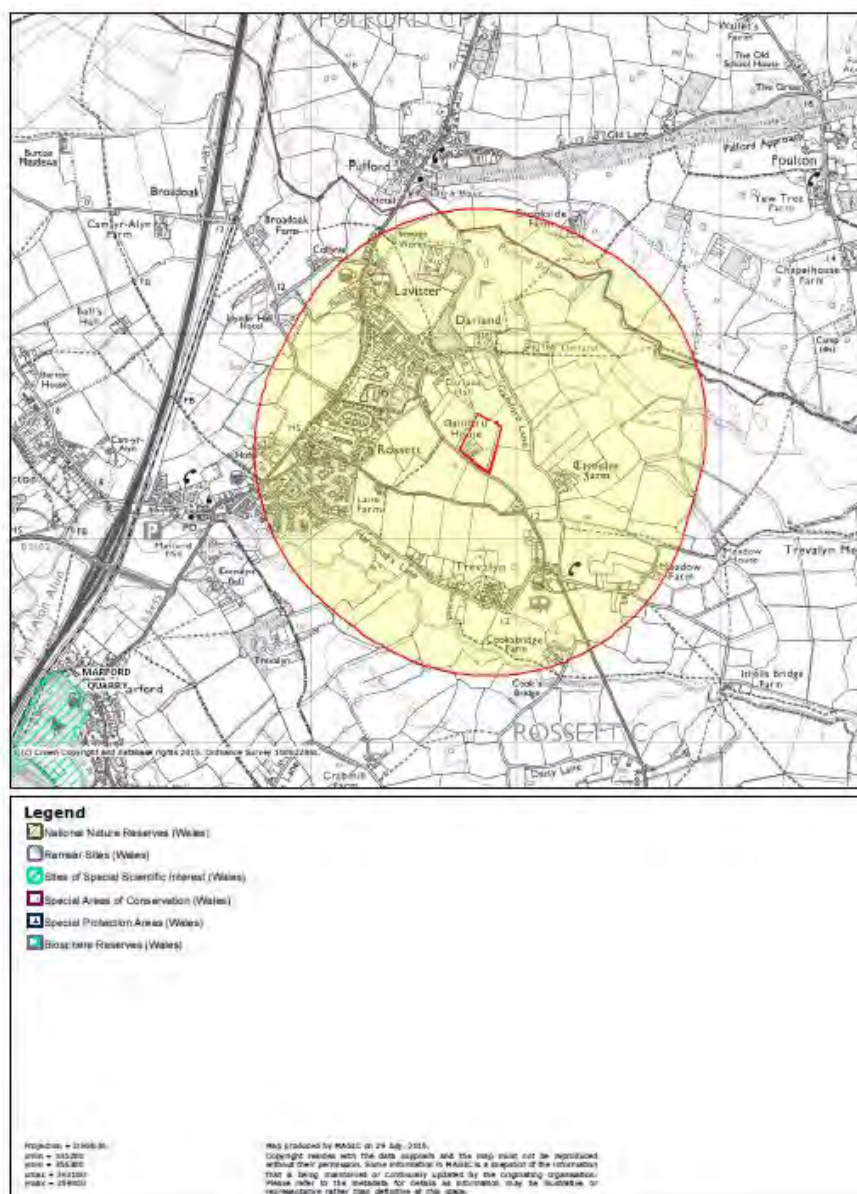
Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	ca
<i>Poecetes palustris</i> (Marsh Tit / Tîr y Wern)	SJ3758	28/01/2011	Hugh Linn	1+		Site Name Withheld	Comments Withheld	D0062/003/01	Bem, RD2(UK), S42, UKBAP, UKBR, WBR, LBAP(CON, DEN, FLI, GWY)	4	ca
<i>Polia bombycina</i> (Pale Shining Brown / Gwylyn Arennau Disglair)	SJ3657	1966	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP, LBAP(CON)	1	ca
<i>Prunella modularis</i> (Dunnock / Llydd y Gwrych)	SJ3656	3 records, between 22/02/2007 and 12/04/2009	Julie Rogers; Jason Newton	2+; 3; 2		Site Name Withheld	Comments Withheld	D0062/001/01	Bem, RD2(UK), S42, UKBAP, UKBR, WBR, LBAP(CON)	3	ca
<i>Prunella modularis</i> (Dunnock / Llydd y Gwrych)	SJ3656	2 records, between 04/11/2007 and 08/11/2007	Julie Rogers	1; 2		Site Name Withheld	Comments Withheld	D0062/001/01	Bem, RD2(UK), S42, UKBAP, UKBR, WBR, LBAP(CON)	3	ca
<i>Pyrrhula pyrrhula</i> (Bullfinch / Coch y Berllan)	SJ3656	2 records, both on 07/12/2008	Julie Rogers	1 Female; 2 Male		Site Name Withheld	Comments Withheld	D0062/001/01	S42, UKBA, UKBAP, UKBR, WBR, LBAP(CON, DEN, FLI, GWY)	3	ca
<i>Pyrrhula pyrrhula</i> (Bullfinch / Coch y Berllan)	SJ3657	26/04/2009	Jason Newton	2		Site Name Withheld	Comments Withheld	D0062/001/01	S42, UKBA, UKBAP, UKBR, WBR, LBAP(CON, DEN, FLI, GWY)	3	ca
<i>Pyrrhula pyrrhula</i> (Bullfinch / Coch y Berllan)	SJ3758	2 records, both on 17/12/2009	Hugh Linn	1 Female; 1 Male		Site Name Withheld	Comments Withheld	D0062/001/01	S42, UKBA, UKBAP, UKBR, WBR, LBAP(CON, DEN, FLI, GWY)	3	ca
<i>Rana temporaria</i> (Common Frog / Llyffant Melyn)	SJ37658 (Selected from Interactive Map)	06/03/2015	Steve Palin	8 Adult; 5+ Juvenile		Hanawoods Lane	4 pairs spawned 5th March	D1117/001/01	Bem, HDi, WCAS, LBAP(ANG, CON, FLI)	1	ca
<i>Rhizodra lulosa</i> (Large Wainscot / Gwelwylfyn Mawr)	SJ3657	1985	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP, LBAP(GWY)	1	ca
<i>Rhizodra lulosa</i> (Large Wainscot / Gwelwylfyn Mawr)	SJ374579	8 records, between 19/10/1970 and 09/10/2010	M.H. Grice; J.B. Formstone	1 Adult		Darland Lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light; Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	ca
<i>Salmo salar</i> (Atlantic Salmon / Eog)	SJ372569	01/08/1998	Anon - COW			Trevalyn; River Alyn		D1153/001/02	Bem, EPS, HDi, RD2(UK), S42, UKBAP, LBAP(CON, DEN, FLI, GWY)	3	ca
<i>Salmo trutta</i> (Brown/Sea Trout / Siwin; Britfyll)	SJ372569	01/08/1998	Anon - COW			Trevalyn; River Alyn		D1153/001/02	S42, UKBAP, LBAP(CON, GWY)	3	ca
<i>Scototryx chelopodia</i> (Shaded Broad-bar / Rhessen Lydan Dywyll)	SJ374579	5 records, between 23/07/2002 and 30/06/2009	M.H. Grice	2 Adult; 1 Adult; 4 Adult		Darland Lane Rossett	Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	ca
<i>Scototryx chelopodia</i> (Shaded Broad-bar / Rhessen Lydan Dywyll)	SJ381568	3 records, between 29/07/1983 and 31/07/1983	J.B. Formstone	1 Adult		Trevalyn	Garden: rural. Method: Netted	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	ca
<i>Spilosoma lubricipeda</i> (White Ermine / Ermin Gwyn)	SJ374575	5 records, between 31/05/2008 and 01/07/2008	M.H. Grice	2 Adult; 4 Adult; 1 Adult		Rossett	Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	ca

Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	ca
<i>Spilosoma lubricipeda</i> (White Ermine / Ermin Gwyn)	SJ374579	30 records, between 26/05/1965 and 06/06/2011	M.H. Grice; M. Newstead	1 Adult; 2 Adult; 3 Adult		Darland Lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Light Traps; Garden: rural. Method: MV Light; Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	ca
<i>Spilosoma luleum</i> (Buff Ermine / Ermin Llwydfelyn)	SJ374575	6 records, between 24/05/2008 and 01/07/2008	M.H. Grice	1 Adult; 2 Adult		Rossett	Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	ca
<i>Spilosoma luleum</i> (Buff Ermine / Ermin Llwydfelyn)	SJ374579	38 records, between 09/05/1972 and 18/06/2012	M.H. Grice; M. Newstead	1 Adult; 3 Adult; 4 Adult; 6 Adult; 5 Adult; 2 Adult		Darland Lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Light; Garden: rural. Method: MV Trap(s) (left overnight); Garden: rural. Method: MV Light Traps	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	ca
<i>Sturnus vulgaris</i> (Starling / Drudwen)	SJ3656	2 records, between 22/02/2007 and 19/11/2007	Julie Rogers	50+; 17		Site Name Withheld	Comments Withheld	D0062/001/01	BDi2.2, Bem, RD2(UK), S42, UKBAP, UKBR, WBR, LBAP(CON, FLI, GWY)	3	ca
<i>Sturnus vulgaris</i> (Starling / Drudwen)	SJ370574	15/12/2013	Bonnington, C	5		Chapel Lane, Rossett		D1297/012/01	BDi2.2, Bem, RD2(UK), S42, UKBAP, UKBR, WBR, LBAP(CON, FLI, GWY)	1	ca
<i>Sturnus vulgaris</i> (Starling / Drudwen)	SJ3758	17/12/2009	Hugh Linn	141		Site Name Withheld	Comments Withheld	D0062/001/01	BDi2.2, Bem, RD2(UK), S42, UKBAP, UKBR, WBR, LBAP(CON, FLI, GWY)	3	ca
<i>Sturnus vulgaris</i> (Starling / Drudwen)	SJ3856	2 records, between 04/11/2007 and 06/11/2007	Julie Rogers	4; 65+		Site Name Withheld	Comments Withheld	D0062/001/01	BDi2.2, Bem, RD2(UK), S42, UKBAP, UKBR, WBR, LBAP(CON, FLI, GWY)	3	ca
<i>Tholera caespitis</i> (Hedge Rustic / Rhwyll y Cwrcwll)	SJ374579	2 records, between 30/08/1985 and 05/09/1985	M.H. Grice	1 Adult		Darland Lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP(GWY)	4	ca
<i>Tholera decemalis</i> (Feathered Gothic / Rhwyll Bluo)	SJ3657	1966	Grice, Mr M.H.	Present		Lavister, Rossett		D1050/003/01	S42, UKBAP	1	ca
<i>Tholera decemalis</i> (Feathered Gothic / Rhwyll Bluo)	SJ374579	5 records, between 29/08/1985 and 28/08/1985	M.H. Grice	1 Adult		Darland Lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP	3	ca
<i>Tholera decemalis</i> (Feathered Gothic / Rhwyll Bluo)	SJ381568	28/08/1980	J.B. Formstone	1 Adult		Trevalyn	Garden: rural. Method: Car headlights	D1285/001/02	S42, UKBAP	3	ca
<i>Timandra comae</i> (Blood-Vein / Gwyfyn Gwythlen Goch)	SJ3657	1966	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP	1	ca
<i>Timandra comae</i> (Blood-Vein / Gwyfyn Gwythlen Goch)	SJ374575	25/06/2008	M.H. Grice	3 Adult		Rossett	Garden: rural. Method: MV Trap(s) (left overnight)	D1285/001/02	S42, UKBAP	3	ca

Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	
<i>Timandra comae</i> (Blood-Vein / Gwyfyn Gwythien Goch)	SJ374579	26 records, between 22/06/1975 and 04/08/2011	M.H.Grice, M.Newstead	1 Adult; 2 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Traps (left overnight); Garden: rural. Method: MV Light Traps; Garden: rural. Method: MV Light	D1285/001/02	S42, UKBAP	3	☑
<i>Trichura cristae</i> (Pale Eggar / Wylun Gwelw)	SJ3657	2 records, between 08/10/1971 and 14/09/1986	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP, LBAP(GWY)	1	☑
<i>Trichura cristae</i> (Pale Eggar / Wylun Gwelw)	SJ374579	11 records, between 08/08/1971 and 26/08/2009	M.H.Grice, M.Newstead	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Traps (left overnight); Garden: rural. Method: MV Light Traps; Garden: rural. Method: MV Light	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	☑
<i>Tringa ochropus</i> (Green Sandpiper / Pibydd Gwyrd)	SJ3657	2 records, between 20/03/2009 and 07/10/2009	Hugh Linn	1		Site Name Withheld	Comments Withheld	D0062/001/01	Bern, Bonn, UKBA, WCA1.1, LBAP(CON)	3	☑
<i>Triturus cristatus</i> (Great Crested Newt / Madfall Ddar Gribog)	SJ376568	17/01/2015 - 18/03/2015	Steve Palin	5+ Adult Male; 4+ Adult Female		Harwoods lane	Newt colony arrived in garden pond for the first time this year! Don't tell anyone!	D1117/001/01	Bern, EPS, HDIR, RD1(UK), RD2(UK), S42, UKBAP, WCA5, LBAP(ANG, CON, DEN, FLI, SNP, WRE)	1	☑
<i>Triturus cristatus</i> (Great Crested Newt / Madfall Ddar Gribog)	SJ371581	2 records, between 09/10/2007 and 04/11/2007	Justin Dempsey	1		Beech Hollows outside sac	approx 5 inches long, almost black with white flecks, red/orange underside, no crest, found under some old cut turf, slightly longer than previous animal at about 6 inches long, almost black with white flecks, red/orange underside, no crest, found under a 1 tonne sack of sand, took pictures of this	D1117/001/01	Bern, EPS, HDIR, RD1(UK), RD2(UK), S42, UKBAP, WCA5, LBAP(ANG, CON, DEN, FLI, SNP, WRE)	4	☑
<i>Turdus iliacus</i> (Redwing / Coch Dan Adain)	SJ3656	3 records, between 18/12/2007 and 19/11/2007	Julie Rogers	20+; 50+; 23		Site Name Withheld	Comments Withheld	D0062/001/01	BDI2.2, UKBA, UKBR, WBA, WCA1.1, LBAP(CON)	3	☑
<i>Turdus iliacus</i> (Redwing / Coch Dan Adain)	SJ3656	09/11/2007	Julie Rogers	50+		Site Name Withheld	Comments Withheld	D0062/001/01	BDI2.2, UKBA, UKBR, WBA, WCA1.1, LBAP(CON)	3	☑
<i>Turdus philomelos</i> (Song Thrush / Bronfrith)	SJ3656	3 records, between 02/04/2008 and 26/04/2009	Julie Rogers; Jason Newton	1		Site Name Withheld	Comments Withheld	D0062/001/01	BDI2.2, Bern, RD2(UK), S42, UKBAP, UKBR, WBA, LBAP(ANG, CON, DEN, FLI, GWY, SNP, WRE)	3	☑
<i>Turdus philomelos</i> (Song Thrush / Bronfrith)	SJ3656	09/11/2007	Julie Rogers	4		Site Name Withheld	Comments Withheld	D0062/001/01	BDI2.2, Bern, RD2(UK), S42, UKBAP, UKBR, WBA, LBAP(ANG, CON, DEN, FLI, GWY, SNP, WRE)	3	☑
<i>Turdus pilaris</i> (Fieldfare / Socan Eira)	SJ3656	2 records, between 19/12/2007 and 07/12/2008	Julie Rogers	2		Site Name Withheld	Comments Withheld	D0062/001/01	BDI2.2, UKBA, UKBR, WBA, WCA1.1, LBAP(CON)	3	☑
<i>Turdus pilaris</i> (Fieldfare / Socan Eira)	SJ370574	15/12/2013	Bonnington, C	2		Chapel Lane, Rossett		D1297/012/01	BDI2.2, UKBA, UKBR, WBA, WCA1.1, LBAP(CON)	1	☑
<i>Turdus pilaris</i> (Fieldfare / Socan Eira)	SJ3656	2 records, between 09/11/2007 and 02/04/2009	Julie Rogers	70+; 200+		Site Name Withheld	Comments Withheld	D0062/001/01	BDI2.2, UKBA, UKBR, WBA, WCA1.1, LBAP(CON)	3	☑
<i>Tyrus jacobaeae</i> (Cinnabar / Teigr y Benfelen)	SJ374579	14 records, between 15/05/1971 and 23/04/2011	M.H.Grice	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light Traps	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	☑

Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	V	
<i>Vanellus vanellus</i> (Lapwing / Corchwigien)	SJ3758	3 records, between 12/04/2009 and 05/07/2009	Jason Newton; Julie Rogers	2; 3; 16		Site Name Withheld	Comments Withheld	D0062/001/01	BDI2.2, Bern, S42, UKBA, UKBAP, UKBR, WBR, LBAP(ANG, CON, DEN, FLI, GWY, SNP)	3	☑
<i>Vanellus vanellus</i> (Lapwing / Corchwigien)	SJ3757	03/01/2008	Julie Rogers	120+		Site Name Withheld	Comments Withheld	D0062/001/01	BDI2.2, Bern, S42, UKBA, UKBAP, UKBR, WBR, LBAP(ANG, CON, DEN, FLI, GWY, SNP)	3	☑
<i>Vanellus vanellus</i> (Lapwing / Corchwigien)	SJ3857	27/11/2009	Neil Friswell	200		Site Name Withheld	Comments Withheld	D0062/001/01	BDI2.2, Bern, S42, UKBA, UKBAP, UKBR, WBR, LBAP(ANG, CON, DEN, FLI, GWY, SNP)	3	☑
<i>Vipera berus</i> (Adder / Gwiber)	SJ3657	1907	Benden	Locally common		Rossett		D0035/002/01	Bern, S42, UKBAP, WCA5, LBAP(ANG, CON, DEN, FLI, GWY, SNP)	4	☑
<i>Watsonia binaria</i> (Oak Hook-tip / Bachadain y Der)	SJ3657	1966	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP, LBAP(GWY)	1	☑
<i>Watsonia binaria</i> (Oak Hook-tip / Bachadain y Der)	SJ374575	04/08/2008	M.H.Grice	1 Adult		Rossett	Garden: rural. Method: MV Traps (left overnight)	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	☑
<i>Watsonia binaria</i> (Oak Hook-tip / Bachadain y Der)	SJ374579	26 records, between 09/06/1965 and 04/08/2011	M.H.Grice, M.Newstead	1 Adult; 2 Adult; 3 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Traps (left overnight); Garden: rural. Method: MV Light left overnight; Garden: rural. Method: MV Light Traps	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	☑
<i>Xanthia gilvago</i> (Dusky-lemon Sallow / Melyn y Llwyf)	SJ3657	17/09/1976	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP	1	☑
<i>Xanthia gilvago</i> (Dusky-lemon Sallow / Melyn y Llwyf)	SJ374579	7 records, between 14/09/1973 and 13/09/1982	M.H.Grice, M.Newstead	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Light	D1285/001/02	S42, UKBAP	3	☑
<i>Xanthia ictoria</i> (Sallow / Melyn Penfelyr)	SJ374579	15 records, between 22/09/1966 and 11/09/2010	M.H.Grice, M.Newstead	1 Adult; 2 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap; Garden: rural. Method: MV Traps (left overnight); Garden: rural. Method: MV Light	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	☑
<i>Xanthorhoe decoloraria</i> (Red Carpet / Brychan Coch)	SJ3657	1982	Grice, Mr M.H.	Present		Rossett		D1050/003/01	S42, UKBAP	1	☑
<i>Xanthorhoe ferrugata</i> (Dark-barred Twin-spot Carpet / Brychan Deustmlog Tywyll)	SJ374579	5 records, between 06/05/1966 and 27/05/2012	M.H.Grice	1 Adult		Darland lane Rossett	Garden: rural. Method: MV Light Trap	D1285/001/02	S42, UKBAP, LBAP(GWY)	3	☑

Magic Map 1km search zone for designated wildlife sites - Map



Magic Map 1km search zone for designated wildlife sites - Report

No designated sites within area.

Magic Map search for SSSI Impact Risk Zones for site only

SSSI Impact Risk Zones – to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?

2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

Infrastructure

Airports, helipads and other aviation proposals.

Wind & Solar Energy

Quarry

Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc.

Rural Non Residential

Residential

Rural Residential

Air Pollution

Pig & Poultry Units. Any other development/ industrial or commercial process that could cause AIR POLLUTION.

Combustion

General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Waste

Composting

Discharges

Water Supply

Guidance

[/Metadata_for_magic/SSSI IRZ User Guidance v2.2 MAGIC 05May2015.pdf](#)

Wildlife Site Citations

W332: Darland Wood. Local Wildlife Site

County: Wrexham

Centroid Grid Reference: SJ377580

Area: 9.76 acres / 3.95 hectares

Site Description: Two small woodlands joined by a narrow woodland corridor and with a pond in the southern wood. Horse chestnut, beech and sycamore are the major trees, whilst english elm, wych elm and holly are the major shrubs in a sparse understorey. The ground flora is also sparse in places and much of it is dominated by dog's mercury and ground-elder. However there is a fair overall diversity, with such species as bluebell, giant fescue, cuckoopint and wild garlic found throughout.

Habitats: Semi-natural broad-leaved woodland, Standing water

Designation Reason:

Exported from Safleol - A Local Sites System for Wales on 04/08/2015

APPENDIX 2: Target Notes

Target Notes Report

GAMFORD FARM, ROSSETT

Target Note 1

Area of semi-improved neutral grassland. Old farm machinery, tyres, corrugated tins, brash etc in places.

<i>Cerastium fontanum</i>	Common Mouse-ear	F
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Lolium perenne</i>	Ryegrass	F
<i>Bromus hordeaceus</i>	Soft Brome	O
<i>Festuca rubra</i>	Red Fescue	O
<i>Leucanthemum vulgare</i>	Oxeye daisy	O
<i>Medicago lupulina</i>	Black Medick	O
<i>Plantago major</i>	Greater Plantain	O
<i>Poa compressa</i>	Flattened Meadowgrass	O
<i>Sambucus nigra</i>	Elder	O
<i>Senecio jacobaea</i>	Ragwort	O
<i>Taraxacum officinale</i> agg.	Dandelion	O
<i>Trifolium repens</i>	White Clover	O
<i>Urtica dioica</i>	Nettle	O
<i>Crepis</i> sp.	Hawk's-beard species	O
<i>Arctium</i> sp.	Burdock species	R
<i>Artemisia vulgaris</i>	Mugwort	R
<i>Cirsium arvense</i>	Creeping Thistle	R
<i>Dactylis glomerata</i>	Cock's-foot	R
<i>Rumex obtusifolius</i>	Broad-leaved Dock	R

Target Note 2

Managed native hedgerow on boundary of planted fruit trees. Dense growth down to the ground.

<i>Crataegus monogyna</i>	Hawthorn	A
<i>Clematis vitalba</i>	Traveller's-joy	F
<i>Prunus domestica</i>	Plum	F
<i>Corylus avellana</i>	Hazel	O
<i>Hedera helix</i>	Ivy	O
<i>Ilex aquifolium</i>	Holly	O
<i>Prunus spinosa</i>	Blackthorn	O

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

APPENDIX 3: Bat Roost Assessment



Gamford Farm, Rossett Daytime Bat Survey Appendix

Site Name	Gamford Farm, Rossett		
Job Number	5235	Doc. Ref	5235.003
Site Location	Gamford Lane, Rossett	Client	Ian Garden, c/o Cassidy & Ashton

	Written	Checked	Authorised
Initial	CH	LS	LS

1.0 DAYTIME INSPECTION OF BUILDINGS

1.1 Methods

Reason for Survey	Internal and external inspections of all buildings to confirm bat roosting potential and the scope of further bat survey requirements. This is needed to inform a planning proposal to redevelop the site which will require all buildings to be either demolished or refurbished.				
Date(s)	Daytime Assessment: 11 th June 2015				
Surveyor(s)	Candice Howe, Bat licence reference: 64865:OTH:CSAB:2015 Assisted by Linda Swankie				
Weather	Date	Temperature (°C)	Rain	Cloud Cover (Oktas)	Wind (Beaufort scale)
	11.06.2015	25	Dry	1	0-1
Methods	The daytime assessment was undertaken in accordance with Bat Conservation Trust (BCT): Bat Surveys, Good Practice Guidelines (Hundt, 2012). The buildings were searched externally for any evidence of use by bats, such as: • Live or dead bats; • Bat droppings; • Feeding remains (e.g. stripped moth wings); • Urine staining; • Fur oil staining. Buildings were categorised as having negligible, low, moderate or high potential to support roosting bats, or confirmed as a roost. The purpose of which was to inform subsequent survey effort of nocturnal surveys. A variety of factors were assessed, including the structure, age and condition of the buildings in conjunction with the surrounding landscape value. Table 8.2 of the BCT guidelines lists features of buildings and built structures that are correlated with their use by bats in summer. Eleven buildings, some sub-divided, were included in this assessment. The location and building references are shown on the Phase 1 habitat plan (G5235.001).				

Constraints	There were no seasonal constraints to the preliminary bat roost assessment of buildings nor were there any significant constraints to the visual inspection of buildings, although there was dense scrub cover in places. Access to all buildings was permitted. However, the internal inspections were restricted in some of the buildings. The loft in the main house is split into three sections by brick partition walls and it was not possible to physically access either the western or eastern sections, although it was possible to see into the eastern section. It was also not possible to closely inspect the northern section of the upper floor of Building 1, due to the stored items in the barn which restricted access. Bat droppings are one of the field signs which provide evidence of bat activity. Droppings on external surfaces can be washed or blown away by weather; therefore, lack of evidence during external surveys is therefore not conclusive of absence of bats. The above limitations are not considered significant constraints to the survey, and nocturnal surveys will need to be undertaken to supplement the daytime assessment.
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Gamford Farm, Rossett Daytime Bat Survey Appendix

1.2 Findings

Description	Photographs
<u>House</u> The house is a two storey brick building with a pitched slate roof and a tile feature at the eaves. The window frames are wooden. There are gaps under the ridge tiles and at the gable ends. There is also a porch with a mono-pitch roof to the south-west. Internally, there is a false ceiling. The roof void is split into three sections with brick partition walls and it was only possible to physically access the central section. The void has a modified king post structure and the floor is constructed of beams with no insulation. The underside of the south-west facing roof is lined with wooden sarking, but the north-east elevation has no lining beneath the roofing slates with some evidence of torching materials. No bats were visible or heard, but there were large accumulations of bat droppings across the length of the central void, located beneath the wooden sarking. The number of droppings indicates a maternity roost is present, or has been at some time. The droppings did not appear fresh, but from size and consistency the majority were similar to those of brown long eared bats, however there were also droppings similar to pipistrelle species present. The droppings may have fallen through holes in the sarking, so only older droppings are visible. Bats are likely to be roosting between the wooden sarking and the roof, so would not be visible. A water tank was present in the central void, which had scattered droppings next to it. It was not possible to physically access the eastern section but there appeared to be an accumulation of droppings beneath the wooden sarking boards, although the beam was covered in cobwebs. It was not possible to see into the western section of the roof at all. Bat droppings were also found in the upper floor of the living area in one of the bedrooms. Confirmed Roost.	     

Description	Photographs
<u>Building 1</u> Two storey, single-skin brick barn with a pitched slate roof with missing slates and gaps under the ridge tiles. There is a roof void present, which is accessed via a doorway/hatch on the upper storey. There are crevices associated with the stone lintel just below this doorway and a bee hive is present. There is no underlay present beneath the roof slates and the void floor is boarded with wood. There is a central partition door with an opening, but no access into the northern section. There are lots of cobwebs along the central beams. No evidence of bats was recorded but there are lots of crevices between the beam joints and slates. There are also lots of gaps in the brickwork at the north end and south gable ends, as well as gaps at the eaves providing potential access points for bats. High Roost Potential	 
<u>Building 1a</u> Single storey brick pens with a flat concrete roof. Open access but no internal roosting space. Negligible Roost Potential	 

Description	Photographs
<u>Building 2</u> Two storey brick building with a pitched slate roof and wooden windows. The roof is in disrepair and the void is very light and exposed with metal trusses. There is an open doorway in the 2nd storey facing north-west and wooden beams and eaves with gaps between the brickwork. There is also missing mortar at the south-east gable end which provides limited opportunities for roosting bats. Low Roost Potential	  
<u>Building 3</u> Single storey brick building with a pitched slate roof and wooden windows. The building is split into five sections and the south-western section has a false ceiling, creating roosting space under the tiles. The remaining sections are open to the roof slates, there is no underlay and light levels are high. South-west section High Roost Potential. Remaining sections Low Roost Potential	 

Description	Photographs
	
<u>Building 4</u> This building has a brick base with breeze block partition walls and asbestos pitched roof. The open doorway allows access inside but there is a lack of internal roosting space. In the photos Building 4 with a pitch roof is in the background and remains of pig pens on the right. The hole in the floor is used by fox. Negligible Roost Potential White wash and old bird nests present	
<u>Building 4a</u> Flat roof tower constructed of breeze block, which is open on the north facing elevation. The roof comprises asbestos and plastic sheet roof covering. There is no suitable roosting space. Negligible Roost Potential White wash and small owl pellets present	

Description	Photographs
<u>Building 4b</u> Brick building adjoined to Building 4a. The building has a pitched asbestos sheet roof. There are no suitable roosting spaces for bats. Negligible Roost Potential Swallows nesting	
<u>Building 5</u> Building 5 is of a brick construction with a pitched, slate roof and is split into seven sections. The south-eastern section is of double storey height with boarding creating a void. Access is open to the south and there are gaps under the ridge tiles. This section would provide more stable conditions for roosting bats. The remaining six sections are single storey with open doorways and windows. No underlay and high light levels internally. South-east section Moderate Roost Potential. Remainder Low Roost Potential Evidence of birds nesting.	

Building 6

Single storey, brick built structure with a pitched, slate roof, split into four sections. Open doorways and windows give open access to bats and birds. There is no underlay and light levels are high internally but there are crevices at the beam joists. A false ceiling is present but has partially collapsed in some sections. There is limited roosting space internally under the ridge tiles and crevices associated with the beams. There is a wooden box on the exterior of the northern section but the access is very cluttered limiting the likelihood of it being used by bats. Lots of whitewash is present on the large beams either side of the roof.

Low Roost Potential

Swallows nesting.



Building 7

Pre-fabricated sheet barn. Unequal pitch to the southern section. Asbestos sheets for roof covering. Brick base on south-facing elevation and breeze block on the north facing supported by metal trusses. Metal portal frame and domed metal sheet roof overhang to the north. Open access to west and north-facing elevations. No potential access points.

Negligible Roost Potential

Nesting pigeons



Building 8

Breeze block base with asbestos sheet walls and roof. Multi-pitched (3 pitches) roof, with open access for birds. Internally there is no void and skylights are present, resulting in high light levels. Dense scrub on north-eastern side.

Negligible Roost Potential

Potential for nesting birds.



Building 9

Single storey stable block/pig pens with a pitched slate roof, overgrown with vegetation. Inaccessible. Ridge tiles are visible and there are slipped and missing slates, but these are very low to the ground and roosting space is limited..

Low Roost Potential



Building 10

Single storey brick pens with flat concrete roof in the background. Open access but no internal roosting space.

Negligible Roost Potential



	 
<u>Building 11</u> Single storey, flat roof, concrete tank type structure. Overgrown with dense scrub on the southern side. Negligible Roost Potential	

Appendix 4: Amphibian Assessment

1.0 GENERAL DETAILS

Site Name	Gamford Farm, Rossett		
Job Number	5235	Doc. Ref	5235.04
Site Location	Gamford Lane, Rossett		
Date(s)	11 th June 2015 HSI Assessment. eDNA Survey 29 th June 2015		
Seasonal Constraints	None		
Methods	HSI Assessment and eDNA Sampling of two ponds.		
Survey Constraints	None		
Surveyors	Linda Swankie (HSI Assessment). Lindsey Roberts (eDNA Survey).		

2.0 SURVEY RESULTS

2.1 Aquatic Habitat Description

Pond	Description & grid reference	Photograph
1	Large area of open water surrounded by a dense band of nettle, with willow trees at the northern end and planted ornamental conifers on the southern bank. The banks are steep and there is a band of iris in the margins. Lots of small flies feeding over the water surface and mating damselflies.	
2	This pond is situated in a field grazed by sheep. It has an area of open water, with a small island in the middle covered with willow scrub and tall ruderal vegetation. The banks are shallow. No water fowls were present but goose droppings were evident on the banks in places. Some aquatic vegetation is present including floating sweet-grass and fool's water-cress.	

2.2 Great Crested Newt Habitat Suitability Assessment

This index, based on Oldham *et al.* 2000, incorporates ten suitability indices which are all factors known to affect the likelihood of great crested newts being present. The index varies from 0 to 1, with 0 indicating unsuitable habitat and 1 optimal habitat. The suitability of a pond is scored as below:

HSI Score	Pond Suitability
<0.5	Poor
0.5-0.59	Below average
0.6-0.69	Average
0.7-0.79	Good
>0.8	Excellent

Key to Suitability Indices:

- SI¹ Geographic location
- SI² Pond area (to nearest 50m²)
- SI³ Pond permanence
- SI⁴ Water quality
- SI⁵ Shading %
- SI⁶ Presence of waterfowl
- SI⁷ Presence of fish
- SI⁸ Pond density in area
- SI⁹ Terrestrial habitat quality
- SI¹⁰ Macrophyte cover in pond

SI Ref	Description of Index	Pond 1		Pond 2	
		Measure	SI score	Measure	SI score
SI ¹	Geographic Location	A	1	A	1
SI ²	Pond Area m ²	378	0.8	100	0.2
SI ³	Pond permanence	Never	0.9	Never	0.9
SI ⁴	Water quality	Moderate	0.67	Poor	0.33
SI ⁵	Shading %	30%	1	30%	1
SI ⁶	Presence of waterfowl	Absent	1	Minor	0.67
SI ⁷	Presence of fish	Possible	0.67	Absent	1
SI ⁸	Pond Density in area	10	0.95	10	0.95
SI ⁹	Terrestrial Habitat Quality	Good	1	Moderate	0.67
SI ¹⁰	Macrophyte cover in pond	30%	0.6	10%	0.4
HSI	Overall HSI for Pond:		0.85		0.72
	Result:	Excellent		Good	

2.3 eDNA Testing Results

The background to the eDNA testing and the survey protocol used is provided at the end of this appendix.

Pond Ref	Date	Surveyor	Score	GCN (Y/N)
1	29/06/15	Lindsey Roberts	0	N
2	29/06/15	Lindsey Roberts	0	N

3.0 Evaluation

Although Pond 1 and Pond 2 both appear suitable to support great crested newts, the results of the eDNA testing for both ponds were negative. Due to these results, great crested newts are therefore assumed absent from the site so would not be affected by the proposals for the redevelopment.

It should be noted that the ponds are still suitable to support other amphibian species such as smooth newt and common frog and toad. Toad is listed under S.42 of the Natural Environment and Rural Communities (NERC) Act 2006 as a species of principal importance for the conservation of biodiversity. The potential presence of this species within the site must therefore be taken into consideration when determining any planning application.

ENVIRONMENTAL DNA ANALYSIS

A METHOD TO DETERMINE GREAT CRESTED NEWT PRESENCE OR ABSENCE IN PONDS

Background

On 28th March 2014, DEFRA published a report¹ into the effectiveness of Environmental DNA testing to detect great crested newt (GCN) presence from samples of pond water. Natural England European protected species (EPS) licensing department have since confirmed that they now accept quantitative Polymerase Chain Reaction (qPCR) analysis of eDNA from water samples as proof of presence or absence of GCN in a pond. Natural England also stated that for the 2015 survey season, sampling must take place between the 15th April and the 30th June and be undertaken by a licensed GCN surveyor.

This eDNA technique does not provide a population estimate and if GCN are present in a waterbody and site proposals necessitate that a population estimate is required for Natural England licensing purposes², then six visits using traditional survey methods are required.

Sources of environmental DNA (eDNA) include shed skin cells, mucous, faeces and gametes and in the case of amphibians in ponds, these sources are diluted and distributed within the aquatic environments. The persistence of eDNA can be influenced by a number of factors including temperature, sunlight and bacteria. A number of studies have been undertaken in this field and findings, summarised in the DEFRA report, indicate that eDNA is still detectable in water samples between one week and one month following removal of the source (the amphibian/s) from the water.

The DEFRA funded study was a collaborative effort led by the Freshwater Habitats Trust (formerly known as Pond Conservation) and included an in-house study of 35 ponds to test the efficiency of the eDNA method against traditional survey methods. The ponds were sampled four times between mid-April and late June 2013 at roughly three week intervals. The study was then expanded to be conducted by volunteers. The expanded study provided a wider sample set (n=239) of known GCN ponds, tested the practicality of the technique for use by volunteers and determined whether the reliability of the test results was affected by pond characteristics. These ponds were sampled between mid-May and late June 2013.

To determine the risk of obtaining a false negative result, the study included the sampling of known GCN breeding ponds. To determine the risk of obtaining a false positive result, the study also included the sampling of ponds (n=30) outside the known range of GCN and of ponds (n=30) within the known range of GCN but where confidence of GCN absence was high. A subsection of the samples from the volunteer survey was resurveyed by professionals to assess whether surveyor experience influenced the reliability of the test results.

No false positive results were obtained from the eDNA technique. A small number of false negative results were obtained from the eDNA technique and these were associated with the following sampling constraints:

- water samples could not be taken from areas of the pond likely to be used by GCN; i.e. samples could only be taken from wide shallow margins that GCN might avoid (the study found that in some instances, for ponds with known GCN presence, using a pole to sample the deeper water resulted in a positive result, whereas a negative result was obtained by sampling only the shallow margins)

¹ Biggs et al 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.

² Calculations of the type and extent of temporary and permanent habitat impacts of proposals are required to determine if presence/absence or population estimates are required for licensing purposes. Up to date guidance can be found on Natural England's GCN licence method statement template.

- sampling in areas of dense vegetation in combination with shallow water; such conditions might prevent mixing of water and therefore prevent dispersal of eDNA throughout the pond)
- restricted access to the pond margins (false negatives were associated with several sites where only circa 10% of the pond perimeter was surveyed)
- sampling ponds with very small GCN populations.

The study concludes that false positives were most likely when more than one of these constraints occurred. A table of risk factors is included in the Technical Advice Note (Appendix 5 of the main report) and an extract of this is provided at the end of the document.

The study concluded that in ponds where GCN were present, the eDNA technique was accurate 99.3% of the time (139 out of 140 samples from the professional study) (91.2% in the wider volunteer survey) compared with 76% for bottle trapping, 75% for torching and 44% for egg searching across the full survey period (April to June); however, when the results of bottle trapping and torching were combined, traditional methods were nearly as efficient as the eDNA technique (95%). Professional surveyors obtained the same result as volunteers on 92% of occasions (at a subsample of 26 ponds).

Statistical analysis of the various pond characteristics (data obtained largely from the HSI assessment) found no significant correlation between GCN detection (with the eDNA technique) and individual pond characteristics. The only significant correlation with detectability was the overall HSI score. The study concludes that GCN presence is the major factor determining ability to detect GCN eDNA. There was no significant variance in detectability across the main breeding season.

The study found that all the GCN detections were below the Level of Quantification (i.e. the amount of eDNA in the sample could not be quantified accurately). Instead, the eDNA analysis result is presented as a score of between zero (0/12) and twelve (12/12), based on the number of qPCR replicates in which great crested newt DNA is detected (successfully amplified). 0/12 is a negative result, anything from 1/12 to 12/12 is a positive result. The study found that newt abundance was weakly correlated with the eDNA score, so far as a low score was generally associated with low counts using bottle or torch survey methods; however, the same correlation was not true of high scores (i.e. no reliable correlation was identified between high eDNA scores and high counts using bottle or torch survey methods). The study also used the following categories in their analysis of relationships between score and newt count: 0/12 to 4/12 = low; 5/12 to 8/12 = medium; 9/12 to 12/12 = high. This resulted in some strong relationships for subsets of data but no significant correlations were identified when looking at the entire data set.

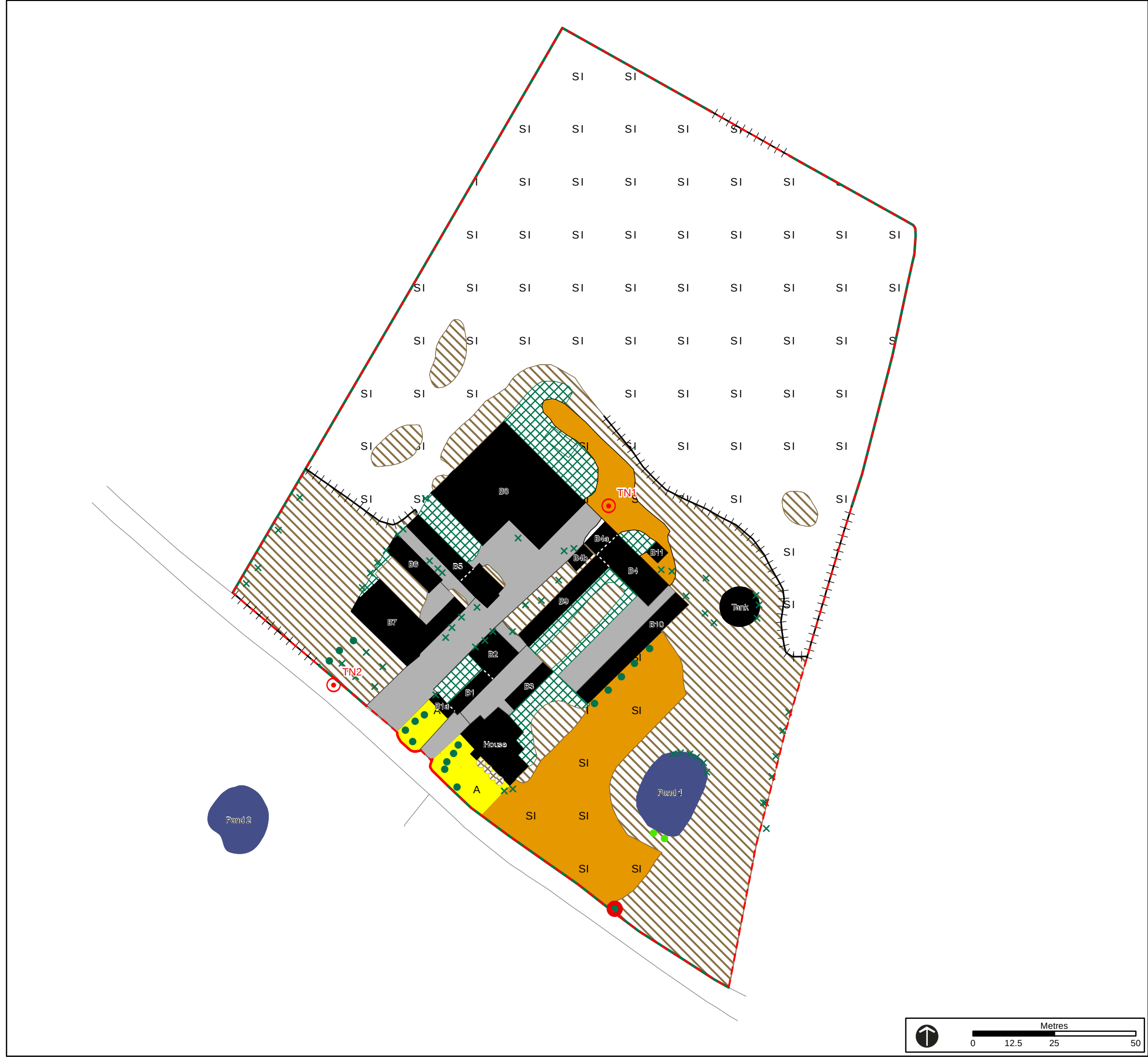
A small study (provided at Appendix 4 of the main Defra report) has also been undertaken to determine the effectiveness of the eDNA technique when sampling of ponds outside of the newt breeding season. This study (although of a very limited sample size) concluded that eDNA sampling outside of the newt breeding season could not be relied upon to determine presence / absence of GCN.

Sampling Method

The sampling protocol issued with the published Defra study was adhered to. In summary:

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

DRAWING



Key

- Survey boundary
- Target notes
- Scattered scrub
- Scattered broad-leaved trees
- Scattered coniferous trees
- Broad-leaved tree with bat potential
- Scattered introduced shrub
- Species-poor intact hedge
- Fence
- Wall
- Dense/continuous scrub
- Semi-improved neutral grassland
- Poor semi-improved grassland
- Tall ruderal
- Standing water
- Amenity grassland
- Buildings
- Hardstanding

Contains Ordnance Survey data
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 Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 email tep@tep.uk.com		
Project: Gamford Farm, Rossett		
Title: Phase 1 Habitat Survey		
Drawing No: G5235.002		
Scale: 1:1,150 @ A3		Date: 06/08/2015
Drawn: CM	Checked: LS	Approved: LS