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### Hope Farm - our strategy

Our aims at the farm are to develop an ambitious and bold demonstration of wildlife-friendly farming, which is becoming increasingly relevant to the challenges for a sustainable future of farming system.

Between 2000 and 2011, Hope Farm demonstrated its core purpose as a profitable wildlife-friendly farm, By monitoring the changes in wildlife as a result of changing farming practices. The farmland bird index (a measure of change in the number of farmland breeding bird territories) increased three-fold, and since has levelled off between 2.5 and 3 times higher than the baseline set in 2000. The winter farmland index has increased even more sharply than the breeding bird index, due to management changes that the RSPB adopted here within the Farm Wildlife 6 point plan.

After demonstrating good wildlife-friendly farming (achievable by any farmer) for over a decade at Hope Farm, we have now started a new chapter. The current direction at Hope Farm is to find wildlife-friendly solutions to present and future arable farming challenges, without needing to take any further land out of production. Now, we want to find solutions to improving soil health, efficiency in the farming system and climate change, whilst keeping biodiversity conservation as a focus.

We set out to trial and demonstrate novel wildlife-friendly solutions to agricultural and societal problems. By working with experts in this field, we hope to contribute towards combating challenges of soil degradation, inorganic fertiliser use and blackgrass infestation. Hope Farm strives to use its evidence to stand as a resource both internally and externally, showing how sustainable farming can operate both at present and in the future.

### 20 years of Hope Farm

seed mixes

were sown.

Hope Farm was purchased by the RSPB, with the aid of the Hope Farm founders who helped to raise £1 million for the cause. The project began.

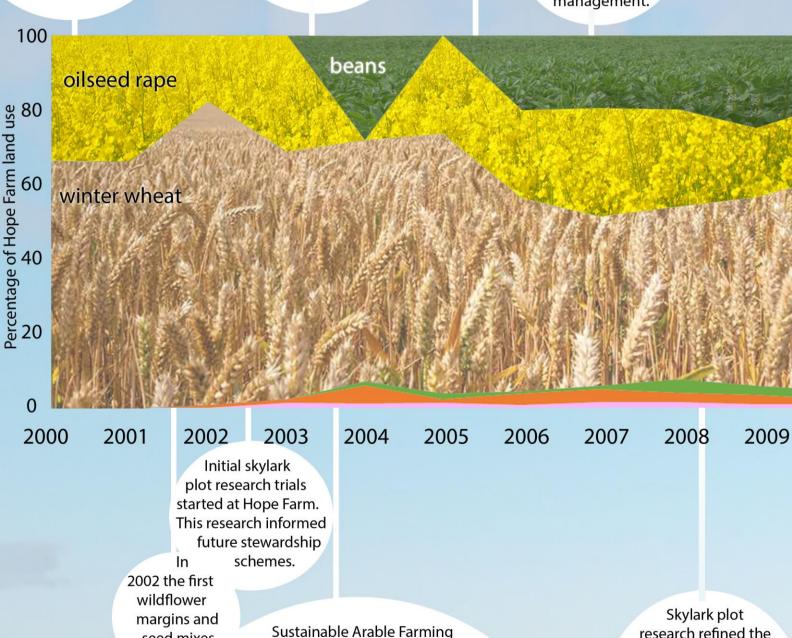
In 2003, winter beans were introduced in the rotation. This made for better nesting habitat for birds like Lapwing, provided pollinator resources, and enabled us to reduce our nitogen use.

This year we are celebrating our 20<sup>th</sup> Anniversary at Hope Farm - 20 years of research, demonstration and collaboration to influence a more sustainable and wildlife-friendly future for farming.

Here are a few highlights that we've picked over the years, that show by making changes to farmland management, what a difference you can make for wildlife.

In-ditch ponds were created to provide more wet features on the farm.

In 2007, Hope Farm entered the **Entry Level** Stewardship Scheme, paying for our conservation management.



For an Improved Environment (SAFFIE)

project - a collaboration led by the Centre of

Ecology and Hydrology. Wildflower margins were

established to research different mixes and management

techniques. This research informs management of wildflower

margins across the country, on heavy clayland soils.

research refined the optimum mode of establishment. Now, funding schemes pay to establish plots at drilling, or using herbicides before the end of December.

#### Key of conservation areas

- pollinator resources
- grass margins
- seed rich areas

Collaboration research with GWCT's farm, explained why predator control isn't needed at Hope Farm to boost bird numbers, whilst it is at Loddington. The topography at Hope Farm provides fewer opportunities for predators, unlike at GWCT's farm.

In 2015, Hope
Farm became Fair to
Nature accredited, a
scheme for farmers that
dedicate at least 10% of land
to conservation habitats and
the whole farm to
sustainable
management.

Start
of ASSIST project
as, part of a CEH and
Rothamsted led
programme investigating
ways to sustainably intensify
agriculture. 57 hectares is
currently managed under
this project

In 2017, the
farm started to grow
and sell millet under
the Fair to Nature label.
This is processed and
sold as RSPB Bird
food.

Hope
Farm went
insecticide free in
2019 with no
reduction in yields
compared to
previous
years.



2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

10 year check point: Breeding farmland birds up 200%. Wintering farmland birds up 1000%. Butterflies up 100%.

Research into enhanced fallowed stubbles showed the importance of pollen and nectar habitat to provide seeds, pollinator and invertebrate abundance over one or two years.

In
the autumn of
2015, cover crops
were introduced into
the rotation. Spring
cereals were also
grown for the first
time under RSPB's
ownership.

Research,
published with GWCT,
demonstrated the
importance of hedge
maintenance to improve
songbird chick
survival.

A cover crop and compost experiment was initiated to investigate biodiversity, soil and crop benefits of these interventions. Research
begins to
investigate ways
for farms to reduce
their carbon
footprint whilst
looking after
nature.

# Demonstrating a profitable wildlife-friendly farm

### Cropping - biodiversity, soils, and sustainability

The 2019 harvest marked the first with our new contractor, Martin Lines, who is chair of the Nature Friendly Farming Network (NFFN). With this change in management, we also made some key changes to the decisions made on cropping as well.

The weather in the autumn of 2018 was better for crop establishment, and we did not suffer the prolonged droughts of the previous year, meaning improved yields and farm profits. Our input costs of fertilisers and sprays were generally lower than previous years, but the crops looked as good as ever. Although one year cannot be used to indicate a trend, we were pleased with the harvest.

The crops in general grew well, with reasonable yields on the winter wheat, spring barley and beans whilst maintaining a lower input system. Oilseed rape on the other hand varied. Good yields were seen on the trial fields using cover crops and compost, but the plants didn't grow with enough vigour to overcome pest issues on other parts of the farm. The millet grew well, but a very wet autumn in 2019 hampered the harvest of this crop. Whilst we could have harvested the crop earlier for a higher yield, that would have been at a cost to the soil health. We instead experienced the latest harvest ever known at Hope Farm, but at a time when the soil was able to sustain the heavy combine trafffic.

In the previous autumn of 2018, we invested heavily in cultivations to resolve historic compaction issues. This paid dividends at the end of 2019, where even the relentless rain left little standing water on the fields. It was an autumn to be pleased with well aerated soil. With our improved soil health, we are in a reasonable position this spring to get moving on the land.



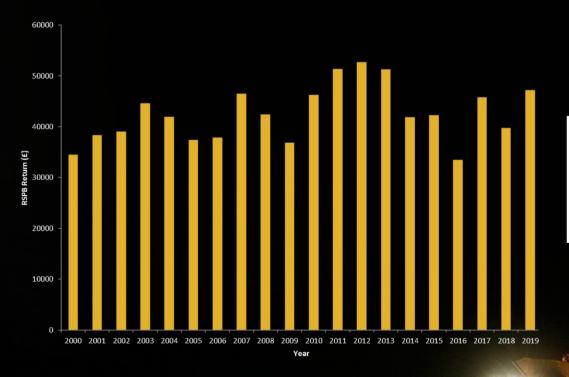
# The farm accounts

This year, like any other, we aimed to demonstrate Hope Farm as a means of farming with wildlife, in a profitable manner, for a more sustainable future.

In 2019, the farm undertook a benchmarking exercise with other local farm businesses. It was useful for us to see where our costs laid and how we compared. Whilst our crops varied in their profitability, this reflected typical challenges seen across other farm businesses. Furthermore, Hope Farm sat in the average range of profitability amongst some of the most innovative farmers in the area. This is a really useful annual exercise that we will continue in the years to come.

The graph shows the change in RSPB's return from cropping at Hope Farm since time of purchase. Despite taking over 15% of our land out of production, including research trial areas, we still maintain similar profit. This doesn't include our profit from conservation areas.

Cost	/ha
Seed	£83
Fertiliser	£80
Herbicide	£110
Insecticide	£0
Fungicide	£63
Molluscicide	£0
PGR	£7
Machinery/	
contracting/labour	£350
Admin/office	£15
Total	£708
Total crop sales	£841
Straw sales	£0
Basic Payment Scheme	
(farm subsidy)	£284
Total	£1,074
Income	/ha
Gross margin without	
BPS	£133



### What is the Basic Payment Scheme?

The basic payment scheme is an income support subsidy for landowners engaging in agricultural activities.

### The farm accounts

### The business behind wildlife-friendly farming

Although our cropping part of the business is benchmarked against other businesses, we do not get the opportunity to benchmark our diversified incomes, including those from conservation management. To demonstrate the profitability of areas within a Countryside Stewardship Scheme (CSS) alongside profitable cropped areas of a field, here are a few comparisons of farm management profit from 2019.

#### pollen and nectar mix

Margins planted with this option provide an important source of food for invertebrates and pollinators in the summer months.

Management	/ha	
Seed	£	33.25
Drilling and establishment		
(averaged over the nectar mixes		
lifetime)	£	80.00
Cutting (required annually)	£	91.32
Total cost	£	186.51
CSS income	£	511.00
Gross margin without BPS	£	324.49

#### lapwing plot

We left 2ha in the middle of a field undrilled, and this helped provide safe nesting for the four Lapwing territories held last year.

Management	/ha	
Cultivating (autumn)	£	67.50
Spraying (spring)	£	22.50
CSS income	£	524.00
Gross margin without BPS	£	434 00

#### supplementary feeding

From December onwards, when the winter bird seed mix plots become depleted of seed, we spread 50kg of seed out every week until more invertebrate food is available in the spring.

Management	Total
Seed	£ 213.18
Seed spreading	£ 176.00
CSS income	£1,121.80
Gross margin without BPS	£ 732.62

#### winter-bird seed mix

Over 4ha of this option was planted, with a mixture of seed-bearing plants to provide food for birds overwinter.

Management	/ha	
Seed	£	94.37
Fertiliser and spray operations	£	12.68
Drilling and cultivations	£	88.73
Total cost	£	346.48
CSS income	£	640.00
Gross margin without BPS	£	293.52

#### skylark plots

By leaving two 16m<sup>2</sup> undrilled every hectare in winter cereal crops, we only lose £7 worth of crop, but increase skylark productivity by 50%!

Management	tot	total	
Spraying	£	60.00	
CSS income	£	225.00	
Gross margin without BPS	£	165.00	

### Countryside Stewardship Scheme accounts summary

Cost	/ha	
Seed/plants	£	83.57
Chemical inputs/operations	£	38.03
Contracting machinery inputs	£	147.84
Testing	£	2.11
Admin/office	£	128.47
Total	£	400.02
Income	/ha	
CSS	£	523.77
Total	£	825.00
Income	/ha	
Gross margin w/o BPS	£	192.04



### **Bird monitoring**

#### The breeding bird monitoring:

The year's breeding bird surveys started on a cold and frosty April morning, with nine visits throughout the season.

In 2019, we saw the return of Yellow wagtail and Corn bunting as territory holding species, after their absence the previous year. Lapwing nested in our bean and barley fields with four territories.

Yellowhammer, Skylark, Reed bunting and Linnet stood at similar levels to the previous year. Barn owls also returned to breed with seven birds fledged from two broods.

#### A comparison between farmland bird territory numbers 2000 - 2019

	No. Territories 2000	No. Territories 2019		No. Territories 2000	No. Territories 2019
Kestrel	0	1	Jackdaw	0	4
<b>Grey Partridge</b>	0	3	Starling	3	12
Lapwing	0	4	Greenfinch	18	4
Stock Dove	2	6	Goldfinch	3	19
Woodpigeon	33	61	Linnet	6	19
Turtle Dove	0	0	Yellowhammer	14	27
Skylark	10	32	Reed Bunting	3	13
Yellow Wagtail	0	2	Corn Bunting	0	1
Whitethroat	25	34			

#### Red List Revival BBS surveys:

We conduct an additional survey to complement our territory mapping for the charity Red List Revival, as part of their Life For Land Project. This follows Breeding Bird survey methodology.

In 2019 we recorded 16 Farmland Bird Index (FBI) species, putting Hope Farm in the top 1% of UK sites for FBI, plus the top site in Cambridgeshire. Locally, we sat in the top 1% for Yellowhammer, Lapwing and Linnet.

#### The winter bird surveys:

The winter of 2019/20 was characterised by mild, wet and often stormy weather. Monitoring of the wintering bird populations required an intrepid team of surveyors, braving extremely muddy conditions in the field. As with every year, three surveys were conducted in December, January and February.

During the winter, a total of 6,962 individuals of 54 species were observed during the three surveys. We recorded all 16 of the Farmland Bird Index species during at least one survey, compared to just seven during the original surveys.

Highlights of the surveys included 440 Linnet, 22 Corn bunting and after a winter away we were delighted to see the return of a small number of Tree sparrows.

#### A comparison in winter bird numbers between 2000 and 2019

	Dec 2000	Jan 2001	Feb 2001	Dec 2019	Jan 2020	Feb 2020
Kestrel	0	1	0	3	1	1
<b>Grey Partridge</b>	0	0	0	28	12	25
Lapwing	0	0	0	0	0	2
Stock Dove	0	0	0	17	73	52
Woodpigeon	17	216	114	1899	64	188
Skylark	5	15	35	24	39	81
Jackdaw	0	0	0	52	65	38
Rook	1	0	0	10	2	11
Starling	0	7	11	41	18	28
Tree Sparrow	0	0	0	6	4	0
Greenfinch	9	17	42	2	0	4
Goldfinch	0	1	0	25	21	24
Linnet	0	0	0	440	280	187
Yellowhammer	0	1	2	380	130	206
Reed Bunting	3	1	3	140	50	41
Corn Bunting	0	0	0	0	0	22

Doc 2000 | Ion 2001 | Ech 2001 | Doc 2010 | Ion 2020 | Ech 2020

#### Starling nest monitoring

Our starling nest box colony monitoring continued for it's 17th year, at Hope Farm. Nesting success and nestling biometric data was recorded again for this year's nests.

A total of 56 birds fledged with 15 of the 16 recorded nests successfully fledged chicks, compared to only one single nest when monitoring began.

## Butterfly and bumblebee monitoring

#### **UK Butterfly Monitoring Scheme Transects:**



During the year, our three butterfly transects were walked across the farm for the 19th consecutive year. 22 weekly surveys were conducted between April and the end of September, and a total of 125km of transects were walked.

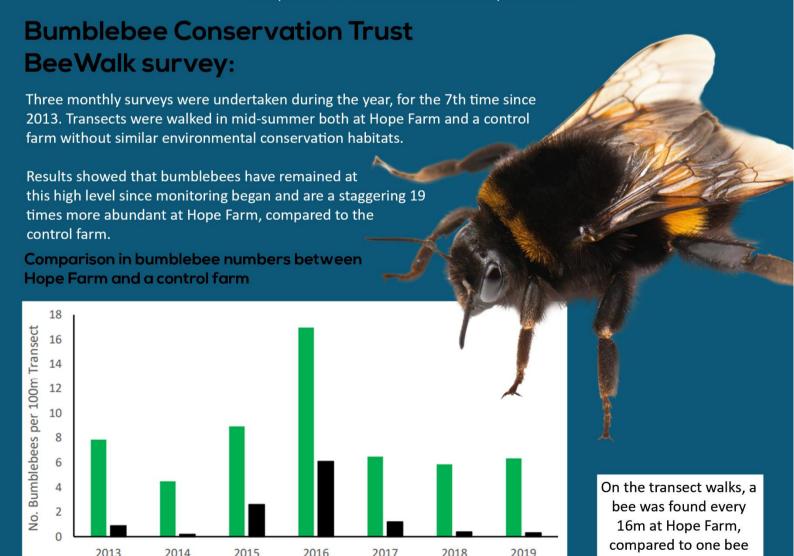
In 2019, Orange-tip, Brimstone, Small copper, Red admiral, Gatekeeper, Meadow brown and Small heath species were all recorded at their highest yearly totals since butterfly monitoring began at Hope Farm. There were 79 Small heath recorded, eclipsing the 50 records of this species in total since 2001.

The results from the 2019 survey demonstrated a continued increase with the index standing 409% higher than in 2000. That equates to over 6,200 individuals of 24 species.

Natilonally, 2019 was a good year for butterflies. However, the 2019 results show a continued long-term trend of growth at Hope Farm, with the average percentage increase for each of the 22 species at a staggering 409%. This compares to a 10% decrease nationally since 1990.

every 313m on the

control farm.



■ Hope Farm ■ Control Farm

#### Our Research

# Cover crop and compost research: the worms

Farmers are working to innovate and improve agricultural methods, and as part of that evolution we are seeing an increased use of both compost and cover crops to fertilize and improve levels of organic matter in their soils.

At Hope Farm, we have been trialling the use of cover crops and compost for five years, and are seeing some long term changes in the soil, with positive impacts on biodiversity and our crops.

Three fields were split to either have a compost treament, cover crops and compost or a control.

Last year, Sophie Mott had just sar joined the farm team for a year as part of her BSc at Anglia Ruskin University (ARU). Sophie investigated the effects of cover crops and compost on earthworm abundance and diversity, whilst undertaking an appraisal of the methods currently used to assess this as part of the

We investigated the change in abundance of earthworm numbers of differing ecologies, between each plot type and extraction method. We then compared numbers of juvenile and adult worms.

Data from the
spring surveys
found more
worms overall in
at cover and
oth compost plots
ad from our
monolith search
data. Litter feeders
were more common
in the spring than
summer samples.

Pouring mustard water within a quadrat will irritate the worms and cause them to all travel up to the surface for collection.

Digging a monolith of a standard size (big lump of soil) followed by a timed search for earthworms by hand.

How are earthworms

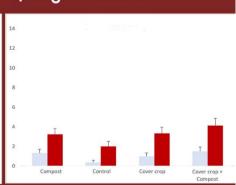
In the spring mustard samples, worm abundance was similar across all treatments, but we found more deep-burrowing worms. From the combined data, it demonstrated the importance of the mustard method to sample deep burrowing worms, but also that cover crop and compost use may encourage worms that live near the soil's surface to be more active.

Summer surveys showed similar results with both methods. There were more soil feeding worms than organic material feeders in our monolith samples, but the same pattern was less clear in mustard samples. This suggests there may be more soil feeders in compost treated plots in summer due to addition of easily edible well-rotted compost.

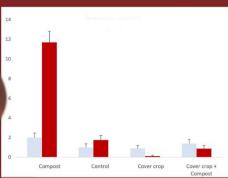
#### spring mustard samples

# soil feeding worms litter feeding worms lo Compost Control Cover crop Cover crop + Cover cro

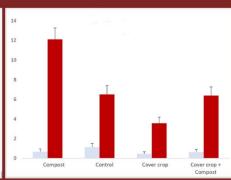
#### spring monoliths



#### summer mustard samples



#### summer monoliths



#### The birds

Our initial findings showed that over-wintering birds favoured cover crops over fallow plots, and the previous year's winter bird counts supported this. We are seeing continued preference by birds which use the cover crops overwinter. The birds that preferred the cover crops mostly feed on soil dwelling invertebrates with some omnivorous species, potentially taking invertebrates from the cover crop foliage (see map to the right).

In the coming years, we will start to statistically analyse the breeding bird distributions between treatments.

#### The cropping

This year, in each of our three trial fields, we had a different crop growing in each field to reflect what would otherwise be used in a normal rotation - winter beans, spring barley plus a cover crop, and oilseed rape. This was the first year (dependent on crop) where we started to see clear positive differences in the crops because cover crops and compost had been used.

In Autumn, when cultivations were needed, the soil was much easier to work and required less disturbance to establish a seedbed in our cover crop trial plots. This indicated an improvement in soil health where cover crops have been used.

To monitor crop growth, we looked at yield maps and satellite imagery taken throughout the growing season to detect the biomass of healthy green leaves in a field. Although this requires ground truthing with field walks to check we aren't just detecting healthy green weeds, it gives a good large-scale picture of how our crops are doing.

In 2019, we saw a positive response in oilseed rape crop establishment, growth and yield as a result of using cover crops and compost. From early plant establishment in September to October, the composted areas had the healthiest crop plants. The compost and cover cropped quarter had the best plant growth by late autumn too. Later in the season, particularly from flowering to harvest, the oilseed rape grew visibly higher and thicker, and with more flowers in the cover-cropped half.

What do the NDVI maps mean?

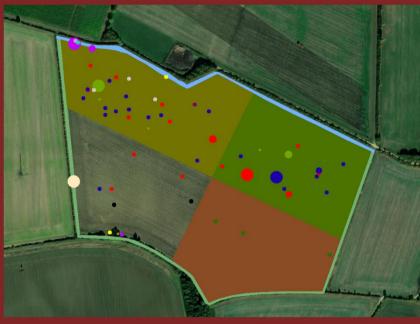
Colours show the relative difference in plant biomass in the field, where red is low (poor), and green is high (good).

#### Bird key

- Yellowhammer
- Yieldfare
- Carrion crow
- Reed bunting
- Skylark
- Greenfinch
- Goldfinch
- Red-legged partridge
- Meadow pipit
- Grey partridge
- Linnet

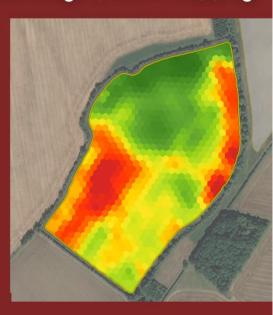
#### Field management key

- cover crop and compost
- cover crop
  - some set
  - compost
- flower margin
- grass margin where no cover crop is drilled, the field has been cultivated



#### Satellite imagery (NDVI mapping)

October 2019 NDVI map



May 2019 NDVI map



#### **External** Research

At Hope Farm, we endeavor not only to contribute to the body of agricultural research for a more sustainable future in farming, but to support others doing the same.

In 2019, we completed the third year in a project that hopes to pave the way for sustainable, biodiverse, and efficient farming in the future.

We have also provided support for future scientists who want to undertake their own research, using our farm for their projects.

#### **ASSIST**

The Achieving Sustainable Agricultural Systems program is run by Rothamsted Research and the Centre of Ecology and Hydrology, with the support of DEFRA.

In 2019 we are entered the third harvest year of the ASSIST program. The project we are involved in will look at methods to improve biodiversity and crop growth, whilst looking after soils and helping to tackle climate change.

We have implemented compost spreading, cover crop use and planted wildflower corridors planted across fields.

We are one of a suite of 15 other farms across the country in the experiment, and we expect to see the first set of results this year.

Find out more at assist.ceh.ac.uk

### Supporting future scientists

#### Sofia Biffi, PhD from the University of Leeds

Sofia has has finished analysing the effect of cover crops and compost treatments on skylark territories. She has so far found that features such as trees and hedges have the largest impact on territory selection, but field context and cover crop use also has an impact.

#### Megan Tresise, MSc from the University of Leeds

Megan investigated the territory selection of four hedgerow bird species, compared to surrounding habitats, crops, and hedgerow management. She found a positive selection for oilseed rape crops and conservation areas by Yellowhammer, Linnet and Whitethroat. Greenfinches tended to use less managed hedgerows, either near uncropped areas or roadsides. Here, they use the trees as song perches but may also be utilising the garden feeders near the roads. This has helped to inform our hedgerow management and underline the importance of conservation areas and particular crops in the rotation.

### 2000

### 20 years of biodiversity monitoring

annual monitoring. This has

demonstrated the importance of

providing nest sites for Starling

productivity. In 2000 there were

three nest sites, but by 2011

this had increased to our

maximum of 22.



200

1500

We monitor wildlife at Hope Farm using a series of national standard survey methods (Common Bird Census, UK Butterfly Monitoring Scheme and BeeWalk).

These repeatable surveys allow us to produce long term population trends for these species groups.

The trends produced over the last 20 years at Hope Farm indicate how populations responded to our In 2003, 40 Starling wildlife-friendly farming measures, and give a boxes were provided on comparison to results from national the farm, with subsequent surveys.

2000 was spent setting a biodiversity baseline, before changing managment practices and monitoring the changes in bird, butterfly, bee, other invertebrate and mammal populations.

In 2004, Grey partridge returns as a territory holding species thanks to the provision of insect food resources. It has been holding territories here every year since.

Lapwing return to Hope Farm as a territory holding species in 2006, partially through the introduction of beans in the rotation. In 2019, four territories were recorded in the bean and spring

barley fields.

Skylark territory numbers over four times higher in abundance than in 2000, thanks largely to the establishment of 50 Skylark plots across the farm. every year.

2000

2001 2007 2008 2002 2003 2004 2005 2006 2009

In 2000 the December survey, 3 Yellowhammers, Linnets and Reed buntings were recorded.

In 2013,
BeeWalk transects
started, comparing
numbers to a
control farm
nearby.
Barn owls first
nest on the farm.
36 owlets have
fledged in the
last decade.

In 2019, over 6,200 butterflies of 24 species were recorded on transect walks. The underlying increase in numbers continues, with an index 409% higher than in 2000.

Index
up to a record
2,100%. 8,189 birds of
53 species recorded over
the three surveys. Records
of 51 Grey partridges and
331 Starlings seen on
farm in one survey.

2019 winter
birds: 1,287%
increase on 2000,
including 960
Yellowhammers, Linnets
and Reed buntings in
December.

10 year check:
Breeding farmland
birds up 200%.
Wintering farmland
birds up 1,000%.
Butterflies up 100%.

2012 was a wet summer and a difficult one for butterflies at Hope Farm and across the country. Spring crops
are included in the
rotation at Hope Farm,
so overwinter stubbles and
cover crops are able to
provide a source of
winter food for
farmland birds.

43 species and 481 territories were recorded during the breeding bird surveys of 2019.

2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

### Visitors to Hope Farm 2013 - 2019

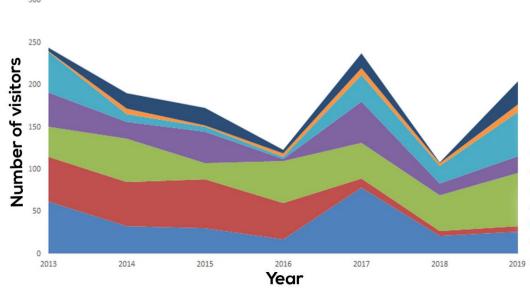
In 2019, we have worked as hard as ever to demonstrate what farming could be like using our proposed best farming practices. With visits not just from the UK, but also from across the globe, experience and knowledge can be shared, to increase biodiversity on farmland on a wide scale.

Policy makers have shown a key interest in Hope Farm and the RSPB's work in helping the design of future farming policies.

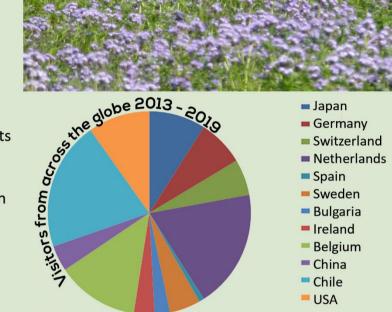
We have also worked with other conservation organisations to continue to improve a joined up approach to supporting wildlife-friendly farming in the UK.

Farmers have found the farm a source of inspiration and practical advice in planning habitats for wildlife on their farms.

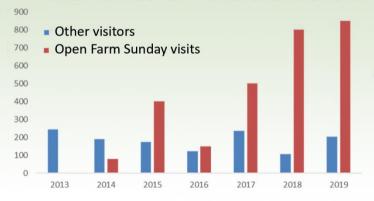
#### Who visited hope farm from 2013 - 2019?







#### Total number of visitors to the farm



Twenty years of research into sustainable, wildlife-friendly farming means we are well placed to demonstrate to those visiting the farm how policy and practice can be improved to help wildlife alongside sustainable production.

- Conservation and environment sector
- Academic
- Farming
- Government
- RSPB staff and members
- Media
- 2019 Other

# Visitors to Hope Farm

43 farmers and people from the agricultural sector have visited the farm to learn how we manage the land for wildlife alongside production and shared their experiences with us.

Farmers have joined us to tell politicians how they want to farm for wildlife.

91 individuals from conservation organisations have visited to learn from us and share their knowledge on wildlife-friendly sustainable farming practices.

98 RSPB Group members or volunteers have either visited or attended talks about Hope Farm's work.

We have joined other farmers across the country in their regions, to talk about wildlife-friendly farming from Lincolnshire and Yorkshire, to the Suffolk Show in East Anglia.

# LEAF Open Farm Sunday

850 visitors came to the national Open Farm Sunday event in 2019. It was our biggest event yet for our community to learn about wildlife-friendly farming.





Sitting in the state of the sta



Rob Field talks about our cover crop and compost research on a cold morning in January

Open ]
SFarm
Sunday

#### Visits and events

#### Visit from DEFRA Committee on Climate Change

A visit early in the year to showcase our research into cover crops and compost, and other means that Hope Farm is looking at, to contribute to the fight against climate change.

#### Visit from Büro für Landschaftskonzepte

A visit from a German company, developing large-scale environmental projects, who came to learn and share their knowledge on developing environmental projects for better public engagement.

#### Visit from DEFRA's Environmental Land Management Scheme team

DEFRA's ELMS team came to Hope Farm to see what we mean by wildlife-friendly farming, what we think is important to include in the new schemes, and what we have learnt from our research and participation in the current environmental schemes at Hope Farm.

#### Joint visit to National Trust's Wimpole, with the Department for Business, Energy and Industrial Strategy team

Demonstrating through collaboration with other conservation organisations, to show how farming is able to reduce it's carbon footprint, whilst looking after biodiversity, with a low input approach.

#### External talk to a government workshop in Frankfurt, from Hope Farm's office

Providing an insight to an environmental government workshop on what we do at Hope Farm, and how simple, sustainable solutions to managment issues at the farm can look after wildlife too.

#### A place on the Panel for the Future of Farming at the Nottingham Environmental Conference

Answering questions from students and professors at the University of Nottingham, about how to feed the world for the long term whilst looking after biodiversity.

#### External talk to the Pesticides and Residues in Food Forum

Providing an insight into the benefits of reduced chemical inputs on farmland for wildlife, when accompanied by the provision of key habitats.





### The team of 2019

#### Georgie Bray Farm Manager

I have been at Hope Farm for three years, firstly as assistant and now farm manager. I liaise with our contractors about the farm management and the logistics of undertaking research projects. I also lead the day to day management and the communications work on the farm.

#### Derek Gruar Senior Research Assistant

I have had some involvement in the Hope Farm project since its inception and have been based there permanently since 2009. I run the biodiversity monitoring program and work on trials on the farm.

### Paul Cabrisy Research Placement

I have been at Hope Farm since September 2019, as a placement student from Anglia Ruskin University. As part of my Zoology degree, I will be researching the effect of cover crops and compost on nematode diversity. I have also been assisting the team with the farm's communications work, research and day to day management.

#### Sophie Mott Research Placement

I finished my placement in September with Anglia Ruskin University, studying Zoology. After working on the earthworm research whilst assisting communications and management, I am now working with the RSPB policy team whilst finishing my final year at university.

#### J. T Lines & Son Cropping and environmental management contractors

Martin, Mick and the rest of the team work hard all year to keep the conservation areas on the farm as rich habitats for wildlife. After harvest in 2019, the team also took on the role of cropping husbandry on the farm.

### Hunt's Wildlife Landscapes Landscape maintenance

Bernard and Aaron keep the farm looking it's best and help out with some key research work on the farm. From fences to trees, flowers, turtle dove plots, locks and latches, there is always something that needs sorting.

#### The volunteer team

David, Maureen, Dave, Derek, Ken and Bridget are all part of the fantastic volunteer team at Hope Farm. With their hard work, we are able to do some amazing things from monitoring starling nests to starting preparations for our Open Farm Sunday event.