

Barn Owl Maths

Statistics



Food requirements

On average a wild Barn Owl eats about 4 small mammals a night, which means $4 \times 365 = 1460$ per year. A breeding pair of wild Barn Owls and their young may consume as many as 5,000 small mammals in a year!

Breeding

Most eggs are laid in April and May - the average number of eggs laid is 5.6 (range 2 - 12). The incubation period is 31 days. The average number of nestlings is 3. The average number of young which leave the nest is only 2.4.

Decline

In 1932 Britain's Barn Owl population was estimated at 12,142 pairs. By 1985 the estimated population had fallen to 3,778 pairs, a decline of around 70%

Increasing numbers of combine harvesters in Britain

During World War II there were less than 1,000 combine harvesters in Britain. Cereal farming increased rapidly after the war and by 1950 there were approximately 10,000. By 1960 there were around 52,000 - 52 times as many!

Loss of hedgerows

Just after the end of World War II there were over 800,000 kms of hedges in Britain. By 1984 there were only 220,000 kms left and by 1990 only 171,000 - a loss of 79%. Since the 1997 Hedgerow Regulations hedgerows are now protected.

Major roads

Motorways and dual-carriageways usually have wide verges of long grass. Barn Owls hunt over long grass and because they fly low and at slow speeds they are frequently killed by traffic. At the end of World War II there were no major roads of this type. From 1960 onwards a major road building programme was undertaken and now there are 3,200 kms of motorway in Britain.

Barn Owl mortality

The chances of a young Barn Owl surviving its first year are only 1 in 4. For example, if there are four young Barn Owls in a nest the chances are that a year later only one will be alive. Once a Barn Owl has reached one year old its chances of surviving each subsequent year are much better (63% survival). Around 60% of all reported deaths occur on roads. However, a bird lying on a roadside is more likely to be reported. The most common cause of death is starvation.



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1930	Sheep - 24,000,000 (www.bseinquiry.gov.uk/report/volume12/chapt112.htm)
1930	Working horses - 800,000
1932	Barn Owl population (estimated) 12,142 pairs
1940	Most farms mixed enterprise
1942	Combine harvesters - fewer than 1,000
1946	Hedgerows - 804,500 km (www.scotland.gov.uk/library3/environment/afsb-09.asp , www.biodiversityindenbighshire.co.uk/English/PDF/Hedgerows%20HAP%20English.pdf , www.wildlifetrust.org.uk/avon/www/Habitats/Hedges/hedgerws.htm , www.naturalengland.org.uk/sone/docs/HabitatHedgerowsIRD.pdf)
1950	Combine harvesters - 10,000
1950	Barn Owl road mortality - 6%
1950 - 1970	Increasing single enterprise farms
1955	Hedgerows - 992,000 km
1958	Motorways - first motorway constructed
1960	Combine harvesters - 52,000
1965	Working horses - fewer than 1,000
1969	Barn Owl road mortality - 15%
1970	Motorways - 1,057 km (www.cbrd.co.uk/roadsfaq/#4424)
1972	Barn Owl population (estimated) 5,000 to 9,000 pairs
1974	Hedgerows - 579,240 km (-28%)
1984	Hedgerows - 220,000 km (-73%)
1984	Flower-rich meadows - 95% loss since 1945
1984	Ancient woodland - 30-50% loss since 1945
1987	Barn Owl population (estimated) 4,000 pairs
1988	Barn Owl road mortality - 60%
1989	Motorways - 3,070 km
1990	Hedgerows - 171,000 km (-79%)
1990 - 1993	Hedgerows - 4,400 km newly planted; 3,600 removed each year
1993	Sheep - 44,000,000 (+84%)
1994	Motorways and dual-carriageways - 9,131 km (www.dft.gov.uk/pgr/statistics/datatablespublications/roadtraffic/roadlengths/)
1997	Barn Owl population (estimated) - 4,000 pairs
2000	Motorways and dual-carriageways - 3,465 km
2005	Hedgerows - 450,000 km
2006	Motorways - 3,523 km
2007	Sheep - 36,000,000
Note:	There has been no Barn Owl population survey since 1997 so current population can only be estimated.

