



Gladman Developments Ltd

North Road (Land off), Glossop

BREEDING BIRD SURVEY REPORT

August 2013

FPCR Environment and Design Ltd

Registered Office: Lockington Hall, Lockington, Derby DE74 2RH

Company No. 07128076. [T] 01509 672772 [F] 01509 674565 [E] mail@fpcr.co.uk [W] www.fpcr.co.uk

This report is the property of FPCR Environment and Design Ltd and is issued on the condition it is not reproduced, retained or disclosed to any unauthorised person, either wholly or in part without the written consent of FPCR Environment and Design Ltd. Ordnance Survey material is used with permission of The Controller of HMSO, Crown copyright 100018896.

Rev	Issue Status	Prepared / Date	Approved/Date
-	Draft 1	JWB / 13.07.13	KEH / 19.08.13

CONTENTS

1.0	INTRODUCTION	3
2.0	LEGISLATION	4
3.0	METHODOLOGY.....	4
4.0	RESULTS.....	7
5.0	DISCUSSION AND EVALUATION OF IMPACTS	8
6.0	CONCLUSIONS.....	14
7.0	REFERENCES:	15

TABLES

Table 1: Survey Dates and Conditions for Breeding Bird Surveys 2013

Table 2: Definition of Terms Relating to Nature Conservation Value

Table 3: Schedule 1, NERC, BoCC Red and Amber Listed Bird Species Recorded at land off North road during Breeding Bird Surveys 2013, and their Recent Status within Derbyshire.

Table 4: Evaluation of Breeding Bird Species Considered Potentially Sensitive to Habitat Loss/Change

FIGURES

Figure 1: Breeding Bird Survey 2013 – Distribution of Notable Species

APPENDICES

Appendix A: 2013 Breeding Bird Survey Results.

1.0 INTRODUCTION

- 1.1 This report has been prepared on behalf of Gladman Developments Ltd and provides the results of breeding bird surveys undertaken in 2013 on land north of Glossop.
- 1.2 The development area which will hereafter be referred to as 'the site', comprised three fields with hedgerows located within and around the site peripheries.
- 1.3 Surrounding landscape is composed predominantly of agricultural land, with residential development and gardens present to the south. Howard Park, a municipal open space, is situated directly south-west from the site boundary, providing a large area of green open space and a large network of trees. A water-body is located in close proximity to the northern boundary.
- 1.4 Several statutory designated sites for birds are located within 2km of the site boundary. These comprise Dark Peak Site of Special Scientific Interest (SSSI) designated for its upland bird assemblage including red grouse *Lagopus lagopus scotica*, twite *Carduelis flavirostris* and curlew *Numenius arquata*., the South Pennines Special Area of Conservation (SAC) designated for its sessile oak woodlands and associated breeding birds such as pied flycatcher *Ficedula hypoleuca* and the Peak District Moors Special Protection Area (SPA) designated for golden plover *Pluvialis apricaria*, peregrine falcon *Falco peregrinus*, merlin *Falco columbarius*, short eared owl *Asio flammeus* and dunlin *Calidris alpina*.
- 1.5 SPA sites are classified by the UK Government under the EC Birds Directive and are areas of the most important habitat for rare (listed on Annex I of the Directive) and migratory birds within the European Union. SACs are designated under the EC Habitats Directive and have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive.
- 1.6 SSSIs are sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. These sites are notified under the Wildlife and Countryside Act 1981 (as amended).

Site Proposals

- 1.7 Current proposals are for 150 residential dwellings on 4.45 ha with open space (species-rich grassland, tree and shrub planting) and new balancing facilities. There will be new road infrastructure throughout the site.

Survey Objectives

- 1.8 The objectives of the survey were to:
- Identify the presence and distribution of breeding birds on the site;
 - Assess the conservation importance of the site in relation to local bird populations.
 - Evaluate the importance of local bird populations and their habitat requirements.

2.0 LEGISLATION

- 2.1 The Wildlife and Countryside Act 1981 (as amended) is the principal legislation affording protection to UK wild birds. Under this legislation all birds, their nests and eggs are protected by law and it is an offence, with certain exceptions to recklessly or intentionally:
- Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird while in use or being built;
 - Take or destroy the egg of any wild bird.
- 2.2 Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are specially protected at all times and are referred to hereafter as schedule 1 species.
- 2.3 A number of birds feature on the **Natural Environment and Rural Communities (NERC) Act**, Section 41 (S41) as species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.
- 2.4 In addition to statutory protection, some bird species are classified according to their conservation status, such as their inclusion on the Red and Amber lists of **Birds of Conservation Concern (BoCC) in the UK** (Eaton et al 2009):
- Red list (high conservation concern) species are those that are Globally Threatened according to IUCN criteria; those whose population has declined rapidly (50% or more) in recent years; and those that have declined historically and not shown a substantial recent recovery.
 - Amber list (medium conservation concern) species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately (between 25% and 49%) in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.
 - Green list (low conservation concern) species fulfil none of the above criteria.

3.0 METHODOLOGY

- 3.1 The survey methodology employed for breeding bird surveys was broadly based on that of territory mapping (Bibby et al 2000) as used for the British Trust for Ornithology (BTO) Common Bird Census (CBC). Standard BTO species codes and symbols for bird activities were used to identify birds and denote activity, sex and age where appropriate.

Breeding Bird Surveys

- 3.2 For breeding bird surveys criteria used in the assessment of breeding birds has been adapted from the standard criteria proposed by the European Ornithological Atlas Committee (EOAC 1976) and are grouped into three categories; possible breeder e.g. birds observed in suitable habitat or singing male recorded; probable breeder e.g. pair in suitable habitat, territory defended, agitated behaviour or nest building and confirmed breeder e.g. recently fledged young observed, adult birds carrying food for young. Birds that were considered to be not using the site for

breeding were categorised as 'non breeders' e.g. flying over the site, migrant, habitat not suitable.

- 3.3 To provide a reasonable level of accuracy for determining the population status of the breeding birds on the site, three surveys were undertaken between 05.00 and 11.00 between April and early July 2012. A route was mapped out prior to the surveys being undertaken, paying particular attention to any linear features, such as hedgerows and tree lines, and natural features such as ponds, lakes, areas of scrub and woodland.
- 3.4 The site has some potential to support foraging waders such as golden plover *Pluvialis apricaria* and curlew *Numenius arquata* during their breeding season. This site is not however considered suitable habitat to support nesting golden plover or curlew. The adults are known to spend some of their time feeding outside their breeding grounds (Peak District Moors SPA, South Pennine Moors SAC and The Dark Peak SSSI) on adjacent land to these designated sites during their incubation period. The breeding bird surveys will incorporate the generic survey methods for breeding waders, in which a minimum of two surveys are required.¹
- 3.5 Bird surveys were undertaken in favourable conditions. Table 1 provides details of the survey conditions:

Table 1. Survey Dates and Conditions for Breeding Bird Surveys 2012

Date	Cloud Cover (%)	Rain	Wind	Visibility
15.04.13	100	None	Light breeze	Good
28.05.13	80	None	None	Good
20.06.12	60	None	Light breeze – fresh breeze	Good

- 3.6 The conservation value of bird populations has been measured using two separate approaches: nature conservation value and conservation status. The IEEM guidance on ecological impact assessment assesses nature conservation value within a geographical context. To attain each level of value, an ornithological resource or one of the features (species population or assemblage of species) should meet the criteria set out in Table 2 below. In some cases, professional judgement may be required to increase or decrease the allocation of specific value, based upon local knowledge.

Table 2. Definition of Terms Relating to Nature Conservation Value

Nature Conservation Value	Examples of Selection Criteria
---------------------------	--------------------------------

¹ Gilbert.G., Gibbons.D.W., Evans.J. (1998). Bird Monitoring Methods. RSPB. Bedfordshire.

Nature Conservation Value	Examples of Selection Criteria
International	<p>A species which is part of the cited interest of an SPA and which regularly occurs in internationally or nationally important numbers.</p> <p>A species present in internationally important numbers (>1% of international population).</p>
National	<p>A species which is part of the cited interest of a SSSI and which regularly occurs in nationally or regionally important numbers.</p> <p>A nationally important assemblage of breeding or over-wintering species.</p> <p>A species present in nationally important numbers (>1% UK population).</p> <p>Rare breeding species (<300 breeding pairs in the UK).</p>
Regional	<p>Species listed as priority species in the NERC Act, which are not covered above, and which regularly occurs in regionally important numbers.</p> <p>Species present in regionally important numbers (>1% of regional population).</p> <p>Sustainable populations of species that are rare or scarce within a region.</p> <p>Species on the BoCC Red List and which regularly occurs in regionally important numbers.</p>
County	<p>Species listed as priority species in the NERC Act, which are not covered above, and which regularly occurs in county important numbers.</p> <p>Species present in county important numbers (>1% of county population).</p> <p>Sustainable populations of species that are rare or scarce within a county, or listed in a county BAP.</p> <p>A site designated for its county important assemblage of birds (e.g. a SINC Site).</p> <p>Species on the BoCC Red List and which regularly occur in county important numbers.</p>
District	<p>Species listed in S41 of the NERC Act, which are not covered above, and are rare in the locality or in the relevant Natural Area profile.</p> <p>Species present in numbers just short of county importance.</p> <p>Sustainable populations of species which are rare or scarce within the locality.</p> <p>A site whose designation falls just short for inclusion for its county important assemblage of birds (e.g. a SINC Site).</p> <p>Other species on the BoCC Red List and which are considered to regularly occur in district important numbers.</p>

Nature Conservation Value	Examples of Selection Criteria
Local	Other species of conservation interest (e.g. all other species on the BoCC Red and Amber List/NERC which are not covered above) regularly occurring in locally sustainable populations.
Site	All other BoCC Green-listed common and widespread species.

4.0 RESULTS

Breeding Bird Surveys

- 4.1 Habitats on site were suitable to support a range of urban edge and farmland birds. Twelve species were observed during the initial Phase 1 survey; chaffinch *Fringilla coelebs*, great tit *Parus major*, carrion crow *Corvus corone*, blackbird *Turdus torquatus*, redwing *Turdus iliacus*, robin *Erithacus rubecula*, Canada goose *Branta canadensis*, meadow pipit *Anthus pratensis*, pheasant *Phasianus colchicus*, jay *Garrulus glandarius*, wood pigeon *Columba palumbus* and wren *Troglodytes troglodytes*. Redwing is listed as a Schedule 1 bird under the Wildlife and Countryside Act 1981 (as amended) as they are scarce breeders in the UK. Meadow pipit is BoCC amber listed and redwing is BoCC red listed.
- 4.2 In addition, the site had some potential to support foraging waders such as golden plover *Pluvialis apricaria* and curlew *Numenius arquata* during their breeding season. The adults are known to spend some of their time feeding outside their breeding grounds (North peak ESA, Peak District Moors SPA, South Pennine Moors SAC and The Dark Peak SSSI) on adjacent land to these designated sites during their incubation period. This site is not considered suitable habitat to support nesting golden plover or curlew and neither of the species were identified using the site during the surveys.
- 4.3 A total of 29 species were observed during the breeding bird surveys, eleven of which either appear on the RSPB BoCC list as declining (Red or Amber) or are listed as NERC species of principal importance.
- 4.4 Eight of the 29 species were confirmed as breeding on site, including starling *Sturnus vulgaris*, a red-listed NERC species.
- 4.5 Dunnock *Passer modularis* (amber listed) was observed as a probable breeder.
- 4.6 Six species were noted as possible breeders including song thrush *Turdus philomelos* (red-listed) and willow warbler *Phylloscopus trochilus* (amber-listed).
- 4.7 A full list of results is provided in Appendix A and the recorded distribution of the notable species can be found in Figure 1. Table 3 details the UK and county status of these notable species.

Table 3: Schedule 1, NERC, BoCC Red and Amber Listed Bird Species Recorded at Glossop During Breeding Bird Surveys 2013, and their Recent Status within Derbyshire.

Species	UK Conservation Status	Breeding status on site [†]	Recent Status within Derbyshire ^{††}
Mallard	Amber list	Non-breeder	Common and abundant resident and winter visitor.
Kestrel	Amber list	Non-breeder	A fairly common resident and partial migrant.
Swallow	Amber list	Non-breeder	A common summer visitor and passage migrant.
Black-headed gull	Amber list	Non-breeder.	An abundant winter visitor and passage migrant. A fairly common breeder in the south and north west.
Grey wagtail	Amber list	Non-breeder	A fairly common resident, breeding mainly in upland areas.
Dunnock	Amber list NERC	Probable breeder	An abundant resident.
Song thrush	Red list NERC	Possible breeder	A common resident and partial migrant.
Willow warbler	Amber list	Possible breeder	A common summer visitor.
Starling	Red list NERC	Confirmed breeder	An abundant resident, passage migrant and winter visitor.
House sparrow	Red list NERC	Non-breeder	A common but decreasing resident.
Linnet	Red list NERC	Possible breeder	A common resident and partial migrant.

[†] **Possible breeder** - Evidence accumulated during the survey indicates that the bird species could be breeding on site, but the evidence is less conclusive than that obtained for probable breeders.

Probable breeder - Evidence accumulated during the survey indicates that the bird species is breeding on site.

Confirmed breeder - An active nest was observed or equivalent.

Non Breeder – Seen but either flying over and/or no suitable habitats for breeding.

^{††} Taken from the Derbyshire Bird Report 2010.

The terms used to define the species' abundance in the county are:

Fairly common – Between 100 and 1000 birds occurring or pairs breeding annually

Common – Between 1000 and 10000 birds occurring or pairs breeding annually

Abundant – More than 10000 birds occurring or pairs breeding annually

5.0 DISCUSSION AND EVALUATION OF IMPACTS

Protected Species

5.1 No Schedule 1 species were recorded on site.

- 5.2 No species for which near-by protected areas (SAC and SPA) are designated for were recorded, including golden plover and curlew.
- 5.3 All species recorded on site were fairly common to abundant within the county of Derbyshire.

Other Notable Species

- 5.4 The site provides breeding habitat for starling, a Red-listed/NERC species.
- 5.5 The presence of singing willow warbler and song thrush males indicates that these species are possibly breeding on site.

Bird Relationships and On-site Habitats

- 5.6 Hedgerows present on site provide breeding and foraging habitat for a number of common generalist species including dunnock *Prunella modularis*.
- 5.7 The mature trees that surround the off-site water-body provide foraging and breeding potential for many species including willow warbler, great spotted woodpecker and song thrush. The adjacent water-body also provides potential breeding habitat for species such as moorhen, mallard and Canada goose, all species observed on site.
- 5.8 The short grassland provides foraging opportunities for the waterfowl which potentially breed within the immediate vicinity of the site boundary. When left to develop into a higher sward the grassland provides hunting opportunities for kestrel and in addition, invertebrates for swallows *Hirundo rustica* and pipit species.

Impacts of Habitat Loss/change

- 5.9 The impact on bird species arising from the potential effects of development is based upon an understanding of each species' ecological requirements and their distribution, rarity and vulnerability as indicated by current guidance (e.g. NERC/LBAP species: Red and Amber listed Birds of Conservation Concern and legislation). In identifying particularly sensitive or important receptors the above guidance, in addition to the recent status of birds in Derbyshire (Derbyshire Bird Reports) have been used.
- 5.10 The species recorded on site that are arguably the most vulnerable to impacts are the notable species that appear on the BoCC Red list and the NERC lists. The habitat requirements, species account, and nature conservation value of these species are summarised in Table 4.

Table 4. Evaluation of Breeding Bird Species Considered Potentially Sensitive to Habitat Loss/Change

Species	Habitat Requirements	Species Account	Nature Conservation Value [†]	Characterisation of Unmitigated Impact	Suggested Possible Mitigation/ Compensation/ Enhancements	Residual Impact ^{††}
Dunnock	Commonly invades a wide variety of scrub grown situations. Has adapted to field hedgerows, farms, railway embankments, parks, gardens and vacant urban land. Feeds mainly on insects but small seeds are an important winter food.	Species recorded on two occasions. Generally singing males, with a maximum count of 3.	Local	Further potential suitable habitat will develop within residential gardens, over time.	Incorporate original hedgerows into the developmental plan where possible. Cut the hedges on a two year rotation to allow them to thicken and develop into taller hedges. Plant gaps to ensure connectivity of hedgerows. Allow tall rough grasslands to develop around the margins of the open space and footways. Avoid the use of pesticides on grassland.	Negligible
Linnet	Nests in areas of dense scrub or hedgerows. Feeds on small to medium sized seeds. Particularly dependent on weeds of open country and waste ground.	A single bird was recorded flying over the site.	Local	Loss of hedgerows within the development area will reduce nesting and foraging habitat on the site.	Their restricted distribution across the site suggested the majority of habitats are unsuitable for this species. The inclusion of shrub planting within the Green Infrastructure and the retention of boundary features will continue to provide nesting opportunities to the small number of linnet ensuring they remain on site as a breeding species. Areas of species rich grassland will provide suitable foraging conditions for linnet which rely on weed seeds in which to feed their young. Maintaining the peripheral hedgerows where birds were observed foraging may encourage this species to still utilise the site.	Negligible

Species	Habitat Requirements	Species Account	Nature Conservation Value [†]	Characterisation of Unmitigated Impact	Suggested Possible Mitigation/ Compensation/ Enhancements	Residual Impact ^{††}
Song thrush	Requires a mixture of trees or bushes and open habitat. Can be found in human habitat such as parkland, hedgerows, roadsides or other areas that satisfy the above criteria. Forages on a wide variety of invertebrates, including snails, supplemented by fruit when seasonally available.	A single male bird was recorded.	Local	Song thrushes are likely to avoid the newly developed site until the planted areas mature. However, habitats within the site that will remain development free may still be utilised.	Retention of hedgerows and planting of berry bearing trees such as rowan in the new development will provide new foraging opportunities Song thrushes readily adapt to urban environments and will use gardens and parks as foraging and nesting resources.	Negligible
Starling	Foraging occurs on grassland, arable crops and grazed pastureland, for a mixture of plant and invertebrate food sources. Invertebrate uptake increases during breeding season. Breeds in cavities, either natural hollow trees or gaps in building structures.	Starlings were observed breeding within hawthorn on the north eastern boundary.	Local	Loss of some grassland which provides some foraging opportunities.	Starlings will readily adapt to new housing developments and the strategic placement of nest boxes will help to facilitate this. In the long-term, gardens and parks are likely to compensate for the lost foraging resource.	Minor positive
House sparrow	Often associated with man, will avoid closed or dense vegetation, and except for seasonal foraging in corn fields and other crops, will usually avoid open terrain lacking in shrubs, trees and other cover.	Hedgerows on site provide foraging opportunities for a breeding colony of house sparrow, observed within vegetation on the southern boundary and the associated residential properties beyond the site boundary.	Local	Loss of hedgerows leading to a loss of potential foraging and cover habitat.	House sparrows will readily habituate to new residential areas. Strategic placement of house sparrow nest-box terraces around the development will provide new breeding sites.	Minor positive

[†] Based upon criteria set out in Table 3 and professional judgement.

^{††} Assumes that any suggested or proposed mitigation, compensation or enhancements are undertaken in full.

- 5.11 The site provides suitable habitat to support a number of species of conservation concern and those listed on the NERC act. However, all recorded species remain common and widespread in the UK, and the site is of no more than **local** importance for its breeding bird assemblage.
- 5.12 The development is likely to have a **negligible** impact upon linnet, song thrush and dunnoek at a **local** level due to the loss of hedgerow habitat.
- 5.13 For starling and house sparrow the development is likely to have some **minor positive** residual impacts at a **local** level as both species flourish in residential areas, taking advantage of the new nesting and foraging opportunities associated with houses and gardens.

Disturbance

- 5.14 Disturbance during site works and removal of hedgerows and trees will ultimately lead to loss of some nesting and foraging sites for a variety of bird species during the immediate building and landscaping procedure. The extent of the permanent loss is proportional to the amount of hedgerow and mature tree habitat removed. Once gardens and retained/created habitats mature and establish this will provide replacement habitat suitable for the majority of the displaced species.
- 5.15 All birds, their nests and eggs are protected by law and it is an offence, with certain exceptions to intentionally:
- Kill, injure or take any wild bird;
 - Take damage or destroy the nest of any wild bird while it is in use or being built; and
 - Take or destroy the egg of any wild bird.
- 5.16 Construction work should be scheduled to avoid disturbance of migrating birds during critical periods (e.g. during the night). Many upland species, particularly waders (golden plovers , dunlin and other species that are within the designation of the near-by SPA and SAC) migrate at night therefore the amount of disturbance (particularly noise) should be reduced during this time.

Disturbance Mitigation

- 5.17 To avoid disturbance to breeding birds, vegetation will be removed prior to the bird-breeding season (March to September inclusive). If this is not possible, vegetation will be checked prior to removal by an experienced ecologist. If active nests are found, vegetation will be left untouched and suitably buffered from works until all birds have fledged. Specific advice will be provided prior to undertaking the clearance. This would be a statutory requirement due to the protection of all nesting birds and their nests under the Wildlife and Countryside Act, 1981. A suitably qualified ecologist would supervise this.

Compensation and Enhancement

- 5.18 The majority of hedgerows are to be retained and enhanced. Gaps will be planted with fruit bearing species to provide foraging in winter for migrants. Sympathetic management of the hedgerows should include a cut once every two years on a rotation to ensure vary levels of hedgerow height across the site.

- 5.19 Additional enhancements that could be integrated into the development proposals include the erection of a mixture of nest box types such as house sparrow terraces, hole-fronted boxes designed specifically for blue tit, great tit and starling and open fronted boxes for species such as robin. Bird of prey boxes should be considered within the northern extent of the site and sited in close proximity to the mature broadleaf trees on the northern boundary to encourage either kestrel or owl species to breed on site.
- 5.20 Lighting should be designed to minimise light spill onto habitats retained or created for wildlife such as hedgerows and open spaces. This is particularly important as much of the surrounding landscape is unlit. Lighting should not be used between the adjacent water-body and proposed public open spaces to create dark corridors for migrating species.
- 5.21 Bird tables could be placed in each new residential dwelling to encourage home owners to feed the birds of the local area. This will particularly benefit starling, house sparrows and finch species.
- 5.22 The inclusion of marginal reed planting around the proposed pond may attract and benefit additional wetland and upland species.
- 5.23 Where possible broad spectrum pesticides should be avoided to increase the availability of insect prey for species such as song thrush, swallow and willow warbler.

Bird Predation

- 5.24 The proposed development will result in the loss of the majority of the grassland as it is developed into residential dwellings. The local cat population will likely increase with the influx of new residents and will mean that birds, and in particular passerines (Woods *et al* 2003), are likely to suffer an increased risk of feline predation at adult and chick stages. Increased cat population can lead to a negative effect on bird populations through increased predation and sub lethal effects of feline presence on fecundity (Beckerman *et al* 2007). It is considered probable that development will result in a site level decrease in productivity, i.e. an overall minor impact of the breeding bird assemblage.
- 5.25 A possible mitigation strategy would be to suggest the use of robust bell collars to home owners to reduce the likelihood of birds and small mammal predation by domestic cats.

6.0 CONCLUSIONS

- 6.1 A total of 29 species were recorded during the breeding bird surveys, twelve species which feature on the BoCC list of Birds of Conservation Concern were also recorded, including four Red-listed species (*song thrush*, *linnet*, *starling* and *house sparrow*) and eight Amber-listed species (*bullfinch*, *dunnock*, grey wagtail, black-headed gull, kestrel, swallow and willow warbler). Species in italics are also NERC species of principal importance.
- 6.2 During the breeding bird surveys eight species were confirmed as breeders including a notable species - starling, BoCC Red-listed Birds of (high) Conservation Concern. No Amber-listed species of (medium) conservation concern were confirmed breeding however one species (dunnock) was classed as a probable breeder. The other species were either possible breeders or non-breeders.
- 6.3 All recorded species are common and widespread in Derbyshire and the UK.
- 6.4 The proposed scheme is expected to have a **negligible** impact upon the local dunnock, linnet and song thrush populations and a **minor positive** impact upon the local starling and house sparrow populations.

7.0 REFERENCES:

- Beckerman, A.P., Boots, M. and Gaston, K.J. (2007) Urban bird declines and the fear of cats. *Animal Conservation* 10,3 320-325
- Bibby, C.J., N.D. Burgess & D.A. Hill (2000): *Bird Census Techniques*: 2nd Edition. London: Academic Press.
- Birdlife International/European Bird Census Council 2000 European bird populations: estimates and trends. *Bird life conservation in Birds of the Western Palearctic*.
- Eaton MA, Brown AF, Noble DG, Musgrove AJ, Hearn R, Aebischer NJ, Gibbons DW, Evans A and Gregory RD, 2009: Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 102, pp296–341.
- EOAC (1979) *Categories of Breeding Bird Evidence*. European Ornithological Atlas Committee.
- Derbyshire Ornithological club. *The birds of Derbyshire 2010*, annual report.
- Woods, M., McDonald, R.A. and Harris, S. (2003) Predation of wildlife by domestic cats *Felis catus* in Great Britain. *Mammal review*, 23, 2 174-188.

APPENDIX A

Species	Latin	Survey 1	Survey 2	Survey 3	Conservation Status	Breeding status
Canada goose	<i>Branta canadensis</i>	7	20	9	Not listed	UH
Mallard	<i>Anas platyrhynchos</i>		2	3	Amber list	UH
Pheasant	<i>Phasianus colchicus</i>	1	3	1	Not listed	FL
Grey heron	<i>Ardea cinerea</i>	1		1	Green list	F
Sparrowhawk	<i>Accipiter nisus</i>		1		Green list	F
Kestrel	<i>Falco tinnunculus</i>	1		1	Amber list	F
Moorhen	<i>Gallinula chloropus</i>	2	1	1	Green list	UH
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	1	1		Amber list	F
Woodpigeon	<i>Columba palumbus</i>	1		7	Green list	F
Great spotted woodpecker	<i>Dendrocopos major</i>		1	1	Green list	H
Swallow	<i>Hirundo rustica</i>		1		Amber list	UH
Grey wagtail	<i>Motacilla cinerea</i>		2		Amber list	UH
Wren	<i>Troglodytes troglodytes</i>	1	4	1	Green list	H
Dunnock	<i>Prunella modularis</i>	3		1	Amber list	P
Robin	<i>Erithacus rubecula</i>	3	3	3	Green list	FL
Blackbird	<i>Turdus merula</i>	1	2	3	Green list	FL
Song thrush	<i>Turdus philomelos</i>			1	Red list	S
Willow warbler	<i>Phylloscopus trochilus</i>		2		Amber list	S
Long-tailed Tit	<i>Aegithalos caudatus</i>		1 Family	1 Family	Green list	F
Blue tit	<i>Cyanistes caeruleus</i>		3	4	Green list	FL
Great tit	<i>Parus major</i>	1	1	3	Green list	FL/FF

Magpie	<i>Pica pica</i>		1	2	Green list	H
Carrion crow	<i>Corvus corone</i>	3	1	3	Green list	F
Starling	<i>Sturnus vulgaris</i>	7	4	31	Red list	ON
House sparrow	<i>Passer domesticus</i>			1 colony	Red list	UH
Chaffinch	<i>Fringilla coelebs</i>	1	1	4	Green list	FF/FL
Greenfinch	<i>Carduelis chloris</i>	3	2	2	Green list	H
Goldfinch	<i>Carduelis carduelis</i>	7	5	5	Green list	FL
Linnet	<i>Carduelis cannabina</i>	1			Red list	F
Total No. Species		18	23	23		

Confirmed breeder

FL – recently fledged young or downy young

ON – adults entering or leaving nest-site in circumstances indicating occupied nest

FF – adult carrying faecal sac or food for young

Probable breeder - Evidence accumulated during the survey indicates that the bird species is breeding on site.

P – pair in suitable nesting habitat

Possible breeder - Evidence accumulated during the survey indicates that the bird species could be breeding on site, but the evidence is less conclusive than that obtained for probable breeders.

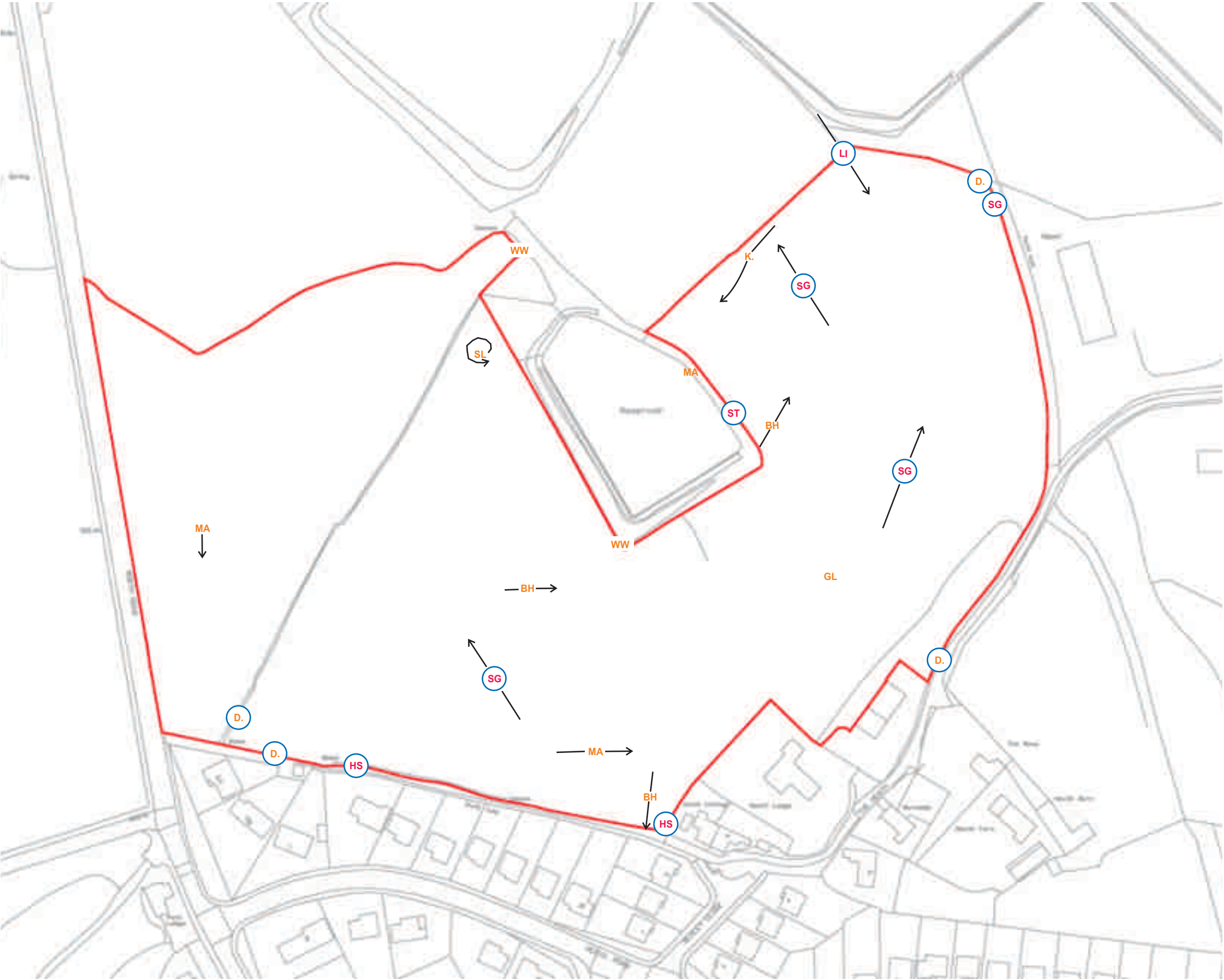
H – observed in suitable nesting habitat

S – singing male

Non-breeder

F – flying over

UH – observed in unsuitable nesting habitat



BoCC Red Listed Species

HS	HOUSE SPARROW
LI	LINNET
ST	SONG THRUSH
SG	STARLING

BoCC Amber Listed Species

BH	BLACK HEADED GULL
D.	DUNNOCK
GL	GREY WAGTAIL
MA	MALLARD
K.	KESTREL
SL	SWALLOW
WW	WILLOW WARBLER

	SITE BOUNDARY
	S41 NERC ACT PRIORITY SPECIES
	BIRD ONLY SEEN TO FLY OVER THE SITE AT THIS LOCATION
	MOVEMENT BETWEEN ON SITE HABITAT