

Great Crested Newt Assessment of land
at Little Overton Farm

Station Road
Overton
Wrexham
LL13 0LJ

(SJ37865.41617)

By Churton Ecology
((Mr. R Thorne and Dr A.K. Thorne MCIEEM: Contact: 07753 327965)
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1 INTRODUCTION

1.1 Background

Churton Ecology was commissioned by Roger Parry and Partners LLP to carry out a great crested newt habitat suitability assessment of land and ponds at Little Overton Farm, Station Road, Overton, Wrexham LL13 0LJ (SJ37865.41617)

The site is currently a working cattle farm comprising buildings, pasture, amenity grassland, areas of hardstanding and hedgerow.

The survey was carried out by Mr. Rob Thorne (Churton Ecology) on 13/02/19.

1.2 Proposed works

The proposal is to convert one small building to residential use with some associated landscaping. This will involve linking with the new proposed access of an adjacent (approved) planning application. As part of that scheme several buildings will either be demolished or converted and the surrounding yard area will be broken up, removed and landscaped. The proposal will include infilling a slurry lagoon and attenuation pond and reverting the area back to graded pasture. To achieve adequate highways visibility a 130m length of roadside hedgerow will require removal.

2 METHODOLOGY

Desktop search

Ponds within 250m of the site were sought using OS maps and aerial photographs.

Breeding habitat suitability assessment

Five ponds were assessed for their breeding habitat suitability using the Habitat Suitability Index (HSI) method described by Oldham et al (2000).

Terrestrial habitat suitability assessment

The habitats on and adjacent to the site were assessed for their suitability to provide places of rest or shelter (referred to as terrestrial habitats). The potential for newts to traverse the site and any dispersal limitations that might interrupt such movements were also considered.

3 RESULTS AND EVALUATION

Desktop search

There was evidence potentially of up to six ponds within 250m of the site – identified from various mapping sources and aerial photographs.

Aquatic habitat suitability assessment

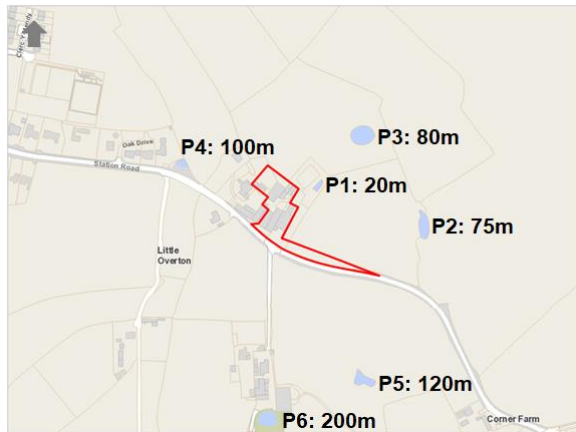


Figure 1: Pond location plan



P1: Pond 4: Viewed from the SE, looking NW

There was no evidence to suggest that pond 4 holds water at any time of year – it was dry during what should be the wettest part of year.



P2: Pond 1: Viewed from the SW, looking NW



P3: Slurry lagoon adjacent to Pond 1, looking NW

Pond 1 attenuates surface water from the adjacent (active) farmyard. The water is 'black', anaerobic and clearly heavily polluted with no aquatic vegetation. Seepage from the slurry lagoon to the west may also contribute to its bad water quality. Consequently the pond is completely unsuitable for great crested newts.



P4: Pond 2: Viewed from the SE, looking NW

Habitat Suitability Index		Pond 2: SJ3803541608
Distance from the site	Circa: 75m NE	
HSI Categories	HSI Values	HSI Score
Location	optimal	1
Pond area	250m ²	0.5
Pond drying	dries annually	0.1
Water quality	poor	0.33
Shade	100%	0.2
Fowl	absent	1
Fish	absent	1
Pond count	25+	1
Terrestrial habitat	Poor <25% in 250m surround	0.33
Macrophytes	0%	0.3
Result	Poor	0.4

Figure 2: Pond 2: 'Poor' HSI Score

Pond 2 is very shallow, contains shrubs and trees growing centrally, and has no emergent or aquatic vegetation indicating that it dries annually. The ephemeral nature of the pond was confirmed by the landowner who stated that it holds water until May at the latest. The pond represents 'poor' potential breeding habitat primarily since it dries annually. Additional factors such as the lack of emergent/aquatic vegetation and heavy overshadowing also significantly reduce its suitability.



P5: Pond 3: Viewed from the S, looking N

Habitat Suitability Index		Pond 3: SJ3796041706
Distance from the site	Circa: 80m N (150m from the roadside hedge)	
HSI Categories	HSI Values	HSI Score
Location	optimal	1
Pond area	500m ²	1
Pond drying	never dries	0.9
Water quality	moderate	0.67
Shade	0%	1
Fowl	minor	0.67
Fish	absent	1
Pond count	25+	1
Terrestrial habitat	Poor <25% in 250m surround	0.33
Macrophytes	60%	0.9
Result	Excellent	0.8

Figure 3: Pond 3: 'Excellent' HSI Score

Pond 3 represents 'excellent' potential breeding habitat since it is an optimal size and never dries and has a rich and diverse macrophyte cover. Given the high density of ponds and wide distribution of newts found locally it is a virtual certainty that the pond will support breeding great crested newts.



P6: Pond 5: Viewed from the W, looking E

Habitat Suitability Index		Pond 5: SJ3796141416
Distance from the site	Circa: 120m SE	
HSI Categories	HSI Values	HSI Score
Location	optimal	1
Pond area	200m ²	0.4
Pond drying	dries annually	0.1
Water quality	poor	0.33
Shade	100%	0.2
Fowl	absent	1
Fish	absent	1
Pond count	25+	1
Terrestrial habitat	Poor <25% in 250m surround	0.33
Macrophytes	0%	0.3
Result	Poor	0.4

Figure 4: Pond 5: 'Poor' HSI Score

Pond 5 is very shallow, contains shrubs and trees growing centrally, and has no emergent or aquatic vegetation indicating that it dries annually. The ephemeral nature of the pond was confirmed by the landowner who stated that it holds water until May at the latest. The pond represents 'poor' potential breeding habitat primarily since it dries annually. Additional factors such as the lack of emergent/aquatic vegetation and heavy overshadowing also significantly reduce its suitability.

Access to pond 6 could not be arranged on the day; however, one family member alluded to the potential presence of fish – which may or may not be accurate. From a distance it also appears that the pond is used to rear waterfowl, surrounded as it is by a protective fence. Whether the pond is suitable or not is hardly an issue since we must assume from the favourable characteristics of pond 3 (which is significantly nearer) that great crested newt is likely to be an important ecological feature of the site.

Terrestrial habitat suitability assessment

The bunded lagoon and attenuation pond within the north part of the site supports an area of excellent terrestrial habitat and this is located within immediate (<50m) proximity to pond 3 (see photos 18 & 19 below). The area supports dense, tussocky grassland with lots of mammal burrowing activity (Vole and Rabbit). The majority of the remaining site supports poor terrestrial habitat on a working cattle farm (pasture & amenity grassland, buildings, cattle sheds and areas of hardstanding); however, there are some areas of better habitat - most notably the 130m section of roadside hedgerow that will require removal and a small scruffy area of farmyard close to the proposed highways access (see photos 8, 9, 16 & 17 below).

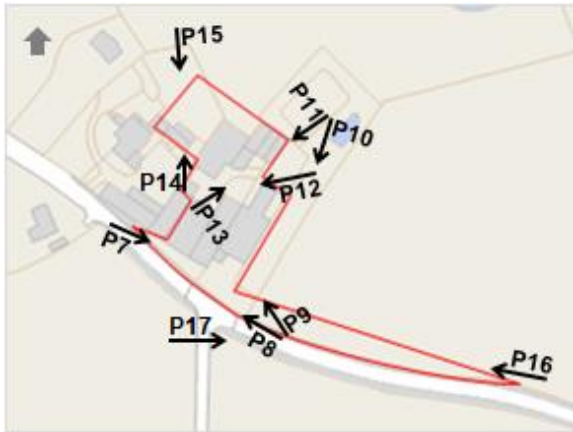


Figure 5: Photo location plan



P7: SW yard area, looking E



P8: SE (scruffy) yard area, looking WNW



P9: SE (scruffy) yard area, looking NW



P10: NE yard area, looking SSW



P11: NE yard area, looking SW



P12: Central yard area, looking WSW



P13: Central yard area, looking NE



P14: NW yard area, looking N



P15: Pasture to NW, looking S



P16: Hedgerow section to be removed (E-end), looking W



P17: Hedgerow section to be removed (W-end), looking E



P18: Slurry lagoon and bunds, looking N



P19: Attenuation pond and bunds, looking NE

Evaluation and discussion

The surrounding fields support grazed improved grassland (Perennial Rye-grass dominant) and the hedgerows are generally over-managed and poorly protected against basal grazing. There is some debate as to whether improved pasture constitutes good terrestrial habitat; however, the HSI calculation for this category (poor) has been based on the criteria set out in the ARG HSI calculation sheet – “Habitat with poor structure (e.g. amenity grassland, improved pasture and arable) that offers limited opportunities (less than 25% of available area) for foraging and shelter”. Even if we assume it to be of moderate value (and it certainly isn't good) ponds 2 and 5 still score 'poor' and pond 3 still scores 'excellent'. It is likely that small numbers of newts may occasionally forage in ponds 2 and 5; however, we can effectively rule out the occurrence of breeding (or the presence of isolated sub-populations) in these two ponds since larval metamorphosis cannot be achieved.

The great crested newt is a nocturnal ectotherm (i.e. it is slow moving and requires only a limited food supply consistent with most ectothermic species), subsisting on a diet of widely available, common invertebrates. Due to its lack of terrestrial mobility the great crested newt is at increased risk of predation during its terrestrial wanderings; therefore, wide-ranging dispersal over open ground (such as here) is typically limited to breeding migrations (between ponds), random movements of immature animals and situations where suitable terrestrial habitats - ground-level cover, resting/brumation habitat and to a lesser extent foraging opportunities - cannot be found in proximity to the breeding pond.

The bunded lagoon and attenuation pond within the north part of the site supports an area of excellent terrestrial habitat and this is located within immediate proximity to pond 3. The area supports dense, tussocky grassland with lots of mammal burrowing activity. The majority of the remaining site supports poor terrestrial habitat on a working cattle farm (pasture & amenity grassland, buildings, cattle sheds and areas of hardstanding); however, there are

some areas of better habitat - most notably the 130m section of roadside hedgerow that will require removal and a small scruffy area of farmyard close to the proposed highways access.

The hedgerow is quite narrow, located on flat ground and is either cut or grazed close to its base. As a result it is not an exceptional example of its kind, particularly as it does not provide an abundance of potential resting habitat. The extent of suitable habitat within the scruffy yard area is also limited and the farm buildings and walls to the north represent a partial barrier to dispersal.

Although great crested newts do migrate over much larger distances pond 3 is located well outside the immediate (<50m) terrestrial habitat zone most frequently occupied or traversed by this species. The presence of a large area of excellent terrestrial habitat within immediate proximity to pond 3 (including other hedgerows) is also likely to reduce the requirement for dispersal over greater distances. In particular the pond is located a significant distance from the small scruffy farmyard area (135m) and the nearest part of the roadside hedgerow requiring removal (150m). As with any breeding pond surrounded by good terrestrial habitat there is a reduced dispersal rate, in percentage terms, and, therefore, a lower likelihood of development related offences occurring at greater distances from the breeding pond. Furthermore there are no significant areas of terrestrial habitat which might otherwise encourage regular trans-site migrations.

Great crested newt is still likely to be an important ecological feature in the site context.

4 POTENTIAL IMPACTS

4.1 Great Crested Newt

Significance of effects prior to mitigation

The removal and landscaping of the bunded area surrounding the slurry lagoon to the north would almost certainly result in the destruction of resting habitat and the disturbance, capture, killing and injuring of great crested newts. In order to lawfully landscape this area, potentially two ponds would need to be surveyed (P3 & P6) and the area would have to be developed under a mitigation licence with all newts captured and excluded prior to landscaping.

If the destruction of the bunded area can be removed from the proposals then it should be possible to develop the site using a non-licensed method statement approach with no further survey requirements. The remaining areas of good terrestrial habitat are limited in terms of

quality and abundance and these are located at reasonable distances from the nearest potential breeding pond. As such it is unlikely that the development would result in the damage, destruction or deterioration of a resting site or the obstruction of a migration route. However, it is possible that nocturnal migrations of small numbers of individuals could occur through parts of the site between the months of March and November. In the absence of mitigation there is some potential for the development to disturb, capture, injure or kill small numbers of great crested newts during the construction phase. Furthermore, newts could take up residence (rest) in building/demolition materials that have been stored inappropriately. The impact of minor disturbances/mortalities (in the absence of mitigation) would likely have little effect on the local population and current conservation status would essentially be maintained; however, the disturbance, capture, transportation, killing or injuring of even one newt is a legal consideration.

Significance of residual effects after mitigation

If the bunded area can be retained then there should be no significant residual effect on great crested newts and the chance of a legal offence occurring will be minimised using reasonable avoidance measures.

Significance of residual effects after enhancements

There is ample scope for increasing the current terrestrial value of the site by removing buildings and areas of hardstanding and reverting these areas back to a more natural (grassland/shrub) habitat. The impact of this will be favourable and will have a beneficial effect on the local population. The roadside hedgerow can either be translocated or replanted (like for like) outside the visibility line. Additional hedgerows will also be planted along the new driveway and around the individual property boundaries.

4.2 Survey limitations

There were no significant survey limitations.

4.3 Legal status

Great Crested Newt

Great Crested Newt is protected under both UK and European Law. Essentially this makes it unlawful to; deliberately capture, injure or kill a Great Crested Newt; intentionally or recklessly disturb a Great Crested Newt whilst it uses a breeding or resting site or deliberately cause disturbance to a Great Crested Newt or group of Great Crested Newts;

damage or destroy a breeding site or resting place; intentionally or recklessly obstruct access to any structure or place used by newts for the purpose of shelter or protection.

4.4 Personnel

Rob Thorne has fourteen years' experience surveying sites for development and conservation purposes, covering Ecological Impact Assessment, botanical and vegetation surveys, and is competent to survey for a wide range of protected and priority species. He holds NE and NRW bat (12yrs) and Great Crested Newt (10yrs) survey and mitigation licences. He is also experienced in reptile mitigation, habitat management and translocation.

5 RECOMMENDATIONS

5.1 Great Crested Newt

Mitigation and Reasonable Avoidance strategy

If the following reasonable avoidance strategy is not acceptable to the developer, or if he or she wishes to carry out presence/absence/population surveys to alleviate the need for such an approach (or to guarantee absolute legal compliance/or to have a licence contingency in place in the event that a newt were discovered), then further eDNA or standard trapping surveys of the ponds (between March and June) would be required to establish presence/absence and potentially the relative population size. N.B. this approach assumes that the bunded area can be retained.

It is important that the site is maintained as it is currently by regular cutting or grazing in the lead up to the construction phase. If the site is left to develop into rough grassland then a presence/absence survey of the pond/s would be necessary as a minimum.

It is also recommended that the removal/translocation of the roadside hedge and sterilisation of the scruffy farmyard area (the two areas where newts could potentially be encountered) are completed in advance of any main building contractors being booked in since the discovery of newts would inevitably result in delays to the project whilst the licence were being applied for.

All hedgerow removal and site clearance activities (such as clearing up any farmyard debris, stimming areas of rank grassland) will be preceded by a finger-tip search of the area by a licensed, qualified ecologist. Assuming these searches are negative the qualified ecologist will remain to oversee all hedgerow removal and habitat

sterilisation measures. The extent of input from the ECoWs will be subject to the ecologist's discretion on the day.

RAMs will aim to reduce the potential for impacts (aiding legal compliance) by regulating the storage of building materials and minimising opportunities for animal disturbance, capture and harm. Provided entrapped animals can quickly escape unaided there should be little potential for (deliberate) capture, or any need for subsequent handling or transportation and release (an offence without a mitigation licence). Additionally the level of disturbance incurred by the fall and escape might be equal to that which an animal might occasionally experience in its wild or natural habitat (i.e. falling into a dry ditch and climbing out).

The following working methods must be adhered to for the full duration of the construction phase:

- The ground-works period must be carefully planned to run in a quick and orderly succession with the absolute minimum of delays incurred.
- Ground disturbances will be limited solely to unsuitable or pre-sterilised habitats within the site. No spoil or other materials will be pushed into more suitable fringe habitats (e.g. the adjacent hedgerows/bunded area) and there will be no associated damage to these areas (through the manoeuvring of heavy machinery etc.)
- Excavated spoil must be removed, backfilled, sealed or compacted before nightfall in its permanent location
- Trenches and pits will be opened, closed and/or backfilled during the same day. Where this is not possible any loose soil lining the trench or pit base will be sealed before nightfall and provided with ramps suitable for trapped amphibians to escape.
- Where smaller excavations are to remain open for longer periods (i.e. at terminals or manifold junctions) the trench lip should be rebated and a covering board slotted in so that this lies flush at ground level. Once complete the board edges will be covered with a single course of sand bags.
- Construction and demolition materials provide objects under which migrating newts can potentially find shelter, particularly if stockpiled for extended periods of time. Therefore, demolition materials will be removed immediately from the site or stored appropriately on-site (see below). Construction materials will be brought to site daily or, if stored over time, then on i) raised palettes or timber bearers ii) in trailers, skips or raised containers iii) in raised tonne bags or tarpaulins folded up and secured around the edges. A storage compound would be best sited in the enclosed courtyard to the south-west.

- If any newt is encountered works must cease immediately and a licensed ecologist contacted to identify the species present. If an ecologist is not available then Natural Resources Wales must be contacted to advise. If it is confirmed that a great crested newt has been encountered, then there is a legal requirement for works to cease and NRW must be notified.

A photographic and written audit of all these stages is **recommended** in the event that the site is inspected by the LPA, NRW or the Police.

Splayed or dropped kerbs should be provided at the bellmouth to ensure ground-level connectivity is maintained along the roadside hedgerow. If the proposed surface drainage system requires the use of gully pots (or similar systems), the grill must be set away from the kerb by a minimum of 50mm or a specialist (recessed) amphibian kerb must be used.

5.2 Enhancements

There is ample scope for increasing the current terrestrial value of the site by removing buildings and areas of hardstanding and reverting these areas back to a more natural (grassland/shrub) habitat. The roadside hedgerow can either be translocated or replanted (like for like) outside the visibility line.

Additional native hedgerows will also be planted along the new driveway and around the individual property boundaries. Existing hedgerows close to the pond could also be consolidated with infill planting or laid (pleached) and managed more appropriately to create a taller and denser hedgerow structure (see below). Improved fencing to prohibit grazing would also allow the hedgebase to recover into transitional grassland habitats suitable for amphibians and invertebrates.

Native shrub species recommended for native hedge planting (new hedges, replacement hedges and infilling)	
Common name	Common name
<i>Crataegus monogyna</i>	Hawthorn (70% of planting stock)
<i>Corylus avellana</i>	Hazel
<i>Euonymus europaeus</i>	Spindle
<i>Viburnum opulus</i>	Gelder Rose
<i>Acer campestre</i>	Field Maple
<i>Cornus sanguinea</i>	Dogwood
<i>Ilex aquifolium</i>	Holly
<i>Rosa canina</i>	Dog Rose

Note: Blackthorn is best avoided as its suckering habit will soon scrub over any margins. Hawthorn should comprise 70% of the planting stock. The remaining 30% of the planting stock should comprise an even or varied mix of interplanting using the other species listed in the table above.

All planting must be carried out within the recognised planting season (November to March) and plants must be of local origin/provenance. Plants should be set out in a double staggered row using a total of 5 plants per linear metre, with rows set 225mm apart. All newly planted stock must be fully protected from rabbit damage by the use of tree/shrub guards.

In the second or third year new hedging plants should be hand trimmed to an even height of approximately 750mm to encourage side shoots and the development of a sound base to the hedge. For the following two or three years, the leaders should be allowed to grow unhindered and the sides trimmed only if necessary. After the first 5 years, mechanical hedge trimming can commence OR the native hedge could be allowed to grow up until tall enough to be laid/pleached (approximately 10 years).

It is recommended that the new hedges are subsequently cut only every two to three years to a height of 2 to 2.5m (to allow some fruiting), with cuts carried out in the late winter months. Some Field Maple could be allowed to grow into trees since these do not attain a great height.

Cutting of hedgerow should be done on rotation e.g. only one third cut every three years.

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