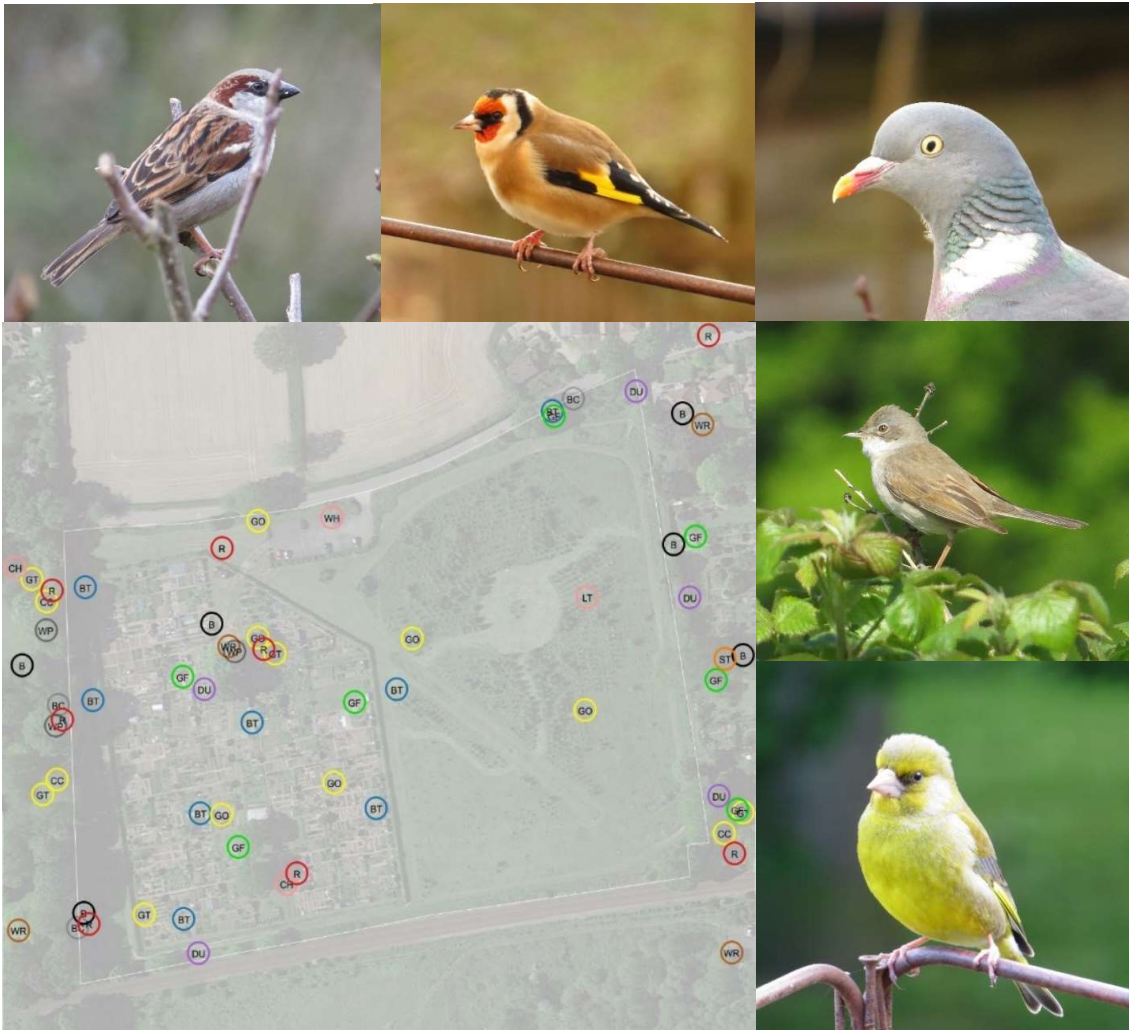


# Breeding Birds Surveys in Brundall in 2023

Brundall Countryside Park

Low Farm Wood

Finch Way Estate



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# Breeding Birds Surveys in Brundall in 2023

## Summary

In spring 2023, breeding bird surveys were carried out at Brundall Countryside Park, Low Farm Wood and Finch Way Estate under the work programme of Brundall Parish Council's Environment Committee Biodiversity Working Group.

The surveys found 46 species of bird using the sites and 22 species breeding. 9 species were breeding at all three sites of which Blue Tit, Robin and Woodpigeon were the three most abundant.

The highest diversity of breeding species was at the Finch Way Estate (17 species) and the lowest at Low Farm Wood (11 species). Breeding bird overall densities were highest at Finch Way Estate (17.9 pr/ha) and the lowest at the Countryside Park (7.6 pr/ha).

At all sites, there was a strong concentration of breeding territories around mature trees, shrubs and hedgerows. The recently planted woodland and the grassland habitats supported low densities of birds.

These results will contribute to a Biodiversity Audit, inform the management of the PC sites and provide a baseline to show how bird populations respond to changes in the habitats over time.

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# Breeding Birds Surveys in Brundall in 2023

## 1 Background

In spring 2023, Brundall Parish Council's Environment Committee Biodiversity Working Group initiated a programme of habitat and species surveys to improve knowledge of biodiversity in the Parish as a whole, and to inform the management of the green space sites that Brundall Parish Council has control or influence over. The 2023 breeding surveys were targeted at two Brundall PC sites - Countryside Park (incl. the Allotments) and Low Farm Wood - and the suburban Finch Way Estate. The intention is to survey the remaining Brundall PC sites in 2024.

The breeding bird surveys serve two purposes:

They contribute to a Biodiversity Audit of Brundall which will assess the current biodiversity value across the Parish and identify areas where important biodiversity could or should be protected or enhanced.

They provide a baseline against which the impact of management and development of these sites on breeding birds can be measured over time.

## 2 Survey Methods

There are several tried and tested methods in use for multi species breeding bird surveys in the UK and most are derived from the Common Bird Census (CBC) method (Marchant, 1980). The method used here is a *5-visit territory mapping* method, which differs from the CBC method in carrying out 5 rather than 10 survey visits. A 6-visit survey, with an additional visit in early July, is the standard recommended for surveys to assess the impact of development such as EIA (Bird Survey & Assessment Steering Group, 2022). In this case, prior knowledge of the range of species present is sufficient to be confident that omitting the last visit would not affect the results. In addition, ad hoc observations during non-survey visits to the sites were collected and used to help interpret the records from the formal surveys.

The survey visits were made within 3 hours of sunrise. On each visit, all bird observations (seen and heard) were mapped. Subsequently, records of each species from all visits were collated and standard criteria applied to identify the number of breeding "territories". The number of *confirmed* and *probable territories*, as defined in the methodology, was used as a measure of the *number of breeding pairs*.

### 3 Results

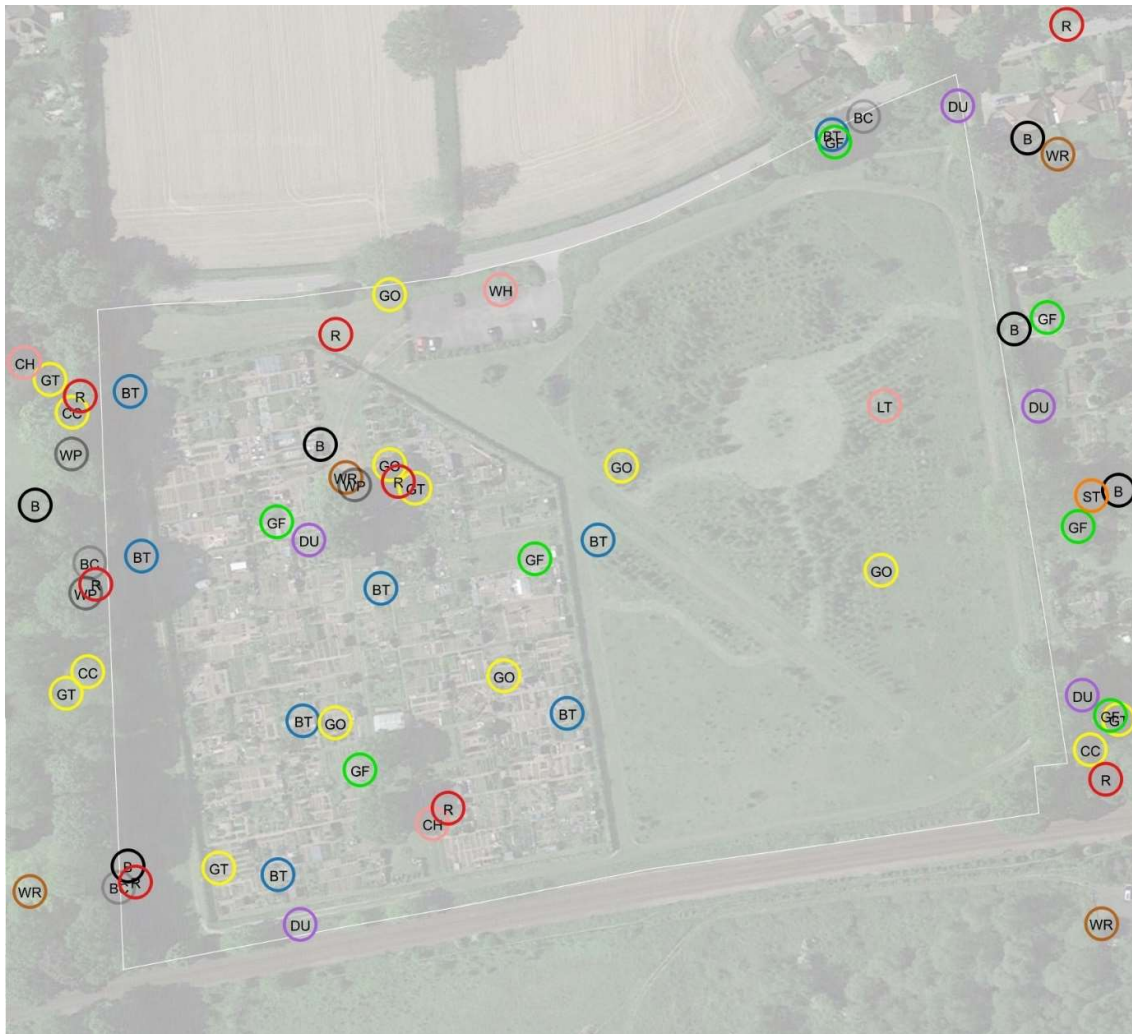
#### 3.1 Brundall Countryside Park (4.1 ha)

36 bird species were recorded using the site during the breeding survey period of which 16 showed some evidence of breeding. 13 were considered confirmed/probable breeding species.

Species	BoCC Status*	No. of Territories			No. of breeding pairs	Pairs/ha
		Confirmed	Probable	Possible		
Greenfinch	Red	3	1	2	4	1.0
Linnet	Red		1	1	1	0.2
Song Thrush	Red			1		
Mistle Thrush	Red					
Starling	Red					
Woodpigeon	Amber		2	1	2	0.5
Mallard	Amber	1			1	0.2
Wren	Amber	1			1	0.2
Whitethroat	Amber			2		
Bullfinch	Amber					
Kestrel	Amber					
Rook	Amber					
Stock Dove	Amber					
Blue tit	Green	6		2	6	1.5
Goldfinch	Green	5		2	5	1.2
Robin	Green	3		3	3	0.7
Blackbird	Green	2		2	2	0.5
Blackcap	Green	1		1	1	0.2
Great Tit	Green	1		1	1	0.2
Chaffinch	Green	1			1	0.2
Long-tailed Tit	Green		1		1	0.2
Chiffchaff	Green			2		
Lesser Whitethroat	Green			1		
Pied wagtail	Green			1		
Carrion crow	Green					
Coal tit	Green					
Collared dove	Green					
Common Buzzard	Green					
Garden Warbler	Green					
Great Spotted Woodpecker	Green					
Green Woodpecker	Green					
Jackdaw	Green					
Jay	Green					
Magpie	Green					
Nuthatch	Green					
Pheasant	Green					
<b>All Species</b>		<b>24</b>	<b>5</b>	<b>22</b>	<b>29</b>	<b>6.8</b>

\* Red data category; see 4.3

### Breeding bird territories at Brundall Countryside Park 2023



### 3.2 Low Farm Wood (2.2 ha)

23 species were recorded using the site during the breeding survey visits of which 14 showed some evidence of breeding and 13 were considered confirmed/probable breeding species.

Species	BoCC Status	No. of Territories			No. of breeding pairs	Pairs/ha
		Confirmed	Probable	Possible		
Greenfinch	Red	1		2	1	0.5
Starling	Red					
Woodpigeon	Amber	2	4	2	6	2.7
Dunnoch	Amber		2	1	2	0.9
Wren	Amber	1		1	1	0.5
Rook	Amber					
Stock Dove	Amber					
Blue tit	Green	3	1	1	4	1.8
Blackbird	Green	3		1	3	1.4
Robin	Green	3	1	1	4	1.4
Blackcap	Green	1			1	0.5
Chiffchaff	Green	1			1	0.5
Goldfinch	Green		1		1	0.5
Great Tit	Green	1		1	1	0.5
Long-tailed Tit	Green		1		1	0.5
Magpie	Green		1		1	0.5
Jay	Green			1		
Carrion crow	Green					
Chaffinch	Green					
Coal tit	Green					
Goldcrest	Green					
Jackdaw	Green					
Pheasant	Green					
<b>All Species</b>		<b>16</b>	<b>10</b>	<b>12</b>	<b>26</b>	<b>5.5</b>



Breeding bird territories at Low Farm Wood 2023



### 3.3 Finch Way Estate (3.4 ha)

38 species were recorded using the site during the breeding survey period of which 27 showed some evidence of breeding and 17 were considered confirmed/probable breeding species.

Species	BoCC Status	No. of Territories			No. of breeding pairs	Pairs/ha
		Confirmed	Probable	Possible		
Greenfinch	Red		4	2	4	1.2
Starling	Red	2	2	2	4	1.2
House Sparrow	Red		2	1	2	0.6
Song Thrush	Red	1			1	0.3
Mistle Thrush	Red			1		
Herring Gull	Red					
Marsh Tit	Red					
Swift	Red					
Duncock	Amber	7	1	1	8	2.4
Woodpigeon	Amber		8	2	8	2.4
Stock Dove	Amber	1			1	0.3
Wren	Amber	1			1	0.3
Tawny Owl	Amber			1		
Bullfinch	Amber					
Kestrel	Amber					
Lesser Black-backed Gull	Amber					
Mallard	Amber			1		
Robin	Green	7	1	1	8	2.4
Blackbird	Green	6		1	6	1.8
Blue tit	Green	5		2	5	1.5
Great Tit	Green	3	1		4	1.2
Goldfinch	Green		3	1	3	0.9
Collared dove	Green	2	1		3	0.9
Blackcap	Green		1	1	1	0.3
Chiffchaff	Green		1	1	1	0.3
Jackdaw	Green	1			1	0.3
Long-tailed Tit	Green			2		
Magpie	Green			2		
Chaffinch	Green			1		
Great Spotted Woodpecker	Green			1		
Green Woodpecker	Green			1		
Nuthatch	Green			1		
Coal tit	Green			1		
Jay	Green			1		
Carrion crow	Green					
Grey Heron	Green					
Pheasant	Green					
Pied wagtail	Green					
<b>All species</b>		<b>36</b>	<b>25</b>	<b>24</b>	<b>61</b>	<b>17.9</b>

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## 4 Discussion

### 4.1 Breeding Bird Community Composition

Published data and personal observations suggest that around 85 species of bird have nested within Brundall Parish between 2011 and 2022. This survey, which covered 9.7 ha or 0.22% of the parish, recorded 54% of these species and 27% were shown to be breeding. Most of the species breeding locally which were not recorded during the surveys are wetland specialists or species that are active at dusk or night and require different survey methods to detect.

Species diversity varied between the three sites, reflecting the diversity of habitats at each site, with fewer species present or breeding at the completely wooded Low Farm Wood than the other two more diverse sites. It might seem counter intuitive that the suburban Finch Way Estate would support the highest diversity of breeding birds but this probably reflects its greater maturity (the estate was built in 1970) and structural diversity (the estate includes many mature trees which are 100-200 years old). Such mature suburban areas often support higher diversity and density of generalist woodland species than many modern woodlands.

The range of species found breeding was very much as would be expected, with most falling into the category of *urban indicator species* (DEFRA, 2002) which typically have higher densities in urban areas than the countryside.

	Category	BCP*	LFW*	FWE*	All sites
No. of species present	Urban	24	18	26	26
	Non-urban	15	6	14	20
No. of breeding species	Urban	13	12	15	19
	Non-urban	1	1	2	3
Total pairs breeding	Urban	30	26	59	115
	Non-urban	1	1	2	4

\* BCP = Brundall Countryside Park

LFW = Low Farm Wood

FWE = Finch Way Estate

Perhaps surprisingly, there was no significant difference in the proportion of urban indicator species breeding in the more rural Countryside Park and Low Farm Wood than the more urban Finch Way Estate. This may reflect the lack the habitat diversity in the non-urban habitats and/or the maturity and high diversity of trees/shrubs within the urban site.

## 4.2 Breeding Density

The density of a breeding species is often used as a measure of the quality of habitat for that species, and the table below gives the densities of each species recorded.

Species	Breeding density (Pairs/ha)		
	BCP	LFW	FWE
Blackbird	0.5	1.4	1.8
Blackcap	0.2	0.5	0.3
Blue tit	1.5	1.8	1.5
Chaffinch	0.2		
Chiffchaff		0.5	0.3
Collared dove			0.9
Dunnock	0.5	0.9	2.4
Goldfinch	1.2	0.5	0.9
Great Tit	0.2	0.5	1.2
Greenfinch	1.0	0.5	1.2
House Sparrow			0.6
Jackdaw			0.3
Long-tailed Tit	0.2	0.5	
Magpie		0.5	
Mallard	0.2		
Robin	0.7	1.8	2.4
Song Thrush			0.3
Starling			1.2
Stock Dove			0.3
Whitethroat	0.2		
Woodpigeon	0.5	2.7	2.4
Wren	0.2	0.5	0.3
<b>All Species</b>	<b>7.6</b>	<b>11.8</b>	<b>17.9</b>

As an example of how these densities compare with what might be expected, a study of blackbird (Wysocki et al, 2004) found densities in suburban wooded parkland of 1.0 to 2.5 pairs/ha and up to 7.0 pairs/ha in well-wooded suburban garden habitat. The densities found in this survey were within or below the lower part of the reported range.

It is quite obvious from the distribution maps in section 3 that, at all sites, the highest densities of many species were close to mature trees and (at Low Farm Wood) old hedgerows. This reflects the fact that the majority of breeding birds in the local landscape are naturally birds of woodland and mature scrub and the established wooded habitat provides nest sites and feeding opportunities than young woodland and grassland does not.

## 4.3 Conservation Importance

Species “red lists” provide a critical measure of the health of biodiversity, assessing the risk of extinction at a local, national or global level. These lists classify species based on population size, recent population trends and other measures of vulnerability to identify the species at most risk and most urgent need of conservation action. In the UK, birds are better monitored than any other animal group and we have reliable data on population trends for most species which are published,

with the latest UK birds red data list in a periodic report entitled Birds of Conservation Concern (BoCC). The was last updated in 2021 (Stanbury et al).

The presence and population size of red or amber listed species can be used as a measure of the existing conservation importance of a site. The table below compares the data on red and amber listed species at the three sites survey in 2023.

Species	BoCC Status	BCP	LFW	FWE
Bullfinch	Amber	p		p
Dunnock	Amber	2	2	8
Greenfinch	Red	4	1	4
Herring Gull	Red			p
House Sparrow	Red			2
Kestrel	Amber	p		p
Lesser Black-backed Gull	Amber			p
Linnet	Red	p		
Mallard	Amber	1		p
Marsh Tit	Red	p		p
Mistle Thrush	Red	p		p
Rook	Amber	p	p	
Song Thrush	Red	p	p	1
Sparrowhawk	Amber	p		p
Starling	Red	p	p	4
Stock Dove	Amber	p	p	1
Swift	Red			p
Tawny Owl	Amber			p
Whitethroat	Amber	1		
Woodpigeon	Amber	2	6	8
Wren	Amber	1	1	1
Red- and Amber-listed: no. of breeding pairs		11	10	29
Red- and Amber-listed: no. of breeding species		6	4	8
No. of Red- and Amber-listed species present		16	8	20

All the amber and red listed species found nesting are widespread species that have recently declined. As with the other metrics, the “countryside” sites score lower than the suburban site for red and amber-listed feeding populations, again most likely reflecting lack of maturity and/or habitat diversity. There is certainly potential to steer the development of the habitats at the Countryside Park and Low Farm Wood to increase populations of other red/amber species (whitethroat, wren) and encourage new red/amber species (bullfinch, linnet) to breed.

## 5 Conclusions and Recommendations

These birds surveys show that the sites surveyed collectively support a diverse bird community including some species of conservation concern. However, the bird community of all the sites surveyed was dominated by species with an urban affinity, with few species that might be expected in the “countryside”.

The Biodiversity Working Group recommends that:

- these results are used to provide an insight into how these sites could better support biodiversity and feed into the site management decisions
- these surveys are repeated periodically at the PC-managed sites to monitor change in population density, species diversity and biodiversity value against this baseline
- surveys of the other Brundall PC managed sites should take place in 2024 and be used to guide management and measure outcomes for biodiversity at those sites

## 6 References

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DEFRA (2022). Working with the grain of nature: A biodiversity strategy for England. Defra Publications, London.

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## 7 Appendices

### 7.1 Data from all sites

Species	Bocc Status	Breeding population (pairs)				Breeding density (Prs/ha)		
		BCP	LFW	FWE		BCP	LFW	FWE
Blackbird*	Green	2	3	6		0.5	1.4	1.8
Blackcap*	Green	1	1	1		0.2	0.5	0.3
Blue tit*	Green	6	4	5		1.5	1.8	1.5
Bullfinch	Amber	p		p				
Carrion crow*	Green	p	p	p				
Chaffinch*	Green	1	p	p		0.2		
Chiffchaff	Green	p	1	1			0.5	0.3
Coal tit	Green	p	p	p				
Collared dove*	Green	p		3				0.9
Common Buzzard	Green	p		p				
Dunnock*	Amber	2	2	8		0.5	0.9	2.4
Garden Warbler	Green	p						
Goldcrest	Green		p					
Goldfinch*	Green	5	1	3		1.2	0.5	0.9
Great Spotted Woodpecker	Green	p		p				
Great Tit*	Green	1	1	4		0.2	0.5	1.2
Green Woodpecker*	Green	p		p				
Greenfinch*	Red	4	1	4		1.0	0.5	1.2
Grey Heron	Green			p				
Herring Gull	Red			p				
House Sparrow*	Red			2				0.6
Jackdaw*	Green	p	p	1				0.3
Jay*	Green	p	p	p				
Kestrel	Amber	p		p				
Lesser Black-backed Gull	Amber			p				
Lesser Whitethroat	Green	p						
Linnet	Red	p						
Long-tailed Tit*	Green	1	1	p		0.2	0.5	
Magpie*	Green	p	1	p			0.5	
Mallard*	Amber	1		p		0.2		
Marsh Tit	Red	p		p				
Mistle Thrush*	Red	p		p				
Nuthatch	Green	p		p				
Pheasant	Green	p	p	p				
Pied wagtail*	Green	p		p				
Robin*	Green	3	4	8		0.7	1.8	2.4
Rook	Amber	p	p					
Song Thrush*	Red	p	p	1				0.3
Sparrowhawk*	Amber	p		p				
Starling*	Red	p	p	4				1.2
Stock Dove	Amber	p	p	1				0.3
Swift*	Red			p				
Tawny Owl	Amber			p				
Whitethroat	Amber	1				0.2		
Woodpigeon*	Amber	2	6	8		0.5	2.7	2.4
Wren*	Amber	1	1	1		0.2	0.5	0.3
<b>All red-listed species</b>		<b>4</b>	<b>0</b>	<b>11</b>		<b>1.0</b>	<b>0.0</b>	<b>3.2</b>
<b>All amber-listed species</b>		<b>7</b>	<b>12</b>	<b>18</b>		<b>1.7</b>	<b>5.5</b>	<b>5.3</b>
<b>All Species</b>		<b>31</b>	<b>26</b>	<b>61</b>		<b>7.6</b>	<b>11.8</b>	<b>17.9</b>
<b>No. of breeding species</b>		<b>14</b>	<b>13</b>	<b>17</b>				
<b>No. of species recorded</b>		<b>39</b>	<b>23</b>	<b>40</b>				

\* Urban indicator species (see section 4.1)