

Extended Phase 1 & Protected Species Survey Report

Land at Dean Cottage, The Chequer
Nr Whitchurch



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Ecological Surveyor: **J Bowler BSc (Hons)**
H Bowler (BSc)

For:

Mr Desmond Lloyd
Dean Cottage
The Chequer
SY13 2JH

BC Ecology
18 Underwood, Broseley, Shropshire TF12 5NZ
info@bcecolgy.co.uk • www.bcecolgy.co.uk

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1. INTRODUCTION

1.1 Background

In February 2010, BC Ecology (BCE) was commissioned by Design and Planning Associates Ltd on behalf of Mr Desmond Lloyd to carry out an Extended Phase 1 habitat and protected species survey and assessment of land at Dean Cottage, The Chequer in Bronington, SY13 2JH. The proposed development site is comprised of the domestic garden south of Dean Cottage.

An Extended Phase 1 habitat and protected species survey took place on 15 February 2010, and survey methods were, as far as practical, in accordance with those outlined in the Handbook for Phase 1 Habitat Survey (JNCC, 2003) and the relevant established protected species survey guidance. The purpose of the survey was to identify the site's current ecological conditions and the actual or potential presence of protected species and habitats that could pose constraints to the proposal. This report is designed to inform and accompany the planning application for the development.

1.2 Site Description

The application site is located at OS grid reference SJ 4920 4057.

Habitats within the proposed development area include well-maintained lawn and a few shrubs, young trees and a mature pear tree. The garden, referred to in this report as 'the site' or the 'proposed development site' is bounded to the north-west by Dean Cottage, a two story residence and garage, and to the south-west by two small outbuildings. The plot at Dean Cottage is bounded by hawthorn, holly and cypress hedges and there are a couple of mature oaks, a mature ash and several fruit, cypress, and birch trees also within the garden; these are to be retained.

The site lies within a row of residences running along the south side of the A525 toward the south-west and north-east within a rural area dominated by damp, improved pastureland bordered by scattered trees and occasionally hedgerows. A tree and ditch-lined lane south of the plot leads to improved pastures to the south and east. Opposite the A525 to the north are the improved pastures of Ruscoe Farm. There are no ponds onsite, but six ponds were identified within 250m of the application site.

From onsite survey, aerial photographs and desk study, habitats within the surrounding countryside are predominantly improved grassland and arable fields with residential gardens and standing water. There are a few other relatively small areas of other habitat types including swamp, semi-improved neutral grassland, amenity grassland, broadleaved woodland, bare ground, scrub and tall herbs and ruderals.

An Extended Phase 1 Survey Plan is provided in Annex 3.

1.3 Proposed Works

According to the client, the proposed development would involve the construction of a dwelling house within the existing side garden of Dean Cottage. Access is proposed to be via the existing entrance to Dean Cottage.



2. METHODOLOGY

2.1 Desk Study

Cofnod, the North Wales Environmental Information Service, carried out a biodiversity information search, which identifies and pinpoints records of protected species and designated conservation sites within a 1km radius of the proposed development site and provides any other ecological information/reports in relation to the site.

Other sources consulted for the desk study included the following:

- Biodiversity Action Plans (BAPs) for the UK and Wrexham
- The National Biodiversity Network Gateway

2.2 Extended Phase 1 Habitat Survey

2.2.1 Habitats

An Extended Phase 1 habitat and protected species survey took place on 15 February 2010 by J Bowler BSc (hons), a BCE ecologist with over 10 years of experience in habitat and protected species survey, and by H Bowler, an ecologist employed by BCE who has over 6 years of habitat and protected species survey experience. Both surveyors hold great crested newt surveyor licences. The surveyors noted habitat types, any significant ecological issues, and any protected or notable species or incidental evidence of their presence and potential habitat.

The survey was carried out as far as practical in accordance with the methods outlined in the *Handbook for Phase 1 Habitat Survey* (JNCC, 2003) with the key limitation being the timing of the survey in February, which is not suitable for detailed botanical survey or for presence/absence survey for many protected fauna. Because the site is a well-maintained domestic lawn with relatively few plant species, it is extremely unlikely to support protected or rare plant species and/or habitat. The likelihood of protected fauna presence was determined by considering the suitability of onsite and surrounding habitats and was not considered to be a limiting factor in the overall assessment.

2.2.2 Great Crested Newts

All ponds shown on OS maps to be located within 250m were visited and a habitat suitability assessment of the ponds were carried out using a modified version of the Habitat Suitability Index (HSI) developed by Oldham *et al* (2000). An HSI is a numerical index, between 0 and 1. 0 where 0 indicates unsuitable habitat and 1 represents optimal habitat. The HSI for the great crested newt incorporates ten suitability indices, all of which are factors thought to affect great crested newts. A simpler evaluation of the original HSI system for terrestrial habitat quality was used here which uses a four-point scale in place of the more lengthy measurement and calculation used for terrestrial habitat.

2.2.3 Other Protected Species

As survey for badgers can take place year-round, the walkover included a search for evidence of badger activity including setts, latrines, dung pits, paths, footprints or hairs caught on fencing, snuffle holes and other evidence of foraging within a 30m radius of the site.



Although no bat roosting habitat is proposed to be affected by the development, the mature trees next to the proposed development area were observed for potential bat habitat from ground-level using binoculars.

Bird breeding habitat (or potential habitats) was pinpointed onsite during the walkover.

During the survey any other protected species or signs of their presence or likely habitat were noted.



3. RESULTS

3.1 Desk Study

3.1.1 Designated Nature Conservation Sites

The desk study by Cofnod, the North Wales Environmental Information Service, found no statutory designated sites for nature conservation within 1km of the site.

The nearest designated non-statutory sites within 1km of the site is Iscoyd Brook, an Adopted Wildlife Site opposite the A525 approximately 650m to the north of the site. There are no North Wales Wildlife Trust reserves, RSPB reserves, Regionally Important Geological Sites (RIGS) or ancient woodland within 1km.

A plan showing the location of the wildlife site in relation to the proposed development site is provided in Annex 1.

3.1.2 Protected and/or Notable Species

The desk study carried out by Cofnod found the only Category 1 species [UK and/or European Protected Species (EPS)] recorded within 1km of the site include badger and shaded broad-bar. A species of *Diptera* (true fly), *Pilaria scutellata*, was the only Category 2 species within 1km. Category 2 species include Global Red List, British Red Data Book, Nationally Rare & Scarce, Welsh Red and Amber Birds & Welsh Vascular Plant Red Data List, where these are not identified in Category 1). Records of category 3 species, or 'locally important' species as specified by local experts, include Eurasian water shrew, Eurasian common shrew and drooping thread-moss.

Cofnod found no records of great crested newts within 1km of the site. According to the NBN gateway, the nearest great crested newt record is just over 1km to the north-west of the site, and there are large populations further north-west about 4.5km distant running from Penley and Horseman's Green all the way up to the woodlands east of Tallarn Green. Other populations have been recorded to the north-west of Whitchurch 5km distant from site, about 5km south-west near Bettisfield.

The nearest otter and dormouse records are over 3km distant. Red squirrels, water voles, slow worm and adder have been recorded in the wider area as have numerous bird, insect, crustacean, fish and plant species. Bat species recorded within the same 10km² OS grid square as the site include whiskered bat, Leisler's, Brandt's, common pipistrelle with the closest record being for brown long-eared bat at least 800m to the north.

3.1.3 Biodiversity Action Plan Species and Habitats

The *UK Biodiversity Action Plan* (1984) (UK BAP) was developed in response to the Rio Earth Summit in 1992 and lists 'Priority' habitats and species for conservation action, which include species such as otter, great crested newt, bats, many bird species and many other species. No UK BAP Priority habitats are located within the proposed development site, but the hedgerows around the plot boundaries would be classified as BAP Priority Habitat under its existing definition.

The *Wrexham Biodiversity Action Plan* describes, evaluates and prescribes actions to protect and enhance habitats and species of national and regional importance. There were no Wrexham BAP species or habitats recorded or that were observed within the site, although hedgerows are listed on the local BAP.



3.2 Field Survey

3.2.1 Habitats

The Application Site - Dean Cottage

The application site at Dean Cottage which encompasses the proposed development area covers approximately 1550m² although the actual proposed development area would be much smaller, less than 600m². Habitats within the application site include buildings, lawn, shrubs, trees and hedgerow with a few common semi-natural plant species.

Buildings include Dean Cottage, which is a two-storey brick-constructed dwelling house with a long pitched, tiled roof and end gables. A modern single-story attached garage is located at its south end and there is a gravel, hard standing parking area fronting the A525. There is a workshop and shed at the south end of the plot. The workshop is about 9m x 9m and constructed of poly-styrene insulated corrugated walls and glass on a light timber frame. The roof is flat with a slight pitch and is transparent, letting in natural light throughout. One small section has tight modern lapped boarding with no gaps. The modern shed is smaller, no more than 2m x 2m and timber-built, of tight construction with a pitched roof covered in felt.

The domestic garden to the south of Dean Cottage (side garden) is where the proposed new dwelling would be sited, and there is also another section of garden to the east of the cottage (back garden), which is to remain unaffected. The lawns in both these gardens are comprised of well-maintained short amenity grass sward with creeping buttercup locally frequent. The property frontage is bounded by a mature hawthorn hedge (~1.5m high) and timber post-and-rail fence along the southern half and a young cypress hedge and timber fence over concrete foundation on the northern half. Where the two meet is a large mature oak, which had a few minor flaws but no major cavities. Ground flora here includes ivy, cow parsley, creeping buttercup, common cat's-ear, daisy, snow drop and creeping thistle.

At the south-east of the garden is a gate near which are three ash trees – one mature, one young-mature, and one young with no visible cavities. The south boundary of the site near the shed and workshop is a laid mature holly hedge, a short length of timber fencing and a mature hawthorn hedge, the latter of which is about 2.25m high and gappy. There are open-topped compost bins next to the workshop and some concrete slabs that are stacked upright.

Shrubs and small trees are sparsely scattered around the site and include buddleja, willow, apple, ash, birch, cypress and a few non-native garden plants. A mature pear tree with a low cavity sits in the centre of the garden.

The east boundary of the application site is a 2.5m high hawthorn hedge with a similar ground flora to the front hedge. Where this rear hedgerow meets the back garden behind the cottage, the boundary becomes a cypress hedge and timber fence which wraps around to the north boundary. A large mature oak sits in the corner of this garden, but had no obvious flaws. The north boundary of the rear garden is comprised entirely of connecting brick and breeze block buildings of the neighbouring plot, which attach to Dean Cottage and the attached dwelling house to the north.

Adjacent Habitats

South of the plot at Dean Cottage is a holly and silver birch-lined lane leading to the improved sheep pastures to the east. The lane is bounded by a ditch with no standing water which runs to the south adjacent to a hedgerow and terminates at a very shallow pond (P1). Detailed ponds descriptions will



be provided in section 3.2.4 of this report and the ponds, numbered P1-P6 are shown on the Extended Phase 1 Plan. Some of the improved fields are bounded by hedgerows with widely scattered large oak tree standards and others are simply bounded with wire fencing. Pond P2 is located westward along a tree-lined hawthorn hedgerow from P1. The pastures both north and south of the A525 appeared to be covered in a well-grazed dense grass sward of two to three dominant species such as cock's-foot, ryegrass and possibly fescue. Forbs were rare, primarily creeping buttercup and rarely spear thistle.

In the field behind the Dean Cottage plot is a tall concrete watering trough with no apparent flora or fauna present within it. Opposite Honeysuckle and Rookery Cottages from the site is Chequer House, which has a pond (P3) on its north side, and there is also a ditch next to mature hedgerows that runs along the south boundary of the fields at Chequer House 85m north of the proposal site and turns at field boundary to connect to the stream. The ditch is shallow but wet at its southern end. The stream, which is about 250m east of the site, is lined by scattered oaks and scrub, has a steady flow and some potential for water vole.

North of the fast, heavily-trafficked A525 opposite Chequer House is a pond (P4) overshadowed by mature oak and willow and an associated length of roadside ditch (wet). A marshy depression with no emergent plants is situated to the west of this and opposite the discontinuous hawthorn hedgerow. The hedgerow with its few mature oaks leads from P3 north-west toward pond P5, part of which is used as a watering hole for sheep. From the pond the hedgerow runs south-west toward Ruscoe Farm and pond P6, which is no longer present except for a very small area of standing water. The south side of the adjacent improved field is wet with patches of hard rush. A hawthorn hedgerow bounds the northern length of the road.

3.2.2 Bats

Although no potential bat roost habitats would be impacted by the works, it was noted that no evidence of bats was seen on the exterior of the buildings and none of the trees appeared to have suitable cavity habitat for bats; the cavity of the only mature tree likely to be affected by the works, the pear tree, would allow water ingress and the low position of the cavity would make it an unlikely choice for bats due to risk of predation by cats. Bats are likely to forage in the wider area given the number of streams, ponds and hedgerow networks in the landscape.

3.2.3 Badgers

No badger setts were found during the walkover. One badger dropping was found, but this was over 140m from the application site. No badger foraging sign was found within the onsite garden or in surrounding habitats.

3.2.4 Great Crested Newts

There is no potential breeding or terrestrial habitat present within the proposed development site. The lawn is well-mown year round and there are no potential hibernacula or shelter within the proposed working area. Garden hedgerows such as those that bound the application site garden, although they are not proposed to be affected by the works, could offer terrestrial habitat to newts. However, these are not directly connected to ponds within 250m of the site.

Six ponds (P1-P6) were found within 250m of the site, three located to the south of the A525 (P1-P3) and three to the north (P4-P6). The traffic on the dual carriageway is heavy and fast and is considered to be a major barrier in terms of any potential newt dispersal. Of the ponds south of the barrier, in addition to P1-P3, are ten more within 1km of the site; these are isolated, not connected



to the site by suitable terrestrial habitat and/or are on the far side of unclassified road (New Hall Lane and Bowers Lane). Of those north of the barrier, in addition to P4-P6, there are seven more ponds within 1km of the site. These are also either isolated or have loose hedgerow connections to the surveyed ponds but are on the distant side of a significant barrier to dispersal. All ponds are located within Zone A, which includes most of England and small sections of Wales, classified as an 'optimal zone' for great crested newts.

Pond 1 (P1) is a small, moderately-shaded pond located just over 100m south-west of the site where two hawthorn hedgerows meet next to an improved pasture. The pond appears to be primarily inundated grassland no deeper than 250mm. The water level was very shallow at its highest yearly shoreline level with the macrophyte cover being primarily grasses, although there was a small tuft of soft rush. Blanketweed was present and the pond contained a layer of leaf litter. P1 is not suitable for fish due to the pond's ephemeral nature and no waterfowl were seen. The pond would dry annually in the warmer months. The hedgerows could provide some potential terrestrial habitat. The habitat suitability index for this pond is 0.58 giving the pond a **'below average'** suitability rating.

Pond 2 (P2) is another small pond about 130m west-southwest of the site near Hardwick House, also very shallow like P1. The pond connects two disconnected lengths of hedgerow, which has mature oak tree standards. Improved field lies to the north and south. This pond receives much more sun (about 90%) and contains quite a bit of soft rush with a few small goat willows near the centre. Duckweed is present and emergents are primarily grasses. This pond would remain wet enough in the summer to support soft rush, but standing water during those periods would appear unlikely. The hedgerows could provide some potential terrestrial habitat. The habitat suitability index for this pond is 0.63 giving the pond an **'average'** suitability rating at the lower end of the scale.

Pond 3 (P3), the only other pond within 250m of the site south of the A525 is small to medium-sized pond just over 110m north-east of the site next to Chequer House. This pond never dries and supports mating pairs of mallards, which reduce emergent vegetation, although there is a thin layer of marginal and aquatic plants in some areas including a few reeds, water mint, pondweed, emerging creeping buttercup and hard rush. The pond is bordered by the A525 hedgerow to the north, by improved field to the south and east, and by hawthorn scrub and domestic garden on the west side. Fish are possible although the owner reports none known. Water quality was poor with discolouration and was turbid. The habitat suitability index for this pond is 0.70 barely meeting the requirement for a **'good'** suitability rating.

Pond 4 (P4) is a small shallow pond 200m from site that lies opposite the A525 from the Chequer House. Entirely shaded by mature oak and crack willow, the pond's leaf litter was dense causing water discolouration. Most likely to dry annually, it would not sustain fish or breeding waterfowl. One tuft of canary reed-grass, but no submerged plants or other emergents were seen. Tree roots, leaf litter and nearby hedgerows could offer some terrestrial habitat to any potential newts present. The habitat suitability index for this pond is 0.46 giving the pond a **'poor'** suitability rating.

Pond 5 (P5) is a small to medium-sized pond located opposite the A525 220m to the north of the site at the meeting of three of mature hedgerows bounding improved fields. Sheep occasionally use it as a drinking source although much of it has been fenced off with barbed wire. The water quality was poor and streaked with run-off from the fields, but P5 receives sunlight over about 90% of its surface. Macrophyte cover was very low with occasional pondweed near the margins and a few emergent grasses and rushes that had been chewed low by sheep. There was one patch of blanketweed. The pond appeared to be quite deep. Fish presence is unknown but possible and no waterfowl were seen. The habitat suitability index for this pond is 0.599 giving the pond a **'below average' to 'poor'** suitability rating.



Pond 6 (P6) is a very small shallow area of standing water, the remnant of a small pond which was reported to have been filled in years ago but still shows on the current Ordnance Survey map. The 'pond' now occupies no greater than 15m² and would be dry during the summer due to the willow presence and its shallowness. The only emergents were grasses, and there was some blanketweed present. Fish and waterfowl would not find suitable habitat here. The habitat suitability index for this pond is 0.46 giving the pond a **'poor'** suitability rating.

The overall landscape of the Chequer is marked with ditch systems and its improved fields are often wet during the winter months. The nearest drainage ditch to the site lies along the lane to the west of the Dean Cottage garden, but it was dry overall with held with some lengths of shallow standing water. A dry ditch borders the south boundary of the Chequer House, but it becomes wet further south. There were also wet ditches along the roadside on the north side of the A525 and over 200m east of the site connecting to a stream about 50m further east.

During the walkover, there were a few damp ephemeral areas of inundation occasionally marked by rushes, but no other permanent standing water was found.

As the primary land use is pastureland characterised by improved grassland, the terrestrial habitat lies mainly in the hedgerow networks and widely scattered patches of scrub or trees.

3.2.3 Other Wildlife

House sparrows were seen around the onsite garden. The trees and hedgerows around the garden and Dean Cottage offers potential nesting habitat for common garden birds. Other species seen during the walkover included crow, blackbird, robin and wren.

No suitable habitat for reptiles is present within the lawn, which is the proposed working area. Slow worm could however potentially use the compost heaps along the south boundary of the application site for hibernacula and shelter, but these are not part of the development area. Grass snakes are more likely to be present near the ponds and wet ditches.

No otter or water vole habitat is present onsite or in adjacent habitats.

Rabbits forage along the east hedgerow of the garden. A fox dropping was found along a fenceline to the south-east.



4. ASSESSMENT

4.1 Habitats

The site is not significant in that there is no botanical interest within the proposed development site itself. No protected habitat or vegetation types should be affected by the works.

The site offers no semi-natural botanical diversity of low ecological value.

No sites designated for nature conservation value or biodiversity action plan habitats should be affected by the proposals.

4.2 Bats

No potential bat roost habitats are proposed to be affected by the works, but as bat are likely to forage locally and may use the hedgerows as commuting route, some consideration should be given to the small increase in lighting which comes with any new development, avoiding lighting areas hedgerows and other linear features.

4.3 Badgers

As no setts were found within the entire walkover and no activity by this species was noted within 100m of the site boundary, potential impact to this species from the development is considered negligible.

4.4 Great Crested Newts

The terrestrial habitat proposed for development, well-maintained lawn and a few small trees. The site contains no potential newt breeding habitat. Although newts generally remain within 100m of their breeding ponds, as they can disperse over greater distances when moving to ponds or between breeding ponds, their likelihood of being onsite and potentially being affected by the proposals will be considered here.

Only three ponds, P1, P2 and P3 were found within 250m south of a significant barrier to dispersal, the heavy-trafficked A525. Of these, the P1 and P2 were calculated to have a 'below average' and 'average' suitability rating, respectively. These two ponds are loosely but not directly connected to the application site by hedgerow. Although the ponds were not visited during the warmer months of the year, it can be reasoned that their shallowness, and in the case of P2, the presence of willow, would suggest that both ponds are likely to dry, or at least be very shallow, in the summer during the newt breeding season. The lack of wetland type plants in P1 and its non-existence on current OS maps would support hypothesis. Based on low HSIs and the shallow nature of these ponds, they are not considered suitable breeding habitat for great crested newts.

Pond 3, however, has a 'good' HSI rating for habitat suitability, due mainly to the fact that it never dries, is slightly larger than the other two and has somewhat better adjacent terrestrial habitat. The pond is also deeper, likely up to 1.5m at least, so could provide display areas for the males, and it has some submerged and emergent plants mainly around its margins which could offer egg-laying habitat. Additionally, the sides are shallow-sloped, which would allow easy access to small amphibians. The owner reported that frogs used to be present there in good numbers, but that their



population has slacked off substantially over the years. Whether this is due to agricultural run-off or other factors is unknown.

Ponds P4, P5 and P6 are also within 250m but are on the distant side of the A525 and thus any new populations occupying these ponds would be unlikely to be within the proposed development site. Additionally, their suitability for supporting newts was very low.

Based on the HSI assessment and over 15 years combined experience in newt survey, P3 is deemed to have some potential to support great crested newts. Although the pond is just over 100m distant, the pond's direct habitat linkages to the proposed development site are very poor. A continuous block of buildings forms the application site's north boundary and there are several other buildings, closed board fencing, hard standing and maintained 'garden areas' present between the pond and the site. As terrestrial habitat near P3 is quite good but that of the application site is relatively poor, it seems less likely, although not impossible, that newts would be found within the development site. Although the entire application site is about 1550m², the development footprint is less than 600m².

Established guidance has stated that the most comprehensive mitigation, in relation to avoiding disturbance, killing or injury is appropriate within 50m of a breeding pond. Distances greater than 100m should be carefully considered as to whether attempts to capture newts are necessary or the most effective option to avoid incidental mortality. Captures using newt exclusion fences and within 50-100m zones are generally considered to be inefficient.

Taking the above guidance into consideration, along with the findings of the onsite assessment by licensed great crested newt workers, it is considered that the need for further protected species surveys is negligible. As the development footprint is small and over 100m from the only suitable breeding pond, and as no great crested newt ponds will be directly impacted by the development, it is the opinion of BC Ecology that with proper working methods in place, the work could be carried out without affecting the ability of any newt population, if present, from sustaining itself. Any remnant potential harm to individual newts should be avoided through the strict and careful implementation of a recommended working methods.

4.3 Other Wildlife

All birds are protected while breeding in the UK, under the Wildlife and Countryside Act (WCA) 1981 as amended. They are protected from killing, injuring, disturbance, destruction of nests and nest sites, and from the taking of eggs. Although this imposes a severe constraint on development, the constraint can be removed by careful timing of site works and good site management. As birds could potentially be nesting in onsite or adjacent habitats, site clearance should occur between late August/early September and the end of February and the site managed throughout the proposed works to avoid providing attractive nesting habitat in working areas.

Based on the results of this desk study and onsite survey, BC Ecology considers the impact to other protected species from the proposed works to be negligible. Some level of precaution is advised in the following section.



5. RECOMMENDATIONS

The following are mitigation suggestions and recommendations for appropriate working practices to reduce potential impacts from the development work. All works should follow in accordance with all recommendations.

5.1 Precautionary Working Methods – Great Crested Newts

- 1) Prior to any clearance work (removal of shrubs, small trees, plant pots, etc) and any concrete pour or block laying work, a hand search should be carried out by a surveyor licensed to handle great crested newts.
- 2) The mown grass of the development area should be kept short and all arising removed. Any bare ground should be kept bare and clear of all materials under which wildlife could take shelter.
- 3) Ground in and around any excavations should be kept clear of vegetation and loose material.
- 4) Any trenches left open for more than 12 hours should be provided with an escape ramp (simply a plank of wood with no step at the base, reaching up to ground level or slightly above). Open trenches should be checked before work each day.
- 5) All construction plant, material and equipment should be stored on hard standing at least 1m from the edge of any continuous vegetation cover such as hedgerow, mown grass, etc.
- 6) In the unlikely event that a great crested newt is discovered (or any other vulnerable animal) work must stop immediately and a licensed newt ecologist should be informed. The animal should be removed and transported via a suitable container containing moss or other damp vegetation to suitable habitat at least 100m from the development footprint (preferably near P3). The licensed ecologist would then advise on whether a CCW development licence would be needed.
- 7) Avoid carrying out any work at night when newts are most active.

5.2 Precautionary Working Methods – Other Species/Habitats

- 8) All staff and workers on site, including sub-contractors, should be made aware of species and habitat protection issues at site induction talks. **Work should stop immediately and Countryside Council for Wales (CCW) contacted if any protected species are found onsite.**
- 9) Plan an appropriate working area within the built environment and ensure that site staff limit their work activity to that area only.
- 10) Any observation or sign of badger activity including fresh excavations, dung pits etc. close to working areas, should be immediately reported to the local badger group or BC Ecology.
- 11) Staff should be made aware that all snakes, slow worms and other reptiles are protected from deliberate killing. If any are found, they should be safely removed from site.



- 12) As breeding birds are protected by law, any vegetation to be removed should be timed to avoid impact on nesting birds. Autumn or very early spring clearance is a well-established means of preventing this impact.
- 13) All outdoor lighting should be downward-directed and should not illuminate hedgerows or tree-lines which could be used by foraging/commuting bats .
- 14) All proposed work must strictly be in accordance with relevant Environment Agency Pollution Prevention Guidelines (PPG).
- 15) Tree retention must be carried out in accordance with BS 58:37:2005 Trees in Relation to Construction. No work, storage, damage, soil-level changes or heavy machinery should occur within the Root Protection Zone of the trees to be retained. The trees to be retained should be securely fenced off.
- 16) The design of the proposed development should agree with and support the objectives and targets for Wrexham and UK BAP habitats and species and the Powys Unitary Development Plan (UDP) in relation to the site.

5.3 Habitat Enhancement Possibilities (post-development)

- 17) Any lost bird breeding habitat should be replaced, if possible. Advice on design and position should be sought from organisations with sound experience of this type of habitat creation. The British Trust for Ornithology website (<http://www.bto.org/>) is a good source of information.
- 18) Encourage the linkage of habitats by planting native hedgerows, trees and/or maintaining unmanaged areas. Include in the design an ecologically sound landscaping scheme that could attract bats and other wildlife into the site post-construction. In the landscaping, use native and site-appropriate species of tree, shrub, herbs and grasses. Native plants should be of local provenance where possible, and of genuine native British provenance in any case.
- 19) A small garden pond with sloping edges will attract wildlife such as amphibians, and increase invertebrate value to bats.

6. BIBLIOGRAPHY

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Wrexham Biodiversity Action Plan



Annex 1

Desk Study Results



Important Issues

1. Usage of the above information is governed by Cofnod's **Terms and Conditions of Data Release** (available from Cofnod on request).
2. Records shown in bold typeface are sensitive species records. In this public version of the original report, the resolution of sensitive species grid references have been reduced and site names and comments have been removed.
3. Past records of presence of a habitat or species do not guarantee continued occurrence; absence of records does not imply absence of a species, merely that no records are held at Cofnod; Cofnod cannot guarantee the accuracy of supplied data; copyright of records remains with the original recorder.

Notes

This report should be used in conjunction with any relevant maps, where these are supplied.

Cofnod uses a search system which reports all priority or protected species within a specified search radius or buffer. Where required a search will also include high priority 'Mobile Species', such as bats, otters, amphibians and certain invertebrates, which lie outside the specified search radius. These species are highlighted on the report with an **asterisk**. They have been selected as 'Mobile Species' as their territory (possibly due to foraging activity or life cycle) could intersect with the search radius.

Records with 4 figure grid references are displayed as 1km squares on any relevant maps. They are listed separately in reports and highlighted in grey *italic* script.

Please note that while we hold Wales Raptor Study Group data for North East Wales we are only permitted to release it to a limited number of trusted partners. We can provide contact details if you would like to contact the Raptor Study Group directly to request species information.

Sites - Designated Sites and non-designated Wildlife Sites within 50m of the grid reference are highlighted in red. Wildlife Sites which remain unconfirmed by the relevant Local Authority are given 'Candidate' status and are displayed with the (c) suffix. The following reasons for candidate status apply: 1. Anglesey and Flintshire Wildlife Sites were identified by survey but have not been formally confirmed. 2. Conwy and Gwynedd Wildlife Sites were identified by survey and air photos and remain candidate until evaluated using selection criteria.

Dataset ID - All species records within the reports include Dataset ID codes, which can be used to find the relevant Metadata, using the **Data We Hold** page on the Cofnod website (www.cofnod.org.uk/DataWeHold.aspx). The number below the Dataset ID is the individual record ID. Please quote this if you need more information on a specific record.

'V' column - Record Verification Level. The following abbreviations apply: **1**: Unassessed, **2**: Unconfirmed, **3**: Considered Correct by Cofnod, **4**: Considered Correct by Expert. Dataset Categories and Record Verification Levels are explained in more detail within Cofnod's policy on Data Quality, available from our website.

Lists

BA - Protection of Badgers Act, **BDir** - EU Birds Directive, **Bern** - The Bern Convention on the Conservation of European Wildlife and Natural Habitats, **Bonn** - The Bonn Convention on the Conservation of Migratory Species of Wild Animals, **CCWP** - CCW Priority Species List, **CITES** - Convention on International Trade in Endangered Species, **EPS** - European Protected Species, **HDir** - EU Habitats Directive, **RD1** - Red Data Book listing based on IUCN guidelines, **RD2** - Red Data Book listing not based on IUCN guidelines (Nationally Rare and Scarce), **S42** - Natural Environment and Rural Communities Act 2006 (Section 42), **UKBAP** - UK Biodiversity Action Plan Priority Species, **WBAm[RSPB]** - Birds of Conservation Concern 2002-07 - Welsh Amber listed birds (not based on IUCN criteria), **WBR[RSPB]** - Birds of Conservation Concern 2002-07 - Welsh Red listed birds (not based on IUCN criteria), **WCA1** - Wildlife & Countryside Act 1981 Schedule 1, **WCA5** - Wildlife & Countryside Act 1981 Schedule 5, **WCA8** - Wildlife & Countryside Act 1981 Schedule 8, **WVP** - IUCN Threat Listing of Welsh Vascular Plants

Abbreviations

ANG - Isle of Anglesey, **CON** - Conwy, **DEN** - Denbighshire, **FLI** - Flintshire, **GWY** - Gwynedd, **SNP** - Snowdonia National Park, **WRE** - Wrexham, **LBAP** - Local Biodiversity Action Plan, **NWWT** - North Wales Wildlife Trust, **RSPB** - Royal Society for the Protection of Birds, **RIGS** - Regionally Important Geodiversity Sites.

Contact Us

Cofnod - Gwasanaeth Gwybodaeth Amgylcheddol Gogledd Cymru/North Wales Environmental Information Service
Intec, Ffordd y Parc, Parc Menai, Bangor. LL57 4FG **Tel:** (01248) 672603 **Fax:** (01248) 672601 **email:** info@cofnod.org.uk

Annex 2

Site Photographs



Photos – Survey at Dean Cottage, The Chequer - 15 Feb 2010

Views of the application site



Application site aerial



Application site aerial showing buildings and barriers between site and pond P3, which is just on the opposite side of the house and barn showing on far right.



View of garden, ground-level, facing south-west



View of garden, ground-level, facing north-east



Pond P2



Pond P3



Pond P4



Pond P5



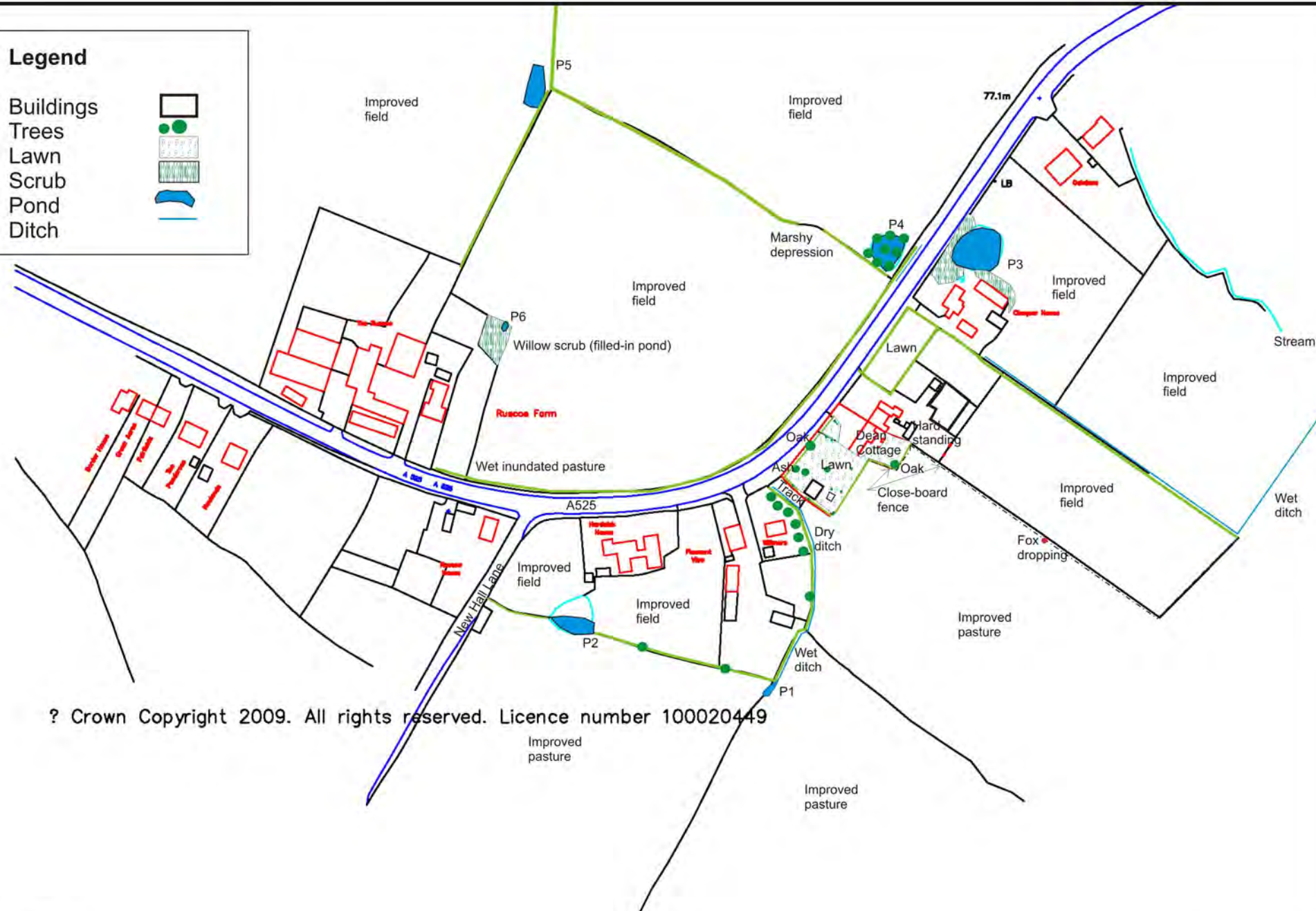
Pond 6

Annex 3

Extended Phase 1 Survey Plan



Buildings
Trees
Lawn
Scrub
Pond
Ditch



Improved
pasture

Improved
pasture



18 Underwood, Broseley, Shropshire. TF12 5NZ
info@bcecoology.co.uk - www.bcecoology.co.uk

Title: Extended Phase 1 Survey
Client: D Lloyd
Date: Dean Cottage, The Chequer
Feb 2010

Annex 4

HSI for Great Crested Newts: Indices Scores by Pond



HSI Great Crested Newt Assessment – Pond Indices Scores

	P1	P2	P3	P4	P5	P6
SI ₁	1.0	1.0	1.0	1.0	1.0	1.0
SI ₂	0.1	0.22	0.4	0.22	0.5	0.1
SI ₃	0.1	0.1	0.9	0.1	1.0	0.1
SI ₄	0.67	0.67	0.67	0.33	0.33	0.67
SI ₅	1.0	1.0	1.0	0.2	1.0	0.3
SI ₆	1.0	1.0	0.67	1.0	1.0	1.0
SI ₇	1.0	1.0	0.67	1.0	0.67	1.0
SI ₈	1.0	1.0	1.0	1.0	1.0	1.0
SI ₉	0.67	0.67	1.0	1.0	0.33	0.33
SI ₁₀	1.0	1.0	0.3	0.3	0.3	0.6
*HSI	0.58	0.63	0.70	0.461	0.599	0.46

* $HSI = (SI_1 \times SI_2 \times SI_3 \times SI_4 \times SI_5 \times SI_6 \times SI_7 \times SI_8 \times SI_9 \times SI_{10})^{1/10}$

Key to Indices

For a detailed explanation of how the indices are determined and calculated, please see the National Amphibian and Reptile Recording Scheme's *Great Crested Newt Habitat Suitability Index* produced by the Herpetological Conservation Trust, Dorset (2008).

SI₁ – Location

SI₂ – Pond Area

SI₃ – How often is dry

SI₄ – Water quality

SI₅ – % Shade

SI₆ – Waterfowl

SI₇ – Fish

SI₈ – No. ponds within 1km

SI₉ – Terrestrial habitat quality

SI₁₀ – % Macrophyte cover

Annex 5

Notes on Wildlife Legislation and Protected Species



SPECIES PROTECTION IN RELATION TO DEVELOPMENT

Notes below refer to sites in Wales, while the species notes reflect the current situation in Mid Wales and the Marches.

Survey for protected species can be lengthy, and may require site visits at particular times of the year. Survey may not be fully effective unless commissioned well before submission of a planning application. Large or complex sites, and sites likely to have the most important bat roosts, ideally need a survey period of 12 months.

LEGAL CONSTRAINTS

There are three principal sources of legal protection for wildlife in the UK. These are:

The Wildlife and Countryside Act 1981 (the WCA) with its amendments under statutory review every 5 years and by later Acts, particularly the Environmental Protection Act 1990 and the Countryside and Rights of Way Act 2000 (the CROW Act).

The WCA as amended gives protection to plant and animal species listed under its schedules 1, 5 & 8, and to designated sites, typically Sites of Special Scientific Interest (SSSI). Section 9 of the WCA lists offences including killing or injuring, uprooting, capturing, possession, disturbance, destruction of places of shelter, sale and associated activities. A species that is protected from all of the offences that might apply to it is described as 'fully protected', but if only a selection of the offences are applied then it is 'partially protected'. The level of protection given to a fully protected species is here described in relation to water voles (see below).

The CROW Act makes most WCA offences into arrestable criminal offences, and includes offences committed 'recklessly' as well as deliberately. The concept of recklessness can relate to the level of responsibility due from an individual or organisation. It might be considered reckless for a developer, architect or other professional not to seek specialist ecological advice.

Developers, development professionals and site workers all need to be aware that no decision by a planning authority, no advice from an ecological consultant, and no EPS development licence can remove individual responsibility under the WCA.

The Conservation (Natural Habitats &c.) Regulations 1994 (the Habitats Regulations) as amended by the Conservation (Natural Habitats, &c.) (Amendment) (England and Wales) Regulations 2007, 2008 and 2009

The Habitat Regulations are similar in some aspects to the WCA, but put into UK law the European Habitats Directive. The Regulations include annexes that list species for protection, including but not limited to all bats, otters, dormice and great crested newts. These are known as European Protected Species (EPS). The main overall impact of the Regulations on development has been to require developers to commission ecological and protected species survey well in advance of planning decisions, and to bring in a more rigorous licensing process. Licenses may be granted to permit developments that would otherwise breach the Habitat Regulations.

The Habitat Regulations do provide the means of prosecuting individuals and organisations that commit offences against scheduled species and habitats, but their main effect is to place a duty on national and local government to ensure the survival of populations of these species and their habitats, through policy, legislation and the planning process. A recent judicial review has provided a judgement that planning authorities are expected to ensure that a development meets the requirements of the Habitats Regulations before granting planning consent. This applies whenever the likely presence of an EPS is a material consideration. (Wooley vs Cheshire East Borough Council and Millennium Estates Ltd, see Natural England Statement)

The 2007 amendment modified the definition of an 'offence' in order for the Regulations to be consistent with the equivalent offence in the WCA 1981, and they have broadened the scope for proceeding without a licence. The 2007 Regulations have also removed the defence that harm was caused 'as an incidental result of a lawful operation and could not reasonably have been avoided', but have allowed for legal low level disturbance provided that it does not '*Deliberately disturb animals of an EPS in such a way as to be likely to significantly affect 1) the ability of a significant group of animals of that species to survive, breed or rear or nurture their young, or 2) the local distribution of the species.*' (Natural England Guidance Note WML-G12 (07/07).

The 2008 amendment, which came into force in October 2008, added three additional European Protected Species to Schedule 2 that are not of particular relevance to development in Mid Wales; the pool frog, Fisher's estuarine moth and the lesser whirlpool ram's-horn snail.

The 2009 amendment, which came into force on 30 January 2009, resulted in several changes, the most relevant including changes to the disturbance offence, removal of the words 'significant group of animals' (2007 amendment), adding references to hibernation and migration within the offences as well as requiring ministerial approved guidance to clarify the scope of offences and to help developers consider whether their operations are likely to breach regulations & require licensing. Most importantly, 2009 DEFRA guidance on the amendment states that '*current changes retain the requirement that for the offence to be committed, the result of disturbance must affect important life cycle processes and so low level or inconsequential disturbance that does not have these impacts is not captured by the offence in these Regulations,*' and that '*in most cases it is not expected that an action which disturbed a single animal or a small number of animals would have sufficient impact to be caught by the offence*' unless that EPS were to become '*particularly rare*'.

The Protection of Badgers Act 1992 (The Badgers Act)

The Badgers Act is intended to prevent deliberate cruelty and other actions that cause suffering to badgers, rather than to meet a conservation purpose. Badgers are common and widespread, with no apparent threat to the UK population as a whole. Potential causes of harm, disturbance or suffering are from construction work in the vicinity of their holes and loss of foraging area within the territory of a social group.

PLANNING POLICY

The Development Plan for a planning authority area is based on local needs and conditions, in relation to government policy expressed in planning policy statements such as the Welsh Environment Strategy and Technical Advice Note 5 Nature Conservation and Planning from the Wales Assembly Government. In response to local values, these planning documents, and other expressions of concern for nature conservation, local plans contain policies to protect biodiversity and habitat features of local and national importance. In Powys the Unitary Development Plan will be replaced by Local Development Plan document set, expected in 2016.

The Natural Environment and Rural Communities Act 2006 places a duty to conserve biodiversity on all public authorities. Local planning authorities will respond to this through the implementation of policies and procedures.

National and local organisations, including local government, have developed national and local Biodiversity Action Plans (BAP). These include action plans to conserve named species, which may or may not receive statutory protection. In the UK BAP these are now referred to as Priority Species. Section 6.5 of TAN 5 makes it clear that, in addition to legal provisions, Priority and local Biodiversity Action Plan habitats and species are a consideration in planning decisions and therefore require the same scrutiny.

As a consequence of the Wooley vs Cheshire East decision, planning authorities will now seek a higher level of survey information and mitigation detail, approaching that required for an EPS licence application, before planning consent is granted. This means that it is even more essential to start the ecological survey process at the very beginning of a project, allowing the likely costs of full survey and mitigation to be determined, and allowing time to gather complete survey data in the appropriate season.

LICENSING

Licences from the Wales assembly Government may be needed where a development will have a direct adverse impact on a protected species, or where there is potential for significant impact on a local population. Licences in effect permit some otherwise illegal actions under strict conditions. The licensing process is lengthy and demanding in the case of European Protected Species, and is not part of planning consent. The Wales assembly Government grants EPS licences for development projects, and will not consider an application until outline consent has been given. The licence itself will not normally be granted until full planning permission has been given. Licensing authorities expect that licence applications should be based on extensive survey of the local population. Some different arrangements may apply in the case of major public projects and projects that will take place in phases over several years.

Species protected under the WCA alone are not covered by these licensing arrangements; the situation is explained in relation to water voles as an example, below.

SPECIES

Badgers

Badgers are protected under the Badgers Act, from activities that can cause suffering. Vibration from construction plant can cause disturbance, and possibly the collapse of holes. Official guidelines suggest that development needs

licensing if it involves work within certain distances of a sett (any permanent place of shelter, typically 1 or more holes): heavy construction plant within 30m, light plant within 20m, and hand tools within 10m. Pile driving and similar operations need site specific consideration.

Loss of foraging area may be an important factor – badger social groups (clans) probably need at least 3.5ha of permanent grassland. Where there are close spaced clans a development project may result in starvation or injury from fighting. Survey should take place in winter, but may need to continue up to the start of development. Licenses are not granted during the breeding season (30 Nov – 1 July).

Bat species

All 17 British bat species have EPS status, protected under the WCA and the Habitat Regulations. Bats use a sequence of roosts in an annual cycle, for shelter and breeding. Roost requirements differ between species and suitable roosts are used repeatedly; particular roosts may be critical for the survival of a local population. Legal protection will therefore cover roosts even when they are not occupied. Roost sites include hollows and smaller flaws in trees, roof spaces in houses and other buildings, walls with insulation cavities, cladding, cracks and hollows, and caves, cellars and mines. Recently built properties may be used, and most traditional concepts of bat roosts and behaviour are misleading.

Initial bat surveys to check for unknown roosts can take place at any time, but may be less effective in winter, while ‘likely absence’ sometimes cannot be determined without activity survey involving several visits between May and September. A site with bat activity in the vicinity and suitable roost features, or key habitat features around it, will need careful investigation.

Otters

Otters have EPS status, protected under the WCA and the Habitat Regulations. They are solitary and territorial, typically marking several kilometres of a watercourse as a territory. Otters hunt for fish in water but can travel on land and may move away from the sides of watercourses. They may also use canals. Development issues often centre on not severing territories or dispersal routes, not causing disturbance at night and not disturbing otter holts. Survey can be at any time, but is less reliable in winter.

Water Voles

Water voles received limited legal protection under the WCA in 1998, but the protection has recently been extended (2008), so the water vole is now fully protected under Section 9. It is an offence to intentionally kill, injure or take (capture) a water vole; possess or control a live or dead water vole, or any part of a water vole; intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or disturb water voles while they are using such a place; sell, offer for sale or advertise for live or dead water voles.

There is no provision under the WCA for licensing what would otherwise be offences for the purpose of development, maintenance or land management. Such activities must be covered by the defence in the Act that permits otherwise illegal actions if they are an incidental result of a lawful operation and could not reasonably be avoided. The defence requires that reasonable steps are taken to avoid unnecessary damage, and for developers, this can best be achieved by undertaking a water vole survey at the appropriate time prior to planning any work and ensuring that appropriate avoidance or mitigation measures are included in the proposals.

Survey can take place throughout the year, but is less reliable in winter. Water voles need sloping earth banks on the sides of water bodies, a good mix of plant food, and refuge from high water levels. The introduced American mink is a critically significant predator, which limits the distribution of water voles.

Dormice

Dormice have EPS status, protected under the WCA and the Habitat Regulations. They typically occupy areas of dense old woodland and networks of dense hedgerows where there is high species and structural diversity, but are not restricted to these habitats. They avoid open ground, but spread along hedges and woodland edges. Dormice presence should be considered in any scheme that involves removal of hedgerows, woodland or dense undergrowth in areas that are linked by similar habitat to old hedgerow networks and woodlands.

Survey is difficult, and effective survey may be restricted to autumn and early winter or require long-term methods.

Fully protected bird species

About 80 bird species are listed in Schedule 1 of the WCA; these are in effect fully protected species. The great majority of these are limited to a few areas of Britain, typically in mountainous or coastal habitats. There are 3 winter migrant species that can occur throughout Britain; brambling, fieldfare, and redwing. These may occasionally breed in parts of the UK, but are unlikely to be an issue in development schemes. A further 3 species breed in Wales and may occur on or close to development sites; kingfisher, barn owl, and little ringed plover. These all have particular requirements for their breeding sites. Little ringed plover presents a particular problem as it selects nest sites on gravel close to rivers or large pools. This habitat can be created accidentally in the course of construction work.

Breeding birds

All birds are protected while breeding in the UK, under the WCA. They are protected from killing, injuring, disturbance, destruction of nests and nest sites, and from the taking of eggs. Almost any habitat will provide potential nest sites for some species, including temporary habitat created by construction work. This imposes a severe constraint on development, but the constraint can be removed by careful timing of site clearance and good site management. Sites should be cleared of cover between late August and early March. Other conservation issues mean that the best periods for site clearance are late September to the end of October, or mid February to early March.

Reptiles

Grass snakes, adders, slow worm, and common lizard are widespread reptile species that are partially protected under the WCA. Their protection is against killing, injuring and sale. 'Fear of snakes' is not an acceptable reason for harming any reptiles, and provides no defence against prosecution. These species are often listed in Biodiversity Action Plans, and thus may be a planning issue requiring precautions and habitat mitigation. Survey is not effective in winter, and full survey can be time consuming.

For reptile species the conditions that apply to the 'incidental result' defence (see water vole notes) are particularly relevant; reasonable effort has to be made to avoid harming them. Because they are hard to find and seek shelter when disturbed it is usually necessary to capture and remove them before development begins.

Great crested newts

Great crested newts have EPS status, protected under the WCA and the Habitat Regulations.

They are amphibians that breed in water but hibernate and forage on land. Typical breeding ponds are small, fish free, with aquatic vegetation, and close to other similar ponds. Good land habitat has areas of dense vegetation and hedge banks or loose material that provide shelter. Populations are often localised, and newts may use habitat that is not particularly favourable. They generally remain within 100m of breeding ponds, but can spread further.

Survey can take place between mid February and mid September, but the March to June period is most important. Considerable survey effort may be needed to show that newts are probably absent from any site with or close to suitable ponds.

Other amphibians

The pool frog, which is a European Protected Species as of October 2008, currently has limited populations found within a few selected sites in the UK.

Common frog, common toad, smooth newts and palmate newts all have partial protection under the WCA, from sale and associated activities only. Populations in urban areas may be vulnerable, so are included in some local Biodiversity Action Plans.

White clawed crayfish

The endangered native crayfish is partially protected, from taking and sale. Non-native species carry a disease that is fatal to the native species, so must not be introduced or returned to any water bodies, and if taken must be killed. This means that any 'capture' of a crayfish can result in an offence, and accidental introduction of non-native crayfish or their diseases must be avoided. Native populations are now restricted to some streams, large pools and isolated sections of canal. Licences are needed for most forms of survey, which is effectively limited to the April to October period.

Other fully protected species

There are many more plant and animal species that have EPS status or fully protected status, including for example some fish, rare aquatic plants, and some beetles and lichens associated with veteran trees. These species, such as the floating water plantain, are usually restricted to known and protected sites.

Plant species

The sites where protected, rare or valued plants are found have mostly been recorded and would be reported in record searches, but care needs to be taken around relatively unimproved or undisturbed habitats. No plants should be uprooted or parts of plants collected without the owner's permission.

There is a minor issue concerning bluebells; the true wild native bluebell is protected against commercial harvesting, through protection against sale under the WCA. Hybrid bluebells are often found growing wild, but true native populations should be conserved and where unavoidably dug up in the course of development should not be traded in any way.

These notes are presented as the view of BCE ecologists, based on the understanding of wildlife law and planning policy gained in the course of that work and on advice given in various official publications. These notes are not formal legal advice, which should be sought from members of the legal profession with specialist knowledge of wildlife law.

October 2009