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John Tucker

Introduction

During the summer of 2010, the author assisted an RSPB survey project, under contract, examining 15 farmland sites, 13 in north Shropshire plus one in south west Staffordshire and one in south Cheshire. The survey was part of a national scheme over several years to evaluate the Higher Level Stewardship (HLS) agri-environment scheme as a mechanism to promote bird biodiversity on farmland. Mass farmland field-walking of the nature involved during this survey is not a favourite with birders and is seldom undertaken so intensively, so a brief account of what was found in this substantial sample is presented here for the record.

This report describes the relative abundance of birds within a total of eight and a half square kilometres of more or less intensively managed farmland, most in north Shropshire, during the 2010 breeding season and should enhance the picture of the county's farmland birds, complementing the contemporaneous national and county atlas schemes.

The Survey

The survey involved walking four times a total of close to 60 miles of field margins around 15 sites covering 863 ha (8.63 sq km, about 2,130 acres) of farmland; the 224 miles occupied 155 hours. The survey covered ten sites with HLS agreements and five 'control' sites without. Details were recorded of birds and activity with associated field crops, boundaries and field-margin features. The resulting data ultimately occupied over 10,000 spreadsheet rows detailing over 1,300 sub-units of land and their associated nine and a half thousand birds. Three sites had the first of their four surveys carried out by another observer from the RSPB team and two sites were surveyed on only three occasions. The results of the RSPB study, under contract to Natural England, have been published (Bright *et al.* (2015)). This outline account is presented for the county record, its publication approved by Natural England and the RSPB.

The Sites

Table 1 lists the fifteen sites and for anonymity gives site location to the nearest tetrad together with a note of cropping. Eleven sites were wholly in north Shropshire, two were on the county boundary with Cheshire, one was in south Cheshire and one was in SW Staffordshire, both the latter being within 5km of the Shropshire border. The data are here analysed together.

Table 1 Survey area details

The approximate locations to the nearest tetrad, approximate areas and principle cropping regimes in 2010 at the 15 sites surveyed. Sites 1 to 5 did not have HLS agreements, 6 to 15 did.

Site	Near Tetrad	Area (approx.)	Crop
1	SJ63Y	61ha	Dairy
2	SJ61B	38ha	Dairy
3	SJ30T	40ha	Beef and sheep
4	SJ41J	77ha	Arable, some beef
5	SJ31L	61ha	Dairy
6	SJ64X (S Cheshire)	60ha	Arable
7	SJ37E	72ha	Arable, some PYO
8	SJ42W	67ha	Miscanthus, some arable
9	SJ42F	39ha	Arable, some unimproved pasture
10	SJ61H	59ha	Arable, some sheep
11	SJ41J	57ha	Dairy, some arable
12	SJ63F	69ha	Arable, some rough grass
13	SJ62G	41ha	Arable
14	SJ73A	57ha	Miscanthus
15	SJ84A (SW Staffs)	65ha	Dairy, some small meadows

All sites were on generally gently sloping glacial gravels and five (2,6,8,9,12) showed limited and localised peat deposits beneath relatively unimproved grasslands. Three sites (2,10,12) bordered the River Tern, one (12) some way upstream. One site was historically a mere, long-ago drained. Woods were not surveyed but edge species were recorded for most sites had at least some woodland either as internal or adjoining patches, the latter notable at 5 and 15. Some sites had few (four to five) large fields (or parts of them) while others comprised far more (up to 45) small fields and correspondingly greater lengths and relative proportions of hedge.

The known distributions (or, rather, the best available understanding of them at the time) of six project target and Red Listed farmland birds were involved in selecting the general areas for the farmland survey plots; grey partridge, lapwing, turtle dove, tree sparrow, yellow wagtail and corn bunting. Survey sites were defined by identifying 1 km squares (seldom corresponding to OS 1km grid squares) including as much as possible of the single land ownership in question. All land within that square, of all habitat types and within the one ownership, was surveyed.

Bird Data

The survey generated a total of 4,955 records involving 9,404 birds of 82 species. All raw data and electronic files were passed to the RSPB as part of their project material and stored on their permanent data systems. All Breeding Bird Atlas tetrad data were entered onto the BTO Atlas system by the author immediately after the last field survey for each site. Other significant bird records were submitted to the SOS.

Red & Amber Listed, Target and Other Species

The numbers of records and of individuals of project target Red and Amber Listed species are provided in the below table. For the definitions of listings see http://www.rspb.org.uk/wildlife/birdguide/status_explained.aspx

Table 2 Red list, Amber List and Target Species

Project target (emboldened) and Red and Amber Listed species recorded during fieldwork. Data format: number of records [number of individuals].

Red List Species		Amber List Species	
Grey partridge	0 [0]	Shelduck	1 [1]
Lapwing	29 [54]	Mallard	44 [134]
Turtle dove	0 [0]	Tufted duck	23 [35]
Skylark	161 [176]	Quail	1 [1]
Grasshopper warbler	1 [1]	Little grebe	5 [6]
Starling	14 [46]	Kestrel	18 [22]
Song thrush	86 [92]	Oystercatcher	5 [8]
House sparrow	55 [180]	Curlew	3 [6]
Tree sparrow	67 [106]	Stock dove	62 [155]
Yellow wagtail	21 [28]	Swift	11 [29]
Linnet	70 [118]	Kingfisher	4 [5]

Red List Species	
Yellowhammer	100 [111]
Corn bunting	4 [4]
Herring gull (over only)	(1 [1])

Amber List Species	
Sand martin	9 [124]
Swallow	139 [364]
House martin	38 [156]
Willow warbler	10 [15]
Whitethroat	214 [250]
Mistle thrush	20 [28]
Dunnock	208 [215]
Bullfinch	15 [31]
Reed bunting	37 [39]
Redstart (migrant)	(1 [1])
Wheatear (migrant)	(1 [1])

Other Species

Table 3 Green List Species

Species	Number of Records [Number of individuals]
Mute swan	1 [9]
Greylag goose	6 [14]
Canada goose	9 [64]
Mandarin duck	5 [6]
Red-legged partridge	11 [14]
Pheasant	79 [89]
Cormorant	2 [4]
Grey heron	11 [16]
Sparrowhawk	2 [2]
Buzzard	63/77
Hobby	1 [1] (+ pair seen from a site)
Moorhen	24 [35]
Coot	7 [18]

Species	Number of Records [Number of individuals]
Black-headed gull	3 [6]
Lesser black-backed gull	2 [3]
Woodpigeon	367 [803]
Collared dove	16 [24]
Little owl	5 [5]
Green woodpecker	2 [2]
Great spotted woodpecker	57 [65]
Magpie	117 [215]
Jay	13 [16]
Jackdaw	67 [1,031]
Rook	31 [858]
Carrion crow	177 [328]
Raven	7 [15]
Goldcrest	1 [1]

Species	Number of Records [Number of individuals]
Blue tit	285 [570]
Great tit	206 [386]
Coal tit	2 [2]
Long-tailed tit	19 [39]
Chiffchaff	105 [105]
Garden warbler	33 [33]
Blackcap	42 [42]
Lesser whitethroat	12 [12]
Sedge warbler	28 [29]
Reed warbler	3 [3]
Nuthatch	23 [29]

Species	Number of Records [Number of individuals]
Treecreeper	3 [7]
Wren	389 [425]
Blackbird	400 [465]
Robin	237 [271]
Dunnock	208 [215]
Pied wagtail	20 [33]
Meadow pipit	1 [2]
Chaffinch	452 [484]
Greenfinch	23 [26]
Goldfinch	107 [188]
Common crossbill	1 [1]

Frequency of Records and Numbers of Individuals.

Table 4 Top 20 species; number of records, in numerical order.

Species	Number of Records/ Number of individuals	Species	Number of Records/ Number of individuals
Top 20 Records in descending order			
Number of Records		Number of Individuals	
Chaffinch	452	Jackdaw	1,031
Blackbird	400	Rook	858
Wren	389	Woodpigeon	803
Woodpigeon	367	Blue tit	570
Blue tit	285	Chaffinch	484
Robin	237	Blackbird	465
Whitethroat	214	Wren	425
Dunnock	208	Great tit	386
Great tit	206	Swallow	364
Carrion crow	177	Carrion crow	328

Skylark	161
Swallow	139
Magpie	117
Goldfinch	107
Chiffchaff	105
Yellowhammer	100
Song thrush	86
Pheasant	79
Linnet	70
Jackdaw	67
Tree sparrow	67

Robin	271
Whitethroat	250
Magpie	215
Dunnock	215
Goldfinch	188
House sparrow	180
Skylark	176
House martin	156
Stock dove	155
Mallard	134
Sand martin	124

Ratios of Selected Species Pairs

While the foregoing presents absolute numbers, of both records and individual birds, it is instructive to examine the ratios of some species with either habitat or family relatives. Such figures will vary in the future, responding to climatic and land use changes and comparisons may be interesting in the future. Further, such relationships can be gleaned from the data in the foregoing tables.

Table 5 Ratios of numbers of species and habitat pairs.

Species Pair	Individuals	Ratio
Swallow : House martin	364 : 156	2.3:1
Chiffchaff : Willow warbler	105 : 15	7.0:1 * ¹
Blackcap : Garden warbler	42 : 33	1.3:1 * ²
Whitethroat : Lesser whitethroat	250 : 12	21:1
Wren : Robin	425 : 271	1.6:1 * ³
Blackbird : Song thrush	465 : 92	5.1:1
Robin : Dunnock	271 : 215	1.3:1

*¹: Willow warbler records were all from field margins in low tree cover, once confirmed breeding whereas chiffchaff were invariably from internal on-site or adjoining wood compartments on site.

*²: These two can be notoriously difficult to tell apart on song alone; the author claims considerable experience but not infallibility in this.

*³: A high ratio in favour of wren despite the previous hard winter.

Discussion

Project Target Species (all Red Listed)

Of the six project target species, two, turtle dove and grey partridge, were not recorded during survey (Table 2), nor in fact elsewhere by the author in the county in 2010.

Lapwing: At eight sites, breeding probable or confirmed on four, with one record of one probable fledged bird.

Yellow wagtail: At five sites (on three sites as single over-flying birds) with probable or confirmed breeding on two sites, and producing a fledged brood on one.

Corn bunting: At two sites, on one as a single bird and at the other site at Atlas level ('T').

Tree sparrow: At nine sites, probable or confirmed breeding at seven.

Non-target and other Red Listed Species

Cuckoo: Unrecorded during surveys, although heard once outside a survey site.

Skylark: At 12 sites, probably breeding at most. 52% of the records derived from one site (12), arable with the birds seemingly nesting beside 'tramlines' among the winter wheat, among potatoes or on a small area of fallow.

Grasshopper warbler: Recorded once, a few metres from a survey site in contiguous wet rank grass.

Starling: At seven sites, possibly breeding on them all.

Spotted flycatcher: Unrecorded; not a farmland bird but presence in edge habitat was anticipated.

Linnet: At 12 sites, probably breeding, in hedgerows, on five.

Yellowhammer: At 12 sites, probably breeding on most.

Amber Listed Species (See Table 2 for all Amber Listed Species)

Shelduck: A single record was from close to a known Wildlife Site wetland at which the species may have bred.

Mallard: At 13 sites.

Tufted duck: At six sites.

Quail: Heard once, subsequently reported by the landowner and forwarded to the Atlas at breeding level ('T').

Little grebe: At two sites with suitably overgrown pools.

Kestrel: Eight sites, confirmed breeding at three.

Oystercatcher: Overhead during three visits to one site in Cheshire, close to which they may have nested.

Curlew: At three sites with no suggestion of breeding on or close to them.

Lesser black-backed gull and **herring gull:** Over-flights.

Stock dove: At 13 sites. The four northern and eastern-most sites were the only ones to produce double figure numbers of records and individuals, with 14 records involving 37 birds at one site.

Swift: Over-flights.

Kingfisher: Four records involving five birds from two sites with substantial pools.

Green woodpecker: At two sites.

Sand martin: At two sites, breeding on one at a small reservoir with steep banks.

Swallow: Present at all 15 sites.

House martin: At eight sites.

Willow warbler: At six sites at which only one or two birds, seven on one, probably breeding on all six.

Whitethroat: From 13 sites probably breeding in hedgerows on most of them.

Mistle thrush: Nine sites, one to four birds at each.

Redstart and **wheatear:** As migrants.

Dunnock: At all sites, from seven to 23 from each, probably breeding on most.

Bullfinch: At seven sites, probably breeding at two.

Reed bunting: At seven sites, possible breeding at four.

Notes on selected Green List Species (See Table 3 for all Green List species)

Hobby: Recorded once as a single and at another site as a pair just off a survey site.

Little owl: Recorded twice each at two sites and once at another with no further evidence of breeding.

Raven: Usually heard going over but a family group on one site, possibly having bred nearby.

Goldcrest: Recorded only once, the national population reduced in 2010 by the previous hard winter.

Chaffinch: Produced more records than any other species and was probably breeding at all sites.

Greenfinch: Almost invariably off farmland and associated with nearby gardens.

Mammals

The following mammals were recorded:

Brown hare: 28 records involving 32 individuals from nine sites

Fox: Two records involving two individuals from two sites

Fallow deer: Three records involving seven individuals from three sites (occurring in or close to adjacent woodland cover).

Mammal records were sent to the Shropshire Mammal Group.

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References

Jennifer A. Bright, Antony J. Morris, Rob H. Field, Andrew I. Cooke, Philip V. Grice, Leila K. Walker, Jeremy Fern, Will J. Peach. *Higher tier agri-environment scheme enhances breeding densities of some priority farmland birds in England.* Agriculture, Ecosystems and Environment. 2015. 203 (2015) 69–79.