

State of the UK Barn Owl population – 2016

‘A poor year in most areas, generally better in the west of England’

Results from 32 independent groups collated by the Barn Owl Trust



Barn Owl Trust
Bisham Barn Owl Group
Brandon Ringing Group
Bucks Owl Raptor Group
Cam Valley Wildlife Group
Cheshire Barn Owl Groups
East Riding Barn Owl Conservation Group
Essex Wildlife Trust
Garry Steele
Gil Gaylor
Gloucestershire Barn Owl Monitoring Programme
Jersey Barn Owl Conservation
Lewis Raptor & Owl Group
Manchester Raptor Group
North West Norfolk Ringing Group
Philip Hanmer

Powys Species Habitat Protection Group
Scottish Raptor Study Group
Shropshire Barn Owl Group
South Warwickshire Barn Owl Survey
Staffordshire Barn Owl Action Group
Stour Valley Wildlife Action Group
Suffolk Community Barn Owl Project
Sussex Ornithological Society - Barrie Watson
Sussex Ornithological Society - Graham Roberts
Thornham Owl Project
Ulster Wildlife
Vale of Bevoir Barn Owl Conservation
West Berkshire Countryside Society Barn Owl Group
West Cornwall Ringing Group
Wolds Barn Owl Group
World Owl Trust



Photo: Craig Jones

Conserving the Barn Owl and its Environment

State of the UK Barn Owl population - 2016

Introduction

This unique overview of last year's breeding success is only possible thanks to the huge amount of work carried out by independent Barn Owl groups and projects across the UK. We are particularly grateful to the 32 groups who provided their results for 2016. Between them, the contributors to this report monitored a staggering 6,058 potential nest sites and recorded 1,558 active nests.

A full list of contributors and logos (where available) are presented on the cover and the last page provides links to contributors' own webpages (where available). New contributors for 2016 include Essex Wildlife Trust, Gloucester Barn Owl Monitoring Programme, and Philip Hanmer in Northumberland.

This report makes no attempt to estimate the UK population level - since the only valid way of doing this is through the repeated cold-searching of randomly selected squares over a 3-year period (e.g. another Project Barn Owl). Although some possible reasons for year-on-year changes in nesting success are discussed, definitive answers to questions beginning with 'why' are well beyond its scope. However, answers to simple questions like 'how did Barn Owls do last year?' or 'how do my results compare to others?' may be found herein.



Photo: Lexi New

Definitions

NO. OF SITES CHECKED means visits to potential nest sites.

NESTING OCCUPANCY is where nesting actually occurred (one or more eggs laid).

BROOD SIZE is the number of live young counted at any time between hatching and fledging.

The calculation of MEAN BROOD SIZE excludes nests where there were no live young.

E means estimated.

Unusual exclusions

a) South Wiltshire – Nigel Lewis and his group only checked 273 sites (rather than their usual c.650) and in doing so, concentrated on their most 'reliable' breeding sites. Thus the probability of finding birds nesting was much higher than normal. This rendered invalid any comparison between nesting occupancy in 2016 and the average of all previous years.

b) Berkshire – John Dellow presented his 2016 data combined with that of a new contributor, Sally Wallington, whose sites appear to have a much higher probability of nesting. Since the all-years average Nesting Occupancy figure is based on John's sites alone, this renders invalid any comparison with previous years.

Caveats

1. The figures provided in the table are accurate (unless marked 'E'). However, methodological variation between groups means that they can only provide indications of what happened to the population as a whole (in terms of nesting occupancy and brood sizes).

2. For some individual groups, anomalies can arise with regard to year-to-year changes in 'Numbers of Sites Checked' both in terms of the 'All-years average' and 'Actual'. This is because the authors have not imposed criteria for the inclusion/exclusion of individual sites.

3. The way in which potential nest sites are counted varies between groups and sometimes between years.

4. The probability of individual sites being occupied varies tremendously. Some datasets include sites that may never have been occupied whilst others only include sites where pairs have nested previously.

5. The proportion of nest sites that were monitored varies between counties.

6. The vast majority of sites were checked by inspection to confirm/discount breeding, and determine brood size. However, some groups accepted reports from trusted/knowledgeable site owners, particularly where nest cavities were inaccessible.

7. At most sites, only one nest inspection was carried out. Chicks may have died before this nest inspection or may die between inspection and fledging. Some sites are visited more than once and figures used to calculate mean brood size may have been derived from either one of these visits.

8. The calculation of all-years average varies between contributors according to how many years the project in question has been running.

9. One or two individual years may be omitted from data sets due to restrictions on farm visits such as in 1996 due to BSE and 2001 due to Foot and Mouth Disease.

Please note:

- NESTING OCCUPANCY totals include zeros and MEAN BROOD SIZE totals exclude zeros
- In the NESTING OCCUPANCY section, the % change from norm represents the % difference between the proportion of potential sites occupied in the current year and the average of all previous years.



Photo: Howard Gilmour

County / group	NO. OF SITES CHECKED		NESTING OCCUPANCY			MEAN BROOD SIZE			Notes - see appendix
	all-years average	Actual in 2016	all-years average	Actual in 2016	% change from norm	all-years average	Actual in 2016	% change from norm	
Berkshire (north) & Buckinghamshire (south) - Bisham Barn Owl Group	103	126	24	15	-49%	2.00	2.60	30%	3
Berkshire – West Berkshire Countryside Society Barn Owl Group	118	174	19	101	see notes	3.10	2.53	-18%	2
Buckinghamshire - Bucks Owl Raptor Group	192	300E	21	42	28%	2.63	2.86	09%	
Cheshire Barn Owl Groups / John Mycock	450E	600E	60E	90E	13%	2.10	2.30	10%	4
Cornwall – West Cornwall Ringing Group	37	47	28	27	-24%	3.12	2.80	-10%	5
Devon & Cornwall (east)- Barn Owl Trust	79	78	35	29	-16%	2.88	2.29	-20%	
Galloway (West) - Scottish Raptor Study Group – Geoff & Jean Sheppard	75	67	68	27	-56%	3.38	2.22	-34%	1
Gloucestershire Barn Owl Monitoring Programme - Mervyn Greening	45	65	6	16	85%	2.30	2.50	09%	18
Isle of Wight – Gil Gaylor	44	44	42E	44	05%	3.00	3.52	17%	
Jersey Barn Owl Conservation	96	152	40	26	-59%	2.59	2.00	-23%	
Leicestershire - Vale of Belvoir Barn Owl Conservation	140	175	25	33	06%	2.41	2.97	23%	
Lincolnshire - Garry Steele	37	47	66	18	-79%	2.64	2.30	-13%	6
Manchester Raptor Group	56	81	19	24	-13%	2.51	2.92	16%	7
Norfolk - NW Norfolk Ringing Group - John Middleton	461	406	196	151	-13%	2.24	1.30	-42%	8

County / group	NO. OF SITES CHECKED		NESTING OCCUPANCY			MEAN BROOD SIZE			Notes - see appendix
	all-years average	Actual in 2016	all-years average	Actual in 2016	% change from norm	all-years average	Actual in 2016	% change from norm	
Northumberland (North) Philip Hanmer	100	100	24	30	25%	2.20	2.00	-09%	19
Powys Species Habitat Protection Group	37E	61	21E	12	-65%	3.60	2.73	-24%	
Shropshire Barn Owl Group	200E	196	34	63	89%	2.80	2.50	-11%	
Somerset NE - Cam Valley Wildlife Group	92	165	11	16	-19%	2.52	2.21	-12%	9
Staffordshire Barn Owl Action Group	237	301	26	44	33%	3.22E	2.50E	-22%	10
Suffolk Community Barn Owl Project (inc. Thornham Owl Project, Suffolk Owl Sanctuary & others)	1193	1496	199	330	32%	1.99	2.46	24%	11
Sussex - Barrie Watson (team)	123	147	56	63	-06%	3.12	2.47	-21%	12
Sussex - Graham Roberts	36E	25	12	6	-28%	3.00	3.40	13%	13
Warwickshire - Stour Valley Wildlife Action Group / South Warwickshire Barn Owl Survey / James Rushforth (Brandon Ringing Group)	222	340	30	102	122%	3.12	2.85	-09%	14
Wiltshire - Lewis Raptor & Owl Group	652	273	129	96	see notes	2.07	1.97	-05%	15
Yorkshire - East Riding Barn Owl Conservation Group	580E	570	150E	145	-02%	3.00	2.80	-07%	16
Yorkshire – Wolds Barn Owl Group	75	22	23	8	19%	2.80	2.13	-24%	17
TOTALS (zeroes are excluded)	5,480 E	6,058 E	1,364 E	1,558 E	-06%	2.71 E	2.51 E	-07%	

Year	Nesting Occupancy	Mean Brood Size
2013	Down by 70%	Down by 12%
2014	Up by 16%	Up by 36%
2015	Down by 25%	Down by 16%
2016	Down by 6%	Down by 7%

State of the UK Barn Owl Population results 2013-16

Variation from the norm in nesting occupancy and mean brood size.

How did Barn Owls do in 2016?

Overall, 2016 was a rather poor year for Barn Owls in the UK but with marked geographical variation.

East of England – huge variation

From the East Riding of Yorkshire, down through Lincolnshire, Norfolk and across Suffolk, Barn Owls had a decidedly mediocre year. The low points were in Lincolnshire where Garry Steele’s nesting occupancy was 79% below average and in Norfolk where John Middleton (N Norfolk RG) found mean brood sizes were 42% down (only 1.3!). On the plus side, Robin Arundale (Wolds BOG) found nesting occupancy to be 19% above average.

Generally, the most robust figures are derived from the biggest monitoring schemes. From their impressive 570 sites, the East Riding BOCG reported “an average year” with nesting occupancy very close to normal (2% down) and mean brood size only 7% down. With their amazing 1,496 monitoring sites, the Suffolk Community BOP had a better year with nesting occupancy and mean brood sizes up by 32% and 24% respectively.

Interestingly, both Rob Salter (East Riding) and Steve Piotrowski (Suffolk) commented that later breeding attempts were generally more successful than earlier ones.

A relative newcomer, the Essex Barn Owl Conservation Project enjoyed their first full year of monitoring in 2016 finding a very comparable average brood size of 2.62 with their last brood ringed in October (see page 12).

South and Southwest England - a poor year

From Sussex, up to Berkshire, then down through Wiltshire, Somerset and Devon to West Cornwall, Barn Owls had a poor year. Nesting occupancy was between 6 and 49% below average in these counties. Although nesting occupancy in Wiltshire could not be determined in the usual way (see Unusual Exclusions), Nigel Lewis commented “2016 was a very bad year” and went on to say that on Salisbury Plain the number of pairs present was 49% below his 10-year average (see Note 15).

Mean brood size was between 5% and 20% below average except in Sussex where Graham Roberts reported an impressive mean brood size of 3.4 (however please note that this figure was derived from only six nests). The Main Results Table shows that mean brood size in Berkshire (Bisham BOG) was 30% up however please note that this figure is derived from the comparison of 2016 with 2015 alone (rather than an ‘all-years average’).

From the Cam Valley in Somerset, across Devon, right down to west Cornwall results were very similar indeed – Nesting occupancy 19, 16, and 24% down and mean brood size 12, 20, and 10% down respectively. Mark Grantham (West Cornwall RG) commented - “2016 was a pretty dismal affair”.

Isle of Wight and Jersey - chalk and cheese

Results on these two islands were literally 'chalk and cheese'. Barn Owls monitored by Gil Gaylor on the Isle of Wight had a pretty good year with nesting occupancy 5% up and their mean brood size at 3.5 was the highest of any data contributor (and 17% up on Gil's all-years average).

108 miles to the south, Barn Owls on Jersey had a pretty terrible year with nesting occupancy and mean brood size 59% and 23% below their all-years average.

Central and western England – a good year

Nesting occupancy figures for Warwickshire (122% higher than usual), Gloucestershire (85% up) and Shropshire (89% up) were impressive(!) although mean brood size less so; 9% down, 9% up, and 11% down respectively. Nesting occupancy in Bucks, Leicestershire, Staffs and Cheshire were also up with gains ranging from 6 to 33% but 13% down in neighbouring Manchester.

Mean brood size results in this region were less impressive ranging from 23% up in Leicestershire to 22% down in Staffordshire.

John Mycock representing the Cheshire Barn Owl Groups, who between them checked an estimated 600 sites, summed it up as "a very good year". Paul Leadbeater (Stour Valley WAG, S. Warks BOS, and Brandon RG) who recorded 102 breeding pairs said "nesting occupancy was very good, indeed we only had 8 pairs that failed to lay eggs".

Wales – very poor

The only data contributor in Wales is the Powys Species Habitat Protection Group which checked 61 sites. Although these are unlikely to be representative of Wales as a whole, 61 sites is more than enough to give a good indication of how Barn Owls fared in their local area. Nesting occupancy in that part of Powys was 65% below the all-years average (compared to 89% up in neighbouring Shropshire!) and mean brood size 24% down.

SW Scotland and Northern England – generally poor

It's interesting to note the differences here, despite the fact that the two data contributors are working at similar latitudes. To the west, Geoff & Jean Sheppard (in West Galloway) recorded nesting occupancy 56% below average, and to the east Philip Hanmer (in North Northumberland) recorded nesting occupancy 25% above his all-years average. The below-average drops in mean brood size were also three times lower in West Galway (-34%) than North Northumberland (-9%). This east-west difference is the opposite way around to most of England where most Barn Owls in the west did rather better than most of those in the east.

Sadly, the World Owl Trust were unable to monitor almost all their sites in South Cumbria in 2016 (see page 12). However, Tony Warburton commented "2016 was another poor year for Barn Owls both here and in Lancashire where extremely wet summer weather resulted in nestling mortality".



*One of the recycled plastic nestboxes monitored by Staffordshire Barn Owl Action Group
Photo: Helen Cottam*

General Summary

The data received from 32 monitoring schemes shows that the number of nesting pairs in the UK in 2016 was 6% below the all-years average and the average number of young in the nest was 7% below.

Barn Owls had a poor to very poor year in SW and S England, Jersey, N Norfolk, parts of Lincs. and E Yorkshire, parts of Powys in Wales and West Galloway in Scotland. Conversely, Barn Owls in the west of England (from Cheshire down to Buckinghamshire), and in North Northumberland, Suffolk, and the Isle of Wight had a quite good to a good year.



Photo: Peter Gillett

Contributors' comments to be read in conjunction with the Main Results Table (p. 4 & 5)

1. Galloway (West) – Scottish Raptor Study Group – Geoff and Jean Sheppard

Vole numbers continued to be patchy in West Galloway with occupancy being good in some areas while many sites remained empty in others. Brood size generally was disappointing with 3 being the maximum achieved and poor weather probably contributed to this. Most of the sites where eggs were laid produced young but some had low weights at ringing suggesting a shortage of food and difficult hunting conditions.

2. Berkshire – West Berkshire Countryside Society Barn Owl Group

In previous years, we have operated as The Pang Valley Barn Owl Group. This year we have been joined by Sally Wallington who has been operating in the Hungerford area. Her Barn Owl statistics are included within the figures. This accounts for a large increase in the number of sites monitored.

For us 2016 was a good year but not a record year. Almost all breeding was from first broods with very few chicks hatched from second broods and even fewer surviving to fledge.

Almost all chicks were ringed and details of all boxes was reported to BTO. The number of chicks counted is number of birds believed to have fledged. Unhatched eggs and chick losses before fledging have not been counted. This is consistent with previous years.

3. Berkshire (north) & Buckinghamshire (south) – Bisham Barn Owl Group

Our projects first full year was 2015, therefore; the figures used as 'all-years averages' are based on 2015 alone. Despite a lower number of active nests, more pulli were fledged this year (26) than last year (24). Late egg laying (in July) was recorded at three sites, but no second broods were recorded in 2016.

4. Cheshire Barn Owl Groups – John Mycock

A very good year - but extended over a long season – pulli being ringed as late as November 2016.

5. Cornwall – West Cornwall Ringing Group

2016 was a pretty dismal affair. Whilst the number of sites we monitor has increased (and will increase more with some very generous funding from Paradise Park), and occupancy remained average, productivity was very low. The average clutch size was similar to previous years but brood sizes were lower than the last couple of years. We also saw four complete failures which is still very unusual in the county. We think this is due to the cold, wet spring weather, which meant that many birds were either not in good enough condition to breed, or did breed but didn't find the food to raise larger broods. We also found that many birds were developing very slowly, so several visits to ring chicks found that they were just too small, so extra visits were needed. This also meant that there were quite a few 'abandoned' chicks brought in to the Screech Owl Sanctuary; not all survived to fully-grown, but those that did were also ringed by the group before release. This poor season seems to have been mirrored across the west of the UK and we can only hope that this will improve in future years.

6. Lincolnshire – Garry Steele

Generally breeding late this season, with only small broods (mostly 2's & 3's) present at ringing stage. No evidence of any second brooding in the small number of my own nests sites I had time to revisit, but apparently there were some elsewhere in Lincs, including some very large broods.

7. Manchester Raptor Group

Two pairs double-brooded in 2016. We also recorded a brood of 6 but this was maintained by supplementary feeding by owner. One nest site had at least 2 chicks but could not be reached for safety reasons (observations made from outside). Of the 81 sites checked, 6 had 1 owl present but not breeding. 3 of these were re-checked later in season but no further action found. At another site not included in 81, the farmer said 2 owls were present (breeding?) but it was impossible to check due to presence of cattle. 5 boxes were used this year for the first time. Two of these (including the one that failed) were only put up this year. Breeding may have taken place at 5 further farms (not included in the stats) where access denied/ceilings frail.

Food supply - My impression was that after a poor start (very poor breeding by LE Owls and late by Tawny) the vole population improved greatly in June and July. We checked a number of boxes in early July and noted the number of young. When we went back over a fortnight later to ring them, all broods were intact (ie no older chicks had eaten younger chicks due to hunger) suggesting enough food for all.

8. Norfolk – NW Norfolk Ringing Group

An additional 42 sites held either a single or pair of roosting birds. All in all a very mediocre year!

9. Somerset – Cam Valley Wildlife Group

Generally a late breeding year leading to a later date of nest inspections. I believe also a higher than average mortality rate in young chicks - estimate around 40% by the time counts carried out. Project began in 1995 and 2016 had the 3rd highest number of breeding pairs on record but only the 6th highest number of chicks counted, probably due to later date of nest inspections.

10. Staffordshire Barn Owl Action Group

The Staffordshire Barn Owls fared better for 2016 as BOAG recorded more breeding pairs and an increase in brood size compared with 2015. With a late summer and mild autumn we also recorded 1 late brood and 1 second brood. However, we did record 4 pairs that did not attempt breeding. Late in 2013 and 2014 we installed 8 recycled plastic nest boxes and this year we had our first breeding pair of barn owls raising 2 chicks in one of the new boxes (see photo on page 7).

11. Suffolk Community Barn Owl Project

The breeding season was far from plain sailing as inclement weather resulted in a stuttery start - a sudden dip in late April/early May temperatures wasn't conducive for breeding. To make matters worse, some areas in southeast England had their wettest June on record causing incubation to be interrupted and eggs and recently-hatched chicks to chill and die. SCBOP monitors logged many instances of complete or partial clutch failure early in the season including desertion of whole clutches and unhatched eggs. The total clutch/brood failure rate was 21% from 103 boxes known to be hosting barn owls up to the end of June. Few of the successful pairs managed to fledge more than three chicks. In fact, 79 boxes occupied at the chick stage produced 197 chicks in June, an average of 2.5 chicks per box, but as many of the boxes were not revisited after the chicks were ringed, this figure is likely to be lower.

Increasing numbers of voles coupled with the unusually warm and especially dry weather conditions throughout the autumn months from August to October meant that all was not lost! Many successful early breeders that had already laid full clutches by mid-April, followed up with second clutches in early-July and some that had lost early clutches or broods laid replacement clutches in late-June. Occupied barn owl nests monitored between July and October proved to be more successful with total clutch/brood failure down to only 6% from 220 boxes. There were three instances of clutches of 7 eggs in July/August, but five chicks was the maximum brood size. A total of 483 chicks were produced from 206 boxes occupied at the chick stage in July to October 2016, which equates to 2.4 chicks per occupied box, slightly down on June but with a much lower total clutch/brood failure rate. Fledging success of second broods is particularly low in most years, so this figure is relatively good for late-breeding Barn Owls. It was also an extremely prolonged breeding season with chicks still occupying boxes at the end of October.

12. Sussex – Barrie Watson (team)

There were four broods of 4 and one of 5 young at the time of checking and there was one possible/suspected attempt at a second brood, but outcome of this unknown.

13. Sussex – Graham Roberts

Fewer nest boxes were checked than usual. However, most of the regularly occupied sites were visited. A surprising number of normally productive nest sites were found to be unoccupied (neither breeding nor adults roosting). 14 young were ringed from 4 broods.



Photo: Richard Tadman

14. Stour Valley Wildlife Action Group, South Warwickshire Barn Owl Survey, James Rushforth (Brandon Ringing Group)

The 102 broods recorded include 8 second broods and 2 re-lays. The significant jump in the number of pairs recorded breeding (from 30 to 102) is partly due to an increase in the number of sites monitored (222 to 340) and partly due to a genuine increase in the number of pairs breeding. Nesting occupancy was very good in 2016, indeed we only had 8 pairs that failed to lay eggs.

15. Wiltshire – Lewis Raptor & Owl Group

Time checking other raptors and owls together with the lateness of nesting Barn Owls meant that most Barn Owl nests had to be checked several times even then some did not lay. Ultimately we ran out of checking time, several annual sites were not visited, we concentrated on the most dependable nests (n=273). *[Editor's note: This bias renders invalid any comparison to previous years. Thus, figures relating to nesting occupancy in South Wilts have been omitted from the Main Results Table.]*

2016 was a very bad year for Barn Owls in South Wiltshire. Voles should have been abundant in the Spring this year but they were not. Compared to the last 10-year's average, nestling numbers were down as follows: Barn Owl -71%, Kestrel -43% and Tawny Owl -50%. Latterly, from June/July, the vole situation improved and there were some very late broods but many pairs did not breed. Although 96 active nests were recorded, to know the Barn Owl 'count' it is important to know the number of pairs that did NOT breed. In our case there were 28 pairs that did not lay eggs. Had they laid, this would have increased the S Wilts breeding population by 29%. Nevertheless, 2016 was a very bad year. Just considering Salisbury Plain, the 10-year average number of pairs on the Plain was 54 in 1997-2006, 37 in 2007-2016, but in 2016 there were only 19 (a 49% drop), 9 of which did not breed!

16. Yorkshire - East Riding Barn Owl Conservation Group

2016 was an average year for Barn Owls in East Yorkshire. All the young I ringed were in good condition. There were no adverse weather conditions during the breeding season so all in all a successful year for those that bred. Late broods I ringed showed a significant increase in brood sizes. I'm hoping this trend continues into 2017.

17 Yorkshire – Wolds Barn Owl Group

Quite a number of sites that have been utilised year on year were unoccupied in 2016. One pair produced a second brood in an adjacent box in which the female began to lay before the young had fledged from the first box.

18 Gloucestershire Barn Owl Monitoring Programme

Increase in activity, plus access to new sites and new boxes has led to increase in number of active nests monitored. Three confirmed breeding reports were received from new sites which we have now included in our list of 'sites checked'.

19 Northumberland (North) – Philip Hanmer

This study of about 100 potential nest sites in north Northumberland indicates that the weather was again the predominate limiting factor in the success of Barn Owls in the area. Met. Office data records that the winter was the second wettest since 1910 and January was exceptionally wet in North East England. April was cool and wet and the weather did not become settled until August. Some owls tried to nest in April and early May but most of these subsequently failed (as the adults were in a poor condition and underweight). However, at least two of these pairs were later successful with replacement broods in the same sites. As the year progressed, some adults were able to gain weight and start nesting. This led to pulli fledging in August, September and even as late as October.

The total number of breeding owls was low (but slightly better than 2015) with 23 successful nests and 73 owlets being ringed. Seven nests failed. Some adult pairs occupied nest sites/boxes for much of the year but never actually nested.

Updates from others

Essex – Emma Ormond (Essex Barn Owl Conservation Project)

Inspired by the success of the Suffolk Community Barn Owl Project, the Essex Barn Owl Conservation Project was launched by the Essex Wildlife Trust in 2013. Systematic monitoring started in 2016 with an impressive 119 potential nest sites checked and 21 nests recorded giving an average brood size of 2.62. [Eds. Without any previous years for comparison, these figures couldn't be included in the Main Results Table]. Emma Ormond, Living Landscapes Coordinator for Essex Wildlife Trust, added "Earliest ringing took place in south Essex in early July. The latest ringing also took place on the same site in early October. The largest brood to fledge successfully consisted of five chicks".

Northern Ireland - Conor McKinney (Ulster Wildlife Barn Owl Project)

"In 2016 we recorded 3 nest sites that fledged young; 1 nest box site fledged 2 birds which were subsequently ringed, a tree cavity site fledged 1 bird, and a building nest site fledged 1 bird (at least).

Sightings recorded over the past number of years show that Barn Owls are much more regularly seen in County Down and around the shores of Lough Neagh, or the Lough Neagh basin (see map). Additionally of all the sightings recorded in 2016 all but one are less than 150m in altitude. We are analysing this pattern across all our sightings but it does seem that while literature suggests that Barn Owls in GB will nest up to 350m and on occasion higher we are rarely seeing any activity above 150m in Northern Ireland.

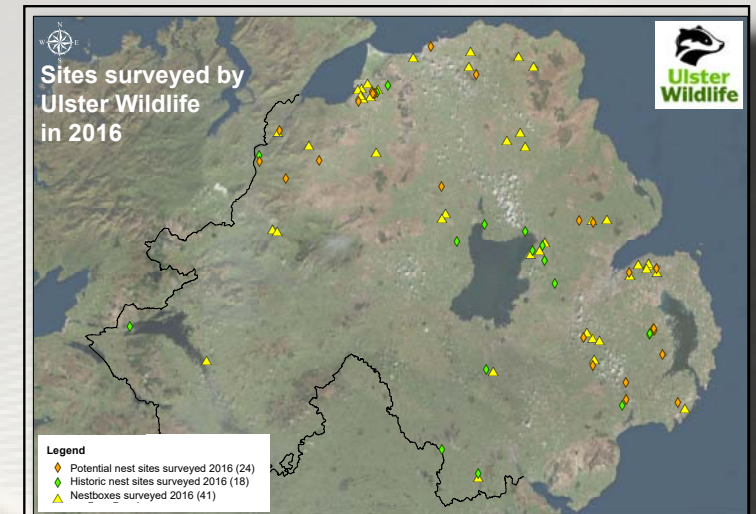
We believe that there may be two factors in this: 1) The lack of availability of short tailed vole in Ireland makes it difficult to find the small prey guild that sustains barn owls (namely house mouse, wood mouse and pygmy shrew) in higher areas, and 2) The increased precipitation associated with higher altitudes makes foraging much more difficult in a region which already has higher than average UK rainfall.

We would like to take this opportunity to thank all of our loyal volunteers for all the great work that they do, and the Heritage Lottery Fund Northern Ireland. We ask everyone to once again report all sightings, snores, screeches and even get involved!

Conor McKinney, Living landscapes manager, Ulster Wildlife

South Cumbria - Tony Warberton (World Owl Trust)

"Sadly due to staff changes and health issues we were unable to monitor our sites in SW Cumbria in 2016 – even the 20 baseline sites we have visited annually for 50 years went unchecked. However, vole monitoring and results from a small number of local sites suggests that 2016 was another poor year for Barn Owls both here and in Lancashire where extremely wet summer weather resulted in nestling mortality. It appears that our Field Vole population has still not recovered since the floods of 2015 and many former nest sites remain unoccupied".



Previous years: 1995 to 2015

1995 - 2009

The only reliable estimate of Barn Owl numbers in the UK was c. 4,000 pairs in the period 1995-97 (Project Barn Owl Report, 2000) and there is some evidence that numbers increased in the period 1997-2009 particularly in eastern England. Additionally, the BTO Bird Atlas 2007-11 showed a northerly range expansion since the previous 1993 atlas. These increases were probably the result of a general climate warming in the period 1989-2009 and the erection of numerous nestboxes in, for example, parts of The Fens and East Anglia. It is quite probable that in 2009 the UK Barn Owl population level was substantially greater than 4,000 pairs.

2009 - 2012

There can be little doubt that the unusually severe winters of 2009/10 and 2010/11 reduced total population size although 'before and after' population levels will never be known. In spite of these setbacks, additional data submitted to the authors suggest that 2012, with the hottest March since 1997, was quite a reasonable year. For example, the Suffolk Community Barn Owl Project which monitored a staggering 1,191 boxes in 2012 recorded 319 nests which, at the time, was the highest number since monitoring started in 2007. However, in some parts such as SW Scotland (Geoff Sheppard pers. com.) and Cumbria (Ian Armstrong pers. com.) 2012 was a very poor year and in Devon widespread nestling mortality resulted in the average brood size dropping from 3.68 to 2.75 during the wettest June since 1766.

2013

Given that 2012 was a relatively good year (overall) and winter '12/'13 was much less severe than the preceding three, Barn Owl numbers at the start of 2013 were probably quite reasonable (probably lower than in 2009 but possibly still higher than 1995-97). March 2013 was the coldest since 1962 and during the month the number of dead Barn Owls reported to the BTO was 280% above normal.

Without exception, every monitoring scheme that contributed data reported a high proportion of nest sites with no signs of occupation and Major Nigel Lewis's comment summed it up very well: "the worst year in the 30 years I have been owling in Wiltshire". The State of the UK Barn Owl Population 2013 showed that nesting occupancy in 2013 was an estimated 72% below the all-years average and mean brood size (2.63) was down by 12% (based on information provided by 26 data contributors who between them checked an estimated 6,344 potential nest sites).

The widespread absence of adults from annual nest sites and exceptionally high mortality recorded by the BTO suggested that the missing birds were dead. Conversely, the exceptionally high nesting occupancy the following year suggested that the missing birds had been simply roosting away from their nest sites. Fortunately, the UK's largest county-wide survey, which included the rechecking of all known roost sites as well as nest sites was carried out that same year. If the birds were alive and roosting elsewhere, the big drop in nesting occupancy should have been mirrored by a similar or bigger increase in roost occupancy (bigger because of birds roosting singly). In the event this was not the case. The Devon Report, based on the checking of 1,070 sites, showed a 65% drop in nesting occupancy and an increase in roost occupancy of only 16.9%. These figures support the view that a high proportion of the missing birds were not simply roosting elsewhere but were in fact dead.

Last year, the British Barn Owl longevity record was broken when the Bisham Barn Owl Group recorded a 15-year old female, alive and well!

GN40325 nicknamed 'Bernice' is the oldest recorded wild Barn Owl in the UK. [Read the full story here.](#)

Photo: Paul Wareham



This begs the question “where did all the Barn Owls come from that nested in 2014?” They must have been a combination of those that survived 2013 and young birds produced very late in 2013 who were all probably helped by the fact that winter-spring 2013-14 was so mild that Field Voles were even breeding in mid-winter (see [State of the UK Barn Owl Population 2013](#)).

2014

With a mild winter followed by an early spring and a long and pleasant summer, 2014 turned out to be the warmest year ever recorded - according to the National Climatic Data Centre. Great weather happened to coincide with a peak year for small mammals and Barn Owls had a very productive year in many areas. Berkshire, Lincolnshire, Shropshire and Warwickshire did particularly well with nesting occupancy 71 to 193% above normal (UK average +16%). Brood sizes were phenomenal in many areas with records broken in Suffolk and Wiltshire. Broods in Somerset were, on average, 84% bigger than normal (UK average +35%).

Sadly, 2014 was not an amazing year everywhere. Brood sizes in parts of SW Scotland, east Wales and the Isle of Wight bucked the trend by being no higher than normal and the mean brood size of the biggest UK Barn Owl monitoring scheme in Lincolnshire (the Bowden and Ball Ringing Group) was only 13% above their all-years average (see [State of the UK Barn Owl Population 2014](#)).

2015

Overall, 2015 was a poor year for Barn Owls in the UK but with some quite extreme geographical variation between regions, within regions and even within counties. Barn Owls in Lincolnshire experienced an even worse year than in 2013 with nesting occupancy 95% below the all-years average and mean brood size 41% down. In Mid Sussex nesting occupancy was 47% down but, in complete contrast, in West Sussex it was 16% up despite the fact that these areas are immediately adjacent and even overlap a little. Further north, where the Bisham BOG straddles the Berks/Bucks border, nesting occupancy was only 7% below average but the Bucks ORG reported it to be a disappointing 66% below.

Given that winter 2014/15, and 2015 itself, were generally mild it is most unlikely that the poor results were due to the weather but due to a general lack of prey. It is well known that annual variations in small mammal abundance are not synchronised across the whole country and that certainly seems to have been the case in 2015 (see [State of the UK Barn Owl Population 2015](#)).

The issues

Both globally, and locally, climate change is producing record-breaking weather every year and weather is often blamed for the changes we observe in Barn Owl numbers. However, it's important to remember that small mammal abundance is (generally speaking) an even more powerful influence and that small mammal abundance varies independently of the weather. Bear in mind also, that the backdrop to these fluctuations is the man-made environment in which birds are trying to survive, most of which is a lethal combination of unsuitable habitat and hazards.

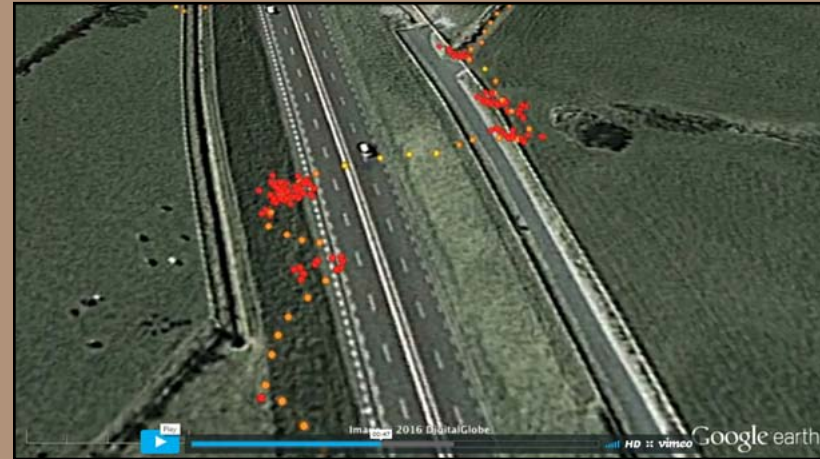
The vast majority of farmland is intensively managed and lacking prey-rich habitat features (such as rough tussocky grassland with a >7cm litter-layer). There is little doubt that a general lack of prey is the principal cause of low productivity (most years) and low population density across most of the UK. Barn Owl sites become unoccupied, not so much because older birds die, but because there is a shortage of younger birds to replace them. Indeed, juvenile survival exerts a bigger influence on total population size than any other life-cycle parameter (Population trends in British Barn Owls, BTO).

So as well as concentrating on [habitat improvement](#) to benefit all Barn Owls, it is important to consider the causes of juvenile mortality, the most significant of which is trunk-road deaths (BOT). Roads need to be made safer by the planting of low-flight prevention screens - [more information](#).

Last year, GPS tracking by Birdwatch Ireland revealed for the first time how Barn Owls forage and repeatedly cross major roads.

Check out an amazing GPS-plot video on this [Irish Raptor Blog page](#).

Screenshot of the revealing GPS-plot-video from Birdwatch Ireland



According to latest government figures, 87% of Barn Owls contain rat poison. The proportion that dies as a direct result is probably low but the possible effects of sub-lethal doses are a cause for concern. It is possible that low-level contamination reduces the birds' ability to cope during hard times. The new [Stewardship Scheme](#) governing professional use of anticoagulant rodenticides (which came fully into force in 2016) aims to achieve a substantial reduction in unwanted contamination by 2020. The 'sentinel species' being monitored for contamination is Barn Owl.

As the UK gets closer to Barn Owl nestbox saturation, and an even more box-dependent owl population, the emphasis needs to change towards box replacement. Replacement provides opportunities to reduce nestling mortality by switching to boxes that are no less than 460mm deep - [more information](#).

There is a lot more information on all these topics in the [Barn Owl Conservation Handbook](#).

Further information

[Barn Owl Conservation Handbook](#), a comprehensive guide for ecologists, surveyors, land managers and ornithologists. Barn Owl Trust (2012) Pelagic Publishing, Exeter.

[Barn Owls and Major Roads](#): results and recommendations from a 15 year research project. Ramsden, D.J., (2003) Barn Owl Trust, Ashburton.

BTO Bird Atlas 2007-11: the breeding and wintering of birds in Britain and Ireland. Balmer, D.E., Gillings, S., Caffrey, B.J., Swann, R.L., Downie, I.S., & Fuller, R.J. (2013) BTO Books. British Trust for Ornithology, Thetford.

Population Trends in British barn owls (*Tyto alba*) and tawny owls (*Strix aluco*) in relation to environmental change. Percival, S.M. (1990) BTO Research Report, 57. British Trust for Ornithology, Thetford.

Project Barn Owl Final Report. Toms, M.P., Crick, H.P.Q. & Shawyer, C.R. (2000) BTO Research Report, 157. HOT Research Report 98/1. British Trust for Ornithology, Thetford.

[State of the UK Barn Owl Population 2013](#). Barn Owl Trust (2013) Ashburton

[State of the UK Barn Owl Population 2014](#). Barn Owl Trust (2014) Ashburton

[State of the UK Barn Owl Population 2015](#). Barn Owl Trust (2015) Ashburton

Barn Owls: Predator-prey Relationships and Conservation, Taylor, I. (1994) Cambridge University Press



The banner features the Barn Owl Trust logo on the left, followed by the text 'Barn Owl online Survey' and 'A project of the Barn Owl Trust covering the UK'. To the right are icons for 'BARN OWL CAM', Facebook, Twitter, and YouTube. On the far right is a yellow owl icon. Below this is a map of the United Kingdom with numerous black dots indicating survey locations. The text below the map reads: 'Have you discovered the UK online Barn Owl Survey?', 'www.barnowlsurvey.org.uk', and '9,952 sightings reported so far!'.



Photo: David Ramsden

