

State of the UK Barn Owl population – 2019

‘A relatively good year in many areas’

Results from 40 independent groups collated by the Barn Owl Trust



Photo: Russel Savory

Conserving the Barn Owl and its Environment

State of the UK Barn Owl population - 2019

Contributing Groups

Barn Owl Trust

Brandon Ringing Group

Broxton Barn Owl Group

Bucks Owl & Raptor Group

Cam Valley Wildlife Group

Derbyshire Ornithological Society

East Cheshire Barn Owl Group

East Riding Barn Owl Conservation Group

Essex Wildlife Trust

Gary Steele

Gil Gaylor

Glamorgan Barn Owl Group

Gloucestershire Raptor Monitoring Group

Hawk and Owl Trust

Jersey Barn Owl Conservation

Lewis Raptor & Owl Group

Manchester Raptor Group

Merseyside Ringing Group

Mid Cheshire Barn Owl Conservation Group

Middle Thames Ringing Group

North Cheshire Barn Owl Group

North Dorset - Conservation Action

North-east Cheshire Barn Owl Group

North West Norfolk Ringing Group

Philip Hanmer - Nat. Hist. Soc. of Northumbria Hancock Mus. R.G.

Powys Species Habitat Protection Group

Scottish Raptor Study Group

Shropshire Barn Owl Group

South Cheshire Barn Owl Group

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 Belvoir Barn Owl Conservation Group

West Berkshire Countryside Society Barn Owl Group

West Cornwall Ringing Group

Wirral Barn Owl Trust

Introduction

An extraordinary amount of work by independent groups and projects is collated and synthesised in this update on the UK Barn Owl population. The many people who participated deserve our heartfelt thanks for their dedication in monitoring this notoriously elusive species. Although the contributors inspected slightly less potential nests sites in 2019 than in 2018, this was surely compensated for by a net increase in the actual number of nests recorded. At 1,714 breeding pairs, this report probably covers somewhere between 26% and 44% of the UK breeding population.

All but two of the 37 groups and projects that contributed to the 2018 report are represented again here, despite greatly changing circumstances for some. There are also results from a further four projects, including new contributors Alan Masterton from north Dorset and Dr Richard Winspear from Derbyshire, plus Geoff Sheppard (Scottish Raptor Study Group) who's results were contained within Dumfries and Galloway RSG in 2018. A full list is presented on Page 2 and the last page provides links to their own webpages (where available).

The report contains and discusses comments from a range of contributors, all of whom have direct experience with the species. It uses changes in Barn Owl nesting occupancy and brood size to answer relative questions such as 'how did last year compare to previous years?' or 'in which areas of the UK were Barn Owls particularly productive during 2019?' Importantly, there is no intention to estimate the UK Barn Owl population size. Such an estimate was achieved when Project Barn Owl undertook searches for evidence of breeding pairs in a representative set of 839 randomly selected tetrads, between 1995 and 1997. While at that time a UK population of between 2,769 and 5,252 pairs was calculated (Toms et al. 2001), in 2020 a range of 4,000 – 14,000 pairs was tentatively given by the UK Avian Population Estimates Panel, based on a combination of extrapolation, assumptions and opinion (Woodward et al. 2020).



Rough grassland is the species optimum habitat across most of the UK - Photo: Russell Savory

Definition of terms used in tables and text

Start year used - The year when the monitoring represented in this report was started.

Sites checked - The number of potential nest sites that were checked (inspected).

Nesting - The number of sites where nesting actually occurred (one or more eggs laid).

% nesting (Nesting Occupancy) - The percentage of sites checked where nesting occurred.

Average of All Previous Years (AAPY) - A mean value calculated from the figures for each year from the effective start year, up to and including 2018.

% change from AAPY (under Nesting Occupancy) - The percentage change between the proportion of sites occupied in 2019 and the mean proportion of sites occupied in all previous years:

$$100 \times \frac{((2019 \text{ Nesting} \div 2019 \text{ Sites checked}) - (AAPY \text{ Nesting} \div AAPY \text{ Sites checked}))}{(AAPY \text{ Nesting} \div AAPY \text{ Sites checked})}$$

Numerical change from AAPY - The difference between 2019 and AAPY in the number of sites where nesting occurred (2019 Nesting – AAPY Nesting).

Brood size - The number of live young counted at any time between hatching and fledging.

Mean brood size - The total number of owlets, divided by the total number of broods. This excludes: 1) sites where there was no nesting, and 2) nests where there were no live young.

% change from AAPY (under Mean Brood Size) - The percentage change in mean brood size between 2019 and the AAPY.

$$100 \times \frac{(2019 \text{ Mean brood size} - AAPY \text{ Mean brood size})}{(AAPY \text{ Mean brood size})}$$

E - Estimated.

Please note that apparent discrepancies in calculations of change from AAPY are due to rounding table values to whole numbers.

***Unusual exclusions**

For two contributors, all the 2019 figures used to calculate the percentage change in nesting occupancy from AAPY are excluded from the Summary row for the following reasons:

- a) Cheshire Barn Owl Groups – Approximately half as many sites as usual were checked, with effort concentrated on those where there was a greater probability of occupancy.
- b) Cam Valley Wildlife Group, Somerset – Seventeen sites were checked, compared to an average of 98, and these were largely sites where Barn Owls had bred in 2018.

Because nest sites were checked selectively, the nesting occupancy figures for these two projects are much higher than usual and do not provide a meaningful comparison with the average of 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. Anomalies can arise due to year-to-year changes in numbers of 'Sites Checked', affecting comparisons both in terms of the 'Average of All Previous Years' and 'Numerical change'. This is because the editors 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, to a lesser extent, may sometimes vary 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 were visited more than once and figures given for 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.

County / Group	Start year used	NESTING OCCUPANCY								MEAN BROOD SIZE			See notes
		2019			Average of All Previous Years (AAPY)			% Change from AAPY	Numerical change from AAPY	2019	AAPY	% Change from AAPY	
		Sites checked	Nesting	% Nesting	Sites checked	Nesting	% Nesting						
Berkshire - West Berkshire Countryside Society Barn Owl Group	2010	187	41	22	140	26	19	17	15	2.6	3.0	-11.0	1
Berkshire (N) & Buckinghamshire (S) - Middle Thames Ringing Group	2015	105	29	28	110	21	19	43	8	2.2	2.7	-17.7	2
Buckinghamshire - Bucks Owl & Raptor Group	2006	393	84	21	207	25	12	78	59	2.9	2.7	8.8	3
* Cheshire Barn Owl Groups	2006	900 E	172	19	1350	133	10	see unusual exclusions	39	2.3	2.8	-16.5	4
Cornwall – West Cornwall Ringing Group	2011	87	48	55	47	27	56	-2	21	3.0	3.1	-2.8	
Devon & Cornwall (E)- Barn Owl Trust	1993	70	30	43	78	35	45	-4	-5	2.7	2.9	-5.2	5
Essex Wildlife Trust	2016	207	51	25	163	33	20	20	18	3.0	2.7	12.6	6
Galloway (W) - Scottish Raptor Study Group	2016	53	26	49	72	61	84	-41	-35	3.0	3.2	-7.5	7
Glamorgan Barn Owl Group	2013	39	17	44	47	22	46	-6	-5	3.4	3.3	3.6	8
Gloucestershire Raptor Monitoring Group	2014	115	43	37	76	14	19	101	29	2.8	2.5	11.9	9

Table 1. RELATIVE CHANGE IN NESTING OCCUPANCY AND BROOD SIZE

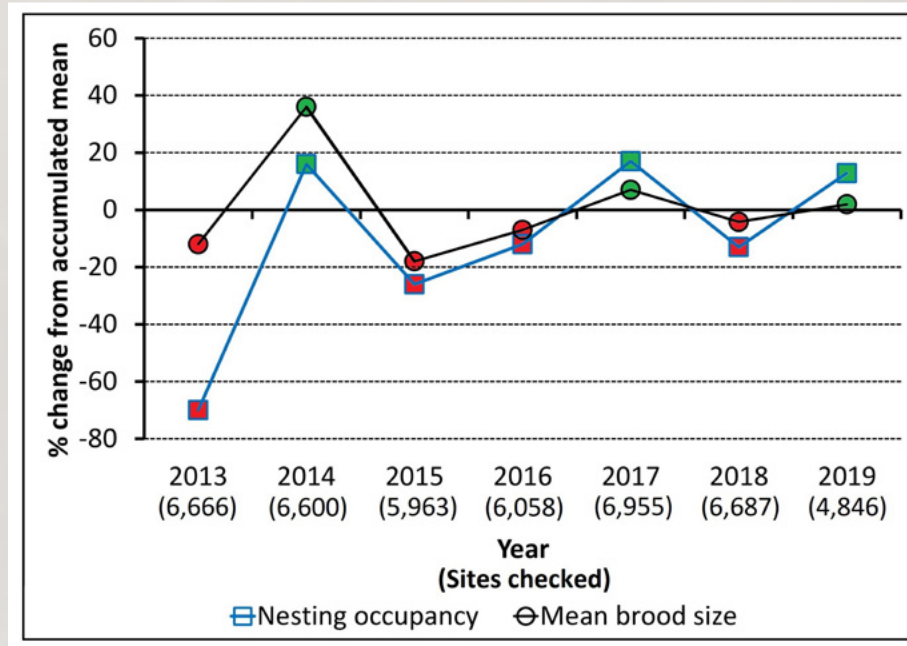
County / Group	Start year used	NESTING OCCUPANCY								MEAN BROOD SIZE			See notes
		2019			Average of All Previous Years (AAPY)			% Change from AAPY	Numerical change from AAPY	2019	AAPY	% change from AAPY	
		Sites checked	Nesting	% Nesting	Sites checked	Nesting	% Nesting						
Isle of Wight - Gil Gaylor	1997	50	47	94	44	41	94	0	6	2.9	3.0	-3.8	10
Jersey Barn Owl Conservation	2006	192	32	17	111	38	34	-51	-6	2.6	2.5	2.1	11
Leicestershire - Vale of Belvoir Barn Owl Conservation Group (VBOC)	2007	195	28	14	149	26	18	-19	2	3.2	2.4	34.1	12
Manchester Raptor Group	2010	136	61	45	71	24	34	31	37	3.8	2.6	45.4	13
Norfolk - NW Norfolk Ringing Group	2002	304	147	48	440	187	42	14	-40	1.5	2.2	-31.8	14
Northumberland (N) - Natural History Society of Northumbria Ringing Group - Philip Hanmer	2006	100	36	36	100	27	27	31	9	3.0	2.2	36.8	15
Powys Species Habitat Protection Group	2014	66	19	29	60	22	36	-21	-3	2.9	3.3	-13.1	16
Shropshire Barn Owl Group	2002	204	74	36	205	38	19	94	36	3.1	2.8	10.8	17
* Somerset NE - Cam Valley Wildlife Group	1995	17	10	59	99	12	12	see unusual exclusions	-2	2.8	2.5	11.2	18
Staffordshire Barn Owl Action Group	2008	310	71	23	256	34	13	71	37	2.8	3.1	-8.0	19

Table 1. RELATIVE CHANGE IN NESTING OCCUPANCY AND BROOD SIZE - continued

County / Group	Start year used	NESTING OCCUPANCY								MEAN BROOD SIZE			See notes
		2019			Average of All Previous Years (AAPY)			% Change from AAPY	Numerical change from AAPY	2019	AAPY	% change from AAPY	
		Sites checked	Nesting	% Nesting	Sites checked	Nesting	% Nesting						
Suffolk Community Barn Owl Project, Thornham Owl Project, Suffolk Owl Sanctuary & others	2007	742	167	23	1209	217	18	26	-50	2.9	2.1	36.5	20
Sussex Ornithological Society - Dr Barrie Watson	2007	188	67	36	125	59	47	-25	8	2.5	3.0	-18.1	21
Sussex (W) - Sussex Ornithological Society - Graham Roberts	2014	31	13	42	37	12	32	32	1	2.3	3.0	-24.5	22
Ulster Wildlife	2016	74	3	4	95	3	3	45	0	3.3	2.5	31.0	23
Warwickshire - Stour Valley Wildlife Action Group/ Brandon Ringing Group	2011	119	27	23	296	57	19	18	-30	3.3	2.9	13.3	24
Wiltshire - Lewis Raptor & Owl Group	2017	379	198	52	349	148	42	23	51	2.1	2.6	-21.8	25
Yorkshire - East Riding Barn Owl Conservation Group	2013	500 E	120	24	567	170	30	-20	-50	3.2	3.0	5.5	26
Summary		grand total	grand total	% nesting	grand total	grand total	% nesting	% change	numerical change	mean	mean	% change	
		4,846	1,479	31	5,055	1,367	27	13	112	2.8	2.8	1.9	

Table 1. RELATIVE CHANGE IN NESTING OCCUPANCY AND BROOD SIZE - continued

Figure 1. STATE OF THE UK BARN OWL POPULATION RESULTS 2013-19



Variation in UK summary figures for Barn Owl nesting occupancy and brood size from 2013 to 2019.

The vertical axis shows percentage change in summary figures relative to the accumulating mean of all previous years.

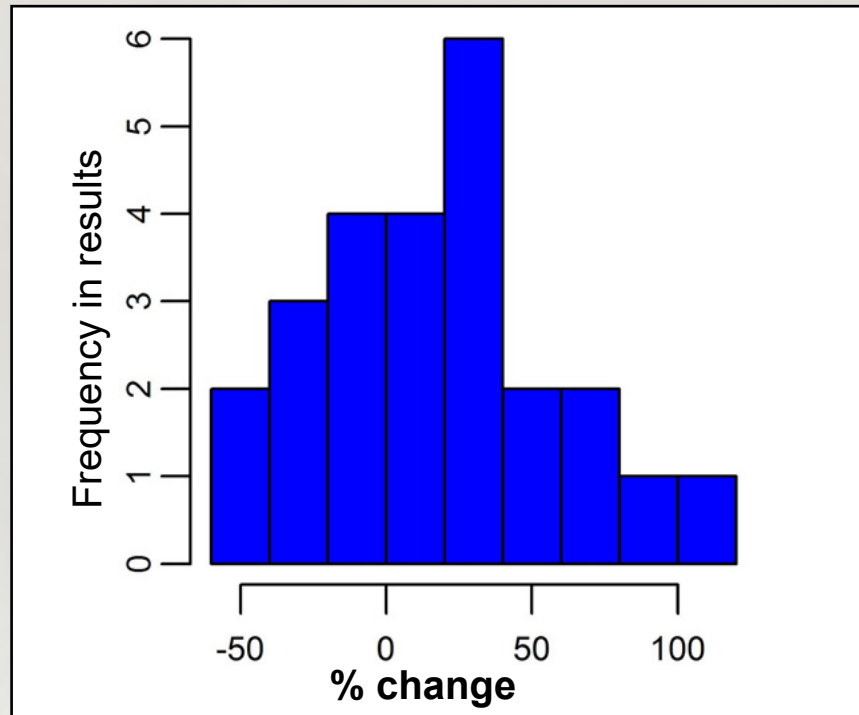
Red and green points represent negative and positive changes, respectively.

'Sites checked' refers to the sample size for calculations of percentage change in nesting occupancy from the average of all previous years.

General Summary

Overall nesting occupancy in 2019 was a fairly impressive 13% higher than the all-years average. However, it is worth noting that the range of figures used to calculate this includes very negative results, such as -51% on Jersey, and extremely positive results such as +101% in Gloucestershire. Figure 2 uses a histogram to show this.

Figure 2. Percentage change in Barn Owl nesting occupancy in 2019



'Frequency in results' shows the number of results that fall into each column. The nine columns cover the spread of percentage change in nesting occupancy, which is calculated using the respective average of all previous years (see 'Definition of terms used in tables and text').

At 2.8, the mean brood size in 2019 was neither bad nor particularly good when compared to the average of all previous years. After such a promising start in terms of nesting occupancy, a corresponding result failed to materialise when it came to nesting success. Could the weather during the nesting cycle help explain this?

In general, a relatively warm but dry winter followed by a warm and reasonably wet spring can help to increase Barn Owl brood size in the UK (Dadem et al. 2011). Adequate rainfall in spring is important because water shortage affects vegetation growth that is required to feed voles during a period when their population is typically at its lowest level (Taylor, 1994).

In 2019, temperatures were normal in January and well above average from February to April. However, a very wet March followed by a relatively dry spell in April and May could have affected the breeding pairs during their incubation and brooding phase. Furthermore, June was perhaps too wet, particularly in Lincolnshire, Midlands and east Wales, where there was well over twice the usual rainfall.

2019 Regional round up

Merseyside down to Gloucester, central England and the eastern seaboard – generally good

This massive area was generally good for Barn Owls in 2019 both in terms of the number of breeding pairs (nesting occupancy) and young produced (mean brood size) although, of course, this does not mean that population levels were anywhere near their historical maximum, which was probably reached in the early 1800s. With nesting occupancy 94% above average, Shropshire Barn Owl Group had their second outstanding year in a row, even better than 2018 (+78%). Also notable was West Suffolk, where Simon Evans reported “A huge increase in active pairs that averaged over one extra chick per brood!” However, the record must go to the Gloucester Barn Owl Monitoring Programme, who declared +101% as their “most successful season ever!” (see Contributors Notes). Purely in terms of nesting occupancy, Stafford (+71%) and Buckinghamshire (+78%) also did extremely well.

On behalf of the Cheshire Barn Owl Groups, Dr John Wild reported that their nesting occupancy was an impressive 94% above average but we had to exclude this figure from the results table (Table 1) because they only (only?) managed to check an estimated 900 sites and their efforts were biased towards the sites that were most likely sites to be occupied rather than checking all of them (the usual 1,350). Nevertheless, the number of nesting pairs in Cheshire was still well above average and no doubt a lot better than 2018 (+11%).

Nesting occupancy was up in many other areas – Essex, Suffolk, Norfolk, Warwickshire, Manchester, and Northumberland, ranging from +14% to +31%, although Leicestershire and E. Yorkshire bucked the trend at -19% and -20% below average.

In terms of mean brood size, Barn Owls in Manchester did best at +45%, prompting Judith Smith to declare it “an incredible year”, with Suffolk at 36% above average. In terms of actual numbers in the nest, Manchester, Warwickshire, Leicestershire, Shropshire, and E. Yorkshire all saw mean brood sizes above 3.0, with only Cheshire, Staffordshire, and Norfolk below average (see Table 1). As Rob Salter (East Riding Barn Owl Conservation Group) commented, it was “a very good year”.

Philip Hanmer (pictured) reported a mean brood size of 3.0 within which were three broods of six(!) and also reported finding that five of his breeding females were relatively old (6-8 years). In Staffordshire, mean brood size was a mediocre 2.8 but nevertheless Roger Lycett reported no less than eight broods of 5 and another three broods of 6! However, in terms of brood size, Gloucestershire Raptor Monitoring Group takes the biscuit for reporting two broods of 8! Second broods were also unusually widespread across this region, with 6 recorded in Warwickshire, 8 from the Manchester Raptor Group, 9 in both



Philip Hanmer with a successful brood, despite the adults previously suffering eviction from a barn that has since been converted into a holiday cottage

Berkshire and West Suffolk, and others in Buckinghamshire and Gloucestershire. Furthermore, Dr Barrie Watson received an anecdotal account of a single farm in South Lincolnshire with six pairs of Barn Owls, all of which produced second broods!

As usual, some counties bucked the trend with below-average mean brood sizes reported by Cheshire (-16%), and Norfolk (-31%) which John Middleton thought “was related to food availability”. Despite some big broods in Stafford, which prompted Roger Lycett to comment “there was a plentiful food supply all through the breeding season”, mean brood size was 8% below their all-years average.

Southern England from Wiltshire to East Sussex – highly variable

Nesting occupancy was good in most reported areas with +43% where the Middle Thames Ringing Group straddles the Berks-Bucks border, +23% in Wiltshire, and John Dellow describing +17% as “good” in West Berkshire. Interestingly, Carl Hunter Roach (Middle Thames Ringing Group) reported 2019 as “the earliest nesting year we have recorded, a full month earlier than usual”. However, both Carl and John reported mean brood sizes that were below their all-years averages, -17% and -11% respectively. Similarly, Major Nigel Lewis in Wiltshire reported the productivity was 21% below average commenting “severe rain depleted broods”.

Graham Roberts’s West Sussex area had 32% more nesting pairs than average but in Dr Barrie Watson’s overlapping area occupancy was 25% below average, whilst at the same time their mean brood sizes were similarly disappointing at -24% and -18% respectively. This was in marked contrast to 2018 where both studies showed similar occupancy but very different levels of productivity.

The West, from Galloway down through Wales and the SW to Jersey – poor to very poor

2019 was a poor year for Barn Owls in the west. In Galloway, nesting occupancy was -41% below average and even though Geoff Sheppard commented “brood sizes were higher than in 2018”, they were 7% lower than their all-years average. These results are in marked contrast to those in Northumberland (on the same latitude), where Barn Owls had a remarkably good year (see above).

Down in Wales, both the Powys Species Habitat Protection Group and the Glamorgan Barn Owl Group reported below average nesting occupancy as did the Barn Owl Trust (Devon and East Cornwall) and the West Cornwall Ringing Group, with -21%, -6%, -2% and -4% respectively. Mean brood sizes were also poor (-2% to -13%) except for Glamorgan where the birds were very slightly more productive than usual (+3%).

Down in the channel, Jersey Barn Owl Conservation had a poor year with 32 active nests compared to an average of 38. Nesting occupancy was brought down further still (-51%) because far more sites than usual had been checked without any corresponding increase in pairs (see Table 1). Despite this, Marc Peters commented “The Jersey Barn Owl population remains strong with chicks witnessed from February through to September” and their mean brood size was fairly typical at +2%

Northern Ireland

Please see Note 23 below



'In broad daylight, waiting at the crossroads'. Photo: David Swann

2019 Contributor's notes/comments

1. Berkshire – West Berkshire Countryside Society Barn Owl Group – John Dellow

Our total of 108 fledged chicks was the third highest over the last 10 years. The results were almost identical to 2018. We rate it as another “good” year. We found two successful second broods. Both followed failed first broods. 21.9% of our boxes supported successful breeding. This was slightly better than the long-term average but we had hoped for even better. The mean brood size was 2.63 with 3 boxes having our maximum clutch size of 5 chicks. Note; the “brood size” statistic is based on the number of birds believed to have fledged. Unhatched eggs and chick losses before fledging have not been counted. This is consistent with previous years.

2. Berkshire (N) and Buckinghamshire (S) – Middle Thames Ringing Group – Carl Hunter Roach

2019 was the fifth nesting season of our project. The warm weather in late February combined with a high vole population to make this the earliest nesting year we have recorded. Egg laying began in the first week of March, and 50% of pairs had started laying by the end of March, with all first clutches begun by the end of April, a full month earlier than usual. A week of sustained rainy weather in the second half of May led to the loss of some chicks, with one brood of 6 being lost entirely. There were 29 first-brood attempts, fledging a total of 73 chicks and making it the most productive nesting season so far. The early start to the nesting season allowed 7 pairs to attempt second broods, all in the north-west of our area, 3 of which were successful.
[Editors' note: You can read the full MTRG 2019 Barn Owl report by [following this link.](#)]

3. Buckinghamshire – Bucks Owl & Raptor Group – Lynne Lambert

Average number of eggs counted was 4.2 (143 eggs in 34 nests). Our largest clutches were 3 nests with 8 eggs. Two of these were successful producing 3 and 5 chicks and the third is unknown. There was plenty of food available in late summer and some birds went on to have a second brood. We had one ringed female that was found in a box with chicks and then a few weeks later was found in another box about 2 km away on 8 eggs.

4. Cheshire Barn Owl Groups – Dr John Wild

“The adult recoveries still show around 50% of unringed birds which still indicates a good unknown population out there”. (Quoted from the Cheshire Barn Owl Report 2019, by Dr John Wild).

5. Devon & Cornwall (E) – Barn Owl Trust

It was another disappointing year here in Devon and east Cornwall, with both nesting occupancy and mean brood size below average.



Another healthy chick ringed in West Berkshire. Photo: John Dellow

6. Essex Wildlife Trust – John More

It was another fantastic effort by the volunteers of the Essex Wildlife Trust Barn Owl Conservation Project, backed up by ringers from the BTO. We now have over 300 nest boxes put up by the project. The efforts of the volunteers monitoring more boxes than previous were rewarded with an overall % rise in nesting success.

7. Galloway (W) – Scottish Raptor Study Group – Geoff & Jean Sheppard

Vole numbers were not consistent across the area; some sections held good numbers while others had almost none and this was reflected in breeding success. Although fewer sites were occupied, mean brood size was higher than in 2018. Again, no second broods were recorded.

8. Glamorgan Barn Owl Group – Steve Thomas

New site discoveries and successful nest box installations have helped increase the network of active sites in our area by 22%. Mean brood size was marginally up on 2018 (3.3)

Our Barn Owl population continue to demonstrate remarkable resilience to the wet Welsh weather and admirable resourcefulness in an area dominated by sheep farming.

We remain ever grateful to farmers and landowners who have been sympathetic to the cause allowing installation of nest boxes and ongoing monitoring. Essential to our plan to grow the number of nest sites in 2020 is our contact with local farming groups. A successful presentation to The North Glamorgan Ladies NFU Group in November has already resulted in the identification of many potential new nest box sites.

9. Gloucestershire Raptor Monitoring Group – Gordon Kirk

I'm happy to report our most successful season ever! We had a much higher take-up of boxes after a very poor year last year, with a couple of second broods (very unusual here). And we had two broods of eight chicks! Internal boxes (all in barns) had much higher occupancy than external boxes. Large amounts of prey in nests.

10. Isle of Wight – Gil Gaylor

All checks were carried out in late June to mid-August, with no more late seasonal visits for 2nd broods. Could well be 80 pairs on the Island according to some bird note reports.

11. Jersey Barn Owl Conservation – Marc Peters

The Jersey Barn Owl population remains strong with chicks witnessed from February through to September. Almost all of our boxes are tree based. We have spent a good proportion of 2019 replacing boxes that have fallen foul to age and the elements. These new boxes ensure we are able to maintain our healthy population.



*One of two broods of eight recorded by the Gloucestershire Raptor Monitoring Group.
Photo: Anna Field.*

12. Leicestershire – Vale of Belvoir Barn Owl Conservation Group – Don Pritchett

There were 29 pairs, although one failed to breed with no notes of egg numbers, so the number of active nests was reduced to 28 pairs. Ninety-two young were recorded, giving an average brood size of 3.23. Two nests of 5 and 4 were a complete washout in June so the number of owlets surviving to fledge was counted as 83 (sample checks done). Good numbers were also caught at roosts and breeding went through to September, with good vole numbers.

13. Manchester Raptor Group – Judith Smith

This was an incredible year for us. We have never approached this number of young before, and moreover, only one clutch of eggs failed to hatch, this being a second brood where the female (on CCTV) incubated for 36 days. It proves to us that vole numbers must have been very high to support all these young. Other statistics: Sites used for first time (as known to us) = 8 Established sites not used this year = 2 Complete failures at young stage = 4

14. Norfolk – NW Norfolk Ringing Group – John Middleton

Brood sizes were small, particularly with some of the early broods, and I think this was related to food availability, which seems to have varied according to location as some pairs had higher numbers of chicks than others. I cannot comment on chick survival in general as I usually only make one visit and I record what I observe at that time. Although with some broods that were too small to ring at that visit, when subsequently followed up the number of chicks had reduced and sometimes they were all dead. Some pairs delayed breeding: early visits had a single bird or pairs present but no eggs or chicks, but when followed up they had got either a clutch or a brood. Numbers in these late broods ranged from 5 to 7, so maybe food availability improved later in the season.

15. Northumberland (N) – Natural History Society of Northumbria Ringing Group – Philip Hanmer

2019 was a much better Barn Owl breeding season than in 2018. Although numbers were nothing like as high as in the exceptional year of 2017; numbers returned much nearer to the long-term average (circa. 30%) with 36 pairs trying to nest and 32 successfully raising young.

Following on from a mild winter and reasonably good spring weather birds started to nest in April and May. For the first time ever several of our late May visits coincided with the eggs starting to hatch. The summer started warmer and dryer than average which was good for returning to nests to ring young but as time progressed it became cooler and unsettled (including becoming wetter) which probably prevented the occurrence of many second broods (only one was recorded) although there was no shortage of food. This was evidenced by the discovery of several larders of food (dead small mammals) being placed in boxes by male birds in the summer, presumably wanting to nest again.

The average number of eggs laid was 3.9; although three '6's were recorded. The average number of owlets fledged was 2.5 although two pairs raised five. 92 owlets were ringed/fledged.

Twelve new adult Barn Owls were ringed and 19 were re-trapped; including an 8-yr old female that nested again near Boulmer and raised 4 young. Others near Wooler were 6 and 7-yrs old respectively. A female, originally ringed at Rochester in the Military Ranges that is 6-yrs old, was found with two young near Fallodon having not been seen since 2015; and a 7-yr old nested successfully again near Warkworth. Near Longhorsley a 2-yr old bird seems to have inherited her nest site from her parents; and raised 3 young. Not far away a 5-yr old, that was originally ringed near Fenton, north of Wooler raised 3 young. Jackdaws were unfortunately back with a vengeance occupying many owl nest sites. Because of this troublesome corvid our resident 8-yr old female, originally from Dumfries, nested later than usual in a different site (near Craster) but we were able to ring her two young in August. Close by a 2-yr old had two young which we ringed in June; and then moved to a different box to have another two in August (this was our only known second brood). Tawny Owls did not take over any 'Barn Owl boxes' this year but had a reasonably good year 'swopping' boxes with our rare breeding Goldeneye ducks.

16. Powys Species Habitat Protection Group – Jonathan Sloan

We had a very slow start this year. Not only were we down on the number of successful sites, given 2017 and 2018 were exceptional years (around 30 successful sites), but breeding was late due to the poor winter and lack of food. Given this, brood sizes were unsurprisingly much smaller (2.88 average) and very late. This will mean juvenile birds going yet again into a very wet autumn/winter (bad enough for experienced birds but juveniles will find this particularly difficult).

17. Shropshire Barn Owl Group – Glenn Bishton and John Lightfoot

48 chicks were lost in the nest, possibly due to predation but probably mainly due to starvation as a result of heavy rainfall in June which impeded feeding by the adults of first broods. Several pairs proceeded to have second broods with young in the nest up to late October. Despite the problems, the number of young successfully produced -219- was the third highest for the Shropshire Barn Owl Group in eighteen years of monitoring. 2019 was also a peak breeding season which followed two previous successful breeding seasons, with no evident dip associated with field vole cycles as in some previous years.

18. Somerset NE– Cam Valley Wildlife Group – André Fournier

In some ways the weather this year was similar to 2018, the year of the Beast from the East. Certainly in our area we had very wet windy weather at both the time breeding started and also at the time when the chicks were growing and in need of increasing food supply.

19. Staffordshire Barn Owl Action Group – Roger Lycett

Due to some wet spring weather, monitoring did not properly start until very late June/early July. Initial monitoring found some nest sites with 1 or 2 very well developed young, ages ranging 5 to 8 weeks. This suggested some of these early broods may have had young which had already fledged and left the nest before monitoring. Generally, broods were found to be very healthy indicating there was a plentiful food supply all through the breeding season.

This year's monitoring records show an increase in the total number of active Barn Owl nest sites across Staffordshire, up from 63 to 71. Barn Owl activity was recorded at a further 26 roosting sites. Average brood sizes were up on 2018 from 2.4 to 2.84, eight sites rearing 5 young and three sites rearing 6 young. Eleven eggs were recorded at one site. However, a later visit recorded just 2 healthy young Barn Owls and 9 addled eggs. Only one abandoned nest site was found with 2 eggs, one young Barn Owl found dead on the ground below a nest box and 2 young Barn Owls found dead in a nest box. The Staffordshire Moorlands area again had higher average brood sizes of 3.17, compared with 2.46 in the lower areas of the county. This is probably due to less intensive farming on the higher ground, and large areas of uncultivated moorland providing good habitat for prey and Barn Owls.

20. Suffolk Community Barn Owl Project – Simon Evans

We have 221 boxes of which 96.8% were checked in 2019. We checked 214 sites finding 63 active and an average brood size of 3.02. That's up on the 2018 figures (161; 9; 2.0). So, from what was one of our worst years in 2018 to probably our best in 2019. A huge increase in active pairs that averaged over one extra chick per brood!

Of particular note were the number of second/successful replacement broods. Where these have been few and far between historically, we had at least nine second broods here in west Suffolk alone. Easily the best ever and this seems to have been mirrored across the county. Last broods being ringed in November.

[Editors' note: Steve Piotrowski has largely retired from his involvement in the Suffolk Community Barn Owl Project, after 13 years. We are very grateful to Steve for collating 6,553 observations from nestboxes monitored by various projects between 2013 and 2018. We also take this opportunity to thank Simon Evans for bringing together the SCBOP results for this year's report. Simon has managed the West Suffolk regional team since 2007 and the above comments are based on the 214 nest boxes that were checked in that area during 2019].

21. Sussex Ornithological Society Barn Owl Study Group – Dr Barrie Watson

Some periods of very windy weather and heavy rain may have limited food supplies for the young.

22. Sussex (W) – Sussex Ornithological Society – Graham Roberts

Brood sizes were small, mostly 1-3 chicks, with just one brood of 4 chicks. All were in nestboxes.

23. Ulster Wildlife – Dawn Miskelly

In Northern Ireland, Barn Owls are still very scarce and hard to survey. Unfortunately, despite the huge effort deployed by our dedicated volunteers to check 73 sites, no additional evidence of Barn Owls was discovered during the annual survey. An additional nest site was reported during the year where adults are nesting in a box that was erected five years previously by Ulster Wildlife on a farm in County Down. This means we are aware of three active nest sites currently. Chicks were ringed at all three this summer and a second brood of chicks was subsequently raised at the nest site in County Antrim.

24. Warwickshire – Stour Valley Wildlife Action Group and Brandon Ringing Group – Paul Leadbeater

It has been a good year for us but what the recent weather has caused goodness knows. I suspect that some of the late broods may have been decimated with the constant rain. (There were 6 second broods and a total of 105 young).

[Editors' note: 2019 results are mainly from Stour Valley in south Warwickshire.]

25. Wiltshire – Lewis Raptor & Owl Group – Major Nigel Lewis

A vole year which could have produced record numbers. Severe rain from 6-13 June caused depleted broods and a 15% failure of first broods. More heavy rain from 5-15 August reduced the owlets in second broods but only 2 sites failed. There were 11 pairs that did not breed and 19 singleton adult owls in other locations. In summary, a potentially good breeding year almost wrecked by heavy unseasonal rain.

[Editors' note: Although the Lewis Raptor and Owl Group have been collecting results since 2005, in 2017 there was a change in how they reported their monitoring (please see State of the UK Barn Owl Report 2018). Because this change undermined comparisons with results from previous years, the 2019 Wiltshire results are compared to the average of 2017 and 2018. The same two-year reference is also taken for mean brood size, for the sake of consistency, but if 2005 to 2018 is used instead then brood size in 2019 was down by 3.7%.]

26. Yorkshire – East Riding Barn Owl Conservation Group – Rob Salter

2019 was a very good year for Barn Owls in East Yorkshire because of the good vole year and good weather conditions.

Extra observations from other groups and projects

This year there is additional information from Chris Sperring (Somerset) and Garry Steele (Lincolnshire), who have contributed to the results table before and will hopefully be able to do so again in the future. There are also observations from two new contacts, both of whom are interested in providing figures annually.

Somerset – Hawk and Owl Trust – Chris Sperring

Brood sizes were high early in the 2019 season, but prolonged spells of rain in early Summer caused widespread mortality of owlets and fledging rates were only slightly better than 2018 when they were affected by the two spells of very cold, snowy weather which lasted well into Spring.

Though Barn Owls are heavily reliant on nesting boxes it often takes a year or two, at least, before they take to new boxes, so we are very pleased to have 8 successful nests from our 22 boxes, all of which have been in place for less than 18 months. Barn Owls are actually using 13 of our 22 boxes, either as a nest or roost, which is 59%, so we are expecting even more success in 2020.

The average fledging rate per box has been 2.8 this year, although this is not the end of the story as the long, warm summer enabled two of our pairs to rebuild their condition and are now raising second broods. We also have one pair which started nesting very late in the season and now also have young in the nest.

North Dorset – Conservation Action – Alan Masterton

Trevor Squire and Alan Masterton have been checking between two and six Barn Owl nestboxes between 2015 and 2018. What's more, in 2019 they checked 40 boxes and recorded 24 active nests (60% nesting occupancy). At 3.2, average brood size was also good. Alan provides the following comments: "Certainly for us in North Dorset we had a very good breeding season and we know of at least one pair that had a second brood. This was helped by a dry summer and plenty of voles.

Trevor Squire and myself have been ringing together now since 2011. Trevor has a nature reserve in North Dorset where each year we ring migrants in the autumn, from the 1st of August till October 31st (weather permitting). The rest of the year we focus on some local sites as well. We are also involved with the Woodland Trust locally ringing Tawny Owls in woods owned by them. In the summer we also ring Nightjar and from November the 1st till January the 31st we catch, ring and wing tag Red Kites. Just recently we have created our ringing group "Conservation Action" as we now have a few more members."

Derbyshire – Derbyshire Ornithological Society – Dr Richard Winspear

Dr Richard Winspear is a Field Officer with the Derbyshire Ornithological Society. Sixty-nine Barn Owl boxes were checked, in which 18 sites had a nesting attempt (26% nesting occupancy) and produced a mean brood size of 3.3. We look forward to receiving further contributions to the State of the UK Barn Owl Population report in future years.

Lincolnshire – Gary Steele

Gary Steele is gradually getting back into action following his leg injury in 2018. Having checked seven boxes in 2019, he found three active nest sites and an average brood size of 2.66. He shared this comment with us: "Of those nest boxes supporting breeding barn owls (all checked on a single day on 01 July 2019), in every case the young were in an exceptionally advanced state compared with any previous year, and at one site were already at flying stage." We wish Gary all the best in his recovery...

Previous years: 1995 to 2018

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 that 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 was carried out that same year and this entailed the rechecking of all known roost sites as well as nest sites. 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 2013 Devon Barn Owl Survey 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.

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 with nesting occupancy down by 26% and mean brood size down by 16%. Some quite extreme geographical variation occurred 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.

2016

Sadly, 2016 was another poor year. Data received from 32 monitoring schemes shows that the number of nesting pairs in the UK was 12% 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 good year.

Globally, 2016 was once again the warmest year ever recorded. Here in the UK, winter 15/16 was the third warmest and seconded wettest recorded since 1910. With few exceptions, such as November flooding thanks to Storm Angus, long-duration extreme weather events were not a major feature of 2016. Therefore the observed temporal changes in nesting occupancy and brood sizes were probably more influenced by variations in small mammal abundance than by the weather.

2017

Overall 2017 was a better year. Nesting occupancy was 17% above average and mean brood size 6.6% above average. This positive result coincided with weather that was slightly warmer than average, with marginally lower rainfall. In particular, unusually warm weather prevailed between February and June, when Barn Owl nesting commences. In fact, the Met Office reports that the spring of 2017 “was the equal-warmest on record, with 2011.”

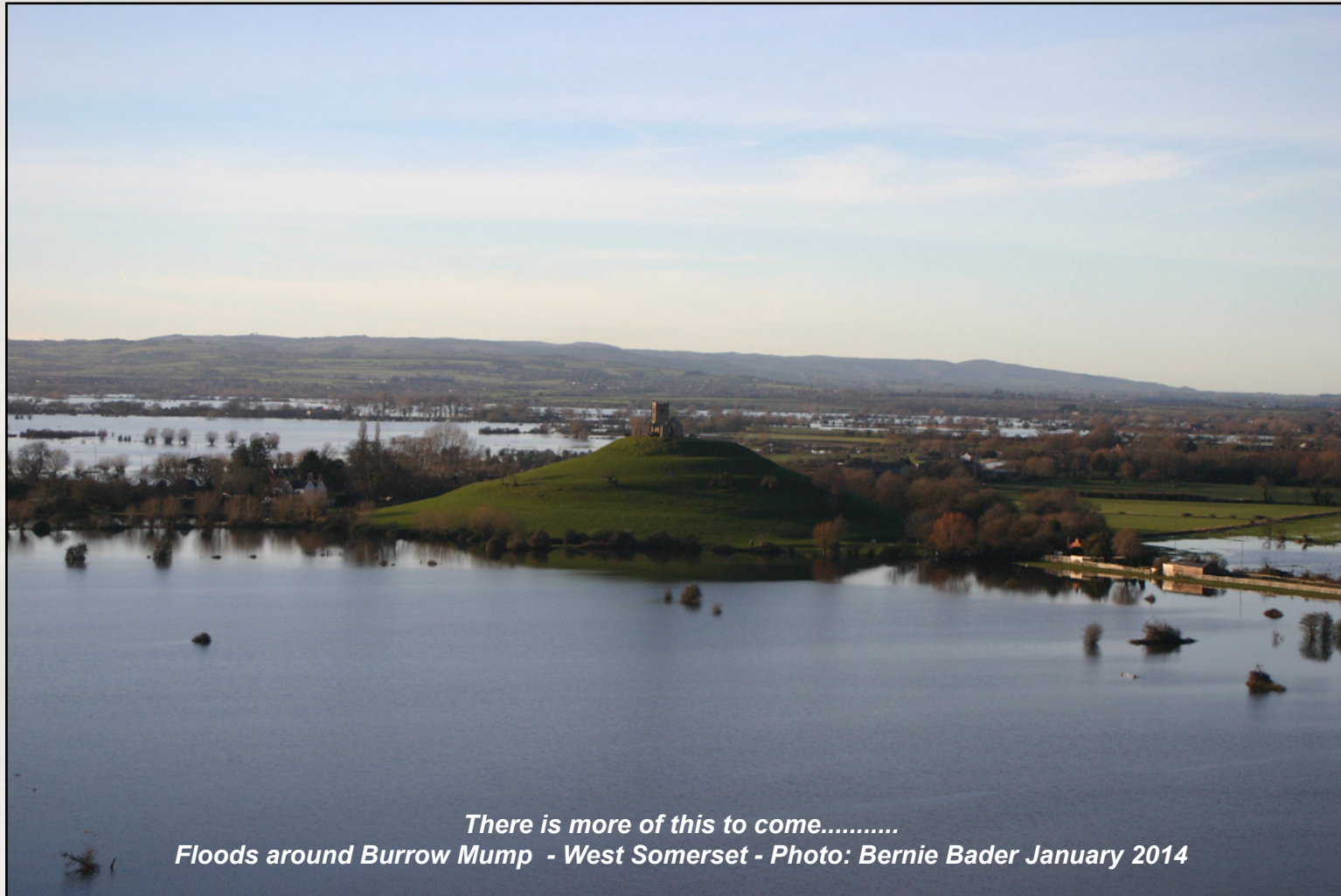
In Northumberland 64% of boxes had active nests in them, as opposed to the previous average of 25%. In the east of the country Norfolk had a notably high nesting occupancy, with 60%, and Suffolk also had a 51% increase on the average of all previous years. These areas also produced relatively higher brood sizes. Further west, Shropshire, Staffordshire and Warwickshire showed nesting occupancy that was 84%, 72% and 77% above average, respectively, and to the south Buckinghamshire reported 53% above average. Unsurprisingly, the trend was not without its exceptions. Poorer results came in from Galloway, Lincolnshire and Glamorgan, where nesting occupancy was 22%, 39% and 30% below average, respectively. Nesting occupancy and average brood size was also lower than average on the island of Jersey and the Isle of Wight.

2018

2018 was a generally poor year for Barn Owls in the UK, with both below-average nesting occupancy (-13%) and brood size (-4.2%). Surprisingly good results from Shropshire (+78%) and Staffordshire (+65%) were swamped by negative reports from widespread groups, particularly northern and eastern England and south Wales. Notably poor nesting occupancy was recorded in Gloucestershire (39% below their average), Norfolk (-39%), Jersey (-40%), Suffolk (-29%), Warwickshire (-28%), and East Yorkshire (-28%).

Heavy rain and high winds in February and March were followed by the infamous 'Beast from the East'– exceptionally cold easterlies that produced temperatures as low as -11 °C in Hampshire on February 28th and snow as deep as 57 cm in Gloucestershire on 4th March. Such adverse conditions almost certainly had an impact on preparations for egg-laying and may have been responsible for the low nesting occupancy.

As if to prove that extreme weather is now 'the new normal', 2018 saw the hottest and driest June since 1910, officially declared as a Heat Wave on the 22nd. Drought and record breaking temperatures that persisted into August might have impacted on average brood size, which was 4.2% below average and 24.6% in Staffordshire. Despite these extremes, Barn Owls in Essex, Shropshire, Powys, and West Sussex had higher than normal values for both nesting occupancy and brood size.



*There is more of this to come.....
Floods around Burrow Mump - West Somerset - Photo: Bernie Bader January 2014*

Record-breaking floods? “You ain’t seen nothing yet!”

Chris Sperring MBE (from the Hawk and Owl Trust) told the BBC that he estimated that floods on the Somerset Levels had led to a 50 – 60% drop in Barn Owl nesting activity in 2013. This winter The Levels were under water yet again, along with almost all major river valleys in the UK during the wettest winter since records began in 1766.

It’s well known that warmer seas evaporate more water causing more extreme rainfall events. But that’s not all they do. As water warms up it expands and gives rise to increased sea levels, further exacerbated by the melting of glaciers and polar ice caps.

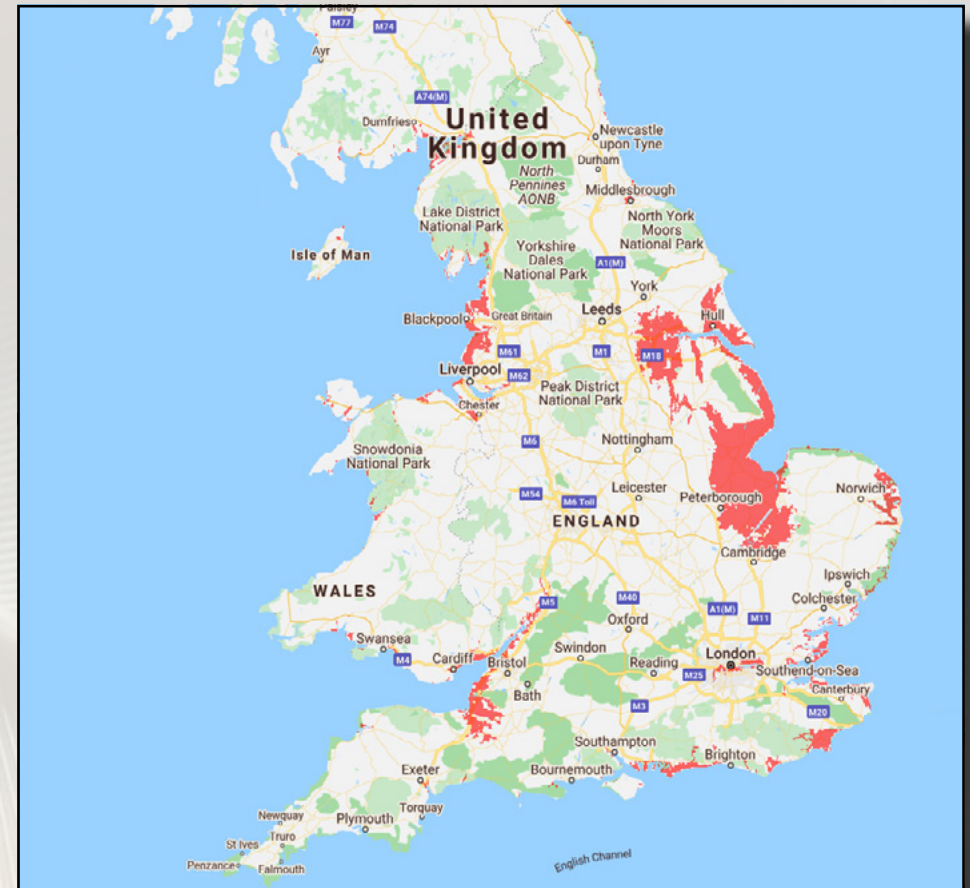
This year, improved land height measurements along with new data on warming and ice loss have allowed scientists to produce new maps showing land that will be annually flooded within the next 30 years. Needless to say, this is not a good time to move to West Somerset or Lincolnshire!

It’s worth noting that these new annual flood maps do not take account of sea defences (which will reduce the impact in some areas) nor do they take account of extreme rainfall events or storm surges (which will sometimes make flooding far, far, worse).

When fresh water floods subside, vegetation regrowth is fast and small mammal populations are relatively quick to recover. But when salt water floods subside, grassland recovery is much, much, slower. Therefore, projections of land below future annual flood level due to rising sea level sounds an alarm bell for Barn Owls occupying lowland coastal areas in South Yorkshire, Nottinghamshire, East Riding, Lincolnshire, Norfolk, Lancashire, Merseyside, Somerset and particularly Cambridgeshire (Climate Central 2020).

Why not look at the map online and zoom in to your local patch?

[Climate Central: Coastal Risk Screening Tool](#)



Predicted annual flood areas that will be witnessed in 2050 (shaded red, please note that the island of Ireland is not shown). The area that will be flooded at least once a year is based on commonly cited medium sea-level-projections and moderate cuts in greenhouse gas emissions (RCP 4.5). The map was produced by Climate Central (2020) and uses CoastalDEM® v1.1 data.

Further information

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Links

Berkshire	Middle Thames Ringing Group West Berkshire Countryside Society Barn Owl Group
Buckinghamshire	Bucks & Owl Raptor Group
Cheshire	Cheshire Barn Owl Groups
Cornwall	West Cornwall Ringing Group
Derbyshire	Derbyshire Ornithological Society
Devon	Barn Owl Trust
Essex	Essex Wildlife Trust
Galloway	Scottish Raptor Study Group
Glamorgan	Glamorgan Barn Owl Group
Gloucestershire	Gloucestershire Raptor Monitoring Group
Jersey	Jersey Barn Owl Conservation
Lincolnshire	Gary Steele
Manchester	Manchester Raptor Group
Norfolk	NW Norfolk Ringing Group - John Middleton
Northern Ireland	Ulster Wildlife
Northumbria	Nat. Hist. Soc. of Northumbria Hancock Mus. R.G.
Powys	Powys Species Habitat Protection Group
Shropshire	Shropshire Barn Owl Group
Somerset	Cam Valley Wildlife Group Hawk and Owl Trust
Staffordshire	Staffordshire Barn Owl Action Group
Suffolk	Suffolk Community Barn Owl Project
Sussex	Sussex Ornithological Society

