



BTO Research Report No. 250

**Report on Barn Owl Release Scheme
Monitoring Project Phase II**

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1. EXECUTIVE SUMMARY

1. A total of 1,737 rings were issued for use on captive-bred Barn Owls between April 1993 and the end of September 2000. Of the birds that have been ringed, 135 have been subsequently recovered.
2. Of the birds that have been recovered, 81% were ringed as pulli or juveniles. Most pulli were ringed between May and August, with some later broods between September and October.
3. The location of the ringing site for those captive-bred Barn Owls that have been recovered shows that the distribution of captive-breeding schemes are generally concentrated in Staffordshire/Derbyshire, Devon, Buckinghamshire/Oxfordshire, North Yorkshire, Sussex and Gloucestershire/Gwent.
4. Birds were recovered in a wide range of circumstances. Road casualties were the most common cause of finding circumstances and accounted for 40% of all recoveries, although it should be noted that birds dying away from roads or human sites are less likely to be found.
5. Of the 135 birds recovered, over half were found within 0-10 km of the ringing site, which is a similar pattern to wild birds in their first year of life. The maximum distance recorded was 262 km.
6. Of the birds that have recovered, 70% were found within the first six months after ringing, and 90% were found within a year of ringing.
7. We recommend that:
 - a) information gathered by the Barn Owl Release Scheme Monitoring Project is analysed with that from the national ringing scheme to compare the survival rates of captive-bred and wild Barn Owls;
 - b) a preliminary assessment be made of the factors affecting the success of different release methodologies; and that
 - c) it is important the Barn Owl Release Scheme Monitoring is continued to enable a full evaluation of the release of captive-bred Barn Owls in the future.

2. INTRODUCTION

The Barn Owl is listed on Schedule 9 of the Wildlife and Countryside Act, which makes unlicensed releases of captive-bred Barn Owls into the wild illegal. A licensing scheme for Barn Owl release was introduced 1 January 1993 (Andrew Ward Associates, 1995). Wild Barn Owls that have been found, taken into care and rehabilitated can be released under a general licence from DETR (Duncan Williams, DETR *pers comm.*).

The population decline and contraction in distribution of the Barn Owl have given cause for concern (Shawyer 1987, Gibbons *et al* 1993, Toms *et al* 2000). From about the middle of the 19th Century the Barn Owl population began to decline, possibly as a result of increasing levels of persecution (Anon, 1914). Blaker (1933, 1934) concerned by the decline in numbers in the early part of the 1900s, initiated a survey of the breeding population. The survey requested information on breeding Barn Owls throughout England and Wales. In total, some 4,000 reports were received, which led to a population estimate of about 12,000 breeding pairs.

At the time of the first BTO Breeding Atlas, covering 1968-72, there were an estimated 4,500-9,000 breeding pairs in Britain and Ireland (Sharrock 1976). In 1982 the Hawk and Owl Trust started a four-year survey, based on a questionnaire approach, which estimated the population in England and Wales to be 3,778 pairs, with a further 640 pairs in Scotland and 33 pairs in the Channel Islands (Shawyer 1987). Shawyer suggested a number of factors that may have been responsible for the decline including agricultural change, loss of hunting habitat, poor winter weather, increased traffic mortality, increased use of pesticides and loss of nest sites. It is likely that agricultural intensification has had a primary role in the long-term decline (Taylor 1992, Percival 1990).

The second BTO Breeding Atlas (Gibbons *et al* 1993) showed that there had been a substantial contraction in range between the two atlases, and the maps suggested that the population at the time of the second Atlas was restricted to a number of strongholds.

Project Barn Owl, a joint project between BTO and the Hawk and Owl Trust, with the aim of producing a population estimate for Barn Owls in the UK, was carried out over three years (1995-1997). Population estimates for the UK were: in 1995 – 3,480 pairs; 1996 – 3,967 pairs; 1997 – 3,951 pairs (Toms *et al* 2000), collectively suggesting a population of around 4,000 breeding pairs. Shawyer's 1987 estimate falls within the confidence intervals of the current estimate.

In an attempt to boost the wild populations, many people have bred Barn Owls in captivity and released them. There were concerns over the apparently poor survival of released birds, potential competition with wild birds and the lack of adequate groundwork prior to some releases and of monitoring of released birds (Cayford & Percival 1992, Dockerty 1993, Andrew Ward Associates 1995). In 1992 it was estimated that between 2,000 and 3,000 birds were released annually by about six hundred operators (DoE 1995).

The release of captive-bred birds to augment local populations now requires a license, thereby enabling the effectiveness of release schemes to be assessed. Captive breeders are required to comply with guidelines for the release of captive-bred Barn Owls (DoE 1992) and to submit an annual report. The guidelines require preliminary survey of the area where release is planned, to ensure that existing Barn Owl populations are not compromised by increased competition. Releasers must demonstrate the presence of adequate suitable habitat and nest sites, as well as plans for follow-up support for the released owls.

One of the aims of licensing the release of captive-bred Barn Owls is to gather information to allow the assessment of the efficacy of different release methods and of releasing in general. The use of BTO rings and their recovery from dead birds reported by members of the public provides information on the causes of death, longevity and movements, and allows, given sufficient sample sizes, the estimation of survival rates (Lebreton *et al* 1992).

The DETR has required the ringing of captive-bred Barn Owls prior to release as one of the licence conditions. BTO were contracted by DETR to issue rings to licensed BTO ringers (at no cost to the ringer) for this purpose. In addition, the BTO were contracted to computerise all recoveries and controls, produce an annual report to DETR on the rings issued, provide the recovery and control details received during the year and to produce a short report on the seven years of the operation of the scheme. This report provides an overall summary of the recoveries and an assessment of whether the dataset is sufficient for further analysis to be undertaken.

3. RESULTS

3.1 Number of rings issued and number of recoveries

A total of 1,737 rings were issued between April 1993 and the end of September 2000 for use on captive-bred Barn Owls. The number of rings fitted to captive-bred Barn Owls is held by DETR. Of the birds that have been ringed, 135 have been subsequently recovered (Table 1). A summary of all recoveries are presented in Appendix 1.

Table 1. Number of rings issued and recoveries 1993-2000

Year	No. rings issued	No. recoveries
1993	480	20
1994	420	22
1995	147	22
1996	180	18
1997	120	16
1998	240	15
1999	60	13
2000	90	9
Total	1,737	135

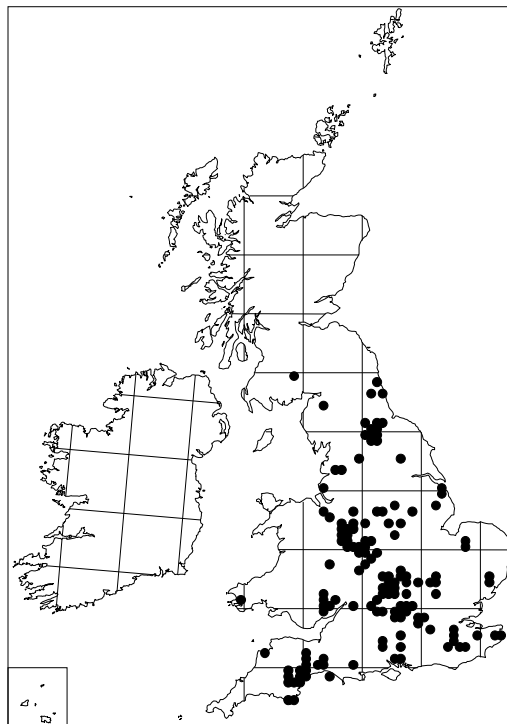
3.2 Age of ringing

Of the 135 birds that have been recovered, 110 (81%) had been ringed as pulli (nestlings) or juveniles, and 24 (18%) had been ringed as adults. For only one bird age was not determined by the ringer on ringing.

3.3 Location and timing of ringing

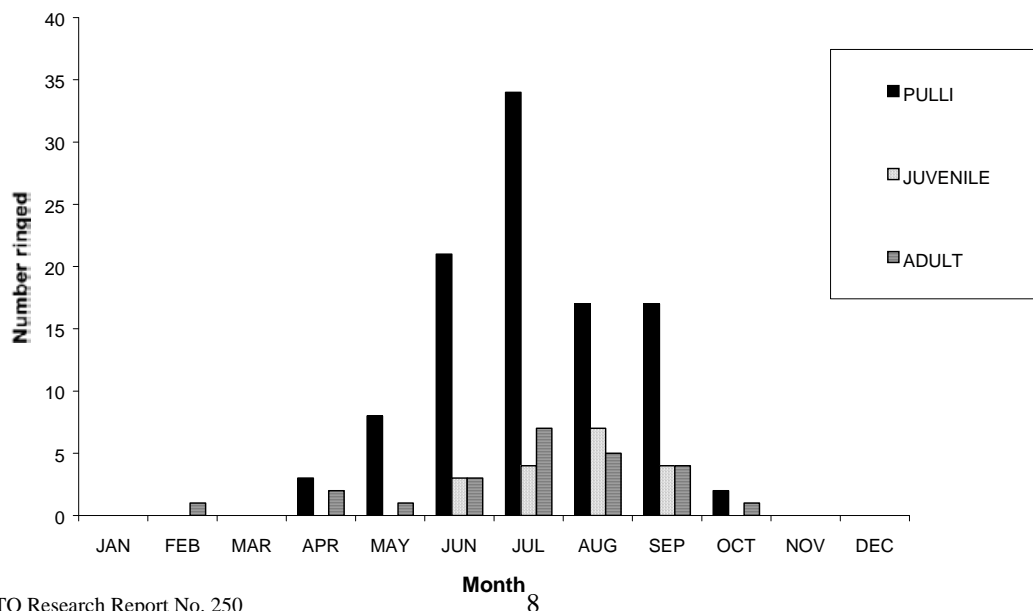
The location of the ringing sites for the 135 captive-bred Barn Owls that have been recovered are shown in Figure 1. The location of the sites reflects the distribution of the captive-breeding schemes rather than the distribution of the Barn Owl. Within Britain and Ireland the Barn Owl population is restricted to a number of strongholds, and they are more thinly spread across the intervening land. The strongholds are in southwestern and eastern England, Wales and southwest Scotland (Gibbons et al 1993). The map shows concentrations of ringing locations in Staffordshire/Derbyshire, Devon, Buckinghamshire/Oxfordshire, North Yorkshire, Sussex and Gloucestershire/Gwent.

Figure 1. Distribution of ringing sites



Using information from the 135 Barn Owls recoveries, most pulli were ringed between May and August (76%), with some late broods ringed between September and October (21%). Figure 2 shows that the first pulli were ringed in April, followed a steady rise to a peak in July, and then numbers tailed off with the last birds ringed in October. The first juveniles were ringed in June, as expected, some time after the first pulli were ringed and the last juveniles were ringed in September. Adults were ringed between February and October. Little ringing takes place outside the breeding season.

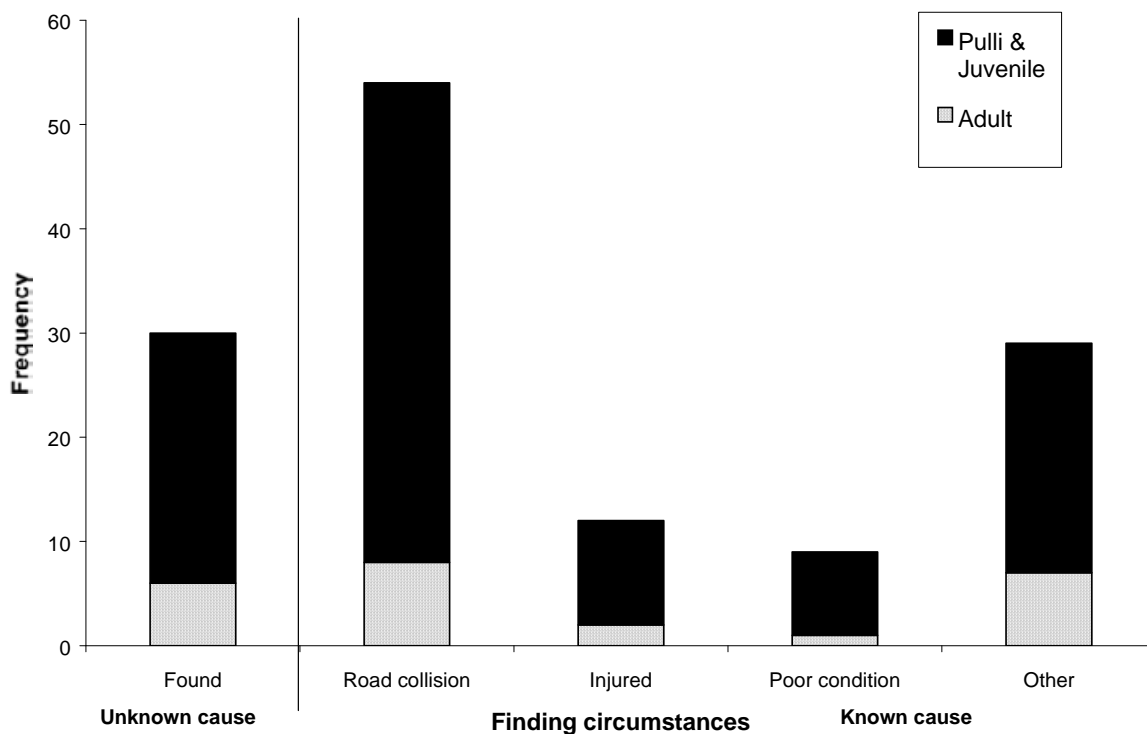
Figure 2. Timing of ringing of the 135 Barn Owls recovered.



3.4 Finding condition and circumstances

The majority (79%) of the Barn Owls recovered were found dead, the remainder were found alive or found sick, and one recovery related to a field sighting. Birds were recovered in a wide range of circumstances, for half of the recoveries cause of death was human-related, the majority of these (78%) involved collisions with road traffic. Finding condition and circumstances for all recoveries are listed in Appendix 1. Figure 3 shows the manner in which birds were found, according to age. The one record of an unaged bird had been omitted.

Figure 3. Finding circumstances



Note

'Found' refers to code 01 (see Appendix) and strictly means 'Found, bird or body mentioned in recovery letter'.

'Road collision' refers to code 40.

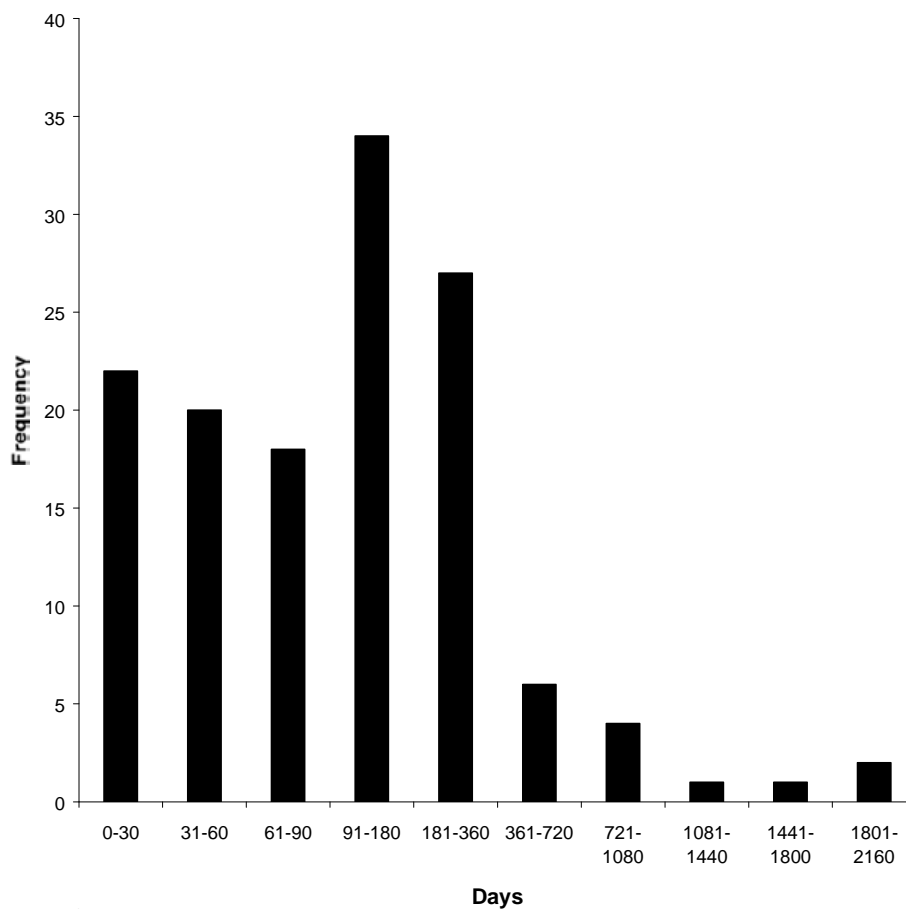
'Injured' refers to code 50 and strictly means 'Contusions, breaks, general trauma where no other cause given'.

'Poor condition' refers to code 76 and means 'Poor condition, starvation, or thirst'. 'Other' refers to the remaining codes listed and described in Appendix 1.

3.5 Longevity

The time elapsed between ringing and recovery is shown in Figure 4. Of the birds that have recovered, 70% were found within the first six months after ringing, and 90% were found within a year of ringing.

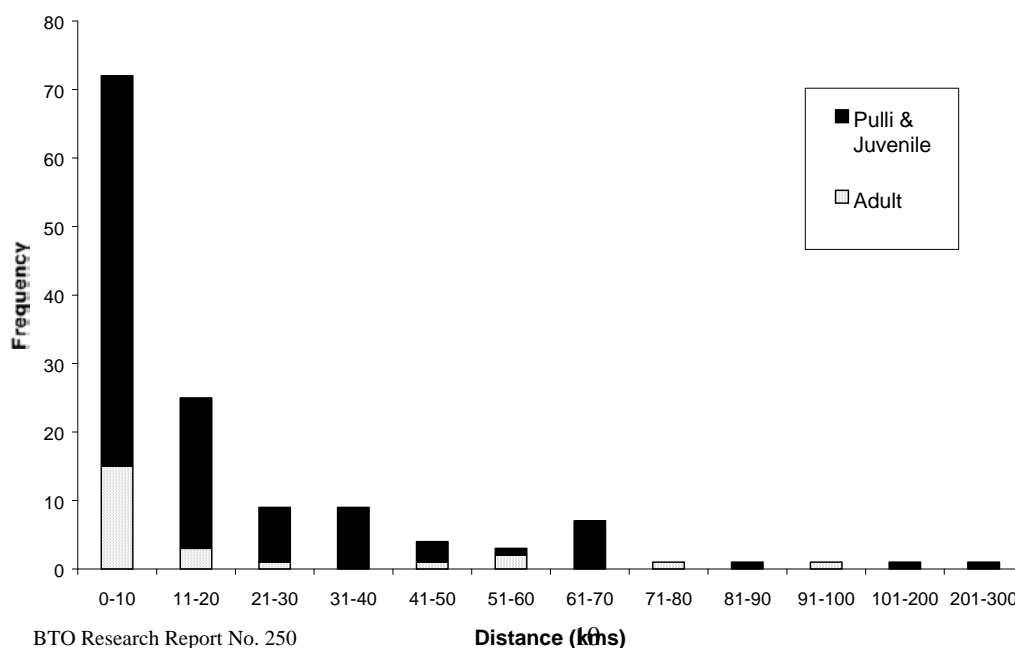
Figure 4. Time between date of ringing and date of recovery



3.6 Distance travelled

Over half (54%) of the 135 birds recovered were found within 0-10 km of the ringing site, and of those, 79% were Juveniles (Figure 5). Very few (11%) were found more than 61 km from the ringing site, the maximum distance recorded was 262 km. Of the 15 birds found over 50 km away from the ringing site, 47% were road casualties.

Figure 5. Distance between ringing location and finding location



3.7 Direction travelled

We divided the data (all ages of bird) into four categories according to the direction travelled: 0-90°, 91-180°, 181-270°, 271-360°. There was no statistical difference between the four groups in the directions travelled by the 135 Barn Owls recovered $\chi^2 = 5.532$ ns DF 3. We then extracted data for birds ringed as pulli and juveniles only (thereby excluding data for 24 adults and one unaged bird). There was no statistical difference between the four groups in the directions travelled by the 110 pulli/juvenile Barn Owls recovered $\chi^2 = 3.679$ ns DF 3.

4. DISCUSSION

The ringing carried out under this contract between 1993 and 2000 has yielded some useful information on the fate of captive-bred Barn Owls after release.

Over half of the birds recovered were found within 10km of the ringing site. It has been shown that young Barn Owls ringed in Britain & Ireland disperse away from their natal site during the first few weeks after fledging (Toms *in prep.*, Bunn *et al* 1982). Bunn *et al* (1982) showed that 37% of Barn Owls ringed as pulli had moved more than 3 km from their nest site within two weeks of fledging, and Toms (*in prep.*) using information from the national recovery database showed that the median distance of natal dispersal is 12 km, thus released Barn Owls appear to be acting similarly to wild birds. Information from other sources suggests that Barn Owls of breeding age are largely sedentary (Taylor 1994), although adults tend to forage slightly further afield during the winter months (Cayford 1992).

A small number of birds were found at greater distances from the ringing site, up to 262 km. It is most likely that some of the birds killed on roads are transported for some distance before falling off the vehicle which hit them (Percival 1990, Taylor 1994). This often leads to an overestimation of the dispersal distance for such birds; for example, Taylor (1994) found that Barn Owls that had been killed on the road had travelled significantly further than those reported from other mortality causes.

The causes of recovery for captive-bred Barn Owls are similar to those of wild Barn Owls recovered in Britain & Ireland (Toms *in prep*) and reported elsewhere (Fajardo 1990, de Bruijn 1994, Martinez & Lopez 1995). Toms showed that two-thirds of all Barn Owl recoveries were attributed to a cause of death, and that the majority of these (82%) were human-related, involving suspected collisions with road or rail traffic. It should be noted that the reporting rate for birds involved in collisions on the road is likely to be significantly higher than that for birds that die from other causes and that might occur away from sites of human occupation (Illner 1992).

There was no statistical difference in the four categories of direction travelled between ringing and being reported. Percival (1990) found no significant variation in regional dispersal patterns of Barn Owls ringed as pulli, and information from the national recovery database supports this (Toms *in prep.*). Marti (1999) showed that young Barn Owls dispersed in all directions, and the direction of dispersal was influenced by local topography. It has been suggested that, in Britain, young Barn Owls disperse along linear habitats such as rivers (Shawyer 1998).

The ringing of captive-bred Barn Owls between April 1993 and end of September 2000 has yielded 135 recoveries, an average of 16.9 per year. The national ringing recovery database for wild birds maintained by the BTO contains 3,585 recoveries of Barn Owls up to the end of 1998 (Clark *et al* 2000). Based on these figures, a comparison of survival rates for captive-bred and wild Barn Owls is now feasible. It would be necessary to know the exact number of captive-bred Barn Owls ringed. The current numbers of captive-bred Barn Owl recoveries, however, means that it may be practical only to consider the survival rates for first-year birds and adults pooled across the whole period 1993-2000. A more satisfactory approach would involve estimation of the survival rates of wild Barn Owls, and then use these to predict the

expected number of recoveries of captive-bred birds. By comparing the latter with the observed number of recoveries during the period, particularly in the second year after release, the post-fledging survival of captive-bred birds could be effectively assessed (Wernham *et al* 1997). Full computerisation of the ringing data for wild Barn Owls would be required for this. We recommend that such an assessment is carried out at the earliest possible opportunity.

The Barn Owl Release Scheme Monitoring Project has begun to provide important and much needed information on the fate of captive-bred Barn Owls after release. At the time the licensing system was instituted there was considerable controversy over the general value of captive releases and over the efficiency of different methods of release (such as “young clutch” and “locked barn” methods). An important recommendation of the DETR’s Barn Owl Working Group was that licensing of innovation in release methodology should generally be sanctioned in the interest of gathering information to enable assessment of their success.

The number of recoveries is now sufficient that a first assessment of the different methodologies could be made. By combining information from the licence forms with information from ring-recoveries, it should be possible to explore the importance of factors such as release method, timing of release, and broad habitat characteristics on the success of the release, depending on the available sample size in each category. This has been attempted for rehabilitated birds in Spain (Fajardo *et al* 2000). A survey of all Spanish Recovery Centres was carried out to gather information on the number of birds received and released per year, surgical facilities, food regimes in captivity, release methods, the existence of post-release monitoring schemes and the post-release results. Forty-two survey responses were received from 65 Recovery Centres. They estimated that 246 captive-bred Barn Owls had been released in to the wild between 1975 and 1993, and that eight had been subsequently recovered. Only 10 Recovery Centres performed some kind of post-release monitoring. They also compared the results to wild populations using the ring-recovery database held by the Spanish Ringing Scheme (between 1973-1995 2,684 wild Barn Owls were ringed and 64 recovered).

Although there is sufficient information available from the ringing of captive-bred Barn Owls for a preliminary assessment of the value of captive-releases and of any large differences between release methods, it is still important that the programme of ringing is continued. The numbers of recoveries received annually are relatively small and several more years of information will be required to increase the precision of survival estimates, to assess the survival rates of adult releases, to evaluate the importance of differences in the habitat of release areas (one of the key factors used in the issuing of licences) and to make recommendations on how the current guidelines may be fine-tuned to ensure that best practice is carried out. The preliminary assessment suggested for the interim will allow the estimation of how much further information will be required for a more complete analysis.

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REFERENCES

- Andrew Ward Associates. 1995. *Evaluation of Barn Owl Introductions and the effectiveness of Schedule 9 licensing*. Report to the Department of the Environment.
- Anon. 1914. The preservation of owls. *Bird Notes and News* 6: 53-54.
- Blaker, G.B. 1933. The Barn Owl in England: Results of the Census. I and II. *Bird Notes and News*, 15: 169-172, 207-211.
- Blaker, G.B. 1934. *The Barn Owl in England and Wales*. RSPB London.
- Bunn, D.S., Warburton, A.B & R.D.S. Wilson. 1982. *The Barn Owl*. T. & A. D. Poyser, Calton.
- Cayford, J. 1992. Barn Owl ecology on East Anglian farmland. *RSPB Conservation Review* 6: 45-50.
- Cayford, J.T. & Percival, S. 1992. Born captive, die free. Barn Owl Captive Breeding and Release in Britain. *New Scientist* 133. 1807: 29-33.
- Clark, J.A, Wernham, C.V., Balmer, D.E., Adams S.Y., Blackburn, J.R., Griffin, B.M & J. King. 2000. Bird Ringing in Britain and Ireland in 1998. *Ringing & Migration* 20: 39-93.
- de Bruijn, O. 1994. Population ecology and conservation of the Barn Owl in farmland habitats in Liemers and Achterhoek (the Netherlands). *Ardea* 82: 5-109.
- Department of the Environment. 1992. *Code of practice for the release of captive-bred Barn Owls in Britain*. Bristol: Department of the Environment.
- Department of the Environment. 1995. *Guidelines for the release of captive bred Barn Owls in Britain*. Department of the Environment.
- Dockerty, T. 1993. *An evaluation of Barn Owl Tyto alba reintroductions in Hertfordshire, with specific reference to East Herts*. University of Hertfordshire unpublished.
- Fajardo, I. 1990. Mortalidad de la Lechuza Común (*Tyto alba*) en España Central. *Ardeola* 37: 101-106.
- Fajardo, I, Babiloni, G. & Miranda, Y. 2000. Rehabilitated and wild barn owls (*Tyto alba*): dispersal, life expectancy and mortality in Spain. *Biological Conservation* 94: 287-295.
- Gibbons, D.W., Reid, J.B. & Chapman, R.A. 1993. *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991*. T. & A.D. Poyser, London.
- Illner, H. 1992. Road deaths of Westphalian owls: methodological problems, influence of road type and possible effects on population levels. In *The ecology and*

conservation of European owls. (Ed by Galbraith, C.A., Taylor, I.R. & Percival, S.) UK Nature Conservation, No. 5.

Lebreton, J-D., Burnham, K.P., Clobert, J. & Anderson, D.R. 1992. Modelling survival and testing biological hypotheses using marked animals: a unified approach with case studies. *Ecological Monographs* 62: 67-118.

Marti, C.D. 1999. Natal and breeding dispersal in Barn Owls. *J. Raptor Research* 33: 181-189.

Martinez, J.A. and López, G. 1995. Dispersal and causes of mortality of the Barn Owl (*Tyto alba*) in Spain. *Ardeola* 42: 29-37.

Percival, S.M. 1990. *Population trends in British Barn Owls Tyto alba and Tawny Owls Strix aluco in relation to environmental change*. British Trust for Ornithology Research Report 57. British trust for Ornithology, Thetford.

Sharrock, J.T.R. 1976. *The Atlas of Breeding Birds in Britain and Ireland*. T. & A.D. Poyser, London.

Shawyer, C.R. 1987. *The Barn Owl in the British Isles: its past, present and future*. The Hawk Trust, London.

Shawyer, C.R. 1998. *The Barn Owl*. Arlequin Press, Chelmsford.

Taylor, I.R. 1992. An assessment of the significance of annual variation in snow cover in determining short-term population changes in Field Voles (*Microtus agrestis*) and Barn Owls (*Tyto alba*) in Britain. pp 32-38 in (Galbraith, C.A., Taylor, I.R. and Percival, S.) *The ecology and conservation of European Owls*. JNCC UK Nature Conservation No. 5.

Taylor, I.R. 1994. *Barn Owls: Predator-prey relationships and conservation*. Cambridge University Press, Cambridge.

Toms, M.P., Crick, H.Q.P. & C.R. Shawyer. 2000. *Project Barn Owl Final Report*. BTO Research Report No. 197/HOT Research Report No. 98/1.

Toms, M.P. (*in prep*) Barn Owl In Wernham, C.V, Toms, M.P, Marchant, J.H., Clark, J.A, Siriwardena, G.M & Baillie, S.R. *The Migration Atlas: movements of the birds of Britain and Ireland*. T. & A. D. Poyser, London.

Wernham, C.V., Peach, W.J. & Browne, S.J. 1997. *Survival rates of rehabilitated Guillemots*. BTO Research Report No. 186.

APPENDIX: A complete list of all the recoveries up to September 2000, of captive-bred Barn Owls released since 1993. The list is ordered by ringing date.

LEGEND

Finding Condition codes

Code	Description
0	Condition completely unknown
1	Dead but no information on how recently the bird had died
2	Freshly dead- within about a week
3	Not freshly dead – information available that it had been dead for more than a week
4	Found sick, wounded, unhealthy etc and known to have been released
5	Found sick, wounded, unhealthy etc and not released or not known if released
8	Alive and probably healthy and released by a ringer
21	Destroyed
22	Dying
79	Field sighting by a non-ringer

Finding Circumstances codes

Code	Description
01	Found, bird or body mentioned in recovery letter
02	Ring only found
27	Found at or in nest-box or other structure specially placed or modified by man for birds to use
29	Bird identified as an individual in the field from colour-marks, bird not caught
40	Road casualty
43	Collision with thin man-made structure – wires, masts, cables, aerials etc
44	Collision with glass or other transparent material
46	Entered man-made structure NOT built or modified to trap animals
49	Drowned in artificial water container – water butt, forestry fire tank etc
50	Contusions, breaks, general trauma where no other cause given
58	Other natural causes or combination of
60	Taken by unspecified animal
63	Taken by wild or feral mammal (included escaped mink)
66	Taken by other species of bird (not conspecific)
70	Drowned
76	Poor condition, starvation, or thirst may be mentioned but no indication of cause leading to poor condition of the bird
78	Violent climatological phenomena were involved in the recovery – strong winds, tempests, hail, whirlwind, floods

Duration – in days

Distance – in kilometres

Direction – in degrees

Ring	Age	Ring	Ring	Ring Cour	Find	Find
GF01805	4	17-May-93	Dock Farm, Meadle	GBBC	19-May-93	Meadle
GT00061	1	30-May-93	Lodge Farm, near Ilkeston	GBDB	31-Jul-93	Shiple Country Park, Ilkeston
FS96877	1	03-Jun-93	Ponsworthy	GBDV	27-May-94	Near Bickton
FS96877	1	03-Jun-93	Ponsworthy	GBDV	28-Jun-95	Near Bickton
GT00101	3	10-Jun-93	High Mead, Llanfair Killgeddin	GBGT	25-Jan-94	Usk
GT00012	1J	18-Jun-93	Hatley Park	GBCA	29-Jun-93	Cockayne Hatley, Sandy
GF23471	1	19-Jun-93	Barton Bendish	GBNK	17-Jul-93	Between Narbourough & Beacham
GT00155	1	20-Jun-93	Leawood Farm, Eccleshall	GBST	04-Jan-94	Newland Common
GT00204	1	01-Jul-93	Raughton Head	GBCU	07-Aug-93	Raughton Head
GT00203	1	01-Jul-93	Raughton Head, Carlisle	GBCU	27-Oct-93	Thornhill
GT00208	1	07-Jul-93	Mellor, near Blackburn	GBLA	25-Apr-94	Coniston Cold, near Gargrave
GT00005	1J	09-Jul-93	Downholme	GBNY	13-Apr-94	West Pasture Farm, Great Crakeh
GT00001	1J	09-Jul-93	Downholme	GBNY	27-Nov-93	Near Towcester
FT00055	1	09-Jul-93	Clayhanger, Combe St Nicholas	GBSO	14-Dec-93	Near Honiton
FT00053	5	09-Jul-93	Clayhanger, Coombe St Nicholas	GBSO	01-Sep-96	Near Blandford Forum
GT00252	4	19-Jul-93	Sandwich Bay Estate	GBKE	16-Jan-98	Ash, near Canterbury
GF01813	4	20-Jul-93	Quainton	GBBC	10-Sep-93	Frankley, Birmingham
GT00312	1	22-Jul-93	Near Pytt Farm, Ashbrittle	GBSO	11-Oct-93	Uplozman, Tiverton
GT00303	1	26-Jul-93	Chillington Hall	GBST	20-Nov-93	Near Marston Green
GT00092	1	28-Jul-93	Haddon Pastures, Welbeck	GBNT	06-Sep-98	Near Baumber
GT00009	1J	11-Aug-93	Catterick Garrison	GBNY	03-Oct-93	Catterick Garrison
GT00214	1	12-Aug-93	Morpeth	GBNL	15-Sep-95	North Shields
GT00213	1	12-Aug-93	Morpeth	GBNL	26-Dec-93	Near Heddon On The Wall
GT00010	1J	16-Aug-93	Catterick Garrison	GBNY	03-Oct-93	Catterick Garrison
GF15999	3	16-Aug-93	Tadmarton, Banbury	GBOX	21-Oct-93	Knebworth House
GT00374	1	26-Aug-93	Leckford	GBHA	04-Apr-94	Upper Clatford, near Andover
GF20402	3	28-Aug-93	Chipping Norton	GBOX	10-Sep-93	Chipping Norton
GT00197	1J	02-Sep-93	Bellerby Moor	GBNY	14-Mar-94	Ashgill, Coverdale, near Middlehar
GT00194	1J	02-Sep-93	Downholme	GBNY	05-Nov-93	Cross Lanes, Barnard Castle
GT00193	1J	02-Sep-93	Walburn Hall	GBNY	26-Nov-93	Houghton Grange Farm, Piercebri
GT00156	1	05-Sep-93	Hillside Farm, Whitmore	GBST	19-Oct-93	Baldwins Gate, Newcastle
GT00185	1	16-Sep-93	Near Burnham	GBBC	03-May-94	Gerrards Cross
GK50039	3	19-Sep-93	Medstead	GBHA	27-Feb-94	Wootton St Lawrence, Basingstoke
FT00009	1	04-Oct-93	Near Ashburton	GBDV	15-Nov-93	Netherton, near Newton Abbot
GH91471	6	15-Oct-93	Chorlton Moss	GBST	01-Jun-94	Hawksmoor Nature Reserve
GT00072	1	26-Apr-94	Drist Hill Farm, Balderstone	GBLA	04-Jan-95	Pike Lowe Farm, near Brinscall
GT00071	1	26-Apr-94	Daisyhill Farm, Balderstone	GBLA	02-Apr-96	Fulwood, Preston
GT00401	2	29-Apr-94	Manor Farm, Middle Barton	GBOX	01-May-94	South Newington, Banbury
GT00485	1	28-May-94	Chillington Hall	GBST	24-Oct-94	Tong Forge
GT00161	1	02-Jun-94	High Offley	GBST	07-Aug-94	Ellerdine, Telford
FT00013	1	10-Jun-94	Dulford, near Cullompton	GBDV	04-Feb-00	Near Sandy Gate, Exeter
FT00016	1	17-Jun-94	Near Hittisleigh	GBDV	23-Jul-96	Near Whiddon Down
GF08006	7	21-Jun-94	Chorlton Moss, Newcastle	GBST	07-Apr-96	Market Drayton
GT00033	7	08-Jul-94	Wychling, Doddington	GBKE	02-Aug-94	Near Bushy Park
GT00513	1	15-Jul-94	Ewelme Park, near Nettlebed	GBOX	05-Jan-95	Little Wittenham
GF28674	1J	21-Jul-94	Little Barrington	GBOX	16-Sep-94	Fairford
FT00020	1	26-Jul-94	Near Moretonhampstead	GBDV	26-Jun-95	Exminster Marshes, near Exeter
GT00846	3	31-Jul-94	Shrublands Park, Coddendam	GBSK	07-Aug-94	Ipswich
GT00136	1	03-Aug-94	Coed-Y-Paen	GBGT	23-Nov-94	Between Abergavenny & Raglan

Ring	Age	Ring	Ring	Ring	Cour	Find	Find
GT00411	3	29-Aug-94	Granborough, near Buckingham	GBBC		03-Sep-94	Wings Farm, Granborough
GF08307	5	29-Aug-94	Granborough	GBBC		22-Feb-95	Granborough, near Winslow
GT00416	3	31-Aug-94	Middle Barton	GBOX		11-Mar-95	Glympton Park
GT00461	1J	17-Sep-94	Masham	GBNY		12-Dec-94	Sadberge, Darlington
GT00200	1J	17-Sep-94	Masham	GBNY		30-Oct-94	Masham
GT00169	1	16-Oct-94	Acton, Newcastle	GBST		11-Dec-94	Redhill, Telford
GT00028	1	27-Apr-95	Hillcarr Farm, Stanton Lees	GBDB		12-Jan-96	Ratcliffe On Soar
GT00464	1J	30-May-95	Catterick Garrison	GBNY		09-Sep-95	Piercebridge, near Darlington
GT00522	1	23-Jun-95	Manor Farm, Middleton Stoney	GBOX		05-Dec-95	Grafton Regis
GH71739	1J	24-Jun-95	Tetneylock	GBLI		28-Jul-95	Tetney, near Grimsby
GH47360	1	24-Jun-95	Tetney Lock	GBLI		14-Jul-97	Marshchapel, Grimsby
GT00902	1	09-Jul-95	Adderbury, Banbury	GBOX		15-Nov-95	Near Banbury
FT00029	1	18-Jul-95	Near Millin Cross	GBDY		16-Dec-95	Pope Hill, near Haverfordwest
GT00493	1	22-Jul-95	Chillington Hall	GBST		17-Aug-95	Wolverhampton
GT00179	1	23-Jul-95	Cool Hall Farm	GBCH		01-Nov-95	Churton
FT00076	1	30-Jul-95	Wambrook, near Yarcombe	GBDV		22-Sep-95	Whitelackington, Ilminster
GT00440	1	05-Aug-95	Poppy Down, Droxford, Fareham	GBHA		24-Sep-95	Upham
GT00438	3	05-Aug-95	Poppy Down, Droxford, Fareham	GBHA		09-Oct-95	Droxford
GT00851	1	21-Aug-95	High Lanes Farm	GBST		24-Sep-95	High Lanes Farm
GT00472	1J	25-Aug-95	Catterick Garrison	GBNY		11-Nov-95	Union House, Skeeby, Richmond
GT00471	1J	25-Aug-95	Catterick Garrison	GBNY		24-Sep-95	Catterick Garrison
GT00911	3	15-Sep-95	Cholsey, Didcot	GBOX		10-Dec-95	Near Didcot
GF28545	4	15-Sep-95	Cholsley, Didcot	GBOX		02-Oct-95	Aston Upton
GT00885	5	09-Feb-96	Sutton Park	GBWM		18-Jun-96	Whitacre Hall, Netherwhitacre
GT00927	4	12-Apr-96	Lighthorn, Leamington	GBWK		27-Oct-97	Burton Dasset
FT00041	1	29-May-96	Near Clyst Hydon	GBDV		27-Sep-96	Clyst Hydon
GT00720	1	06-Jun-96	Brynderi, Crossash, Abergavenny	GBGT		01-Sep-96	Onibury, near Craven Arms
GT00977	1	14-Jun-96	Chillington Hall	GBST		28-Jan-97	M54 Featherstone area
GT00975	1	14-Jun-96	Chillington Hall	GBST		08-Aug-96	Chillington Hall
GT00959	3	14-Jun-96	Woodside Farm, near Matlock	GBDB		07-Jul-96	Woodside Farm, near Matlock
GT00725	1	17-Jun-96	Bryn Farm, Longtown	GBHF		15-Mar-97	Near Goodrich
GT00474	1	18-Jun-96	Catterick Garrison	GBNY		13-Feb-97	York Area
GT00980	4	29-Jun-96	Chillington Hall	GBST		22-Jul-96	Chillington Hall
FT00045	1	03-Jul-96	Ranscombe, near Kingsbridge	GBDV		21-Jan-98	Near Landcombe, Strete
GT00933	3	05-Jul-96	Sandford St Martin, near Banbury	GBOX		20-Feb-97	Near Swerford, Chipping Norton
GT00966	1	07-Jul-96	Blackham, Tunbridge Wells	GBSX		30-Jul-96	Blackham, Tunbridge Wells
GT00839	5	07-Jul-96	Blackham, Tunbridge Wells	GBSX		09-Jul-96	Balls Green, Blackham
GT01162	3J	14-Jul-96	Newbottle, near Banbury	GBNH		02-Dec-96	Near Marston Moretaine
GT01136	3	25-Aug-96	Woodside Farm, near Matlock	GBDB		20-Sep-96	Woodside Farm, near Matlock
GT00854	4	01-Sep-96	Parkfields Farm	GBST		09-Dec-96	Trentham, Stoke-On-Trent
FT00047	1	06-Sep-96	Clyst Hydon	GBDV		09-Dec-96	Dawlish,
FT00046	1	06-Sep-96	Clyst Hydon	GBDV		20-Feb-97	Fairmile, near Ottery St Mary
GT00871	1	29-Sep-96	Near Higher Kinnerton	GBCW		16-Mar-97	Balderton, near Chester
GT00870	1	29-Sep-96	Near Higher Kinnerton	GBCW		05-Nov-96	Higher Kinnerton
GT01188	4	05-Apr-97	Holbornehill Farm, Oving	GBBC		21-Apr-97	Near Fenny Compton
GT01144	1	09-May-97	The Holding, Tansley	GBDB		17-Aug-98	Netherton, Liverpool
GT01141	1	09-May-97	The Holding, Tansley	GBDB		11-Jan-98	Swinderby
FT00102	1	09-Jun-97	near Ashburton	GBDV		08-Aug-97	Near Ashburton
GF08654	1	17-Jun-97	Ednacote	GBNH		08-Nov-98	Near Chacombe

Ring	Age	Ring	Ring	Ring Cour	Find	Find
GT01251	3	24-Jun-97	Hillcarr Farm, Stanton Lees	GBDB	16-Jul-97	Hillcarr Farm, Stanton Lees
FT00109	1	08-Aug-97	Parkham, near Bideford	GBDV	30-Nov-97	Parkham, near Bideford
FT00039	6	08-Aug-97	Parkham, near Bideford	GBDV	28-Aug-97	Holwell, near Bideford
GT01127	1	12-Aug-97	Sutton Park	GBWM	27-Oct-97	Aldridge
GT01254	3	05-Sep-97	Hillcarr Farm, Stanton Lees	GBDB	12-Mar-98	Near Nottingham
GT01215	1	22-Sep-97	Home Farm, Pyrton	GBOX	19-Jan-98	Between Great Milton & Stadhampton
GT01214	1	22-Sep-97	Pyrton	GBOX	14-Dec-97	Clare, near Chalgrove
GF87055	1	31-May-98	Peatswood Farm	GBSA	28-Aug-98	Wistanswick
GT00816	5	01-Jun-98	Bells Yew Green	GBSX	15-Oct-98	Goudhurst
GF96711	1	26-Jun-98	Stoneton, Wormleighton	GBWK	01-Apr-99	Shutlanger
GF96717	3	13-Jul-98	Edgecote	GBNH	16-Sep-98	Avon Dassett, near Leamington Spa
GN06953	1	15-Jul-98	Little Barrington, Burford	GBGL	01-Feb-99	Stroud
GN06957	1	16-Jul-98	Tadmarton	GBOX	30-Nov-98	Kislingbury
GT01233	4	11-Aug-98	Bloxham, Banbury	GBOX	03-Mar-99	Bicester
GT01222	4	11-Aug-98	Bloxham Grove	GBOX	11-Nov-98	Charlton, near Banbury
GT01227	4	31-Aug-98	Greenfield Farm, Watlington	GBOX	15-Sep-98	Watlington
GT01229	4	01-Sep-98	Fanthill Farm, Hook Norton	GBOX	13-Nov-98	Fanthill Farm, Hook Norton
GN06977	1	04-Sep-98	Charney Bassett	GBOX	11-Mar-99	Faringdon area
GN06973	1	04-Sep-98	Charney Bassett	GBOX	04-May-99	Near Swindon
GN20261	1	21-Jun-99	Beechwood, Watlington	GBOX	08-Sep-99	South Stoke
GN20272	1	09-Jul-99	Warkworth Hall Farm	GBOX	28-Aug-99	Hethe Brede
GN29968	1	12-Jul-99	Sandform Common	GBOX	09-Feb-00	Near Nether Westcote
GT00756	4	25-Jul-99	Watlington	GBOX	05-Mar-00	Ewelme
GT00758	4	27-Jul-99	West Lodge, Little Brington	GBNH	01-Dec-99	Biggleswade
GT00764	1	06-Aug-99	Chalgrove	GBOX	19-Feb-00	Near Nuneham Courtenay
GT01115	1	15-Aug-99	Catterick Garrison	GBNY	20-Oct-99	Near Scorton
GT01055	3	18-Aug-99	Cannock	GBST	01-Feb-00	Kings Bromley
FT00122	1	19-Aug-99	Clyst Hydon	GBDV	05-Dec-99	Exminster Marshes
GT01099	1	17-Sep-99	Magpie Bottom, Shoreham	GBKE	11-Oct-99	Dorney
GN23080	1	18-Sep-99	Rofford Hall	GBOX	04-Feb-00	Sheep Cote Farm, Mongewell, near
GT01247	3	24-Sep-99	Underriver	GBKE	13-Nov-99	Sevenoaks
GT01241	5	24-Sep-99	Underriver	GBKE	19-Oct-99	Weald, Sevenoaks
GT01118	1	16-May-00	Colburn Hall, Catterick Garrison	GBNY	30-Sep-00	Colburn Hall, Catterick Garrison
GT01345	1	22-Jul-00	Gawcott	GBBC	03-Sep-00	Gawcott
GT01308	1	27-Aug-00	East Stockwith	GBLI	27-Sep-00	Gainsborough

