



## **Breeding Bird Survey 2018**

**Pumps and Bloors Farm,  
Lower Rainham,  
Kent**

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**LIABILITIES:**

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing and whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date.

This report provides a snap shot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated only dominant species maybe recorded.

The recommendations contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

## 1.0 Introduction

### Background and planning context

- 1.1 The Ecology Partnership was commissioned to undertake assessment of the bird species on land around Pump and Bloors Farm, Lower Rainham, Kent, following the results of a Preliminary Ecological Appraisal conducted in June 2017 by EPR.
- 1.2 This report presents the findings of the surveys on site, which specifically aims to assess the sites potential to support farmland and breeding birds. Potential mitigation measures and recommendations for the site are included within this report.
- 1.3 Section 2 of this report sets out the methodology of The Ecology Partnership's survey. In Section 3, the results of the desk and field survey are presented. The discussion and implications for development are found in Section 4. Finally, conclusions are provided in Section 5.

### Site Context

- 1.4 The site comprises two parcels on either side of Pump Lane, in Lower Rainham, Kent (TQ809674). The land is just less than 250m south of the Medway Estuary and Marshes Special Protection Area. A railway line borders the land to the southwest with the dense suburban area of Twydall just beyond. Further agricultural land is situated to the northwest, and Bloors Lane Community Woodland, allotments and low-density buildings to the southeast. The site is dominated by large arable fields with boundary hedgerows and treelines.



*Figure 1: Approximate location of the redline boundary.*

### **Description of the Proposed Development**

- 1.5 The proposals are yet to be finalised however they include a residential development and associated infrastructure to be created within the redline area indicated in Figure 1, maintaining areas of green open spaces and playing fields on the northeast boundary. The farm buildings are to be excluded from the proposals.

### ***Section 41 farmland bird species and Local Biodiversity Action Plans***

- 1.6 A number of farmland birds are in steep decline in the UK. Several are classified, through inclusion on the Section 41 list of the Natural Environment and Rural Communities Act 2006, as of “Principle importance for the purpose of conserving biodiversity” in England. These species and others are also classified as of Red or Amber List concern in the UK (Eaton *et al.* 2015), usually due to declines in population size. This non-statutory assessment

is based on more recent national data than the section 41 List and can be used alongside that list for the purposes of conservation evaluation. The requirement of the Secretary of State under Section 41(3) of this Act to “further the conservation....” of the listed species and “promote the taking by others of such steps” is often met through Local Biodiversity Action Plans (LBAP). The LBAP for Swale (Swale Green Grid Partnership 2016) reiterates the importance of farmland for Section 41 birds, notes the opportunities from agri-environment schemes and has an action plan for farmland:

*“1) Within or adjacent to the target areas..., farmers and other land-owners will be encouraged by the Swale Green Grid Partnership to undertake action to improve farmland habitats in order to protect and enhance farmland biodiversity, particularly where:...*

*c) This would help support existing populations of important farmland birds, including tree sparrow, corn bunting, grey partridge, turtle dove, yellow wagtail and lapwing, particularly within target areas identified by RSPB....”*

- 1.7 The site does not fall within the Higher Level Stewardship Target Area of ‘North Kent & Thames Estuary’ for the enhancement of farmland for biodiversity. The site is dominated by apple orchards and are well-managed with insect repellent and pruning, disallowing any nesting within the orchard habitats, however farmland species may forage amongst the rows.

#### ***Statutory Designated Sites***

- 1.8 The site is 216m south of the Medway Estuary and Marshes SPA/Ramsar/SSSI site. The site is also located in proximity to a number of other international / European sites designated on account of their importance for birds, including The Swale SPA / Ramsar site / SSSI and Thames Estuary and Marshes SPA / Ramsar site / SSSI. The protection of European Sites of interest for birds, through the *Directive 2009/147/EC on the conservation of wild birds*, is transposed into UK legislation through the *Conservation of Habitats and Species Regulation 2017*.
- 1.9 Given the proximity of the Site to these international / European designated sites, specific consideration has been afforded to the potential presence of any qualifying species or assemblages associated with these sites during the course of the surveys, and the extent to

which these species utilise habitats within the site boundary. The findings of this survey have been used to inform further detailed assessment in light of the test at Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations), which is outlined in the document entitled 'Information for Habitats Regulations Assessment' (Ecology Solutions, May 2019).

- 1.10 Birds are mobile and several waterbird species that are *qualifying features* of the SPA, either individually or as a part of the waterbird assemblages, will likely feed on arable and grassland outside of the SPA boundaries. Occasionally impacts to such habitats can have a significant effect upon the special interest of a European site, through an impact on conservation objective 4 (effect on the population). Such habitats are defined as *functionally linked* to the site and so require assessment under the Habitats Directive and Regulations, as if they were within the SPA boundary (Chapman and Tyldesley 2016).
- 1.11 The species for which the SPAs qualify under **Article 4.1** of the Directive (79/409/EEC) by supporting populations of European importance listed on Annex I of the Directive during the breeding season are shown in Table 1.

#### *Sites of national importance*

- 1.12 The boundaries of the two SPAs are identical with those of the identically named Sites of Special Scientific Interest (SSSI); Medway Estuary and Marshes and The Swale. The citations for SSSIs are often less quantitative for birds than are SPA citations. Both SSSIs are noted as of importance for breeding waterbirds, but no exhaustive list of the species that comprise this interest is provided for either site.

#### *Domestic legislation*

- 1.13 All bird species are protected against intentional killing or injury, their active nests against intentional damage or destruction and their eggs against intentional destruction through the provisions of section 1(1) of the Wildlife and Countryside Act 1981, as amended. Certain species, listed on Schedule 1 of the Act, are afforded additional protection against disturbance whilst in or near a nest and disturbance to dependent young, through the provisions of section 1(5) of the Act.

**Table 1. Species which are qualifying features of the SPAs adjacent to the site for their breeding populations**

Species	Qualifying feature of Medway Estuary and Marshes SPA	Qualifying feature of The Swale SPA
Avocet <i>Recurvirostra avosetta</i>	*	*
Marsh Harrier <i>Circus aeruginosus</i>		*
Mediterranean Gull <i>Larus melanocephalus</i>		*
Little Tern <i>Sterna albifrons</i>	*	

## 2.0 Methodology

### *Field survey*

- 2.1 The survey period was April to June 2018. The site was visited once monthly to encompass the early, mid and late breeding season. A British Trust for Ornithology (BTO) Breeding Birds Atlas method (Balmer *et al.* 2013) was followed, adapted, through the sub-division of observations by habitat type, to provide information on breeding species and activity for each of the habitats within the site.
- 2.2 On each visit the site was walked along each boundary and, where possible without damage to crops, across each field. Each bird seen or heard was identified to species, registered to the parcel of land in which it was recorded and given a BTO Atlas breeding evidence code<sup>1</sup>.

<sup>1</sup> <https://www.bto.org/sites/default/files/u36/downloads/breedingcodes.pdf>

- 2.3 From the combined survey visits each species was assigned a highest evidence of proof of breeding for each habitat type. A total number of pairs for each species of conservation interest for each habitat type was estimated from the maximum number of apparent territories (birds showing possible, probably or confirmed breeding activity). This number should be considered as giving an indication of the relative abundance of species, rather than being a precise estimate. There is no method to derive the number of bird territories for most species without much more intensive survey effort. When it was considered that a species was present, but not breeding, for example a migrant singing on one visit, this is mentioned in the results.
- 2.4 The more survey visits that are made to a survey area, the more accurate the assessment can be. There are two main reasons why a reasonable number of visits should be undertaken through the breeding season and why an evening survey was undertaken prior to the morning. Seasonal timings of breeding activity vary between species for example many resident species establish territories as early as March while some migrant species do not even arrive in this country to start breeding until late May. Only a proportion of individuals of each species will be detected on each visit and some, particularly secretive or low-density species, can be quite elusive and require several visits to detect.
- 2.7 Surveys were undertaken by Paul Robinson BSc MRBS, PhD Student at Cardiff University with 15years experience of UK bird surveys, and Emma Bagguley BSc (Hons) MSc MCIEEM, Senior Ecologist at The Ecology Partnership.

**Table 2: Dates and weather conditions of the surveys undertaken**

Date	Start time	Weather conditions	Visit Ref
26 <sup>th</sup> April 2018	07.30 – 10.00	Clear, sunny, cool wind, 12°C	1
17 <sup>th</sup> May 2018	07.30 – 10.00	No cloud, sunny, 3/5 wind, 12°C	2
11 <sup>th</sup> June 2018	08.00 – 10.30	30% cloud, cool wind, 14°C	3



*Figure 2: Labelled fields for ease of analysis*

### **Evaluation**

- 2.8 The evaluation considers the potential use of the Site by qualifying bird species and assemblages associated with the SPAs, Ramsar sites and SSSIs. The evaluation of farmland birds makes use of the current listing of birds of conservation concern in the UK (Eaton et al. 2015) and the Section 41 list. The evaluation of the use of the site's habitats for species of conservation concern, hence any impact and mitigation, references recent literature on habitat and resource selection and response to habitat loss or disturbance for the relevant species.

### *Survey constraints*

- 2.9 Due to the active nature of the site as a working orchard, the birds are under high levels of disturbance from constant work by people and machines on site. The site is also open to the public as a footpath and dog walkers use the site, again potentially disturbing the birds prior to the survey and reducing detectability.

### 3.0 Results

#### *Breeding Birds*

- 3.1 The nature of the site and activity within the orchard results in no breeding activity or nests within the centre of the site and along any of the rows of apples.
- 3.2 All breeding activity is reduced to the boundary treelines and hedgerows around the edges of the site and along the public footpath between parcels 4 and 5.
- 3.3 The survey recorded a total of 26 bird species, of which 17 species were considered likely to be breeding within the boundary treelines/hedgerows. Table 3 shows the numbers of territories of each species considered to be breeding within the site and its boundaries. It must be noted that territories are allotted to an area based on repeated sightings of a bird or hearing a call in an area. This indicates where the nest is considered likely to be. They commonly extend into adjacent areas.

#### *Qualifying features of the Internal / European Designated Site*

- 3.4 None of the breeding species for which either of the SPAs qualifies (Table 1 in Section 1) was recorded during the survey. None of the waterbird species that breed at either SSSI was recorded using the habitats of the site. This result is expected as most of the qualifying waterbird species do not use orchard habitat and hedges (Bulmer *et al.* 2013 and references therein). The presence of a single Black-headed gull on one occasion is not considered to be significant.
- 3.5 As such, and for the reasons outlined further in Section 5 of the IHRA, it may therefore be concluded that the Site does not represent land which could be classed as important functionally linked land for any of the SPAs or Ramsar sites located in the local area

*Other species of conservation concern*

3.6 The species identified on site were largely common passerine species, with a number of farmland specialist species in low numbers including linnet, greenfinch, whitethroat and goldfinch (along with non-breeding kestrel and starling). Feeding activity was noted on the grassland between rows from species such as green woodpecker and blackbird while birds were also seen using the tops of the orchard rows to sing and call from including chaffinch and collard dove. The majority of activity was found along the site boundaries in mature trees and hedgerows, particularly along the edge of existing residential houses and the residential houses where swallows and house sparrows are considered to be breeding.

**Table 3: Approximate number of territories per species found across the site boundaries. BoCC Red List and Amber List species are denoted by the colour.**

Species	Approximate number of territories across the site	Confirmed, probable or possible breeding	Parcel boundaries where breeding occurs
Blackbird <i>Turdus merula</i>	20+	Confirmed	1, 2, 3, 4
Blue tit <i>Cyanistes caeruleus</i>	5	Confirmed	1, 2
Carrion crow <i>Corvus corone</i>	2	Possible	2, 3, 4
Collared dove <i>Streptopelia decaocto</i>	4	Possible	1, 3, 4
Chaffinch <i>Fringilla coelebs</i>	10+	Possible	1, 2, 4, 5
Dunnock <i>Prunella modularis</i>	1	Possible	1, 2, 3, 4
Goldfinch <i>Carduelis carduelis</i>	10+	Probable	1, 3, 4, 5
Greenfinch <i>Carduelis chloris</i>	2	Possible	1, 5
Great tit <i>Parus major</i>	2	Probable	2

House sparrow <i>Passer domesticus</i>	8	Probable	3
Magpie <i>Pica pica</i>	4	Probable	1, 4
Pheasant <i>Phasianus colchicus</i>	2	Possible	2, 3
Robin <i>Erithacus rubecula</i>	7	Possible	1, 2, 3
Swallow <i>Hirundo rustica</i>	3	Possible	3
Whitethroat <i>Sylvia communis</i>	1	Possible	2
Wren <i>Troglodytes troglodytes</i>	5	Possible	1, 2, 3, 4, 5
Woodpigeon <i>Columba palumbus</i>	10+	Probable	1, 2, 3, 4, 5

3.7 Eight species of bird were seen feeding or hunting on site but were not considered to be using the site/boundaries to breed due to unsuitable habitats present, or were only seen on a single occasion. Details can be found in Table 3 below.

**Table 4: Additional species found using the site but not considered to be breeding**

Additional species	Number of birds	Activity
Black headed gull <i>Chroicocephalus ridibundus</i>	1	Single bird feeding on the grassland
Feral pigeon <i>Columba livia domestica</i>	1	Close to the barns on site
Herring Gull <i>Larus argentatus</i>	1	Single bird feeding on the grassland
Kestrel <i>Falco tinnunculus</i>	1	Hunting over parcel 3 in April

Starling <i>Sturnus vulgaris</i>	10+	Feeding and flying over from housing on the opposite side of the railway line
Sparrowhawk <i>Accipiter nisus</i>	1	Hunting between the rows in parcel 3 in April
Linnet <i>Carduelis cannabina</i>	12	Only seen in April, feeding/passing through the site
Green woodpecker <i>Picus viridis</i>	2	Feeding on the grassland in parcels 2 and 3
Jay <i>Garrulus glandarius</i>	1	Feeding

#### 4.0 Discussion and Recommendations

##### *Assessment of bird species of conservation importance*

- 4.1 There is no functional link between the proposed development site and adjacent sites of statutory interest for their breeding birds. Any impact of the development through habitat loss is therefore on the populations of the four common, but declining farmland birds that are classified as Section 41 species or of Red List status; house sparrow, dunnock, linnet and starling.
- 4.2 Species considered to be of conservation importance are those included in Annex 1 of the EU Birds Directive (e.g. Birdlife International 2004), Schedule 1 of the Wildlife and Countryside Act (WCA), the recently revised Birds of Conservation Concern (BOCC) Red list (Eaton M.A et al (2009)) and species included in the UK Biodiversity Action Plan.
- 4.4 No birds from Annex 1 of the EU Council Directive on the Conservation of Wild Birds or Schedule 1 Part 1 of the Wildlife and Countryside Act were identified using the site.

##### Birds of Conservation Concern Red List species

- 4.5 Four BoCC Redlist species have been identified using the site during the breeding season in 2018. These are house sparrow, linnet, starling and herring gull. Only house sparrow was considered to be likely to be breeding on site. This species was concentrated around the houses at Russet Farm on Pump Lane. Linnet were only seen in April, and are

considered to be feeding on site and passing through to more suitable farmland habitats rather than using the boundaries to breed. Starling were largely seen flying over from the houses on the southern side of the railway line, over to the site to feed. This species is not considered to be breeding on site, but more likely in the trees and gardens off site. The herring gull was only seen on one occasion and the behaviour was considered to be opportunist feeding only, with the habitats not providing optimal conditions for this species.

- 4.6 An additional three Amber List species were also noted using the site. These were kestrel, dunnock and black-headed gull. Only the dunnock was considered to be using the site to breed, utilising the scrubby understory of the hedgerows and treelines around the site. Kestrel was seen hunting over the orchard on one occasion, likely to be looking for small mammals along the hedgerows. Black-headed gull was again only seen on one occasion and only a single bird. This is not considered to be significant and the habitat is not consistent with optimal feeding habits typical of this species. This is likely to be opportunist feeding only.

**Table 5: Bird species of conservation importance recorded in the survey area at Pump and Bloors Farm, Rainham.**

Red List Species	Amber list
House sparrow	Kestrel
Linnet	Dunnock
Starling	Black-headed gull
Herring Gull	

- 4.7 Farmland birds can broadly be into functional groups according to their nesting and feeding habitats. As the development retains hedges and the orchard, those species that both nest and feed in hedges and woodland can be assumed not to be impacted at a local scale. The seven species of conservation concern can be divided into three groups (Newton 2017): (1) those nesting and largely feeding in and near hedges, scrub or woodland (Dunnock); (2) those both nesting and feeding only in open land (herring gull, black-headed gull); and (3) those nesting in hedges, woodland and scrub or buildings, but taking a large proportion of their food from open land (house sparrow, linnet, starling). The

replacement of the orchard with housing can impact species in groups 2 and 3, regardless of whether that impact is an actual population decline or the displacement of birds elsewhere. The latter generally cannot be measured or predicted, so should be considered a local impact for the purposes of the assessment of the effect of the development.

- 4.8 The loss of the orchard habitat will result in the loss of feeding habitat for a low number of farmland birds and red list species, however the diversity of bird species found on site was not considered to be high and the size of the populations of red list species were also considered to be low. The orchard itself is considered to be of low biodiversity value to farmland birds due to the use of pesticides and heavy management of the apple crop, reducing the invertebrate diversity and quantity of food sources for birds.
- 4.9 House sparrow are the only red list species considered to be breeding within the site. Their territories are restricted to the edges of the existing houses at Russet Farm on the edge of Pump and Bloors Farm. This species is expected to adapt to the additional housing development, utilising the retained orchard and open space within the scheme to feed on, and nest within the gardens and new builds.
- 4.10 Additional farmland red list species: starling and linnet, are not considered likely to be breeding within the orchard habitat (nor is any species) and unlikely to be within the boundary treelines. This is due to the sporadic sightings of the species and the habitats at the edges being more suited to common garden species. Starlings are likely to nest within the housing estates adjacent to the railway line and in the off-site village.

### *Mitigation*

- 4.11 The majority of the species found to be using the site are largely common garden passerine species which are highly adaptable to garden habitats and the edge of residential developments. The loss of the orchard habitat is considered to be mitigated for by the introduction of residential gardens with hedgerows between plots and new public open space.
- 4.12 The exact plans are yet to be finalised, however the increase in open grassland habitat on site from garden lawns and public open space and playing fields will provide suitable feeding opportunities for species such as blackbird and starling and gull species.

- 4.13 Species such as linnet have not been shown to adapt well to residential environments. This species not considered likely to be breeding on site however and the loss of orchard results in a loss of feeding opportunities only. This may be a residual impact, although enhancements can be made to the open spaces within the scheme to create opportunities for such a species. Some of the orchard on site is to be retained as this will provide of the same quality of habitat.
- 4.14 Bird boxes may be hung on suitable retained trees to increase the number of breeding opportunities throughout the site. Recommended boxes include:
- Schwegler 1N Deep Nest Box – give added nest protection from predators
  - Schwegler 1B Bird Box – general purpose bird box, suitable for many species.
  - Schwegler Kestrel box – raptor boxes can be placed on mature trees with clear overviews of the grassland and woodland.
  - Schwegler Swallow nest box – several of these should be erected under the eaves of newly created houses and garages to replace the opportunities lost by the loss of the horse stables on site.
  - 1SP Swegler Sparrow terraces - This terrace provides ideal nesting opportunities for three families. It is durable, breathable and will last many decades. It may also occasionally attract tits, redstarts and spotted flycatchers.
- 4.15 It is recommended that as many of the boundary treelines and hedgerows be retained as possible as well as the treelines along the edge of the public footpath. Enhanced hedgerows with buffer strips along the bottom of wildflowers, and occasional mature trees, should be created on site to ensure connectivity around and through the centre of the site is maintained. Species such as hazel, hawthorn, dog wood, elder, oak, holly and dogrose will provide a variety of food sources for invertebrates and birds. New hedgerows should be implemented between residential plots and around the new school and playing fields. Appendix 2 illustrates the important habitats on site.
- 4.16 Creation of rough marginal grassland sown with a rich wildflower mix along the edges of the woodland and around the proposed development will provide invertebrate sources for a number of bird species, both red list and common species. These grassland strips should be inaccessible to the public to reduce disturbance. An occasional mowing regime outside of nesting bird and flowering season should be the only management undertaken.

- 4.17 The UK breeding season for most bird species takes place between March and September. It is therefore recommended that any works affecting the suitable bird habitat on site (including fields and hedgerows) be carried out outside of this period. If this is not possible, it is further recommended that areas suitable vegetation and ground be checked for active nests no more than 48 hours prior to clearance. Should active nests be discovered, any works in the vicinity of the nest must cease until the birds have fledged the nest.

## 5.0 Conclusions

- 5.1 A breeding bird survey, following British Trust for Ornithology Atlas methods, was carried out with monthly visits during April, May and June 2018. The survey recorded 26 species, of which 17 were classified as certain or probable breeders within the boundaries of the site with territories overlapping the site.
- 5.2 No qualifying bird species / assemblages associated with international / European designated sites were recorded within the site during the surveys undertaken in 2018. As such, and for the reasons outlined in the IHRA, it may therefore be concluded that the Site does not represent functionally linked land for any of the SPAs or Ramsar sites located in the local area.
- 5.3 A number of common farmland bird species are of conservation concern in England or Great Britain, due to the magnitude of decline in their breeding populations. Several of these (Lapwing, Tree Sparrow, Corn Bunting, Yellow Wagtail, Grey Partridge, Turtle Dove) are targeted for conservation action in the local Swale Biodiversity Action Plan. None of these species occurs on the site. Only one farmland species of conservation concern, included on the Section 41 list of the NERC Act and the Red List, was considered to breed on site; House Sparrow.
- 5.4 The site is predominantly new apple orchard habitat with mature treelines and hedgerows bordering the site. The development will result in the loss of a large area of this orchard habitat on site. No breeding was considered to occur within the orchard itself due to its intensive management. There is to be no loss of breeding habitat, however several species are considered to forage within the orchard and take advantage of the rows for breeding activity i.e singing/calling.

- 5.5 Mitigation recommended for the site includes the enhancement of boundary hedgerows on site and implementation of additional hedgerows and trees on site, alongside rough grassland and species-rich mixes to increase invertebrate diversity on site. This will increase shelter and nesting opportunities on site and food sources for birds. Garden habitats often include supplementary feeding opportunities and this is considered to be sufficient to replace the existing orchard which is likely to be currently poor for insect diversity.
- 5.6 The UK breeding season for most bird species takes place between March and September. It is therefore recommended that any works affecting the suitable bird habitat on site be carried out outside of this period or under ecological watching brief, as detailed within this report.

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**Internet resources:**

Google Maps: [www.maps.google.co.uk](http://www.maps.google.co.uk)

Magic Interactive Map: [www.magic.gov.uk](http://www.magic.gov.uk)

### Appendix 1: Raw data: Bird Species during each survey visit

#### April

Parce l	Species	Territory count	Breeding activity	Inferred breeding evidence	Notes
1	B.	6	FF	confirmed	
1	BT	2	FF	confirmed	
1	CD	1	P	prob	
1	CH	2	S	poss	
1	D.	1	S	poss	
1	G.	1	H	poss	
1	GO	2	H	poss	
1	GR	1	S	poss	group flying around and male singing
1	M.	1	H	poss	
1	MG	2	P	prob	
1	R.	2	S	poss	
1	WR	1	S	poss	
2	B.	1	FF	confirmed	
2	C.	1	H	poss	
2	CC	1	S	poss	
2	CH	2	S	poss	
2	PH	1	H	poss	
2	R.	3	S	poss	
2	WH	1	S	poss	
2	WR	1	S	poss	
3	B.	1	FF	confirmed	
3	BH	4	F	Non-breeder	

3	C.	1	H	poss	
3	CD	1	H	poss	no trees with breeding potential, probably nests off site, feeds on site
3	D.	1	S	poss	
3	GO	2	P	prob	In hedge by railway, presumably breeding off site on adjacent houses
3	HG	2	F	Non-breeder	may breed outside site and site within territory
3	HS	c10	P	prob	no buildings on site, may breed on adjacent buildings
3	K.	1	F	Non-breeder	
3	LI	12	P	prob	
3	PH	1	H	poss	may breed on buildings nearby
3	R.	2	S	poss	
3	SG	1	H	poss	no buildings on site, may breed on adjacent buildings
3	SH	1	F	Non-breeder	
3	SL	1	H	poss	
3	WR	1	S	poss	
4	B.	1	FF	confirmed	
4	C.	1	H	poss	
4	CH	1	S	poss	female
4	D	1	S	poss	
4	FP	1	F	Non-breeder	
4	G.	1	H	poss	

4	GO	2	H	poss	female
4	J.	1	H	poss	
4	MG	1	H	poss	no buildings on site, may breed on adjacent buildings
4	SL	2	P	prob	
4	WR	1	S	poss	
5	CH	1	S	poss	
5	DN	1	H	poss	
5	GO	1	S	poss	presumably breeding off site on adjacent houses
5	GR	1	S	poss	may breed outside site and site within territory
5	SL	2	P	prob	
5	WR	1	S	poss	

## May

Parcel	Species	Territory count	Breeding activity	Inferred breeding evidence
1	GO	2	H	poss
1	B	4	H	Poss
1	CH	1	S	poss
1	G.	1	H	poss
1	BT	2	H	poss
2	R	1	S	poss
2	GT	2	P	prob
2	GS	1	H	poss
2	GO	5	F	poss

2	B	4	H	poss
2	BT	2	P	Prob
2	CH	1	S	poss
3	wr	1	s	poss
3	ch	2	s	poss
3	GS	1	f	non
3	MG	2	h	poss
3	SG	4	f	non
3	B	3	h	poss
3	LI	6	f	non
3	HS	4	h	poss
3	GO	6	ff	con
3	R	1	s	poss
3	SL	2	h	poss
3	HS	4	p	prob
4	B	5	s	poss
4	GO	3	ff	con
4	CH	4	s	poss
4	CD	3	h	poss
4	R	1	h	poss
5	B	5	s	poss
5	CH	3	s	poss
5	GO	4	ff	con
5	SL	1	h	poss
5	GF	1	h	poss

## June

Parcel	Species	Territory count	Breeding activity	Inferred breeding evidence
1	B	3	P	Prob
1	HS	2	P	Prob
1	CH	1	S	Prob
1	R	1	T	Prob
2	B	3	P	Prob
2	G	1	H	poss
2	Wr	1	H	poss
2	MG	1	H	poss
2	GO	1	P	Prob
3	SG	6	P	prob
3	G	1	H	poss
3	B	2	P	prob
3	CH	2	S	poss
3	CD	2	H	poss
3	GO	2	FF	Confirmed
3	SL	2	H	poss
3	R	1	S	poss
3	HS	2	P	prob
4	CH	1	S	poss
4	SL	1	H	poss
4	GO	4	P	prob
4	MG	3	H	poss
4	CD	2	H	poss

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4	BT	3	P	prob
4	B	2	P	prob
4	Wr	1	H	poss
4	HS	2	H	poss
5	SL	1	H	poss
5	B	3	P	prob
5	R	1	S	poss
5	GT	1	S	poss
5	BT	2	P	prob
5	HS	4	P	prob
5	GO	1	H	poss
5	CD	1	H	poss
5	MG	1	H	poss

Appendix 2: Key habitat to be retained and enhanced for birds (shown in blue)



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