ECOLOGICAL SURVEY (WITH HABITAT SUITABILITY INDEX FOR GREAT CRESTED NEWTS)

SWEET BRIAR FARM, CARR ROAD,
ULCEBY, LINCOLNSHIRE
for
V. WILKINS & SONS LTD

(April, 2016)
(Contract number 041)

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PROJECT DATA

Surveyor	Craig Emms
Date of Site Risk Assessment	22 April 2016
Site Address	Sweet Briar Farm, Carr Road, Ulceby, Lincolnshire DN39 6XR
Project Proposed	The construction of a free range egg-laying unit
Boundary as Specified by Client	Yes
Site Area (Ha)	Approximately 0.8 ha
Central Ordnance Survey Grid Reference	TA 10509 17086
Survey Date	22 April 2016
Date Report Issued	28 April 2016
Report Version	Version 1.

SUMMARY

THE SITE IS PART OF A FARM LOCATED IN NORTH LINCOLNSHIRE APPROXIMATELY 14KM TO THE NORTH-WEST OF THE LARGE TOWN AND SEAPORT OF GRIMSBY. IT IS TO BE DEVELOPED WITH THE CONSTRUCTION OF A FREE RANGE EGG-LAYING UNIT. THE SITE AND ITS IMMEDIATE SURROUNDINGS WERE SURVEYED FOR THEIR ECOLOGICAL INTEREST AND ONE POND CLOSE TO THE SITE WAS ASSESSED FOR ITS HABITAT SUITABILITY FOR GREAT CRESTED NEWTS. THE SITE ITSELF HAS LITTLE ECOLOGICAL INTEREST AND THE POND HAS BEEN CATEGORISED AS ‘AVERAGE’ FOR GREAT CRESTED NEWTS AND THEREFORE THEY ARE UNLIKELY TO BE PRESENT ON THE DEVLOPMENT SITE. THESE RESULTS INDICATE THAT NO FURTHER SURVEYS ARE NECESSARY. HOWEVER IT IS RECOMMENDED THAT AN AMPHIBIAN FENCE BE ERECTED AROUND THE PERIMETER OF THE DEVLOPMENT FOOTPRINT PRIOR TO WORK STARTING AS A PRECAUTIONARY MEASURE.

INTRODUCTION

OBJECTIVES

Conduct a Phase 1 Habitat Survey of the above site with Habitat Suitability Index (HSI) survey for Great Crested Newts on all accessible ponds on and up to 500m from the proposed site (if required); prepare a Phase 1 Habitat Map with Target Notes; produce a report of the results with appropriate recommendations for protected species and habitats etc. The survey is to be undertaken by appropriately licenced, qualified and experienced personnel.

METHODS AND LIMITATIONS

The site was surveyed following the methodology contained in the Handbook for Phase 1 habitat survey: a technique for environmental audit (Joint Nature Conservation Committee, 2010) and the current guidance on survey methods from the Chartered Institute of Ecology and Environmental Management (Guidelines for Preliminary Ecological Appraisal. CIEEM, 2012). The Habitat Suitability Index was calculated following ARG UK advice note 5 (Amphibian and Reptile Groups of the United Kingdom, 2010).

It should be noted that a single visit will inevitably miss species not visible on the date of survey by reason of seasonality, mobility, habits or chance, and that the month of April is within the optimal survey period for many taxa of nature conservation interest in this part of the United Kingdom.

PLANNING POLICY AND LEGISLATION

The regulatory context of this survey and report includes the Wildlife & Countryside Act, Habitats & Species Regulations, Habitats Directive, Birds Directive, Berne Convention, Bonn Convention, Countryside & Rights of Way Act, Natural Environment and Rural Communities Act, and the Convention on Biological Diversity.

Please note that there is complex and strict legislation protecting many species and habitats in the United Kingdom. For European Protected Species (including bats, great crested newt, dormouse, otter, *etc.*) there is no longer a clear defence against harm being caused as an incidental result of an otherwise lawful operation. If you are in any doubt about the status of species or habitats on your site, please be sure to contact me before undertaking any site work.

This ecological survey may not be sufficient on its own for planning application purposes where notable habitats/species are present or potentially present, especially regarding European Protected Species.

METHODOLOGY – DESK STUDY

A public records search was not commissioned as a part of this survey.

METHODOLOGY – FIELD SURVEY

The site was surveyed by walking over it at a uniform pace, making a note of habitats and species present, or their field signs (including European Protected Species), and appraising the site in the context of biodiversity and planning policies.

BASELINE ECOLOGICAL CONDITIONS – DESIGNATED SITES

A search using information from MAGIC (Multi-Agency Geographic Information for the Countryside - www.magic.gov.uk) revealed that there are no known sites with statutory protected site designations within a 2km radius of the proposed development site. The closest designated sites are Kirmington Pits Site of Special Scientific Interest (SSSI) 5.35km to the south and North Killingholme Haven Pits SSSI 6.1km to the east of the site. The Humber Estuary Ramsar Site, Special Area of Conservation and Special Protection Area lies approximately 6.8km to the east of the development site.

BASELINE ECOLOGICAL CONDITIONS - HABITATS

GENERAL DESCRIPTION

The site is part of a farm and is approximately 0.8 ha in extent. The farm is located approximately 1.9km to the south-east of the village of Wootton, 2km to the east of the small village of Thornton Curtis and 1.95km to the north of the village of Ulceby (central OS Grid Ref: TA 10509 17086). It is situated in a predominantly rural landscape and the surrounding land is mainly used to grow arable crops. Habitats on and adjacent to the site include semi-improved grassland, arable land, a native species-rich hedge and trees and native species-poor intact hedges, with hard standing along the full length of the proposed access track.

A complex of farm buildings is located to the north-east of the site, along with a small pond, and a free range egg-laying unit is located immediately to the north of the site (all off-site).

HABITAT DESCRIPTIONS

Neutral Semi-improved Grassland: This habitat covers the whole of the western part of the site and narrow strips of 1-2m width along the line of the hedgerows. It consists of common grasses including cock's-foot and Timothy together with small patches of common foxtail. Around the periphery of the grassland and encroaching from the surrounding hedges are low numbers of cow parsley, broad-leaved dock, dandelion, hogweed and cleavers. Creeping thistle, groundsel and scentless mayweed occur in the narrow strips of grassland between the hedgerows and the arable land.

Native Species-rich Hedge and Trees: This hedge is located to the north of and immediately adjacent to the proposed site. It is a managed hedge approximately 2.5m tall consisting of hawthorn, elder, holly and ivy, with a few ash, oak and wych elm standards. The flora of the hedge bottom consists of bramble, dog rose, common nettle, cleavers, cow parsley, hogweed, dandelion and hedge garlic. There is one old tree stump in the hedge that is partly hollow.

Native Intact Species-poor Hedges: One of these hedges is located immediately to the west of the site. A second hedge runs north to south through the site. They are both well-managed and stand at a height of about 2.5m. Species present include hawthorn with occasional elder and holly. The hedge bottom is composed of bramble, dog rose, cleavers, common nettle, cow parsley, hogweed and dandelion.

Arable Land: The eastern part of the proposed development site consists of a small portion of a large arable field. At the time of the survey this contained an oil-seed rape crop. Groundsel, creeping thistle and scentless mayweed grow amongst the crop and between it and the hedgerows.

Proposed access track: The proposed access to the site is along the existing track that leads south of the farm building complex from Carr Road and along part of the northern boundary of the site before turning north to the existing free range egg-laying unit. At present it consists of hard standing and has no ecological interest.

TARGET NOTES

Target note 1: Well-defined mammal tracks through the hedgerows containing two fresh badger latrines and badger snuffle holes.

Target note 2: Another well-defined mammal track through a hedgerow with roe deer footprints present.

BASELINE ECOLOGICAL CONDITIONS – SPECIES AND SPECIES GROUPS

PLANTS
Only widespread and common species have been observed on the site.

MACRO-INVERTEBRATES
Queen bumblebees (*Bombus* species), together with peacock and small tortoiseshell butterflies were observed on the site.

FISH
Not present. No aquatic habitats on the site.

GREAT CRESTED NEWT
No great crested newts were observed on or near to the site during the survey. A pond 170m to the north-east of the site was surveyed for its habitat suitability for great crested newts and its Habitat Suitability Index calculated as 'average' for newts (please see Appendix for the HSI calculation for this pond). Two other ponds were observed to be within 500m of the development site but neither were accessible to the surveyor as they were on other landowner's property. No great crested newt eggs or adults (or the eggs or adults of other amphibian species) were observed in the pond that was assessed though this does not mean that they are not present. However, the intensively-farmed nature of the surrounding farmland, which is mainly arable, indicates that there is unlikely to be a significant breeding population of great crested newts in the pond. In the surveyor's opinion the precautionary measures of erecting an amphibian fence around the development footprint, together with a finger-tip search of the site immediately before it is cleared to protect vulnerable taxa precludes the need for further surveys.

NATTERJACK TOAD
Not present in this area.

OTHER AMPHIBIANS
No amphibians observed on or close to the site (please see Great Crested Newt above for more details).

REPTILES
None observed and unlikely to be present on the site in significant numbers due to the highly disturbed nature of the surrounding (arable) land.

BIRDS
Low numbers of farmland birds were observed in the hedgerows immediately adjacent to the site (but not on it), including blackbird, chaffinch, goldfinch, great tit, blue tit and wren. A common buzzard and carrion crows were recorded flying over the surrounding farmland.

Red-listed Birds
A single singing male skylark was observed close to the site but not on it.

Amber-listed Birds
Dunnocks were observed in the hedge with trees immediately adjacent to the site. A single male marsh harrier was also observed hunting in the vicinity of the complex of farm buildings, which are located less than one hundred metres to the north-east of the site.

Active Nests Found
None observed on site (it is highly likely that the hedgerows adjacent to the site are used by nesting common farmland birds such as blackbird, dunnock and wren. It is less likely that skylarks will nest in the semi-improved grassland as they prefer arable land, especially when planted with spring cereals. However they will sometimes nest in late-cut hay meadows, though not usually within 10m of the edge of the fields).

BATS
The hedgerows adjacent to the site are judged to have negligible potential to hold bat roosts despite the presence of a large tree stump and the standard trees. This is due to the paucity of features such as old woodpecker holes, rot holes, crevices and splits. One standard tree has a light covering of ivy on its stem and this is also judged to have negligible potential to hold roosting bats. Bats probably forage along the hedgerows but the majority of these are being retained so there should be no significant impact on foraging bats. Possible negative impacts of new lighting on bats will be minimised by keeping the hours when lighting is used as short as possible, avoiding ‘light spillage’ by using directional down-lighting and reducing the brightness of necessary illumination.

OTTER
There are no suitable aquatic habitats present on the site. No further surveys are required.

WATER VOLE
There are no suitable aquatic habitats present on the site. No further surveys are required.

DORMICE
No suitable habitats on the site. No further surveys required.

BADGERS
Badger fieldsigns (trails, snuffle holes and fresh latrines) were observed in the western part of the site (see Target Note 1) indicating that badgers use part of the site for foraging. However no badger setts were observed either on or close to the site. No further surveys are required.

OTHER MAMMALS
Roe deer forage on the site and the surrounding farmland (see Target Note 2 for the location of a trail and footprints of roe deer). Grey squirrels are likely to forage in the adjacent hedgerows. Mice, voles are shrews are likely to be present in the habitats on site and red foxes probably forage on site though no fieldsigns were observed. Moles are present in the semi-improved grassland.

INVASIVE PLANTS (WILDLIFE & COUNTRYSIDE ACT ARTICLE14, SCHEDULE 9)
None observed on the site.

WEEDS ACT NATIVES
Creeping thistle and broad-leaved dock observed on site.

INVASIVE ANIMALS
None observed on the site. Grey squirrel is likely to forage in the adjacent hedgerows.

SERIOUS PLANT DISEASES/PATHOGENS
None observed on the site.

ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

FEATURES THAT SHOULD BE RETAINED IF POSSIBLE
A short section of the native species-rich hedge and trees, and a part of one of the intact species-poor hedges need to be removed during the development but the remaining hedgerows should be retained in their current condition as far as possible, especially the standard trees (and including the tree stump in the hedge and trees).

CONSTRAINTS
Retain the majority of the hedgerows adjacent to the site by designing around them. Protect the trees in line with BS 5837 and do not remove ivy, mistletoe, standing dead wood, snags or rot unless there is a clear safety risk or the presence of a serious pathogen.

To comply with national planning policy framework paragraph 125, avoid unnecessary negative impacts of new lighting at night, *e.g.* on plants, bats, invertebrates and astronomy. Minimise the hours when lighting is used, avoid "light spillage" by using directional down-lighting, reduce brightness of necessary illumination and keep light from shining on bat roost entries, mammal holes, *etc*.

Minimise ecological impacts during construction, generally avoiding unnecessary disturbance and pollution. If there are any steep-sided excavations created during construction, please

ensure they are covered/filled/provided with ramps to prevent any mammals becoming trapped.

OPPORTUNITIES
Use native planting (preferably of local origin) in all landscaping if possible. Where exotic ornamental species are planted, always avoid invasive species and choose those which are wildlife friendly and provide food (seeds, berries, fruit and nectar) or shelter.

In line with best practice and in order to comply with government policy on biodiversity protection and enhancement, generally retain habitats and features of ecological interest and wildlife value that are adjacent to the proposed development site. Create new wildlife habitats in these areas that are appropriate to the site's context, e.g. through the use of log piles, "wild" corners and native planting; install four bat roost boxes and two bird nest boxes of mixed designs in the adjacent hedgerow trees to enhance this habitat for bats and breeding birds.

RECOMMENDATIONS FOR MITIGATION AND FURTHER SURVEY

RECOMMENDATIONS
As a precautionary measure for the protection of vulnerable taxa (including the highly unlikely presence of great crested newts) an amphibian fence should be erected around the development footprint and a pre-clearance finger-tip search of all areas of the site using a suitably qualified and experienced ecologist should be conducted immediately prior to site stripping.

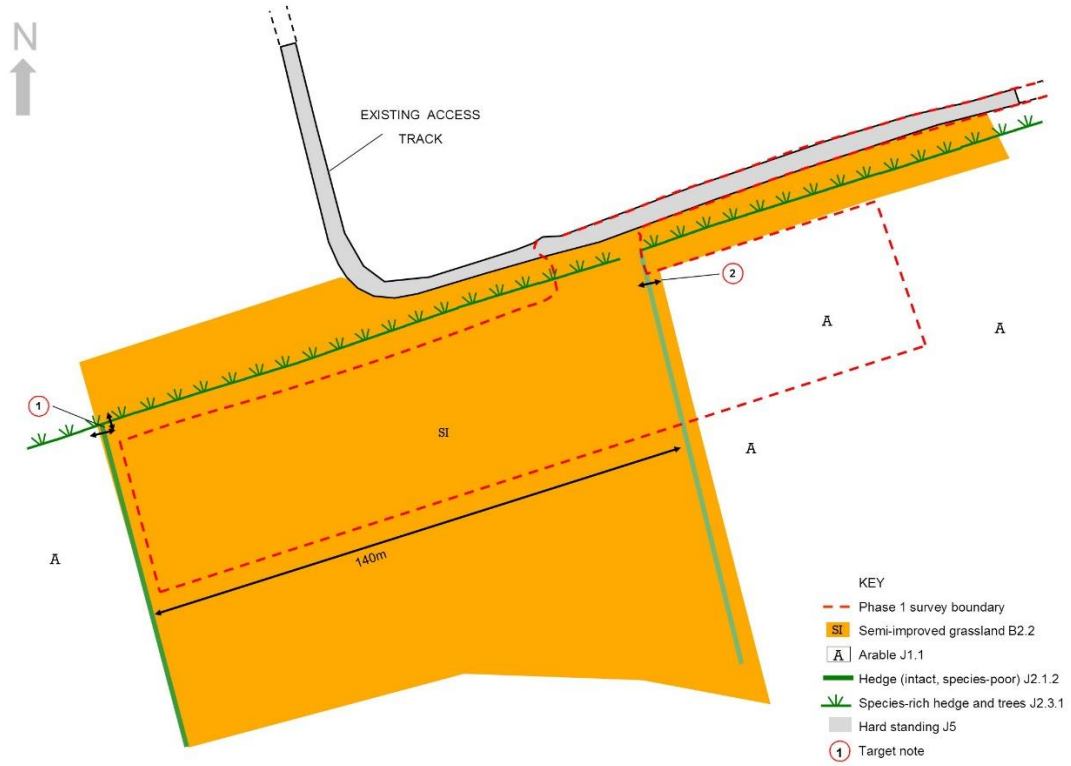
Though nesting birds on the site are highly unlikely, as a precautionary measure site clearance should be conducted outside the bird nesting season (usually taken as March to the end of September inclusive in this part of Britain). If this is unavoidable, pre-clearance inspection by a suitably experienced ornithologist will be required to identify whether any nests are present, and ensure appropriate action is taken.

CONCLUSIONS

Providing the recommendations noted herein are fully implemented, there are no obvious ecological counter indications to the proposed project at this stage. Indeed with the addition of bat roost boxes and bird nest boxes in the adjacent hedgerow trees, the recommended ecological protection and enhancements will deliver planning and biodiversity gains and provide assurance that there is No Net Loss to biodiversity and no unacceptable adverse impact on Ecosystem Services.

FIGURES

FIGURE 1: SITE PLAN



PLATES

ALL PHOTOGRAPHS TAKEN ON 22 APRIL 2016

Plate 1: a view of the semi-improved grassland from the west of the proposed site

Plate 2: a view of the arable land on the east of the site, from the east, also showing the narrow border of semi-improved grassland between the arable crop and the hedgerow

Plate 3: the native species-rich hedge and trees adjacent to the northern boundary of the site

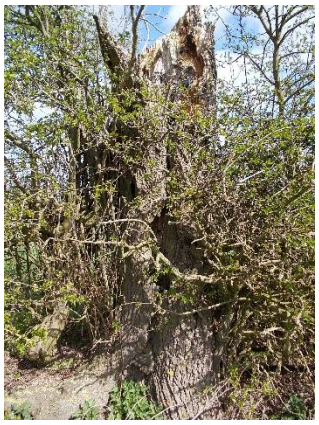


Plate 4: the large tree stump present in the hedge and trees

Plate 5: the section of the native species-poor intact hedge that will need to be removed for the development

Plate 6: part of the existing access track as it passes the northern boundary of the site

Plate 7: part of the existing access track that leads from the site to Carr Road

Plate 8: the nearby pond categorised as ‘average’ for great crested newts

Plate 9: Target Note 1, a well-defined mammal trail through the hedge, definitely used by badger and possibly also by roe deer.

APPENDICES

HABITAT SUITABILITY INDEX

Habitat Suitability Index

An HSI is a numerical score where 0 indicates unsuitable habitat and 1 represents optimal habitats. The HSI for the great crested newt incorporates ten suitability indices, all of which are factors believed to affect this species.

Categorisation of HSI Scores taken from: ARG UK advice note 5 (Amphibian and Reptile Groups of the United Kingdom, 2010):

HSI		Pond Suitability
<0.5	=	poor
0.5 – 0.59	=	below average
0.6 – 0.69	=	average
0.7 – 0.79	=	good
>0.8	=	excellent

Table 1: Habitat Suitability Index of the features of the pond at TA 10720 17272 at Sweet Briar Farm, Carr Road, Ulceby.

HSI Factor	Pond Score	Notes
SI 1 – Location	1	Within Zone A, optimal location.
SI 2 – Pond area	0.8	Pond area approx. 400 m^2, measured when full.
SI 3 – Pond drying	1	Pond rarely dries, no more than two years in ten or only in drought.
SI 4 – Water quality	0.33	Low invertebrate diversity.
SI 5 – Shade (to 1m from edge)	1	Approx. 25% shade.
SI 6 – Fowl	1	No evidence of waterfowl impact.
SI 7 – Fish	0.33	Small numbers of three-spined stickleback revealed by netting.
SI8 – Ponds	0.95	At least 3 ponds present within 1 km.
SI9 – Terrestrial habitat	0.33	Poor terrestrial habitat around pond offers limited opportunities for foraging and shelter.
SI10 - Macrophytes	0.5	20% cover.
HSI	**0.65**	

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

Therefore, the pond is classified at the following level of pond suitability for great crested newts: 'average' (HSI score = 0.65)

QUALITY ASSURANCE

This report format is designed to comply with statutory authority (*e.g.* Natural England) and the Chartered Institute of Ecology and Environmental Management relevant standing advice. Further studies may be required where there is evidence of protected species or if other notable ecological factors are found.

Craig Emms - MSc, MCIEEM
Craig is a professional ecologist with 40 years of practical experience in nature conservation, wildlife management and ecological consultancy, both in the UK and overseas. He has a Master of Science Degree in Ecosystems Analysis and Governance and has carried out original academic research on a broad range of wildlife, including insects, amphibians, reptiles, birds and mammals (including bats), and published the results as scientific papers in a number of international peer-reviewed journals. He also has considerable expertise as a field ecologist, especially regarding wildlife and countryside management, and extensive experience with mammal (including otter, badger, water vole and bat), bird, reptile, amphibian, dragonfly, butterfly and moth surveys. He is licensed by Natural England as a great crested newt surveyor, and as a bat surveyor and bat roost visitor/handler, and has been the named ecologist and clerk of works on many European Protected Species mitigation and compensation (development) licences and badger disturbance licences.

Please be aware that ecological reports generally have a limited period of currency. Many statutory authorities now regard one year as the maximum time that should elapse before a report will need to be updated. Where a European Protected Species licence is to be applied for once planning permission has been granted, a walk-over of the site should be carried out within three months of an application being submitted to check that the habitats have not changed significantly since the survey was carried out.

Any information relating to legal matters, designs, specifications, advice, suggestions, or comments written or verbal in this report is provided in good faith and for consideration only, and does not purport in any way to give any advice on or interpretation of the law whatsoever. Professional legal advice should always be sought.

Note. *Whilst all due and reasonable care is taken in the preparation of reports, Craig Emms accepts no responsibility whatsoever for any consequences of the release of this report to third parties. Please be aware that site surveys inevitably miss species not apparent on the date of visit(s) by reason of seasonality, mobility, habits or chance. Results are indicative and given in good faith but they are not a guarantee of presence or absence of any particular taxa.*