



North London Waste Authority
Edmonton EcoPark
2013 Breeding Bird Survey Report

002

Issue 2 | 8 May 2015



This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 232185-71

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ARUP

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1 Introduction

Ove Arup and Partners Ltd (Arup) was commissioned by North London Waste Authority (NLWA) to undertake a breeding bird survey of Edmonton EcoPark, Advent Way, London, N18 3AG. UK grid reference: TQ 35767 92649. The survey area lies adjacent to the A406 at its southern end, and watercourses form the east and west boundaries. A water treatment works lies to the north of the survey area. Figure 1 (see Figures section) presents an overview of the survey area and illustrates the area in which the breeding bird surveys detailed in this report were undertaken.

Breeding bird surveys were carried out over six visits between March and June 2013. Surveys were undertaken to identify species breeding at the survey area, or utilising the survey area in other ways - such as for foraging - and to give an indication of the bird communities present at the survey area.

The survey results will be used to inform development proposals considering the importance of the survey area for breeding bird species, which may be a constraint to the proposed works. The 'survey area' includes all areas of proposed works. Habitats of importance to breeding birds within the survey area include: trees and shrubs, scrub, watercourses and buildings.

1.1 Legislation

All wild birds (defined as species which are resident or are visitors to the UK, but generally not game birds) are protected by the Wildlife and Countryside Act 1981 (as amended). As far as planning and development is concerned, it is an offence to kill, injure or take any wild bird. Some species, listed in Schedule 1 of the Act, are protected by special provisions because of their rarity and it would constitute an offence to disturb them at any time.

Further to the protection listed above, some bird species are also included as key features of importance within European protected sites named Special Protection Areas (SPAs), which are afforded protection through the provisions of the Conservation of Habitats and Species Regulations 2010 (known as the "Habitats Regulations"). As a result, appropriate consideration needs to be made of the potential effects on the populations of birds which are features of SPAs caused by development plans or projects. This process is known as a Habitat Regulations Assessment (HRA). Planning consent may only be granted for a project if the conclusion of the HRA is that the development will not give rise to an adverse effect on the integrity of a European Site (including consideration of imperative reasons of overriding public interest and potential compensatory requirements). Temporal and spatial patterns of bird distributions need to be considered as part of the HRA process, to ensure birds which could be part of the SPA populations are fully considered.

Bird species that have undergone a population decline in the UK over the last 25 years are also included in the Red and Amber Lists of conservation concern (Eaton *et al* 2009):

- *Red List*: species that are globally threatened, whose population or range has declined rapidly in recent years, and those whose populations have declined historically and not exhibited any signs of recovery. Species that have experienced a population decline of >50%; and
- *Amber List*: species with an unfavourable conservation status in Europe, whose populations have declined moderately in recent years, including species that show a historical decline but whose populations have shown a substantial increase, species that are rare, with localised populations and those species of international importance

with UK populations and species that have experienced a population decline or breeding range decline of 25% to 49%.

The UK Biodiversity Action Plan (BAP) was produced in accordance with the 1992 UN Convention on Biological Diversity. It describes the UK's biological resources and commits a detailed plan for the protection of these resources, focusing on key habitats and species considered to be of particular significance to nature conservation within a UK context.

The London BAP (LBAP) promotes the protection and enhancement of the area's most important and distinctive animals, plants and habitats, as well as its regional-level contribution to the UK Action Plan.

Under the Natural Environment and Rural Communities (NERC) Act 2006, it is the duty of all governmental departments to take BAP species into account as a material consideration in the determination of planning applications.

As a result of new drivers and requirements, the 'UK Post-2010 Biodiversity Framework', published in July 2012, has now succeeded the UK Biodiversity Action Plan. In particular, due to devolution and the creation of country-level biodiversity strategies, much of the work previously carried out under the UK BAP is now focussed at a country level. Additionally, international priorities have changed: the framework particularly sets out the priorities for UK-level work to support the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020 and its five strategic goals and 20 'Aichi Targets', agreed at the CBD meeting in Nagoya, Japan, in October 2010; and the new EU Biodiversity Strategy (EUBS) in May 2011. The UK BAP lists of priority species and habitats remain, however, important and valuable reference sources.

2 Methodology

2.1 Desk Study

Searches of available internet resources were carried out to gather information on sites designated for their nature conservation interest which are present either within or close to the survey area and to ascertain whether any protected or notable bird species are listed as features on these sites. Data from the GiGL database was accessed to discover which bird species which had been recorded within 2km of the survey area.

2.2 Field Survey

The general principles of the Common Bird Census (CBC) methodology (Marchant, 1983, Bibby et al, 2000) was employed during each of the six survey visits. The CBC methodology was designed by the British Trust for Ornithology (BTO) to monitor populations of common breeding birds, particularly song birds, which are most vocally active during the early morning.

The whole survey area was included, with the surveyors able to walk to within at least 10m of all areas, ensuring all birds present could be seen and/or heard. A pair of 8x32 binoculars was used for observations. Any birds recorded in close proximity to the survey area (within 10m) were also recorded to give an idea of the species present in a 'buffer zone' around the survey area. The section of the River Lee adjacent to the eastern boundary was also included. This was to ensure that any notable species which were close to the survey area, and which therefore could potentially be affected by future activities, were recorded. During the surveys, all birds that were seen or heard, together with evidence of breeding behaviour were recorded on large scale maps using the standard CBC notation.

Surveys were carried out by experienced ornithologists and ecologists who are capable of identifying bird species both from sight and from their full repertoire of calls and songs. The survey maps of birds recorded on each of the six visits were then compared to determine where species had been recorded in the same locations on multiple occasions suggesting the presence of a breeding territory. This information, combined with direct evidence of breeding such as nests, juvenile birds or adult birds carrying nest material or food, has been used to produce territory maps for all species which exhibited breeding behaviour within the survey area. The information gathered was also used to assess the species diversity and abundance within the survey area, which also indicates the key habitats and areas in terms of breeding birds.

2.3 Limitations

No account can be made for the presence or absence of species on any one survey occasion, since they may travel over wide areas and/or have large home ranges. Protected bird species may visit the survey area at any future time. However, professional judgement and experience allows for the likely presence of these species to be predicted with sufficient certainty so as to not significantly limit the validity of these findings.

No surveys can ever produce a definitive list of species or population sizes however; based on professional opinion; it is considered that the surveys have produced a robust assessment of the populations and species diversity within the area surveyed.

3 Results

3.1 Desk Study

3.1.1 Designated Sites

A desk-based search shows that there are three sites with European or National designation within the search area and one Local Nature Reserve (LNR). These are as follows:

- The River Lee is designated as an SPA and as a Ramsar site;
- Chingford Reservoirs Site of Special Scientific Interest (SSSI);
- Walthamstow Reservoirs SSSI; and
- Ainslie Wood LNR.

The River Lee qualifies for SPA designation under section 4.1 for its wintering population of bittern (*Botaurus stellaris*) and section 4.2 for wintering numbers of both shoveler (*Anas clypeata*) and gadwall (*Anas strepera*).

The River Lee qualifies for the Ramsar designation due to the presence of a nationally rare plant and invertebrate species, but also qualifies under Criterion 6 for the wintering populations of shoveler and gadwall.

Chingford Reservoirs SSSI is designated due to being one of the major wintering grounds for wildfowl and wetland birds in the London area and holds nationally important wintering numbers of some species, including: shoveler and great crested grebe (*Podiceps cristatus*). The reservoirs also support one of London's principal wintering gull roosts.

Walthamstow Reservoirs SSSI is designated for its large number of breeding wildfowl and its heronry. The heronry is of national importance, with large numbers of breeding grey heron (*Ardea cinerea*) which consistently places it in the top five breeding sites in the country for this species. Wintering numbers of shoveler and tufted duck (*Aythya fuligula*) regularly reach levels of national importance.

Ainslie Wood LNR contains a diverse range of tree and shrub species as well as a large number of woodland birds including: tawny owl (*Strix aluco*), treecreeper (*Certhia familiaris*), nuthatch (*Sitta europaea*), great spotted woodpecker (*Dendrocopos major*), long tailed tit (*Aegithalos caudatus*) and blackcap (*Sylvia atricapilla*).

3.2 Field Survey

A total of 35 species of bird were recorded at the survey area during 2013. These are discussed below. The species have been split into sections with reference to their protection/rarity status. The dates, times and weather conditions for each survey undertaken can be found in Appendix A.

Table 1 includes all species recorded at the survey area and indicates their likely breeding status. Table 2 lists notable species recorded along with their designation(s).

Table 1 All bird species recorded and their breeding status within the survey area

Common Name	Scientific Name	Breeding Status
Canada Goose	<i>Branta canadensis</i>	Confirmed breeding
Teal	<i>Anas crecca</i>	Non-breeding
Mallard	<i>Anas platyrhynchos</i>	Probable breeding
Cormorant	<i>Phalacrocorax carbo</i>	Non-breeding
Grey Heron	<i>Ardea cinerea</i>	Non-breeding
Moorhen	<i>Gallinula chloropus</i>	Probable breeding
Coot	<i>Fulica atra</i>	Non-breeding
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Non-breeding
Common Gull	<i>Larus canus</i>	Non-breeding
Lesser Black-backed Gull	<i>Larus fuscus</i>	Non-breeding
Herring Gull	<i>Larus argentatus</i>	Non-breeding
Great Black-backed Gull	<i>Larus marinus</i>	Non-breeding
Feral Pigeon	<i>Columba livia domesticus</i>	Confirmed breeding
Wood Pigeon	<i>Columba palumbus</i>	Confirmed breeding
Collared Dove	<i>Streptopelia decaocto</i>	Non-breeding
Common Swift	<i>Apus apus</i>	Non-breeding
Magpie	<i>Pica pica</i>	Confirmed breeding
Carrion Crow	<i>Corvus corone</i>	Confirmed breeding
Blue Tit	<i>Cyanistes caeruleus</i>	Confirmed breeding
Great Tit	<i>Parus major</i>	Confirmed breeding
Swallow	<i>Hirundo rustica</i>	Non-breeding
Long-tailed Tit	<i>Aegithalos caudatus</i>	Probable breeding
Chiffchaff	<i>Phylloscopus collybita</i>	Probable breeding
Blackcap	<i>Sylvia atricapilla</i>	Confirmed breeding
Common Whitethroat	<i>Sylvia communis</i>	Non-breeding
Wren	<i>Troglodytes troglodytes</i>	Confirmed breeding
Starling	<i>Sturnus vulgaris</i>	Confirmed breeding
Blackbird	<i>Turdus merula</i>	Confirmed breeding
Robin	<i>Erithacus rubecula</i>	Confirmed breeding
Dunnock	<i>Prunella modularis</i>	Confirmed breeding
House Sparrow	<i>Passer domesticus</i>	Confirmed breeding
Pied Wagtail	<i>Motacilla alba</i>	Confirmed breeding
Chaffinch	<i>Fringilla coelebs</i>	Confirmed breeding
Greenfinch	<i>Chloris chloris</i>	Probable breeding
Goldfinch	<i>Carduelis carduelis</i>	Probable breeding

Table 2 Notable species recorded

Common Name	Birds of Conservation Concern List Category	Other Designations
Teal	Amber	
Mallard	Amber	
Black-headed Gull	Amber	
Common Gull	Amber	
Lesser Black-backed Gull	Amber	
Herring Gull	Red	NERC, UK BAP, LBAP
Great Black-backed Gull	Amber	
Swift	Amber	
Swallow	Amber	
Common Whitethroat	Amber	
Starling	Red	NERC, UK BAP, LBAP
Duncock	Amber	NERC, UK BAP, LBAP
House Sparrow	Red	NERC, UK BAP, LBAP

The bird species encountered during each of the surveys have been assessed and the results have been used to produce a map showing the territories of breeding birds that are present within the survey area. The breeding bird figures have been split by species protection/rarity (e.g. Birds of Conservation Concern (BoCC) red list, amber list) and are shown on Figures 2-4.

3.2.1 Birds of Conservation Concern Red List Species

Three bird species on the BoCC red list (Eaton, *et al.* 2009) were recorded within the survey area during the surveys in 2013. Of the three species below, two were confirmed to be breeding within the survey area, and one is non-breeding. The three BoCC red list species are discussed in more detail below.

Confirmed breeding:

- House sparrow; and
- Starling.

Non-breeding:

- Herring gull.

3.2.1.1 Herring Gull

A maximum count of 15 herring gulls was recorded on survey one. This species was recorded in lower numbers (two and four) on visits three and six. Herring gulls observed at the survey area appeared to be resting and/or feeding. The London Bird Report 2009 states that in recent years, the nearest breeding herring gulls were recorded at Walthamstow Reservoir.

3.2.1.2 House Sparrow

A maximum count of 26 house sparrows was recorded within the survey area on visit one. This species was seen in similar numbers on every survey visit. The majority of records were from the area in the north-west of the survey area, around the buildings and in the shrubs and climbing plants near Salmon's Brook. House sparrow was a confirmed breeding species within the survey area, with several observations of adults seen carrying food to young and an adult carrying a faecal sac away from a nest.

3.2.1.3 Starling

Starling was recorded on all six survey visits. On the first survey, a large flock was recorded and this was the maximum number seen within the survey area – 256 individuals. Starlings form large flocks during the winter and this number decreased significantly in subsequent surveys, as individuals dispersed to breeding territories. Starling was confirmed as breeding within the survey area with numerous observations of adults entering and leaving nest sites and adults seen carrying food, nesting material and faecal sacs. The majority of records were associated with buildings to the north and west of the survey area. Several nests were observed under the elevated section of roadway close the reception area and buildings.

3.2.2 Birds of Conservation Concern Amber List Species

Ten species of birds on the BoCC amber list were recorded during the breeding bird surveys in 2013. These are discussed below:

Confirmed breeding:

- Dunnock.

Probably breeding:

- Mallard.

Non-breeding:

- Teal;
- Black-headed Gull;
- Common Gull;
- Lesser Black-backed Gull;
- Great Black-backed Gull;
- Common Swift;
- Swallow; and
- Common Whitethroat.

3.2.2.1 Teal

Six teal (three pairs) were recorded along Salmon's Brook on the first survey visit. No further sightings of this species were recorded subsequently. The six birds recorded on visit one were likely to be using the Salmon's Brook for feeding purposes before moving off to breeding sites further afield. The London Bird Report 2009 states that there have been no recent records of breeding teal in London. This species is typically thinly distributed in the UK

during the breeding season, with a preference for northern moors and mires (RSPB website 2013).

3.2.2.2 Mallard

This species was observed on every survey visit, with most records associated with Salmon's Brook and the pond in the north-east area of the survey area. No direct evidence of breeding was observed, but mallard is likely to have bred within the survey area, with several pairs seen in suitable breeding habitat.

3.2.2.3 Black-headed Gull

This species was recorded on visit one only when 155 individuals were noted. The majority of the black-headed gulls recorded on this survey were perched on top of buildings at the northern end of the survey area. As with all the gulls recorded within the survey area, this species was likely to be utilising the survey area for resting and/or feeding and not for breeding purposes.

3.2.2.4 Common Gull

Common gulls were seen on four out of the six visits, with the majority of observations being flyover records. The largest count for this species was 11 birds on visit one.

3.2.2.5 Lesser Black-backed Gull

This species was recorded on five out of the six visits with a maximum count of 17 on visit one. Most records were of birds flying over the survey area.

3.2.2.6 Great Black-backed Gull

Great black-backed gull was recorded on three out of the six visits with a maximum count of eight on visit one.

3.2.2.7 Common Swift

Swifts were recorded foraging over the survey area in small numbers (eight and seven) on visits five and six. This species is likely to breed in suitable buildings close by and was utilising the area above the survey area for feeding.

3.2.2.8 Swallow

Four swallows were recorded feeding over the River Lee (adjacent to the eastern boundary of the survey area) on visit five. This species is likely to breed in suitable buildings in the vicinity of the survey area.

3.2.2.9 Common Whitethroat

This species was recorded singing in scrub alongside the River Lee on visits five and six. Common whitethroat was therefore considered to breed in this area but not to breed within the survey area itself.

3.2.2.10 Dunnock

Dunnock was recorded on five out of six survey visits. It was present in small numbers (a maximum count of four) and was confirmed as a breeding species by the presence of a juvenile on visit six. The shrubs and scrubby areas of the survey area are clearly important for this species, with the majority of records coming from these habitats, particularly the scrub to the east of the survey area.

3.2.3 Non-listed Species

There were also 22 non-listed species recorded during the breeding bird surveys in 2013 which have no specific nature conservation importance and have not experienced recent population declines and as such are listed on the green BoCC list (Eaton *et al.*, 2005), or not listed at all, e.g. Canada goose (*Branta canadensis*). None of these were recorded in significant numbers nor was there a high diversity of these species present. The non-listed species recorded were considered to be a typical assemblage of species which would normally be associated with the types of habitats present and were consistent with those present in similar habitats in the wider area.

3.3 Appraisal

The survey area is approximately 16 ha in extent, consisting predominantly of an operational waste handling facility with associated infrastructure, which also contains small amounts of natural and semi-natural habitat.

Large areas of the survey area are dominated by hard standing and buildings. Natural and semi-natural habitats within the survey area include: mature trees, vegetated boundaries, a small pond, ruderal vegetation, introduced shrubs, amenity grassland and young plantation woodland. The eastern and western boundaries of the survey area consist of watercourses.

From the species observed during the surveys, the following habitats are deemed the most valuable within the survey area for breeding/potentially breeding birds. Examples are given of species which were regularly associated with these habitats within the survey area:

- Buildings and hardstanding - House Sparrow, Starling, Pied Wagtail;
- Salmon's Brook - Mallard, Moorhen;
- Pond - mallard, Moorhen, Canada Goose;
- Trees and woodland - Blackbird, Chiffchaff, Chaffinch, Goldfinch, Blue Tit, great tit, Long-tailed Tit; and
- Scrub and shrubs - Dunnock, Blackcap, Wren.

4 Conclusions

A total of 35 species were recorded within the survey area during the surveys, with 16 species being confirmed as breeding and a further six species considered likely to have bred during 2013. The remaining 13 species were deemed to be non-breeding and were utilising the survey area in other ways – i.e. foraging and resting.

Fuller (1980) devised standard procedures for evaluating breeding bird communities on different types of sites. Recording the number of species present at a site can provide a simple measure of species diversity from which to confer a level of conservation importance to a site. For breeding birds, the standard qualifying levels provided by Fuller are as follows: National Importance, 85+ species; Regional Importance, 70-84 species; County Importance, 50-69 species; Local Importance, 25-49 species.

The number of confirmed breeding species for the survey area totalled 16, which falls outside the range for Local Importance. It may be argued that proof of breeding was not achieved for some species which may indeed have been breeding within the survey area, so this figure could well be higher. For example, if those species listed as ‘probable’ breeders were included, the total would be closer to the range for Local Importance (22).

The survey area supports an assemblage of birds which is considered typical for the habitats present and in the wider locality. The diversity and abundance of the bird assemblages within the study area should continue to be monitored during and post-works.

4.1 Legal Implications

All bird species within the UK and their nests are protected during the breeding season. It is an offence under the Wildlife and Countryside Act 1981 (as amended) to damage, disturb or destroy the eggs or nest, while it is in use, of a wild bird.

A number of bird species are also listed either as priority species under the UK Biodiversity Framework (JNCC, 2012) or under the Section 41 list of Species of Principal Importance to England (NERC, 2006). This means that the presence of any of these species recorded breeding within the survey area would be a material consideration in the determination of any applications for development consent. The following species listed under Section 41 were confirmed as breeding within the survey area: Dunnock, Starling and House Sparrow.

In terms of species included as key features of the nearby Lee Valley SPA, none of these were recorded within the survey area and it seems very unlikely that the proposed development would have any negative impact upon the Lee Valley SPA.

4.2 Mitigation Principles

It is recommended that the following mitigation principles are followed as part of the mitigation strategy, with the aim of maintaining, as far as possible, the current species diversity in line with the Code of Construction Practice (CoCP):

- It is assumed that prior to the commencement of construction; a phase of enabling major earthworks will need to be undertaken. This is likely to entail the removal of vegetation and should therefore be preceded by various species mitigation works as part of an ecological facilitation phase;
- During this mitigation phase, it will be necessary to undertake habitat manipulation to remove bird habitat alongside and habitat creation, allowing birds to move out of the area where construction activities are programmed to occur;

- The mitigation phase will need to ensure that habitat clearance occurs outside of the breeding bird season to ensure no breeding birds are harmed during construction. If this is not possible, a suitably qualified ecologist/ornithologist will need to check for the presence of breeding birds prior to the commencement of any clearance or construction activities;
- The mitigation strategy will also need to consider the potential effects of indirect disturbance events to breeding bird populations. For example, certain construction activities could have indirect disturbance effects such as those caused by increased human presence or particularly noisy construction activities and
- The provision of appropriate nest boxes for starling is recommended post-construction. The positioning of these nest boxes should be carefully considered to ensure the maximum opportunity for successful breeding. Dunnock is less likely to use nest boxes and it would be preferable to ensure there are some areas of dense scrub/shrubs and/or bramble for this species to nest in.

4.3 Provision of Compensatory Habitat

Potential habitat loss associated with land clearance for the development should be compensated for where possible by creation and enhancement of a range of habitat types provided within the landscape/biodiversity masterplan.

These habitats should reflect the breeding species present within the survey area and include provision for those which nest within buildings such as house sparrow, and starling and those which nest in natural and semi-natural habitats such as scrub, shrubs and trees. Plans should also consider the need for sufficient foraging habitat and habitat connectivity.

5 References

1. Bibby C J, Burgess N D, Hill D A, Mustoe S (2000). *Bird Census Techniques Second Edition* RSPB, BTO, Birdlife International, Ecoscope Applied Ecologists. Academic Press.
2. Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A., Hearn, R.D., Aebischer, N., Gibbons, D.W., Evans A. and Gregory, R.D. (2009). *Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and Isle of Man*. *British Birds*, 102: 296-341.
3. Fuller, R.J. (1980). A method for assessing the ornithological importance of sites for nature conservation. *Biological Conservation* 17: 229-239. JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), 2012. UK Post-2010 Biodiversity Framework. July 2012.
4. JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), 2012. UK Post-2010 Biodiversity Framework. July 2012.
5. London Natural History Society (2012). *London Bird Report 2009*. LNHS, London.
6. Marchant, J H (1983). *BTO Common Birds Census Instructions*. British Trust for Ornithology, Tring.
7. NERC (2006). *Species of Principle Importance for the Conservation of Biodiversity in England*. Section 41 of the Natural Environment and Rural Communities Act 2006.
8. RSPB Website (2013),
<http://www.rspb.org.uk/wildlife/birdguide/name/t/teal/index.aspx>

Figures



Legend

 Survey Area

PI	01-05-13	ZW	TM	-
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Issue	Date	By	Check	Appd
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**Bird Surveys:
 Survey Area**

Scale: A3
 1 : 2,750

Job No: 230751-05	Drawing Status: ISSUE
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Drawing No: 001	Issue: P1
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Legend

Survey Area

Open water

Bird Species

HS House Sparrow

SG Starling

PI	01-05-13	ZW	TM	-
Issue	Date	By	Check	Appd

Scale: 0 35,000 70,000 140,000 Meters

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**Bird Surveys:
Red List Species Territory Map**

Scale 1:2,750

Job No: 230751-05	Drawing Status: ISSUE
Drawing No: 001	Issue: P1



- Legend**
- Survey Area
 - Open water
- Bird Species*
- D. Duncock
 - MA Mallard

PI	01-05-13	ZW	TM	-
Issue	Date	By	Check	Appd

Meters

0 25,000 50,000 100,000

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**Bird Surveys:
Amber List Species
Territory Map**

Scale 1:2,750

Job No: 230751-05	Drawing Status: ISSUE
Drawing No: 001	Issue: P1



Legend

- Survey Area
- Open water

- Bird Species**
- CG Canada Goose
 - MH Moorhen
 - FP Feral Pigeon
 - WP Wood Pigeon
 - MG Magpie
 - C. Crow
 - BT Blue Tit
 - GT Great Tit
 - LT Long-tailed Tit
 - CC Chiffchaff
 - BC Blackcap
 - WR Wren
 - B. Blackbird
 - R. Robin
 - PW Pied Wagtail
 - CH Chaffinch
 - GR Greenfinch
 - GO Goldfinch

PI	01-05-12	ZW	TM	-
Issue	Date	By	Checked	Approved

Metres

0 30,000 15,000 45,000

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**Bird Surveys:
Green List and Non-listed
Species Territory Map**

Scale 1:A3 **1: 2,750**

Job No 230751-05	Drawing Status ISSUE
Drawing No 001	Issue P1

Appendix A

Raw Survey Methods

Date	Time	Temp	Wind	Cloud	Rain	Notes
25.03.1 3	09.45- 10.30	2°C	1-2	8/8	None	Cold, some snow still on ground.
22.04.1 3	08.00- 09.00	10 °C	1-2	5/8	None	Bright calm morning.
30.04.1 3	08.00- 09.00	11°C	1-2	4/8	None	Bright sunny morning, but cool.
07.05.1 3	08.45- 09.45	13	0-1	3/8	None	Bright sunny morning, warm.
13.05.1 3	08.00- 09.00	12	1-2	6/8	None	Sunny spells.
12.06.1 3	07.30- 08.30	15	2-3	8/8	Light drizzle	Overcast but mild.

Appendix B

Estimated Number of Breeding Territories

Species	Maximum Count	Estimated Number of Breeding Territories
Canada Goose	16	4
Teal	6	0 (Wintering)
Mallard	16	8
Cormorant	3	0 (Flyover)
Grey Heron	1	0 (Flyover)
Moorhen	4	4
Coot	6	0 (River Lee)
Black-headed Gull	155	0 (Non-breeding)
Common Gull	11	0 (Non-breeding)
Lesser Black-backed Gull	17	0 (Non-breeding)
Herring Gull	15	0 (Non-breeding)
Great Black-backed Gull	8	0 (Non-breeding)
Feral Pigeon	28	16
Wood Pigeon	7	3
Collared Dove	1	0 (Flyover)
Common Swift	8	0 (Flyover)
Magpie	4	3
Carrion Crow	81	18
Blue Tit	4	3
Great Tit	4	2
Swallow	4	0 (Flyover)
Long-tailed Tit	4	2
Chiffchaff	1	1
Blackcap	3	3
Common Whitethroat	2	0 (River Lee)
Wren	5	4
Starling	256	12
Blackbird	3	1
Robin	3	3
Duncock	4	4
House Sparrow	26	14
Pied Wagtail	2	2
Chaffinch	4	3
Greenfinch	4	2
Goldfinch	4	1