

**REVISED PLAN APRIL 2022****BARN OWL**
*Tyto alba***1. INTRODUCTION**

The ghostly white form of a barn owl searching hedgerows, ditches and rough, grassy fields for small mammals was once a familiar sight in Warwickshire. As agriculture intensified, however, many such habitats disappeared and the barn owl vanished with them. The barn owl's widespread decline has been attributed primarily to this change in the landscape, with pesticides and road mortality as further negative factors. Development, especially the conversion of barns into residential property, has also contributed to the barn owl's decline by reducing the number of sheltered nest sites within buildings, especially old hay barns.



© Steven Falk

The food supply and feeding habitats of the barn owl are crucial to its success. It relies heavily on small mammals (e.g. voles and shrews) for much of its food and these are most abundant in open areas of rough grassland, or fields with wide, rough grassy margins. The barn owl also requires fence posts, dense hedgerows or hedgerow trees for perches. Being a specialist small mammal feeder, its presence is a good indication that the area is also a rich habitat for a range of small mammals and other animals.

Eggs are laid from March or early April and the clutch size is normally four to seven, but may be larger when food is especially abundant. Currently single-brooded in the UK, but two broods are possible in years of plentiful food. Juvenile mortality is always quite high, with 75-80% surviving less than one year. The barn owl requires several roost sites, as the male roosts away from the female during the breeding season. The female herself may also roost away from the nest site once the young are about a month old. Barn owls reuse their nests in successive years.

Research funded by the [Barn Owl Trust](#) (2006) showed that barn owls are primarily associated with lowland areas of arable and horticultural usage but also occur in pastoral habitats. It is unlikely that they hunt directly where crops are grown or where livestock are grazed but lowland landscapes indirectly provide hunting opportunities in the form of prey-rich rough grass margin habitats. It is estimated that in arable landscapes 14- 21ha of rough grassland is required within 2km of a nest site, in pastoral landscapes 31-47ha and in mixed landscapes 17- 26ha.

2.	OBJECTIVES	TARGETS
Associated Action Plans are: 'Grasslands' (all types), 'Rivers & Streams', 'Field Margins', 'Hedgerows', 'Open Mosaic Habitats on Previously Developed Land', 'Quarries & Gravel Pits', 'Churchyards & Cemeteries' and 'Roadside Verges'		
PLEASE CONSULT THE ' GENERIC SPECIES ' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR OBJECTIVES COMMON TO ALL SPECIES PLANS		
A.	To maintain the breeding range at its 1972 level of 90% of 10-km squares.	ongoing
B.	To increase the size of the breeding population to 175 pairs. Target increased from 100 pairs in view of 141 pairs known to be breeding in 2020.	2030
C.	To increase the extent of suitable barn owl habitat to 5000ha. Target increased from 4000ha in view of the restoration and expansion of grassland habitats since 2011.	2030

3. NATIONAL BAP OBJECTIVES & TARGETS

The barn owl is not a UK Biodiversity Action Plan (BAP) Priority Species ([JNCC](#), 2007).

4. CURRENT STATUS

The barn owl is the most widely distributed land bird in the world. In Europe, its conservation status is unfavourable and 75% of the population is concentrated in the UK, France, Germany, Italy and Spain.

In Britain, it has been moved to the [Green List of Birds of Conservation Concern](#) (2015); it was previously on the Amber list, having shown a decline of 25-49% in its breeding range. However, the population decline had largely been halted by the late 1990s and was reported as steady by 2002 (Mead). From the [Breeding Bird Survey](#) data collected between 1994 and 2012, the barn owl breeding population was estimated to be up 5% since 1968/72. The abolition of set-aside in 2008 also affected the barn owl though was addressed to some extent by the establishment in 2009 of the [Championing the Farmed Environment](#). According to the Barn Owl Trust (BBC Countryfile, 2021), the UK population has tripled in the last 30 years with 75% of pairs now breeding in boxes.

Past surveys in Warwickshire recorded barn owls in 46% of 10-km squares in 1966-68, 90% in 1968-72 and 50% in 1988-91 but it seems likely that the first figure was under-recorded, with a real decline between the early 1970s and the early 1990s.

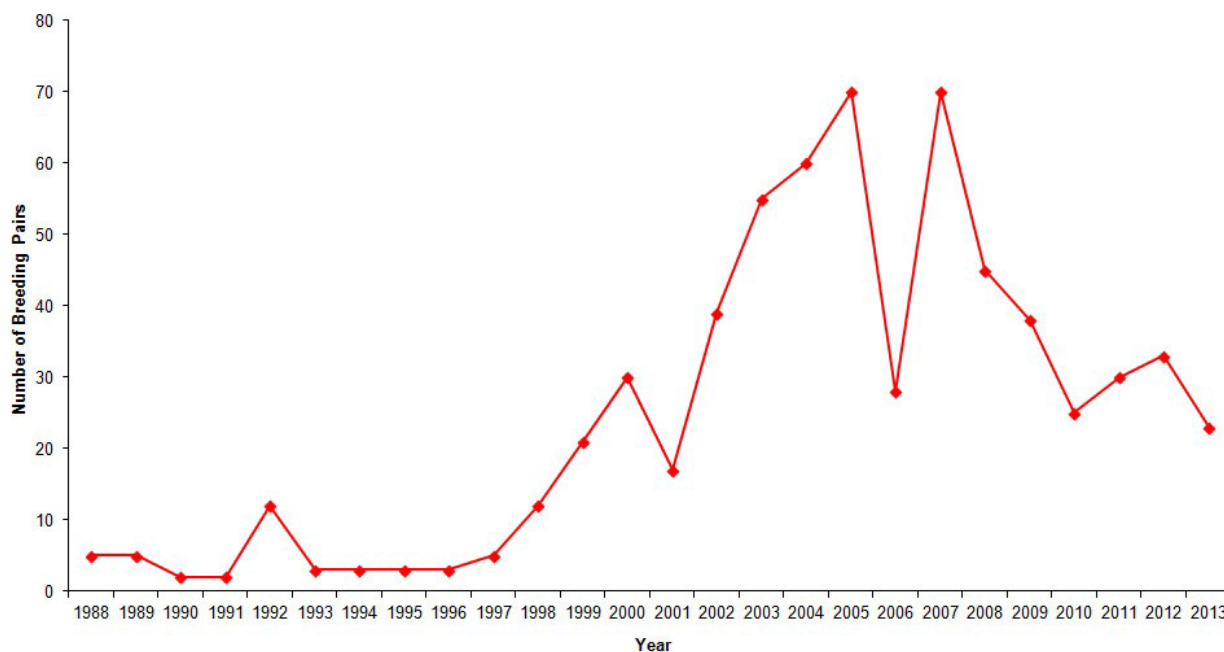
Estimating numbers is complicated because the population fluctuates with the cycles in voles but it seems likely that the county held around 50 ([Hawk and Owl Trust](#) survey) breeding pairs during 1982-85, compared with 200 in 1932. The range then contracted and numbers plummeted, but there has since been some recovery, aided in part by positive land management.

In 2000 the population was estimated at around 40 pairs, with the vast majority in south Warwickshire. However, after an impressive increase in the number of breeding birds

Warwickshire, Coventry and Solihull Local Biodiversity Action Plan

recorded by the [West Midland Bird Club](#) (WMBC) from the mid-1990's to 2005-7, with an estimated 100-150 territories, numbers seemed to be falling back to 2000 level numbers (see graph below, Smith, 2016).) It is possible that this was due to an under reporting or could indicate a genuine slump in the population. According to the Barn Owl Conservation Network, 2013 was the poorest breeding season for barn owls in Britain since 1958 (Smith, 2014) with the species hit hard by the cold and snow lying for several weeks.

Graph illustrating the number of breeding Barn Owls in Warwickshire between 1988 and 2013.
Data collated from WMBC Annual Reports (WMBC)



However, 2014 was a very good breeding season with many of the 59 breeding pairs having second broods, and only 6 non-breeding pairs, in less than 15% of the potential barn owl habitat in S. Warwickshire. In 2015 breeding was poorer, with no second broods and only 29 known breeding pairs (WMBC).

2018 was another poor year when many pairs did not breed and only 65 pairs were found breeding in boxes. When pairs decide not to breed, they do not always visit the breeding site and therefore the absence of birds at a box does not mean that the territory is vacant. This highlights the fact that to obtain a reasonable estimate of the local population a survey needs to cover a year when the vole population is high and the majority of pairs will be breeding (R. Juckes, *pers.comm.*2020).

2019 was a very good year with 141 breeding pairs found nesting in boxes. Although the number of breeding pairs is cyclical in response to weather and vole numbers, and 2020 was bad year for voles (and because coronavirus restrictions meant a late start to monitoring), it is believed that the county could support 175-200 breeding pairs and that 90% of 10km squares are occupied (Chris Hill, *pers.comm.*2021).

The minimum areas of rough grassland in sub-region (from HBA data, 2011) was 2966.87 ha, which included scattered scrub, unimproved acid, neutral and calcareous grassland, marshy grassland, wet meadows, field margins, and quarries. It did not include semi-improved grasslands, though a proportion of these may also be 'rough grassland'. Figures for 'Roadside Verges', 'Disused Industrial & Railway Land' and 'Churchyards & Cemeteries' are not available (2012). A current figure for the area of rough grassland is not yet

Warwickshire, Coventry and Solihull Local Biodiversity Action Plan

available but will include the considerable restoration and expansion of our unimproved and semi-improved grassland habitats since 2011 (Ruth Moffatt, 2021).

4.1 Legal and Policy Status

A wide range of species and habitats are protected under international and domestic laws, including the [Wild Birds Directive](#) (1979), the [Wildlife and Countryside Act](#) (1981), the [Conservation Regulations](#) (1994) and [EC Habitats Directive](#) (1992). Protection of sites is afforded nationally through [Sites of Special Scientific Interest](#) (SSSI) designation, [Special Areas of Conservation](#) (SAC) and [Local Nature Reserve](#) (LNR) statutory status. Other sites are offered recognition of their value through Local Wildlife Site status (LWS), Local Character Areas and identified Landscape Scale Areas. The [National Planning Policy Framework](#) (2021) paragraph 180 states conditions with regard to any development negatively affecting biodiversity, including protected sites, ancient woodland and other irreplaceable habitats. The Wildlife & Countryside Act and schedule 2 of the [Conservation of Habitats & Species Regulations](#) (EU exit, 2019) make it an offence to intentionally kill, injure, take, possess, sell, buy or transport a range of species.

The barn owl is protected under the Wildlife & Countryside Act and is listed in the [EC Birds Directive](#) and under Appendix II of the [Bern Convention](#).

4.2 Current Factors Affecting the Species

The barn owl is a specialist feeder on small mammals, mostly voles, mice and shrews, and is restricted to open areas of rough grassland, field margins, ditches, hedges, riverbanks and the edges of woods. Most nest and roost in farm buildings, though some resort to cavities in trees or even church towers. Barn owls do not survive well in cold, wet or windy weather and prolonged or heavy rainfall and snow cover that restrict their hunting ability. These factors, coupled with the characteristic population cycles of their main prey species, the field vole, can dramatically affect breeding success.

The main threats to the barn owl have been:

- **Loss and fragmentation** of rough grassland.
- **Loss of nest and roost sites** through the demolition of old barns or their conversion into dwellings and also the felling of old trees for safety reasons.
- **Possible poisoning by rodenticides:** these may be consumed by eating contaminated small mammals.
- **Road mortality** through increasing traffic volumes and speed; birds being forced through loss of other habitat to hunt roadside verges.
- **Changing climate** with the recent increase in flooding perhaps reducing populations of small rodents and thereby increasing barn owl mortality. Prolonged wet weather is a continued threat.
- **Disappearance of stack yards and straw-bedding**, which were important sources of prey, especially in hard weather.

Warwickshire, Coventry and Solihull Local Biodiversity Action Plan

5. LOCAL ACTION

- The Warwickshire Breeding Bird Tetrads Atlas provided data on the species in parts of the county until 2006 when survey work ceased (Jon Bowley, *pers.comm.* 2012).
- The presence of barn owls is taken into account in the determination of planning applications (Warwickshire County Council (WCC)).
- Two projects c.2005, one on the River Leam and the other on the Rivers Blythe, Anker and Tame, aimed to enhance farmland habitats for a variety of species including barn owl.
- Advice to landowners/managers, by organisations such as RSPB and the Hawk and Owl Trust, on land management for barn owls, has encouraged them to take up [agri-environment schemes](#) administered by Natural England to increase the area of rough grassland for hunting barn owls and provide beetle banks. As of June 2020 options relevant to barn owls would appear to be :
 - in the Mixed Farming and Arable offers, Category 3: additional resources and habitats for specific species: HS1-maintenance of weatherproof traditional farm buildings and AB3 - beetle banks.
 - In the Lowland Grazing offer, Category 2: nesting and shelter for insect pollinators and birds: GS1-taking field corners out of production and Category 3: additional resources & habitats for specific species: HS1-maintenance of weatherproof traditional farm buildings.
- Nest-boxes have been erected in many parts of the county:
 - The [Environment Agency](#), Hawk and Owl Trust and WMBC have also erected several boxes along the Trent, Sence and Tame valleys in Staffordshire.
 - Campaign for the Farmed Environment (2015) held an event at Southfields Farm, Coleshill, with [Tame Valley Wetlands](#) covering tussocky grass field margins and hunting for voles; as a result 15 barn owl boxes were erected in 2016.
 - The [Brandon Marsh Voluntary Conservation Team](#) (BMVCT) began installing Barn Owl nest boxes in 2007; in 2014 there are now 8. Immediately the first boxes were installed owls bred for the first time at Brandon for many years and since then in some years two pairs have bred with 42 young owls being ringed by a licensed ringer. The lack of breeding in 2013 is thought to be because of the long cold winter 2012-13 and also maybe a poor vole year.
 - In 2009, 26 barn owl boxes were distributed throughout the Stour Area, funded by Stratford District Council and Stour 2020 Vision group, and are monitored by a [British Trust for Ornithology](#) (BTO) licensed person.
 - The [Canal River Trust](#) has installed 3 nest boxes at Nelson Wharf (2015) as part of their 'Natural Asset Management Strategy'.
 - [Warwickshire Wildlife Trust](#) (WWT) has installed 10 boxes in the north of the county. 30 of the Trust's sites have substantial areas of grassland managed to some extent as hay meadow grassland through a cutting and grazing regime, giving c.3ha of rough grassland for barn owls.
 - RSPB: installation a few boxes at Middleton Lakes.
- Monitoring of barn owls in South Warwickshire is carried out by two organisations, checking 480 boxes in all in 2021:

Warwickshire, Coventry and Solihull Local Biodiversity Action Plan

- the South Warwickshire Barn Owl Survey (SWBOS,) formed in 2011, monitors nest boxes in the 10km squares SP06, SP16, SP17, SP26, SP27, SP36, SP46 and SP56.
- the Stour Valley Wildlife Group (SVWG), founded in 2010, works with landowners to install boxes, the number of boxes increasing from 40 in 2013 to 107 in 2019, located in 10km squares SP23, SP24 and SP34.
- nest boxes are now located in approximately 30% of the 1km squares in South Warwickshire that are deemed suitable (i.e. 1km away from main roads and excluding major built-up areas or corridors adjacent to motorways and trunk roads)
- the figures in the table below for 2011- 2019 include both SWBOS and SVWG boxes:

Year	Breeding pairs	Young ringed	Pairs not proved to breed	Single birds	Nest boxes
2019	141	524	2	8	446
2018	65	101	26	22	415
2017	114	241	12	5	365
2016	91	226	6	6	294
2015	29	58	24	15	259
2014	58	254	2	2	192
2013	18	32	7	5	152
2012	30	72	1	2	100
2011	16	67	2	4	61

- [Arden Farm Wildlife Network](#) (AFWN)
 - 2018: had funding for permanent brick barn owl towers at least 3km away from the line as part of the environmental mitigation for HS2.
 - 2020: began a project in North Warwickshire that has installed nest boxes at half a dozen estates and farms around Coleshill, Maxstoke, Marston Green, Shustoke and Atherstone. Boxes are now monitored by Ross Johns (*pers.comm.* 2022) who also assists a barn owl ringing team that operates around Rugby and the Warwickshire / Northamptonshire boundary.

6. PROPOSED LOCAL ACTIONS

ACTION	Lead	Partners	By
PLEASE CONSULT THE '<i>GENERIC SPECIES</i>' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR ACTIONS COMMON TO ALL SPECIES PLANS			
Policy, Legislation & Protection			
PL1. Raise awareness of the HSE statutory rules and guidelines on the use of second- generation anticoagulant rodenticides.	NE	WWT RSPB	ongoing

Warwickshire, Coventry and Solihull Local Biodiversity Action Plan

ACTION	Lead	Partners	By
PLEASE CONSULT THE '<i>GENERIC SPECIES</i>' ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR ACTIONS COMMON TO ALL SPECIES PLANS			
Site / Species Safeguard & Management			
SM1. Continue to install nest-boxes where the habitat is suitable but birds are absent, prioritising efforts around known existing breeding sites in South Warwickshire.	SWBOS	NE BCW WMBC LOs BTO WWT SVWAG	ongoing
SM2. Continue to expand the nest box scheme in Central and North Warwickshire.	AFWN	WWT LOs WMBC RJT ARG RSPB	ongoing
SM3. Protect and re-establish rough grassland, particularly along field margins, watercourses and woodland edges, creating networks of linked corridors for hunting, e.g. through agri-environment schemes, to increase the 2011 figure of 2966.87ha to 5000ha.	NE	WWT WCC HBA LOs SRNBG	2030
Advisory			
A1. Alert landowners and users to presence of breeding and wintering barn owls.	WBRC	WMBC NE WWT LWSP	ongoing
Research & Monitoring			
RM1. Establish effective monitoring of range and population, including results from nest box schemes, and training of bird ringers.	WMBC	#WCC WWT SVWAG ARG	ongoing
RM2. Monitor and record the breeding success rate, keeping a database of landowners implementing action for barn owl conservation.	SVWG	WWT NE WCC	ongoing
Communication, Education & Publicity			
CP1. Promote good land management practice for barn owls at one demonstration site in Warwickshire.	NE	RSPB WWT AFWN LOs SVWG	ongoing

Abbreviations: **AFWN** – Arden Farm Wildlife Network, **ARG** – Arden Ringing Group, **BTO** British Trust for Ornithology, **BCW** – Butterfly Conservation Warwickshire, **HBA** - Habitat Biodiversity Audit partnership, **NE** – Natural England, **LNPIG** – Local Nature Partnership Implementation Group, **LOs** – Landowners, **LWSP** – Local Wildlife Sites Project, **RJT** – Ross John's Team, **RSPB** – Royal Society for the Protection of Birds, **SRNBG** – Sun Rising Natural Burial Ground, **SVWG** – Stour Valley Wildlife Group, **WCC** – Warwickshire County Council, **WMBC** - West Midland Bird Club, **SWBOS** – South Warwickshire Barn Owl Survey, **WWT** – Warwickshire Wildlife Trust.

7. PROGRESS WITH ACTIONS

From 2015–2020 there was a rolling programme of reporting on progress, of 10 action plans per year with an annual summary of results. Progress with this plan up to 2015 can be seen at <https://www.warwickshirewildlifetrust.org.uk/LBAP>

8. BIBLIOGRAPHY

Lord, J. and Munns, D.J. (1970). Atlas of Breeding Birds of the West Midlands. London.

Cramp, S. (Ed.) (1977-93). Handbook of the Birds of Europe, the Middle East and North Africa: the birds of the Western Palearctic. OUP, Oxford (7 volumes).

Bunn, D.S., Warburton, A.B. and Wilson, R.D.S. (1982). The Barn Owl. Poyser, Calton, Staffs.

Harrison, G.R. (Ed), Dean, A.R., Richards, A.J. and Smallshire D. (1982). The Birds of the West Midlands. West Midland Bird Club, Studley.

Tucker, G.M. and Heath, M.F. (1994). Birds in Europe: their conservation status. Cambridge. BirdLife International (BirdLife Conservation Series no.3)

UK Biodiversity Steering Group (1995). Biodiversity: The UK Steering Group Report, Volume 2: Action Plans. HMSO, London.

Mead, C. (2000). The State of the Nation's Birds. Whittet Books, Stowmarket.

Askew, N. (2006) Identifying priority areas for barn owl conservation in Britain - How much habitat does a pair of barn owls need? Ph.D. research project, University of York.

Lawton, J.H. (2010) [Making Space for Nature](#): a review of England's wildlife sites and ecological network. Report to Defra, advocating a landscape-scale approach guided by four key principles, summarised as '*more, bigger, better and joined*'.

DEFRA (2011) [Biodiversity 2020](#): A strategy for England's wildlife and ecosystem services.

BTO (2013) [Bird Atlas 2007-11](#): The Breeding and Wintering Birds of Britain and Ireland - a comprehensive overview of bird distribution and change in Britain and Ireland, giving national level trends which will place local issues in the national context.

Smith, M.C. (2014) Update on the status of Bird Local Biodiversity Action Plans in Warwickshire. 'Wild Warwickshire' Wildlife Information & Consultancy.

RSPB, BTO & Wildlife & Wetland Trust (2014) [The State of the UK's birds](#) - the theme is migrants, a group showing some of the most dramatic population changes in the last few decades.

BTO (2014) The latest [Bird Trends](#) report, bringing together the latest BTO survey data for 120 breeding bird species across Britain & Ireland; long-term population trends for each species are presented by country and by habitat.

Smith, M.C. (2016) Updated analysis of Local Biodiversity Action Plan Bird Species, 2013-14.

RSPB (2016) [State of Nature](#) – a stocktake of all our native wildlife by over 50 wildlife organisations.

Natural England (2016) [Conservation Strategy for the 21st Century](#). Sets out how NE will help deliver DEFRA's ambitions for the environment to reverse biodiversity loss, sustain distinctive landscapes and enhance engagement with nature.

Warwickshire, Coventry and Solihull Local Biodiversity Action Plan

Worldwide Fund for Nature (2018) [The Living Planet Report](#): aiming higher
Published in collaboration with the Zoological Society of London.

RSPB (2021) [Birds of Conservation Concern 5](#) : the population status of birds in the United Kingdom, Channel Islands and the Isle of Man.

9. FURTHER INFORMATION

Habitat Biodiversity Audit (HBA) for Warwickshire, Coventry & Solihull – mapping data set and associated information. Phase 1 ([JNCC](#)) 1996-2002 and Phase 2 (Local Wildlife Sites) ongoing.

The lack of annual population change data for this species is now being addressed by the BTO, [Barn Owl Monitoring Programme](#), which began in 2000; additional nest record, ringing and biometric information is also being collected through this scheme (Leech et al. 2003).

Natural England: [Barn owls and Rural Planning Applications](#): What needs to happen. A Guide for Planners.

RSPB [Management Guide to Birds of Lowland Farmland](#)' (2005) and [Farm Wildlife Handbook](#) (2007) [Birds of Conservation Concern](#) (2009) [Advice for farmers](#) and leaflets on 'The barn owl' and 'Barn owls and the law'.

'[Barn Owls on Site – a Guide for Developers and Planners](#)(2002)', published by the Barn Owl Trust and English Nature – now [Natural England](#) - is supplied to every Local Authority in the UK and contains a set of recommendations for changes in planning policy.

Barn Owl Conservation Network: Sheepdrove Organic Farm, Warren Farm, Lambourn, Berkshire, RG17 7UU.

10. CONTACT

Roger Jukes, South Warwickshire Barn Owl Survey, in partnership with the Stour Valley Wildlife Action Group. Email: rogerjukes24@btinternet.com