

SUFFOLK LOCAL BIODIVERSITY ACTION PLAN

Barn Owl (*Tyto alba*)

The Barn Owl was voted as the most loved of all British birds in a poll organised BBC Wildlife magazine. However, it has declined markedly in Suffolk and elsewhere since the 1930s. It enjoys protected status under Schedules 1, 3 and 4 of the Wildlife and Countryside Act 1981 and appears on the "Amber List" of Birds of Conservation Concern. Currently, Barn Owls are virtually restricted within Suffolk to the eastern half of the county, with the highest densities in the northeast. Its decline has been attributed to a lack of feeding opportunities and nest sites. Dutch Elm disease has resulted in the loss of many large hollow trees and the demolition and conversion of barns has had a detrimental effect.

1. Definition

The Barn Owl was once a relatively common bird of lowland farmland, hunting at dusk over rough grassland, which supports its main prey, the Short-tailed vole. The numbers of Barn Owls have declined since the 1930s, and the availability of suitable nest and roost sites are crucial to maintain the species successfully in an area. The Barn owl, with its evocative ghostly form, is an important flagship species for encouraging the maintenance and creation of rough grassland habitat.

2. Current status: national, regional, and local

Barn Owls were once a common feature of farmland and other rough grazing but have suffered a severe decline since the 1930s, with the population estimated in the late 1980s at less than half of that recorded formerly. The 1988-91 Atlas of Breeding Birds indicated a UK population of 1,110 breeding pairs and a decline of 37.5% in Britain since the 1968-72 survey. However, it recognises that the species is particularly difficult to survey and that its numbers show considerable annual variation, related to the three-year cycle of its main food supply, voles.

The Suffolk Bird Report describes the Barn Owl as a "*fairly common resident*". In the early years of the 20th century, the Barn Owl was generally well distributed throughout the county and was the commonest of the owls. Up until 1945, it was a familiar sight on most Suffolk farms, but numbers fell sharply thereafter and, in the mid-1970s, it was recorded from only 40 parishes. Using the same criteria as that for the 1988-91 Atlas of Breeding Birds, Suffolk's breeding population stood at around 100-125 pairs, which represents about 10% of the national population (estimate can be inputted onto BARS - status trends and losses. However, the latest estimates for the UK were 4,000 pairs (Baker *et al.* 2006) and, extrapolating down, means that the County population could be over 400 pairs. The Suffolk Ornithologists Group's (SOG) Raptor and Owl survey of 1995-1998 recorded Barn Owls in 187 tetrads, including 50 reports of breeding. This, together with the records of the Suffolk Bird Report, suggests that its numbers are currently stabilising and possibly increasing in

some areas. The most striking feature of the recent years is the concentration of the species in the northeastern part of Suffolk, most markedly along the Waveney Valley and the coastal belt. Records indicate its total absence from large areas of west and central Suffolk.

The Barn Owl is additionally protected under Schedule 1 of the Wildlife and Countryside Act (1981), which makes it an offence to disturb the birds or their dependent young at the nest.

The Barn Owl is on the "Amber List" of Birds of Conservation Concern.

Although the Barn Owl is not a national UK BAP species, it has been identified as a Suffolk character species as Suffolk holds 10% of the UK population and because of the rapid decline of the Suffolk population from the 1940s to the 1980s.

3. Current factors affecting Barn Owls

Loss of feeding opportunities:

The Barn owl is dependent on rough grassland for its prey. The favoured prey, Short-tailed Vole, Wood Mouse and Common Shrew, require rank or rough grassland with a thick sward and deep litter layer. Although large areas of such grassland, for example old parkland and coastal marshes, are valuable, it is the unmanaged grassland of field margins associated with open ditches and hedgerows that are particularly important. Such areas need periodic management to prevent scrub invasion.

Agricultural intensification has reduced the extent and quality of prey-rich habitat. Within Suffolk 96% of unimproved grassland has been lost since 1939. More intensive management of field margins, watercourses, hedgerows, woodland edges and roadside verges has also been a factor in reducing the availability of feeding habitat.

Improved methods of crop storage have reduced the availability of rats and mice, a winter food source.

Fragmentation of feeding habitats:

Fragmentation of feeding habitat, with a lack of linking corridors of suitable grassland, is detrimental to post breeding dispersal. The intensive agricultural character of much of central and western Suffolk may limit opportunities for the species to spread from its relative stronghold in the northeast.

Loss of nest and roost sites:

Rural development, especially barn conversions, is seen as an important factor in the decline of the Barn owl. Regulations requiring the exclusion of birds from buildings used for the production of foodstuffs may also reduce the availability of nest and roost sites.

Although Suffolk Barn Owls may find a suitable ledge or crevice within a barn or outbuilding, they predominately nest in hollow trees. With heavy rainfall less of a threat to owlets than in other parts of the country, 70% of nesting Barn Owls choose

tree sites in preference to any other, which is twice the national average. Old, isolated trees in pastures, parkland or hedgerows and remote from disturbance are used, with the nest in the main trunk or near the crown of pollards. Oak, English Elm, Ash and Willow are most favoured. The loss of such trees through disease, old age or removal for economic or safety reasons, limits the available nest sites.

Competition for tree cavity nest sites:

Barn Owls face competition from other hole-dwelling species, most notably Kestrels, Tawny and Little Owls, Jackdaws, Stock Doves and Grey Squirrels. On the Lothingland peninsula, this problem has been exacerbated by the high density of feral Egyptian Geese that often choose hollow trees as nest sites early in the breeding season. Although Barn Owls are able to tolerate most species, and will often share the same cavity, it cannot compete with Egyptian Geese or with the traffic of Jackdaws when raising their nesting platform by bringing in sticks.

Poisoning:

There is concern nationally over owl poisoning resulting from owls eating rodents, which have fed on pesticide sprayed cereals or second generation rodenticides (eg brodifacoum, flucomafen). However, harmful poisons used by farmers are usually administered through ignorance rather than with malicious intent.

Disturbance:

Suffolk barns are mostly unsuitable for breeding Barn Owls and many, which do choose to nest inside a building, tend to use bale stacks. These nests may become vulnerable in spring as the bales are removed and are prone to predation by rats and cats.

Predation:

The Barn Owl has few natural enemies and although, historically, its main predator was Man, this no longer remains a serious threat. Barn Owls hunting at night have little competition with other nocturnal hunters, but those out at twilight often attract the attention of local Kestrels who may “mug” the Barn Owl of its meal. The Goshawk is a more common avian predator elsewhere in Britain, but it is so rare in Suffolk that it does not pose a threat. Mink, Stoat, Weasel and Brown Rat have also been implicated in studies on mortality and, in all cases, involved incubating or brooding Barn Owls in vulnerable situations, usually low down or on the ground in hollow stumps and in fallen trees (Shawyer 1998).

Severe Weather:

Prolonged periods of snow cover will have a detrimental affect as prey remain below the snow blanket. This may have the affect of forcing Barn Owls to increase their foraging area and hunt roadside verges where they become susceptible to road kills. Female Barn Owls need to gain weight rapidly from February onwards if they are to commence egg-laying at the optimal time in April or May. Studies have shown that Barn Owl numbers are at their lowest when snow duration is greatest.

Continuous rainfall can also affect breeding success. Barn Owls are soft plumaged birds and their feathers can easily become wetted thus reducing their hunting ability.

Food supply:

The vole cycle peaks every 3-4 years and the availability of voles is critical to the fledging success and brood size of the Barn Owl. The Short-tailed Vole and the Common Shrew are the two most important prey species for the Barn Owl, but Bank Voles, Wood Mice and Pygmy Shrews are also commonly taken. During poor vole years, Moles and juvenile Brown Rats are also taken.

Traffic Kills:

Ringing data has shown that more Barn Owls die as a result of road traffic accidents than from any other cause. Construction of new roads and extra traffic has led to increased mortality of Barn Owls, though local information is limited. There are many minor roads that act as "rat runs" for people hurrying to and from work during early mornings and late evenings, at a time when Barn Owls are hunting. Barn Owls are naturally attracted to roadside verges as they form rich hunting grounds in areas where there are limited feeding opportunities on adjacent fields.

Drowning:

The second most common cause of mortality is drowning usually in water troughs and thought to be the result of Barn Owls plunging at their own reflection. Once in the water, their feathers soon become waterlogged and the owls are then unable to force their way out.

Lack of co-ordinated effort:

Although a number of studies are being carried out by Barn Owl enthusiasts in Suffolk, most are in isolation to each other and there is little co-ordinated effort. Some surveyors fail to forward records to the SBRC, which could result in the loss of the site through the ignorance of developers.

Lack of confidence with data security:

A significant number of landowners will only allow the erection of nest boxes and/or monitoring to take place if total secrecy is maintained. There are worries that the whereabouts of the site may attract the attention of birdwatchers, however well-meaning, who may cause unnecessary disturbance to the nest. Other landowners are much more cynical, fearing that any development potential to farm buildings may be hampered by the presence of nesting Barn Owls. Some surveyors are also suspicious as to how secure data is stored and its availability to outside bodies. Biological Records Centres do sell Barn Owl data to consultants, acting on behalf of developers, as a means of protecting the site and to allow mitigation work to be carried out prior to development.

Differing approaches by Planning Enforcement:

There is an apparent variation in the approach to Barn Owl surveys prior to potential development. Some Local Authorities insist on owl assessments being completed for all development in rural areas and others only if owls are suspected of nesting.

4. Current action

Managing land to increase feeding opportunities:

Farmers are being encouraged to enlist into agri-environment schemes and to provide six-metre buffer zones for improved feeding opportunities for the Barn Owl and other BAP species.

Increasing roost sites:

The Suffolk Wildlife teams are currently planning to erect 500 nest boxes within the county during the five-year period of 2006-2010. Up to 1st September 2006, a total of 120 sites have been identified for nest boxes and 31 have been erected from the 74 made (these figures will be revised as are currently manufacturing and erecting approximately three boxes/week).

Reducing poisoning:

An RSPB pamphlet on the Barn Owl is readily available which details harmful and less harmful pesticides.

Traffic issue:

As an action from the Farmland HWG, the feasibility of erecting "Quiet Lane" signs in areas that hold a high density of Barn Owls, is being explored with the Highway Authority.

Reduce disturbance/predation:

Farmers with owls nesting in bale stacks are being persuaded to erect nest boxes to minimise the risk of accidental disturbance and predation.

Enhance co-ordinated effort:

Most nesting sites are monitored and records sent to County Bird Recorders. The barn owl BAP is aiming to co-ordinate effort through SWT with the BAP partners to this plan. This will also ensure reporting of records to the Suffolk Biological Records Centre to provide county wide data and accurate data for Local Planning Authorities.

A seminar will take place at BTO HQ (4th November 2006) to which all Barn Owl specialists are invited. One of the main aims of the seminar is to co-ordinate all studies.

5. Targets

Target type	Definition	Reporting
Range	<p>In 2006, the Barn Owls breeding range was virtually restricted to NE Suffolk with most pairs frequenting the river catchments of the Waveney, Hundred and Blyth. There were also some isolated pairs on the Alde/Ore and the upper reaches of the Deben, Stour and Lark.</p> <p>By 2010, the Barn Owl's range should be consolidated with densities increased in NE Suffolk. Its range should expanded from its current tenuous footholds away from coastal regions.</p> <p>By 2015, the Barn Owl's range should be further consolidated and densities increased throughout East Suffolk and parts of West Suffolk (e.g. Breckland) with all suitable habitats being utilised by breeding pairs.</p> <p>By 2020, the Barn Owl's range should be further consolidated and densities increased throughout Suffolk, with all suitable habitat being utilised by breeding pairs.</p>	Reporting: Progress will be reported as the latest estimate of range (as defined by Lead Partners/LBAPs)
Population size	<p>In 2006, the county's Barn Owl breeding population stood at around 150 pairs and there were signs of an increase.</p> <p>By 2010, the county's Barn Owl breeding population should be consolidated and increased to around 250 pairs in association with the anticipated range expansion as detailed above.</p> <p>By 2015, the county's Barn Owl</p>	Reporting: Progress will be reported as the latest population size estimate.

	<p>breeding population should be consolidated and increased to around 300 pairs in association with the anticipated range expansion as detailed above.</p> <p>By 2020, the county's Barn Owl breeding population should be consolidated and increased to around 350 pairs in association with the anticipated range expansion as detailed above.</p>	
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6. Actions

Action	Date	Partners
Policy & Legislation		
Support the Police and others (RSPB NE) in ensuring the legislation protecting barn owls is implemented	2006-2010	RSPB, SWT, NT, NE, LAs.
Ensure that planning guidance makes provision for Barn Owl requirements.	2007	NE, SCC, LAs
Ensure through training and liaison that the network of volunteers involved in barn owl monitoring and ringing are working safely within the law.	2007-2010	SWT, NT, NE, RSPB LAs
Ensure that barn owl are incorporated in Local Authorities new LDFs and that the requirements of barn owl can be incorporated in planning and planning decisions.	2006-2010	SCC, NE, SWT, LAs.
Species management and protection		
Promote the use of agri-environment schemes where resources are available to encourage sympathetic management and creation of suitable feeding habitat.	2006-2010	NE, FWAG, SWT
Promote the careful use of rodenticides in farming and other building management.	2006-2010	RSPB, FWAG, SWT
Lobby for further grant aid for the creation and restoration of field margins.	2006-2010	FWAG, RSPB, SWT
Review management of land owned or managed by BAP partner bodies to ensure it reflects the requirements of Barn Owls	2006	SWT, DCs, SCC RSPB, NT.

where appropriate.		
Investigate potential for introduction of artificial nest sites where potential for colonisation of suitable habitats is limited by availability of nest sites.	2006 2007	SWT and SCC
Identify sites for the erection of 90 nest boxes in East Suffolk and include for their manufacture, delivery and subsequent monitoring.	2007	SWT
Identify sites for the erection of 400 nest boxes in the whole of Suffolk by 31 st March 2010 and include for their manufacture, delivery and subsequent monitoring.	2010	SWT
Research and monitoring		
Determine an accurate assessment of the Barn Owl population in Suffolk, determine densities (number of breeding pairs per occupied 10-km square)	2006- 2010	SWT
Promote volunteer participation in Breeding Bird Survey.	2007- 2010	BTO, SWT
Encourage local research and survey.	2006- 2010	SWT
Ensure monitoring data is shared with SBRC this will ensure a County overview of the BAP species and will ensure LPAs have current knowledge of barn owl nesting sites.	2006- 2010	SBRC
Instil confidence in the security of data.	2007	SBRC
Ensure LPAs make informed planning decisions using current monitoring data sourced from SBRC.	2006- 2010	LAs, SBRC and SCC (E)
Advisory		
Encourage and assist applications to the Environmental Stewardship Scheme	2006	NE, FWAG, SWT
Provide advice on the protection of farm buildings used by Barn owls to ensure that they are not redeveloped to the detriment of Barn owls promote EN leaflet to planners, landowners and farmers.	2006/7	SWT, FWAG.
Raise awareness of farmers and landowners to the effects of potentially harmful pesticides.	2006/7	RSPB, FWAG, SWT.
Advise farmers and landowners on management guidelines for habitats used by Barn owls.	2006/7	FWAG, SWT
Advise farmers, who have open water troughs, to place a means of escape (e.g. –	2006/7	FWAG, SWT

floating raft of timber) for Barn Owls that may have become waterlogged.		
Discourage farmers involved in agri-environment schemes from planting buffer strips adjacent to busy roads. Instead grassland strips should be widened elsewhere on the farm as compensation. (There may be other good reasons for placing buffer strips in such a position, but this is certainly an important consideration in barn owl country).	2006/07	FWAG, SWT
Communications and publicity		
Ensure Otley College has management for Barn Owls and other farmland wildlife in agriculture courses.	2007-2010	SCC, SWT
Use Barn Owl as 'flagship' species for promoting biodiversity, the importance of rough grassland and habitat corridors to farmers, landowners and the general public.	2006-2010	SWT, FWAG
Investigate with Highways Authority and District and Parish councils the feasibility of quiet lanes and or signage in key barn owl locations.	2007	SCC, DCs and Parish Councils
Raise general levels of awareness through local press and tourist outlets: produce a leaflet for tourist outlets, and generate two press releases each year.	2006-2010	SWT
Make motorists aware of roadside verges used by Barn Owls	2006-2010	SCC (E), SWT, FWAG

7. Current constraints of plan implementation

Funding

Currently, there are funds available to enable a programme of education and nest box manufacture and erection to continue until the end of 2007. Objectives can only be met if further funds are made available which are currently estimated to be around £26K.

Agri-environmental schemes

Objectives are only achievable if there is a significant uptake in agri-environment schemes and the subsequent increase in the availability of feeding habitats. Such uptakes need to be accelerated and any cessation or postponements would have a detrimental effect on achieving the targets in this BAP.

Personnel

Achieving objectives depends greatly on volunteer participation together with the appointment of accredited agents to work under the SWT barn owl plan. The Project will falter if the Project fails to recruit enough volunteers.

8. List of organisations that have been consulted regarding this plan and have agreed to aim to deliver their organisation's commitments:

Natural England Monica O'Donnell and Alison Collins

Suffolk Wildlife Trust Dorothy Casey

National Trust Grant Lohar

Royal Society Protection of Birds Kirsty Coutts

Farming Wildlife Advisory Group Caroline Blew

Local Authorities:

Suffolk Coastal DC John Davies

Waveney DC Richard Smith

Mid Suffolk DC David Hughes

Babergh DC Peter Berry

Forest Heath DC Guy Belcher

St.Eds DC John Smithson

Suffolk County Council (SCC) (E) Andrew Murray-Wood

Martin Sanford Suffolk Biological Records Centre

Minor sites SCC (CO) Countyside Officer Nick Dickson

The following countryside projects were also invited to comment:

Dedham Vale AONB Peter Ennis

Suffolk Coasts and Heaths AONB Simon Hooton

Brecks Project Abigail Stancliffe-Vaughan

Upper Waveney valley project Mark Timms

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