

Great crested newt and breeding
bird surveys
Potential western infrastructure
sites associated with preliminary
phase development, Northstowe,
Cambridge

June 2011

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SUMMARY

1. Terence O'Rourke Ltd were appointed by Gallagher to conduct great crested newt and breeding bird surveys on two pieces of land identified as potential areas for infrastructure works at Longstanton, Cambridge (Grid reference: TL 390 653) in association with an outline planning application for the preliminary phase of construction of Northstowe new town.
2. No ponds were found to be present on these pieces of land although a number of ditches which could potentially support breeding populations of great crested newt are present. However, a survey visit on the 20th April 2011 confirmed that these ditches were dry and therefore no further targeted surveys or mitigation in respect of great crested newt is required on this land.
3. A total of twenty four species of bird were recorded in the survey area with thirteen of these confirmed as breeding species. Seven of the fourteen species are listed as Birds of Conservation Concern and five are UK Biodiversity Action Plan Species.
4. A series of mitigation measures have consequently been presented within this report. These include retaining hedgerows where possible, replacing sections of hedgerow that require removal with native species, appropriate management of hedgerows and provision of grassland habitat suitable for nesting skylark.

1.0 INTRODUCTION

Terence O'Rourke Ltd were appointed by Gallagher to conduct great crested newt and breeding bird surveys on two pieces of land identified as potential areas for infrastructure works at Longstanton, Cambridge (Grid reference: TL 390 653) in respect of an outline planning application for the preliminary phase of construction of Northstowe new town. A plan showing the site boundaries of the sites has been provided as Appendix I to this report.

The great crested newt and breeding bird surveys were undertaken in conjunction with a suite of other surveys including extended phase 1 habitat, badger, bat, reptiles, aquatic invertebrates, butterfly, otter and water vole surveys. These surveys are ongoing and the results will be presented in a series of separate reports.

Section 2 of the report provides some background information on relevant legislation and policy. Section 3 details the methodologies adopted for the various ecological surveys that were conducted and Section 4 provides an account of the survey results. Section 5 provides information on the relevance of the results to the proposed development and makes recommendations for measures to mitigate and compensate for the effects on a particular species.

2.0 RELEVANT POLICY AND LEGISLATION

2.1 Legislation

2.1.1 Great crested newt

The great crested newt is afforded protection under Schedule 2 of The Conservation of Habitats and Species Regulations 2010¹: and under Schedule 5 of the Wildlife and Countryside Act 1981 (and amendments). This legislation makes it an offence to deliberately capture, kill or injure individuals of these species listed on Schedule 2 and to damage or destroy their breeding site or place of shelter. It is also illegal to deliberately disturb these species in such a way as to be likely to significantly affect: (i) the ability of any significant group of the species to survive, breed or rear or nurture their young; or (ii) the local distribution or abundance of the species. This legal protection means that where development has the potential to impact on great crested newts the results of a protected species survey must be submitted with a planning application.²

2.1.2 Birds

All nesting birds are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This Act makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built). In addition, it is an offence to disturb any nesting bird listed on Schedule 1 or their young.

2.2 Policy

The following policy is of relevance:

- **Planning Policy Statement (PPS) 9: Biodiversity and geological conservation:** This sets out the Government's vision for biodiversity in England with the broad aim that planning, construction, development and regeneration should maintain and enhance, restore or add to biodiversity and geological conservation interests. PPS9 includes sections on legally protected species and sites. It also contains a section on species listed in the UK Biodiversity Action Plan and requires

¹ The Conservation of Habitats and Species Regulations 2010 consolidates the numerous amendments that were made to the Conservation (Natural Habitats, &c.) Regulations 1994. Of particular relevance are amendments made in August 2007 and January 2009 which increased the threshold of illegal levels of disturbance to European Protected Species (EPS). An offence is only committed if the deliberate disturbance would result in significant impacts to the EPS population. However, it should be noted that activities that cause low levels of disturbance to these species continue to constitute an offence under Section 9 of the Wildlife and Countryside Act (see below)

² DEFRA Circular 01/2005: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.

planning authorities to protect these species from the adverse effects of development.

- **Biodiversity Action Plans (BAPs):** BAPs set out policy for protecting and restoring priority species and habitats as part of the UK's response as signatories to the Convention on Biological Diversity. BAPs operate at both a national and local level with priority species and habitats identified at a national level and a series of local BAPs that identify ecological features of particular importance to a particular area of the country. The requirement to consider and contribute towards BAP targets was strengthened through the Countryside and Rights of Way Act 2000 and policy in PPS9. Habitat and Species Action Plans that are likely to be of relevance include:
 - Song thrush (UK BAP)
 - Skylark (UK BAP)
 - Linnet (UK BAP)
 - Starling (UK BAP)
 - Great crested newt (UK BAP).

3.0 METHODOLOGY

3.1 Desk study

The National Biodiversity Network website and the Multi-Agency Geographical Information for the Countryside (MAGIC) website were also used to provide any information they may hold on statutorily and non-statutorily designated sites within a five kilometre radius of the proposed development and previous records of great crested newt and notable bird species within a ten kilometre radius.

3.2 Field study

3.2.1 Great crested newt

Suitable breeding waterbodies such as ponds and ditches are essential to support populations of great crested newt although they actually only spend a relatively short period of the year in the ponds during the spring for breeding. The remainder of the year is spent in suitable 'foraging' habitat such as tall grassland and woodland. During the winter the great crested newt hibernates, often amongst the roots of trees and scrub or in places such as piles of rubble, amongst foundations of buildings or under fallen trees and logs.

Great crested newts are known to forage up to at least five hundred metres from their breeding grounds and suitable habitats that fall within five hundred metres must be considered even in situations where the breeding pond itself will not be affected. Only one pond is present within a five hundred metre radius although no access to this was possible for the purposes of this survey due to their being located on third party land. A series of ditches are, however, present and these were assessed for their suitability as breeding habitat for great crested newt during the survey.

Habitat Suitability Index

In accordance with the latest Natural England guidelines³, a Habitat Suitability Index (HSI) was derived for the ditches within the site. The HSI for the great crested newt, which was originally developed by Oldham *et al.* (2000), is a numerical index between zero and one which is derived through assessing ponds according to ten categories. Waterbodies are then categorised in terms of their suitability to support great crested newt according to the following scale:

- <0.5 Poor
- 0.5 – 0.59 Below average
- 0.6 – 0.69 Average

³

Template for Method Statement to support application for licence under Regulation 44(2)(e) in respect of great crested newts *Triturus cristatus*. (Natural England) Form WML-A14-2 (Version 28 January 2008)

- 0.7 – 0.79 Good
- >0.8 Excellent

The HSI incorporates ten indices ranging from water quality to fish stocks, all of which are factors believed to affect great crested newts. However, it should be noted that whilst the HSI provides a measure of habitat suitability for great crested newts, it is not a substitute for amphibian surveys.

3.2.2 Breeding birds

The standard Common Bird Census methodology as developed by Marchant (1983) for the British Trust for Ornithology (BTO) was adopted. A set route was followed on three occasions during April, May and June 2011. Visits to the site were made by Michael Deane on the 12th May and 3rd and 9th June 2011. Any birds encountered were identified either visually or from their vocalizations. A note of species and their behaviour was made on each visit and mapped on a plan which allows breeding territories to be determined.

4.0 RESULTS

4.1 Desk study

Data obtained from the internet resources MAGIC and NBN are presented below.

Statutory and non-statutory sites

Table 1 below lists internationally designated sites, statutorily designated sites and non-statutory sites within a five kilometre radius of the survey area.

Table 1: Designated sites within a five kilometre radius of the survey area

Site name	Conservation status	Distance from site	Size (Ha)	Habitat description
Mare Fen	Local Nature Reserve	4km	16.35	Permanent pasture in the floodplain of the Great River Ouse. Mosaic of grassland types and reed fringed ditches and ponds.

The site is located some distance from the designated sites listed above and therefore no impact is anticipated as a result of the proposed development.

Protected and notable species records

Table 2 below lists protected and notable species within a ten kilometre radius of the site in the last twenty years highlighted by the NBN.

Table 2: Protected and notable species within a ten kilometre radius of the survey area

Common Name	Scientific name	Status	Location
<i>Great crested newt</i>			
Great crested newt	<i>Triturus cristatus</i>	Schedule 2, Habs Regs ⁴ , Schedule 5, WCA ⁵ , UK BAP ⁶	Historical records dating from the 1980's within 5km and 500m of site. One record from the Cambridge golf course and one from the disused airfield from a suite of surveys carried out in 2006.
<i>Birds</i>			
Skylark	<i>Alauda arvensis</i>	Red list	1 record at TL370737
Tree pipit	<i>Anthus trivialis</i>	Red list, UKBAP	2 records 4km from site

⁴ Habs Regs: Statutorily protected under the Conservation of Habitats and Species Regulations 2010

⁵ WCA: Statutorily protected by the Wildlife and Countryside Act (1981) (as amended)

⁶ UK BAP: Protected species within the UK Biodiversity Action Plan

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Common Name	Scientific name	Status	Location
Lesser redpoll	<i>Carduelis cabaret</i>	Red list, UKBAP	67 records within 10km of site nearest record located 2km away.
Hawfinch	<i>Coccothraustes coccothraustes</i>	Red list, UKBAP	4 records recorded at TL46L
Lesser-spotted woodpecker	<i>Dendrocopos minor</i>	Red list, UKBAP	28 records within 10km of site the nearest record located 2km away.
Corn bunting	<i>Emberiza calandra</i>	Red list, UKBAP	100 records within 10km of site nearest record <100m away.
Yellowhammer	<i>Emberiza citrinella</i>	Red list, UKBAP	1 record at TL423680 & 1 record at TL323601
Reed bunting	<i>Emberiza schoeniclus</i>	Amber list, UKBAP	10 records within 3-6km of site, 1 record located on Ouse fen.
Herring gull	<i>Larus argentatus</i>	Red list, UKBAP	2 records located 4km and 7km north of site
Grasshopper warbler	<i>Locustella naevia</i>	Red list, UKBAP	28 records within 10km of site nearest record located 2km away.
Woodlark	<i>Lullula arborea</i>	Amber list, UKBAP	1 record at TL37K
Yellow wagtail	<i>Motacilla flava</i>	Red list, UKBAP	>70 records located within 10 km of site nearest record <100m away
Spotted flycatcher	<i>Muscicapa striata</i>	Red list, UKBAP	>50 records within 10km of site nearest record located < 100m away
Curlew	<i>Numenius arquata</i>	Amber list, UKBAP	>20 records within 10km of site located 4-9km away
House sparrow	<i>Passer domesticus</i>	Red list, UKBAP	>450 records within 10km of site, the nearest record located >100m away.
Tree sparrow	<i>Passer montanus</i>	Red list, UKBAP	20 records located 2-9km from site.
Grey partridge	<i>Perdix perdix</i>	Red list, UKBAP	42 records within 10km of site nearest record located 2km away
Willow tit	<i>Poecile montanus</i>	Red list, UKBAP	4 records at TL36G
Marsh tit	<i>Poecile paulustris</i>	Red list, UKBAP	62 records within 10km of site, 2 recorded at TL46N & TL36G.
Duncock	<i>Prunella modularis</i>	Amber list, UKBAP	.>250 records within 10km of site nearest record <100m away

Common Name	Scientific name	Status	Location
Bullfinch	<i>Pyrrhula pyrrhula</i>	Amber list ⁷ , UKBAP	18 records located 3-9km from site
Turtle dove	<i>Streptopelia turtur</i>	Red list, UKBAP	>100 records within 10km of site nearest record located <100m away
Starling	<i>Sturnus vulgaris</i>	Red list, UKBAP	>700 records within 10km of site nearest record <100m away.
Song thrush	<i>Turdus philomelos</i>	Red list, UKBAP	>100 records within 10km of site nearest record >100m away
Lapwing	<i>Vanellus vanellus</i>	Red list, UKBAP	45 records within 10km of site, nearest record 2km away.

These records of protected and notable species listed above, in the vicinity of the site increase the likelihood of them being present where suitable habitat is identified in the field survey.

4.2 Field study

4.2.1 Great Crested Newt

The ditches were surveyed on the 20th April 2011 and all were found to be dry, making them unsuitable as breeding habitat for great crested newt.

No further action has been recommended.

4.2.2 Breeding birds

Table 3 below lists the species recorded and their breeding status whilst the distribution of confirmed breeding species territories is shown on the plan provided as Appendix II. This maps the estimated position of individuals or groups of birds confirmed as breeding on the site. Birds were considered as confirmed breeding species if they were recorded singing, defending nest sites or in the case of non-singing species (e.g. woodpeckers) when a nest was located. A total of twenty four species were recorded with thirteen of these confirmed as breeding species. One additional species was considered likely to be breeding on site and two as possible. All other species recorded were considered to be non-breeding, most likely to be using the site for feeding, roosting or commuting across the area.

⁷ Red, Amber, Green list – Birds of Conservation Concern

Table 3: Summary of the breeding bird survey results

Common name	Scientific name	Breeding status			Non-breeding
		Confirmed	Likely	Possible	
Mallard	<i>Anas platyrhynchos</i>				•
Greenfinch	<i>Carduelis chloris</i>		•		
Wood pigeon	<i>Columba palumbus</i>			•	
Carrion crow	<i>Corvus corone corone</i>	2			
Yellowhammer	<i>Emberiza citronella</i>	2			
Robin	<i>Erithacus rubecula</i>				•
Kestrel	<i>Falco tinnunculus</i>				•
Chaffinch	<i>Fringilla coelebs</i>	1			
Linnet	<i>Carduelis cannabina</i>	1			
Swallow	<i>Hirundo rustica</i>				•
Skylark	<i>Alauda arvensis</i>	3			
Blue tit	<i>Parus caeruleus</i>	2			
Red-legged partridge	<i>Alectoris rufa</i>	2			
Buzzard	<i>Buteo buteo</i>				• ⁸
Yellow wagtail	<i>Motacilla flava</i>	1			
Common gull	<i>Larus canus</i>				•
Lapwing	<i>Vanellus vanellus</i>				•
Magpie	<i>Pica pica</i>			•	
Reed bunting	<i>Emberiza schoeniclus</i>	2			
Duncock	<i>Prunella modularis</i>	2			
Pied wagtail	<i>Motacilla alba</i>				•
Whitethroat	<i>Sylvia communis</i>	3			
Blackbird	<i>Turdus merula</i>	2			
Chiffchaff	<i>Phylloscopus collybita</i>	2			

Table 4 below lists confirmed breeding species of birds that are either Birds of Conservation Concern (Eaton et al., 2009) or UK BAP species. This shows that four of the species recorded are listed as red and three as amber. In addition, six of these species are also listed as UK BAP species.

Table 4: Conservation status of confirmed breeding bird species

Species	Number of territories	UK BAP priority species	Birds of conservation concern
Yellowhammer	2	UK BAP	Red
Duncock	2	UKBAP	Amber
Whitethroat	3		Amber
Reed bunting	2	UK BAP	Red
Yellow wagtail	1	UK BAP	Amber
Skylark	3	UK BAP	Red
Linnet	1	UK BAP	Red

⁸ Buzzard breeding off site in an adjacent field

The results of the breeding bird survey has identified the site as providing nesting habitat for a wide range of species including a number of birds of conservation concern and six BAP species. Mitigation to ensure that opportunities for these species are provided within the design of the master plan to be submitted in relation to the outline planning application has therefore been made in Section 5.0.

5.0 CONCLUSIONS & RECOMMENDATIONS

5.1 Summary of findings

A total of twenty four species of bird were recorded with thirteen of these confirmed as breeding species. One additional species was considered likely to be breeding on site and two as possible. Seven of the thirteen species confirmed as breeding on the site are listed as Birds of Conservation Concern (BoCC) (Eaton *et al.* 2009) and six of these, yellowhammer, reed bunting, yellow wagtail, linnet, dunnock and skylark are UK BAP species.

5.2 Implications of survey findings and recommendations for further action

The results of the breeding bird survey has identified the site as providing nesting habitat for a wide range of species including a number of birds of conservation concern and many BAP species. The hedgerows around the boundaries of the sites were found to be of greatest importance as breeding habitat for birds along with unmanaged grassland where three pairs of skylark were recorded nesting. The following mitigation will ensure that opportunities for nesting birds are incorporated within the design of the proposals:

- Hedgerows will be retained within the design of this area, which has been identified as a potential location for the excavation of fill material and other associated infrastructure works, where possible.
- Where it is necessary to remove hedgerows they will be replaced on at least a like for like basis. Planted hedgerows will be composed of at least five native species of shrub including hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*), field maple (*Acer campestre*), English elm (*Ulmus procera*), wych elm (*Ulmus glabra*), pedunculate oak (*Quercus robur*), ash (*Fraxinus excelsior*) and goat willow (*Salix caprea*).
- All scrub clearance will be undertaken outside of bird nesting season which is considered to run between March and September.
- Retained hedgerows will be managed in a manner that is sympathetic to nesting birds. Management will aim to maintain a varied structure. They will be cut on a two year rotation, whereby sections of hedge are cut in different years to provide varied age and structure within the site. Hedges will be cut using a flail between mid-December and early-March to avoid the bird nesting season and allow any berry crop to be used by wintering birds. Hedges should be cut in an “A” shape or a “topped A” shape in order to create tall bushy hedges with maximum wildlife potential.

- Additional nesting opportunities will be created through erecting a series of bird boxes on trees along the hedgerow. Suitable models of bird box include Schwegler 1B and 2M.
- An area of coarse grassland will be incorporated within this area, which has been identified as a potential location for the excavation of fill material, to ensure that nesting opportunities for skylark are retained on site. This grassland will be left uncut during the bird nesting season through mowing on an annual basis in September. All arisings will be removed from the site.

6.0 REFERENCES

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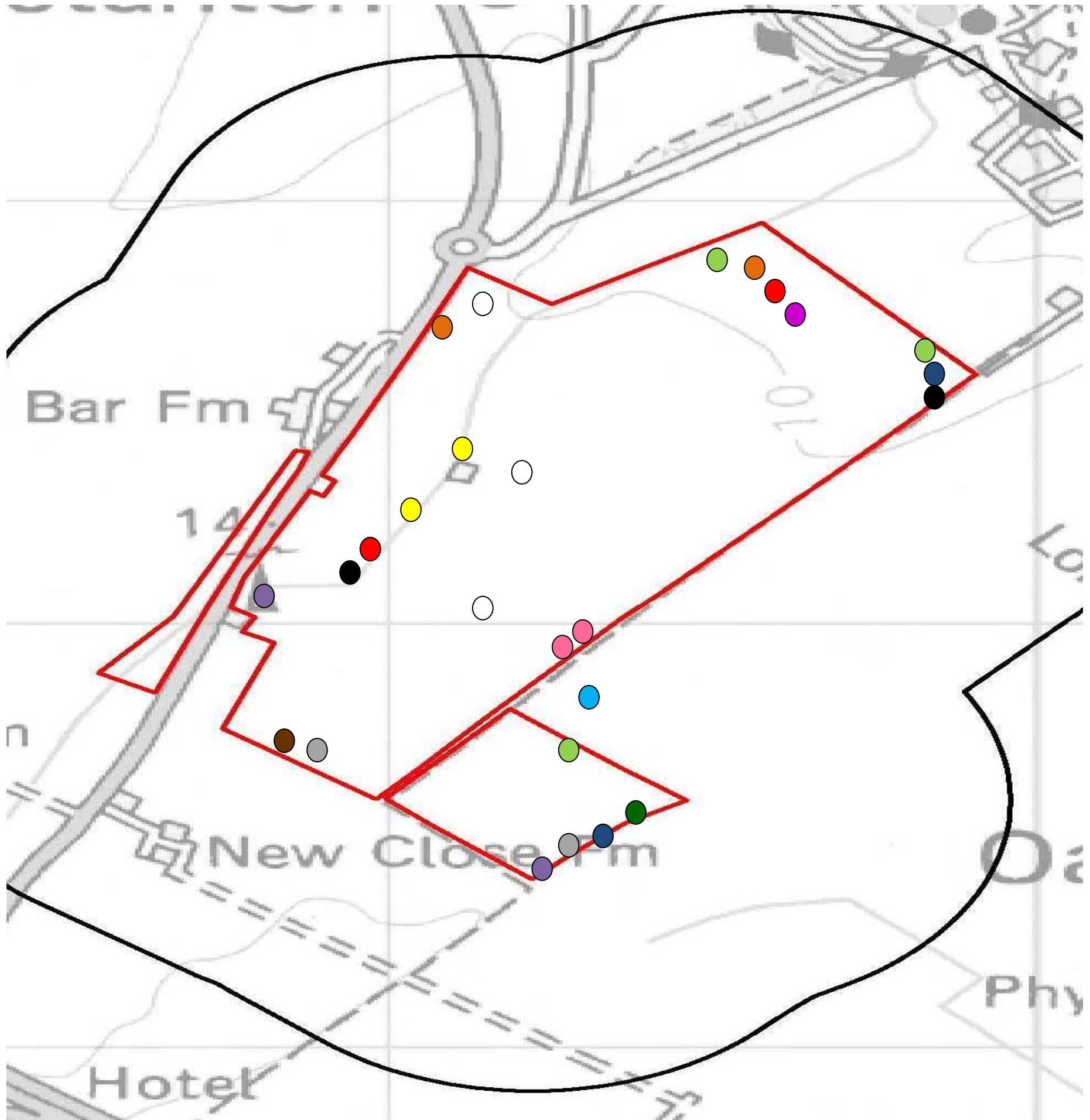
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APPENDIX I: Site boundary



APPENDIX II: Breeding bird survey results



● Buzzard	● White throat
● Blue tit	● Yellow wagtail
○ Skylark	● Linnet
● Chiffchaff	● Yellow hammer
● Blackbird	● Red-legged partridge
● Reed bunting	● Chaffinch
● Carrion crow	● Dunnock