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# COMPARING BIRD COMMUNITIES IN WILLOW AND MISCANTHUS CROP FIELDS – SPRING 2024 SURVEY

A Biomass Connect Field Report



# COMPARING BIRD COMMUNITIES IN WILLOW AND MISCANTHUS CROP FIELDS – SPRING 2024 SURVEY

**PRODUCED BY ED DREWITT**

## **BACKGROUND:**

This field report follows on from the previous [winter bird surveys](#)<sup>1</sup> conducted at two farms, one in Devon and the other in Somerset. One farm had a mixed age willow crop, while the other had a Miscanthus crop. This field report covers bird surveys repeated at these farms in spring, and two additional single surveys undertaken at new locations with willow and Miscanthus. The aim of these ongoing surveys is to record and map the birds seen through the seasons to see what benefits each crop may have for different species.

The full rationale and method are given in the winter field survey. Briefly, the [Common Bird Census \(CBC\) method \(Williamson & Homes 1964\)](#)<sup>2</sup> was followed. This is based on a territory-mapping approach, which involves recording all contacts with birds (by sight or sound) on a map of a defined area, during a series of visits throughout the breeding season. Birds were recorded within a 250-metres buffer zone of the two crops.

## **RESULTS:**

The birds recorded have been colour-coded depending on their conservation status in the UK (red, amber or green). Those in red have the most conservation concern while those in green have the least. Some species such as woodpigeon and wren are amber listed due the UK having a significant proportion of Europe's population.

For more information see: [bto.org/our-science/publications/birds-conservation-concern](https://bto.org/our-science/publications/birds-conservation-concern)<sup>3</sup>.

## Langaller Farm [Miscanthus]:

On the 13<sup>th</sup> and 14<sup>th</sup> March 2024, Ed Drewitt and Kevin Lindegaard walked the fields at Langaller Farm containing Miscanthus. On the 13<sup>th</sup> March an afternoon (14:00-17:00) survey was conducted followed by a morning (8:30-10:30) survey on the 14<sup>th</sup> March. The weather was sunny spells with excellent visibility and highs of 12°C and lows of 9°C

Across the survey area, 26 bird species were recorded of which ten are amber listed and three are red listed. Only four species were seen in or on the edge of the Miscanthus: blackbird, dunnock, wren and reed bunting.

Langaller Farm	No	
House sparrow	9	
Linnet	1	
Skylark	1	
Stock dove	1	Overhead
Bullfinch	2	
Dunnock*	7	
Lesser black-backed gull	2+	Overhead
Meadow pipit	1	Overhead
Reed bunting*	2	
Rook	40+	
Song thrush	5	
Woodpigeon	10+	
Wren*	11	
Pheasant	6+	
Blackbird*	11	
Blue tit	3	
Carrion crow	1	
Chaffinch	6	
Chiffchaff	1	
Goldfinch	1	Overhead
Great spotted woodpecker	1	
Great tit	1	
Magpie	3	
Pied wagtail	2	
Raven	1	
Robin	11	

Table 1: A summary of the bird species recorded on or over Langaller Farm (Miscanthus crop). Red = red listed; orange = amber listed; green = green listed. Those marked with an asterisk (\*) were recorded in the crop itself.

**Miscanthus Bird Species - Langaller Farm**



- KEY:**
- Green Listed
  - Amber Listed
  - Red Listed

**SPECIES IDENTIFICATION:**


 House sparrow	 Dunnock	 Bullfinch	 Chiffchaff	 Great tit	 Magpie	 Great spotted woodpecker
 Skylark	 Wren	 Reed bunting	 Blackbird	 Blue tit	 Pied wagtail	
 Linnet	 Song thrush	 Rook	 Robin	 Chaffinch	 Carrion crow	

Figure 1:  
 A map showing where a selection of bird species was seen or heard at Langaller Farm (Miscanthus crop).  
 Red = red listed; orange = amber listed; green = green listed.

The highest diversity of bird species was in the woodland close to the farm before reaching the Miscanthus fields. This is likely to be due to better feeding opportunities and nesting habitats. The ancient hedgerows which border the Miscanthus at Langaller Farm were remarkably quiet, which may have been due to the time of the year with some species on nests and less likely to be singing and winter migrants having departed. Chiffchaff was recorded singing in the woodland. Although away from the immediate fields, a flock of over 40 rooks were foraging in the nearby grazing fields.



Miscanthus crop at Langaller Farm in Somerset.

### ***Umberleigh Barton Farm [SRC willow]:***

On the 14th and 15th March 2024, Ed Drewitt and Kevin Lindegaard walked the fields containing short rotation coppice (SRC) willow. On March 14<sup>th</sup> an afternoon (13:15-15:30) survey was conducted followed on the 15<sup>th</sup> by a morning (8:15-10:30) survey. The weather was a mix of sunny spells and very heavy rain, with highs of 11°C and lows of 9°C.

Thirty-one bird species were recorded of which thirteen are amber listed and three are red listed. Of these, eight species were seen in or on the edge of the willow: blackbird, song thrush, reed bunting, dunnock, wren, blue tit, long-tailed tit and chiffchaff.

# FIELD REPORT

## Spring 2024 Bird Survey

Umberleigh Barton Farm	No	
Herring gull	10	Overhead
Linnet	1	
Skylark	2	
Bullfinch	1	
Dunnock*	5	
Grey wagtail	2	
Kestrel	1	
Mallard	7	
Meadow pipit	4	
Moorhen	3	
Redwing	6	
Reed bunting*	2	
Snipe	4	
Song thrush*	6	
Woodpigeon	10	
Wren*	12	
Blackbird*	7	
Blue tit*	2	
Buzzard	2	
Canada goose	2	
Chaffinch	2	
Chiffchaff*	3	
Coot	3	
Goldfinch	4	
Great tit	2	
Grey heron	2	
Little grebe	1	
Long-tailed tit*	4	
Pheasant	6+	
Robin	8	
Siskin	1	Heard

Table 2:

A summary of the bird species recorded on or over Umberleigh Barton Farm (willow crop).

Red = red listed; orange = amber listed; green = green listed. Those marked with an asterisk (\*) were recorded in the crop itself.



Figure 2:

A map showing where a selection of bird species was seen or heard at Umberleigh Barton Farm (willow crop).

Red = red listed; orange = amber listed; green = green listed.

Although fewer species were recorded than in December, mid-March is a period when winter migrants are leaving and spring migrants are only just beginning to trickle in. Chiffchaff was commonly singing in the trees adjacent to the willow while at least one was foraging amongst the willow branches and emerging leaves. Chiffchaffs had just arrived from wintering in the Mediterranean. Long-tailed tits were feeding and moving through the willow, while blue tits were feeding amongst the catkins. The reed bunting flew across from the ponds to the edge of the willow. Blackbirds and song thrushes were generally observed at ground level or flying away from the edges of the willow.

Most birds were sighted or heard in the areas of oak trees and young woodland by the railway, that are adjacent to the willow plantations. As with the experience at Langaller Farm, the hedgerows themselves were quiet and may have been due to the time of the year. Some species, such as blackbirds, robin and song thrushes may have already been on eggs or have chicks and therefore were less likely to be singing and therefore detectable. We also had some heavy, driving rain, which suppressed bird activity. On the farm ponds, little grebe, coot, moorhen and mute swans were also noted.



Willow crop at Umberleigh Barton Farm in Devon.



## Additional sites visited

A week later there was an opportunity to visit two further sites in the West Midlands. This offered the chance to see if there was consistency with the results gathered from the sites in the south west.

### The Fold, Bransford [SRC willow]

On the 20th March 2024, Ed Drewitt and Kevin Lindegaard walked the fields containing SRC willow (9:40am – 11:40am). The weather was sunny and calm, with highs of 16°C and lows of 12°C.

Twenty-three bird species were recorded of which nine are amber listed and one is red listed. Of these, five species were seen in or on the edge of the willow: song thrush, reed bunting, blue tit, great tit and chiffchaff.

The Fold	No	
Greenfinch	1	Overhead
Dunnock	1	
Lesser black-backed gull	24	
Mallard	4	
Reed bunting*	1	
Rook	4	Overhead
Shelduck	2	Overhead
Song thrush*	3	
Woodpigeon	13	
Wren	7	
Blackbird	1	
Blue tit*	3	
Buzzard	7	
Carrion crow	1	
Chiffchaff*	5	
Cormorant	1	
Goldfinch	1	Overhead
Great spotted woodpecker	1	
Great tit*	6	
Green woodpecker	1	
Long-tailed tit	4	
Robin	8	

Table 3:

A summary of the bird species recorded on or over The Fold.

Red = red listed; orange = amber listed; green = green listed. Those marked with an asterisk (\*) were recorded in the crop itself.



**Figure 3:**  
 A map showing where a selection of bird species was seen or heard at The Fold (willow crop).  
 Red = red listed; orange = amber listed; green = green listed.

The highest diversity of bird species was along the hedge and tree line separating the two fields of willow and along the north-east edge by the river. The field to the east was most active with birds: great tits, blue tits and chiffchaffs were moving between the willow stands and the trees along the hedge line. A song thrush was singing in the older stand of willow in this field. A reed bunting was calling from the younger stand in this field. The field to the west was less busy with birds; those seen (woodpigeon and carrion crow) were using the wide-open strips between the willow. Both green and great spotted woodpeckers were using the larger ash trees by the river and the hedgerow separating the two willow fields.



Blue tit feeding on tiny insects and sipping nectar from SRC willow catkins.

### ***Wenlock Spring [Miscanthus]***

On the 20th March 2024, Ed Drewitt and Kevin Lindegaard walked the fields containing Miscanthus (14:00 – 15:45). The weather was overcast followed by heavy rain, with highs of 13°C and lows of 10°C.

Twenty-two bird species were recorded in the survey area of which five are amber listed and one is red listed. However, aside from pheasant, none of these species were recorded in or on the edge of the Miscanthus. While the Miscanthus itself was almost devoid of birds, the northern Miscanthus field was being used by several brown hares.

Wenlock Spring	
Skylark	4
Dunnock	2
Mallard	2
Meadow pipit	1
Woodpigeon	2
Wren	4
Blackbird	11
Blue tit	11
Carrion crow	1
Chaffinch	3
Chiffchaff	2
Goldcrest	1
Goldfinch	1
Great spotted woodpecker	1
Great tit	2
Jackdaw	2
Magpie	1
Pheasant*	2
Pied wagtail	1
Red kite	1
Robin	7
Treecreeper	1

Table 4:

A summary of the bird species recorded on or over Wenlock Spring.

Red = red listed; orange = amber listed; green = green listed. Those marked with an asterisk (\*) were recorded in the crop itself.

The highest diversity of bird species was in and along the edge of the ancient woodland by the Miscanthus, on the south-side of the factory. In particular, an uncut hedgerow, running along the south-west edge of the southern left-hand Miscanthus field was busy with robins, wrens, blue tits, goldcrest and chiffchaff. Skylarks were singing in the open fields adjacent to the northern field of Miscanthus. Along the edge of the stream, adjacent to the southern left-hand Miscanthus field, there was a large patch of primroses. These were perhaps original and wild and were providing opportunities for early pollinators to feed.

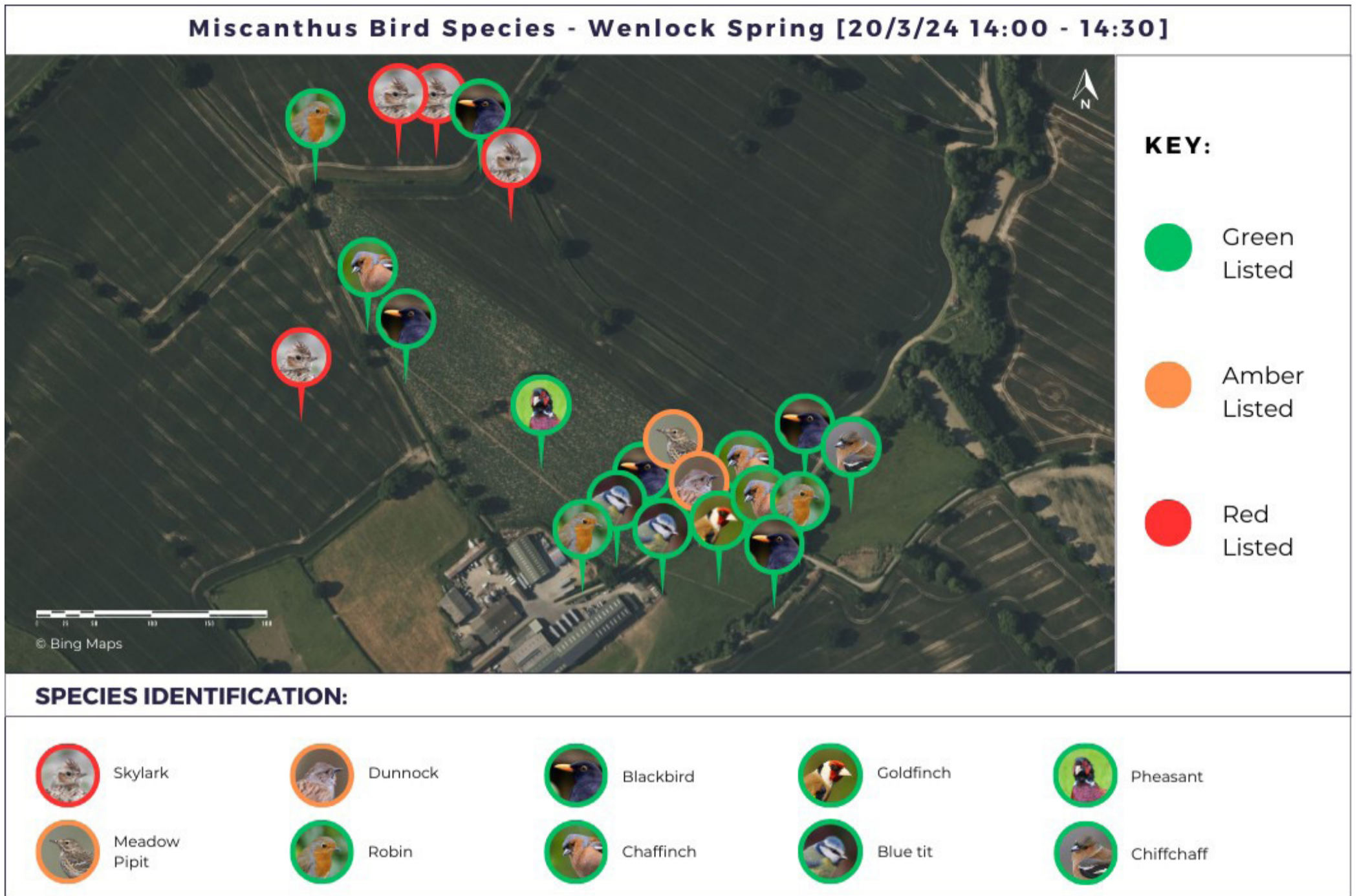


Figure 4:  
A map showing where a selection of bird species was seen or heard at Wenlock Spring (Miscanthus crop). Red = red listed; orange = amber listed; green = green listed.

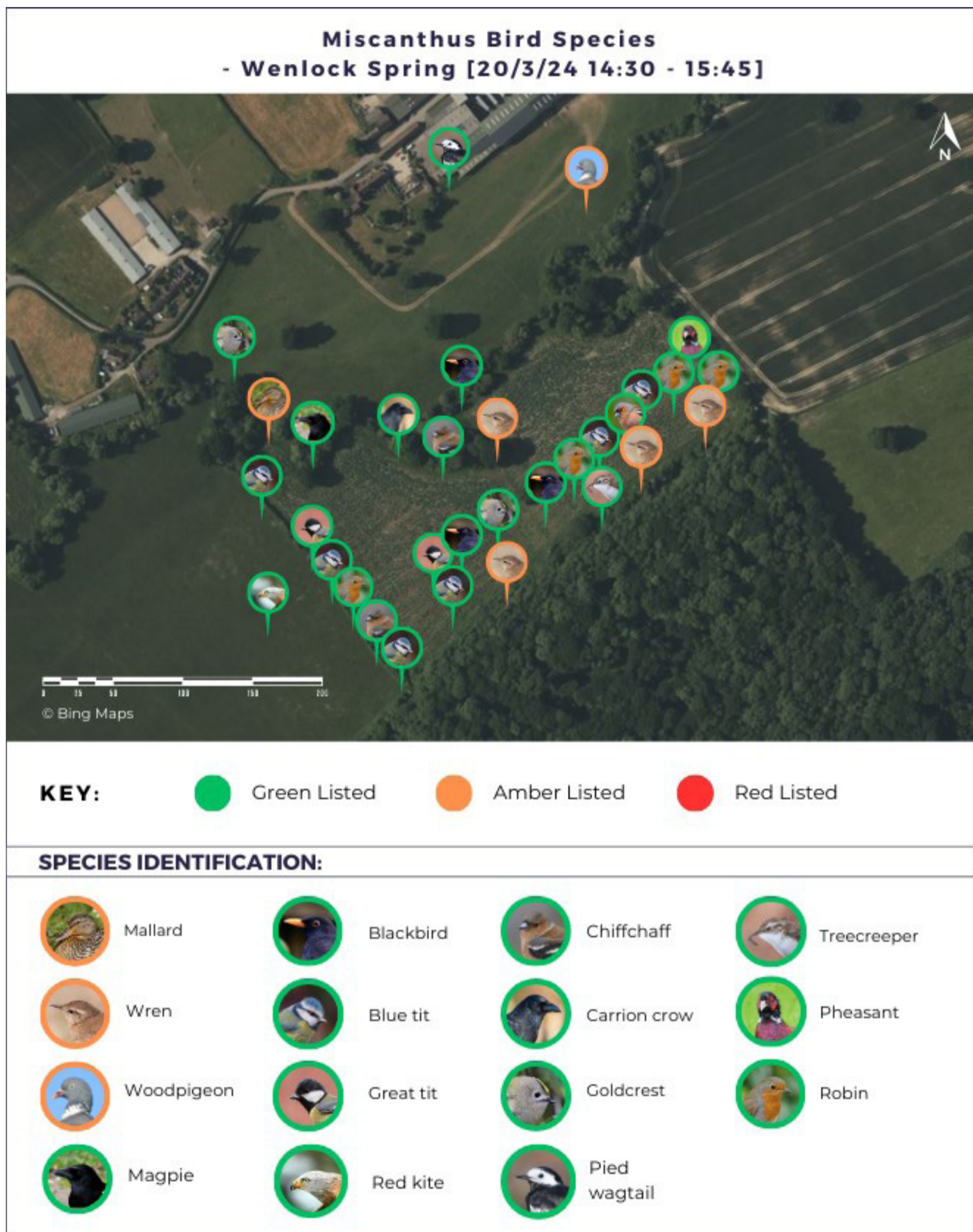


Figure 5:  
 A map showing where a selection of bird species was seen or heard at Wenlock Spring (Miscanthus crop).  
 Red = red listed; orange = amber listed; green = green listed.

## CONCLUSIONS:

As previously found in the winter survey of Umberleigh Barton and Langaller Farms, the willow plantations appear to be supporting more bird species than Miscanthus in the spring, probably because it is a better food plant for wildlife and therefore is an important and integral part of the mosaic environment on these farms.

At The Fold, the willow plantation on the east side of the site supported a small range of species. In particular, the great tits, blue tits and chiffchaffs appeared to be feeding amongst the newly emerged leaves in the more mature parts of the plantation. A song thrush was also singing in this older stand, suggesting it had a territory and most probably a nest in this area of willow. The willow in the west field was much younger and in less good health. This was unused by birds – apart from wide, open gaps between the planting – in contrast to the more mature and mixed-type plantation in the east field. However, even here, most bird life was in the adjacent and surrounding hedgerows and woodland.

The Miscanthus fields at Langaller Farm appear to support a relatively low number of bird species and those at Wenlock Spring appear to support none or a low number of bird species. In both places, birds were using the adjacent hedgerows and woodland.

Like the winter survey, the spring surveys were just a snapshot of birds heard or seen on these days. Further surveys over a longer period of time would be required to acquire a more robust set of data that can be compared statistically. These surveys do however provide some developing insights and comparisons that may provide further rationale for gathering further evidence and information in the future.

## GENERAL RECOMMENDATIONS:

- It is important to provide a greater range of both spring and summer flowering wildflowers. While there is a lot of focus on planting wildflowers that bloom in the summer (June/July) on farms, there is frequently an absence of flowers, and therefore food, for early emerging insects in March/April. To provide early spring food for pollinators and other invertebrates, early flowering plants such as primroses, cowslips, lesser celandines and cuckoo flowers can be added. Allowing dandelions to flower and seed is important both for pollinators and finches, at a time when natural food (in April and early May) has run low. Encouraging local willow (or pussy willow) to grow further will provide one of the best early flowers for early emerging pollinators such as queen bumblebees and also provide nectar for birds such as chiffchaffs, blackcaps and blue tits. Summer meadow wildflowers could include black and greater knapweed, red and white clover, bird's-foot trefoil, yarrow, field scabious, betony and oxeye daisies.
- Areas of fields with awkward shapes or edges could remain unsprayed with herbicide allowing herbs and flowers such as dandelions to grow and provide food for wildlife.
- Creation of wider margins would allow space for native plants to grow and provide some buffer between the hedgerows and the Miscanthus. This should be up to 2 metres between the crop and the hedgerows.
- The hedgerows could be left uncut for several years, and then cut on rotation (or left entirely) to allow the hedgerows to provide more cover and food for pollinators and insects for birds; in particular, leaving them uncut will allow hawthorn and blackthorn to flower (following a cut hawthorn will not flower until the second spring) and generally provide a better habitat for wildlife.
- Increase connectivity between hedgerows by planting more hedgerows across field margins (that perhaps once had them in the past). Where a field is adjacent to a water body, adding a hedgerow, copse or buffer strip of SRC willow can further reduce the likelihood of nutrients moving between the field and the water, reducing even small amounts of eutrophication.
- The timing of the harvests ideally needs to be done out of the bird breeding season (for example, October to February) to avoid nesting thrushes and other birds, such as robins, losing their eggs or chicks. However, we recognise that there is a next best harvest window (August to September) and a less favoured option March to July.
- Bird and bat boxes could be placed on some trees to provide further opportunities for these animals to roost or nest respectively. Ideally the bird and bat boxes should be faced on the west or north side of a tree (so the inside of the boxes do not get too hot during mid-summer). On private land, bird boxes can be put at chest height (higher if members of the public may be passing through and may interfere with them). Bat boxes can be ladder height (top of a single rung).



## PHOTO CREDITS:

### *Photo credits for Figures 1-5*

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## Endnotes and Hyperlinks

- 1: <https://www.biomassconnect.org/technical-articles/field-report-comparing-bird-communities-in-willow-and-miscanthus-crop-fields/>
- 2: <https://www.tandfonline.com/doi/abs/10.1080/00063656409476073>
- 3: <https://www.bto.org/our-science/publications/birds-conservation-concern>

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