



**Fig 1.5** The breeding season distribution of Barn Owls in Britain and Ireland as reported to the BTO during the *Bird Atlas 2007–11* project. This provisional BTO/Birdwatch Ireland/Scottish Ornithologists Club Bird Atlas map shows the distribution after three of the four years of fieldwork. Map courtesy of the BTO © 2011.

See Plate 11 A map of NE England showing the suitability for Barn Owls of each 1 km square

### 1.2.4 Monitoring British Barn Owls

Much of the information that is available on Barn Owls is the product of ‘population monitoring’. Raw data are collected mainly by volunteers who annually visit sites dotted all over the countryside to record nest contents and, in some cases, to check individual birds. Before taking conservation action or carrying out a site search, it is important to realise that someone may already be monitoring the Barn Owl population in that area. It is fairly likely that the site in question is being checked every year and unnecessary repeat visits should obviously be

avoided. Monitoring may simply involve landowners 'keeping an eye' on the site or they may have granted access permission to someone else. This could be a local owl enthusiast/group or perhaps an independent bird recorder who may, or may not, be linked to the BTO. When seeking landowner permission, always ask if someone else already visits the site(s).

The Barn Owl Monitoring Programme (BOMP), led by the BTO, was set up in 2000 with the aim of '*monitoring Barn Owl populations through standardised recording of nesting rates, breeding performance and survival at a set of Barn Owl sites broadly representative of the distribution of the Barn Owl in Britain*' (Leech, Crick & Shawyer 2005). In a typical year around 500 nests are visited, which means that the BOMP is the largest single-species monitoring programme ever carried out in the UK. However, its coverage is far from even, with a strong bias towards eastern and central England, very few sites in the southwest and Wales and none north of the Scottish borders. The BTO also monitors Barn Owls through its Nest Record Scheme which has gathered similar information to BOMP since 1944.

Many hundreds of Barn Owl nest sites are visited each year simply for the purpose of bird ringing (also coordinated by the BTO). By 2008 over 77,981 Barn Owls had been ringed in Britain since the scheme started back in 1909, and approximately 7,000 are now ringed annually; of all these birds, about 800 are subsequently found and reported every year (Coiffait *et al.* 2009). Over a period of 23 years one of the authors (DR) has personally found a total of 108 dead Barn Owls, of which 30% were BTO ringed. With about 3,500 pairs producing roughly 9,100 young per year (see 7.3.3.1) and 7,000 birds ringed annually (most of which are nestlings), it is entirely possible that half of the entire Barn Owl population of Britain is BTO ringed. Nest monitoring and ringing, along with other studies such as colour-ringing and radio tagging, have produced a wealth of information on Barn Owls that has resulted in a much greater knowledge of the behaviour and population dynamics of the species.

Many of the independent groups/individuals who monitor local Barn Owl populations, often through the regular checking of nestboxes, can be contacted via the Barn Owl Trust, the HOT or the BTO (see Appendix 1 *Contacts*).

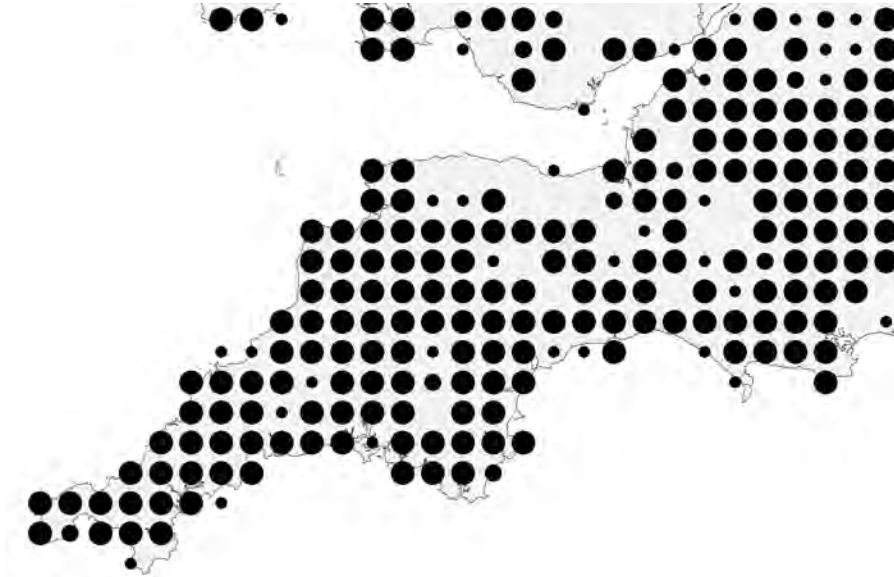
### **1.3 Part Three – Barn Owl conservation in the UK**

In spite of many adverse factors, Barn Owls in Britain are just about holding their own, even though there are only a few pairs left in some counties and only about 4,000 pairs in total throughout the country. Wherever populations are very thinly distributed (e.g. one pair per 10 km square) with birds absent from vast tracts of land, the dire need for protection and pro-active conservation is obvious. It can also be argued that those areas where Barn Owl abundance is greatest (more than ten pairs per 10 km square) are the most important for the species and must be pro-actively protected. In reality, at a national scale, the idea of directing conservation effort to only one or two specific areas is clearly inadequate. It is an inescapable fact that widely distributed species need widely distributed conservation action.

#### **1.3.1 Increasing Barn Owls' food supply**

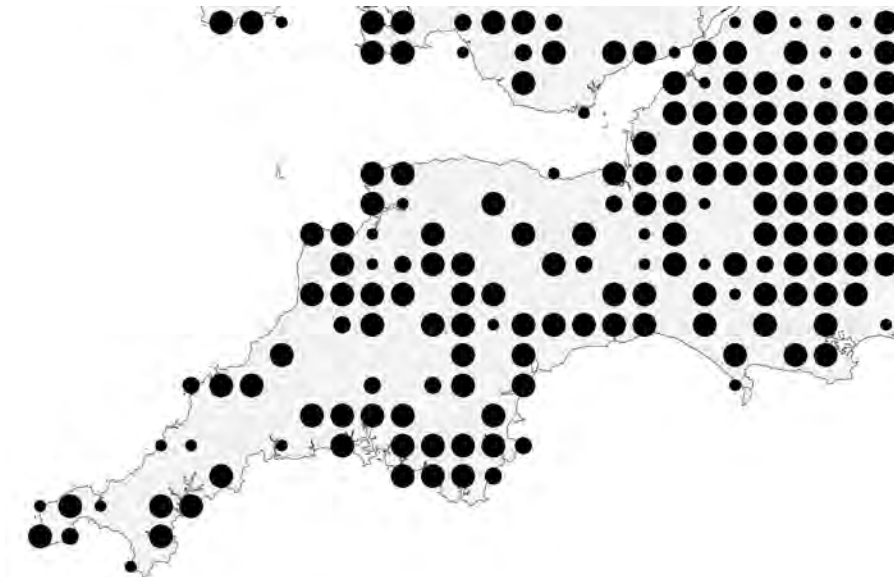
At the national level, the single most important conservation measure that can be taken to improve the lot of Barn Owls is to increase their food supply, as this is the main factor controlling their population level (Taylor 1994). Very little land is managed primarily for small mammals, which simply 'make do' with whatever habitat is left for them after all other land management objectives have been met. The first requirement for increasing small mammal numbers is an awareness of their importance amongst farmers and other land managers. Luckily, Barn Owls are a popular species, and the idea of creating prey-rich habitat for Barn Owls has more appeal than the idea of habitat creation for endangered invertebrate species, for example. Fortunately for those other species, the habitat created for Barn Owls can benefit a huge range of biodiversity (wildflowers, butterflies etc.), particularly those species that feed on invertebrates and small mammals.

In 2001 the Barn Owl Trust obtained 10 ha of species-poor intensively grazed sheep pasture and its conversion into perfect vole habitat has resulted in measurable increases in a vast range of flora and fauna (see 5.5). Following a reduction in grazing, and without any artificial introductions, numerous species have naturally colonised the site and many others have increased in numbers. For example, the number of Common Swifts



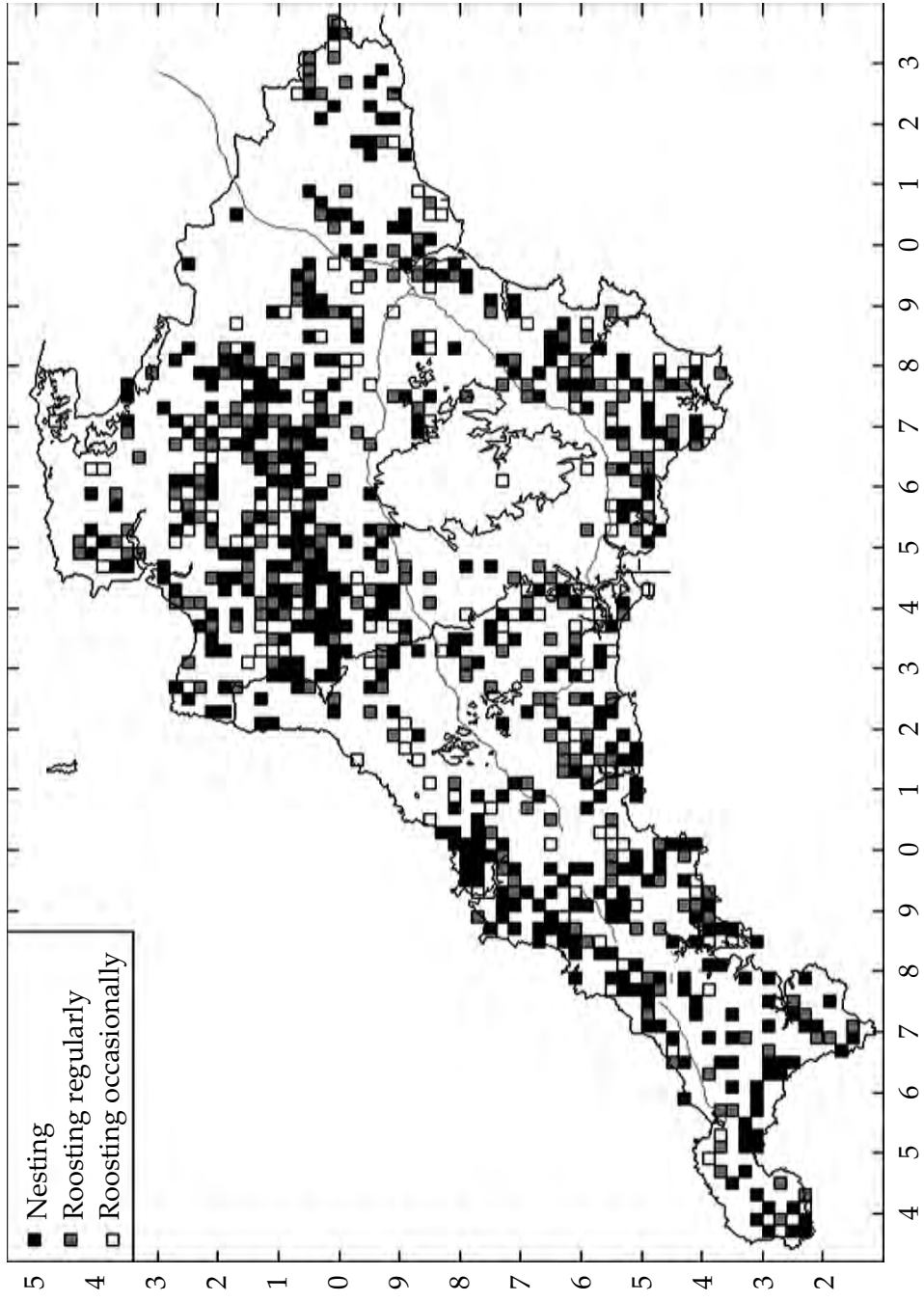
Provisional March 2011

**Fig 1.6** The breeding season distribution of Barn Owls in SW England as reported to the *Bird Atlas 2007–11* project INCLUDING Barn Owl data provided to the BTO by the Barn Owl Trust in memory of John Woodland (BTO regional rep for Devon 1993 to 2008). Map courtesy of the BTO © 2011.



Provisional March 2011

**Fig 1.7** The breeding season distribution of Barn Owls in SW England as reported to the *Bird Atlas 2007–11* project EXCLUDING all data from the Barn Owl Trust. Note the differences between Figs 1.6 and 1.7. When attempting to gauge a species' presence or absence in any area, distribution maps must always be viewed with caution. Geographical variations in recording effort and the provision or non-provision of data from local or regional recording groups can make a huge difference to a species' apparent distribution. Map courtesy of the BTO © 2011.



**Fig 1.8** Barn Owl distribution in Devon and Cornwall as recorded during the 2003 Devon Barn Owl Survey and the 2004 Cornwall Barn Owl Survey carried out by the Barn Owl Trust with assistance from both the Devon and Cornwall Birdwatching and Preservation Societies. Unlike the BTO Atlas maps, those produced by local and regional recorders are usually published at tetrad level (showing each 2 x 2 km square). This finer resolution is much more useful when investigating local species distribution. © Barn Owl Trust

*Apus apus* feeding over the site has gone from zero to over 100 and the number of observed Great Green Bush Crickets *Tettigonia viridissima* has risen from zero to well over 50. Between 1982 and 2001 Marbled White *Melanargia galathia* butterflies were never seen on the site, but on one day in 2011, 189 individuals were recorded on transects covering only 10% of the site (Barn Owl Trust, unpublished data). Carpets of wildflowers, many hundreds of butterflies, countless invertebrates, and the bird species that feed on them are now present every year.

### 1.3.2 Commercial realities and advisory work

Persuading farmers and landowners to change the way they do things is far from easy – and yet, to a large extent, the conservation of farmland wildlife depends upon achieving this. Barn Owls are a flagship species and the thought of having Barn Owls on the farm is sometimes a sufficient incentive to secure a commitment to improve habitat. However, for most, the profit margin is always going to be more important than the field margin and conservationists need to understand the commercial realities that farmers face. To be able to visit a farm, understand the farmer's needs, understand the needs of wildlife, and arrive at the best possible compromise is a significant skill, especially when advice is delivered with tact and diplomacy, ample knowledge and an infectious enthusiasm for wildlife. The Farming and Wildlife Advisory Group (FWAG) are devoted to



**Fig 1.9** Barn Owl Trust staff checking potential Barn Owl sites in an isolated little valley. Before searching sites, Barn Owl survey workers should ask the landowner if they are already being monitored. © Barn Owl Trust. Photographer David Ramsden.

this cause as (to some extent) are all wildlife organisations that offer advice. The Barn Owl Trust, along with many independent Barn Owl groups and individual enthusiasts, carries out habitat advisory work specifically with Barn Owls in mind. Of course there are numerous others who offer farmland wildlife advice in pursuit of their own particular objectives. The provision of financial incentives through agri-environmental grant schemes is obviously important in this regard. However, experience shows that the scope for habitat improvement is often greater with non-agricultural land, that is, land that is not managed for profit. *For further information, see Chapter 5.*



**Fig 1.10** A BTO ring being fitted to an adult Barn Owl. The subsequent reporting of rings provides a wealth of information that facilitates research and conservation. © Simon Thurgood.



**Fig 1.11** Beautiful portrait of a BTO-ringed Barn Owl by Nick Sampford. © The late Nick Sampford.



**Fig 1.12** Perfect Barn Owl foraging habitat created by the Barn Owl Trust. Permanent rough grassland with a good litter-layer is a wonderful habitat supporting a wide range of species, particularly invertebrates. We have been amazed by the sheer scale of increases in an extremely diverse range of species, including birds, flowers and butterflies as well as small mammals and their predators (see Chapter 5). © Barn Owl Trust. Photographer Matthew Twiggs.

several larger organisations. Before checking or replacing an existing box always ask the site owner who erected it, liaise as appropriate, avoid duplication of work and remember the importance of minimising disturbance to the birds (see 3.1.5).

### 1.3.4 Reducing mortality

Other on-site Barn Owl conservation measures include the prevention of drowning by the fitting of safety devices to water troughs and advice aimed at reducing the likelihood of Barn Owls being poisoned by eating poisoned rodents (see 7.3.1).

At the other end of the scale is the strategic role of agricultural policy reform for the benefit of farmland birds, mainly carried out by the Royal Society for the Protection of Birds (RSPB) and other national campaigns aimed at reducing the impact of specific problems. For example, after years of pressure, rodenticide manufacturers finally included the words 'harmful to wildlife' on their products. However, the information they currently provide on secondary poisoning is still woefully inadequate (see 7.3.2.3).

In spite of the thousands of Barn Owls killed every year on Britain's trunk road network, intense pressure from the Barn Owl Trust (Ramsden 2003), and the reassurances given in its Biodiversity Action Plan, the Highways Agency has singularly failed to introduce measures which would adequately protect this iconic 'protected species' (see 7.3.3).

### 1.3.5 Biodiversity Action Planning for Barn Owls

Biodiversity Action Planning is a proactive process whereby all those with an interest in a particular species or habitat get together and ultimately agree upon a list of beneficial actions. These actions are then implemented by individuals or organisations identified in the plan and the agreed *Leader* or *Champion* monitors progress. Species Action Plans for Barn Owls are currently contained within 83 Local Biodiversity Action Plans in the UK. A full list is provided in Appendix 2 *Barn Owls in Biodiversity and Species Action Plans*. For anyone involved in the production or improvement of a plan, Appendix 2 provides further information including a list of appropriate actions. Biodiversity Action Planning highlights particular conservation concerns and can stimulate media

### 1.3.3 Providing nestboxes

The most popular conservation measure for Barn Owls is undoubtedly nestbox erection and in the late 1990s it was estimated that 25,000 boxes for Barn Owls had already been erected. In many areas Britain's Barn Owl population has become largely dependent on the provision and maintenance of nestboxes because of a severe lack of natural nest/roost sites (such as hollow trees) and semi-natural sites (such as old barns). For this reason it is vitally important that nestboxes are designed, positioned and sited in ways that maximise their suitability for the birds (see Chapter 6). However, experience unfortunately indicates that the design and siting of nestboxes is more often influenced by considerations of human satisfaction than by an assessment of the owls' real needs. Nestboxes are erected by a wide range of individuals, local volunteer groups and by



**Fig 1.13** Aerial view of rough grass field margins on arable land in Cornwall. The combination of a thick hedgerow, wide band of thick tussocky grass and cereal crop provides ideal conditions for voles, shrews and mice. © Barn Owl Trust. Photographer David Ramsden.

interest and attract funding. Whether or not it results in sustained conservation action depends to a large extent upon strong leadership.

### 1.3.6 Barn Owls need YOU: a personal plea

If we consider that 89% of Britain's Barn Owls have been eating poisoned rodents, that about a quarter of all the young Barn Owls that fledge die on a major road, and that starvation is almost certainly an even bigger cause of mortality than either of these factors, then it seems absolutely astonishing that there are any left at all!

The Barn Owls that need *your* help are the ones in your area. Whether you are an arable grower in East Anglia, a West Country dairy farmer, a shepherd in Wales, a commercial forester in the Scottish Borders, an ecological consultant in the Home Counties, a coastal ornithologist, a Crown Estates land agent, a university conservation volunteer, or involved in any other land-related activity, BARN OWLS NEED YOUR HELP.

- If your work is countryside or bird related (e.g. farming, rural buildings, trees, planning, development or conservation) you can certainly help by being more aware of the possible presence of Barn Owls in the course of your work.
- If you have colleagues or customers, why not ask them if they ever see a Barn Owl? Raising awareness is not particularly difficult, or time consuming, but it is important and can be likened to 'sowing seeds'





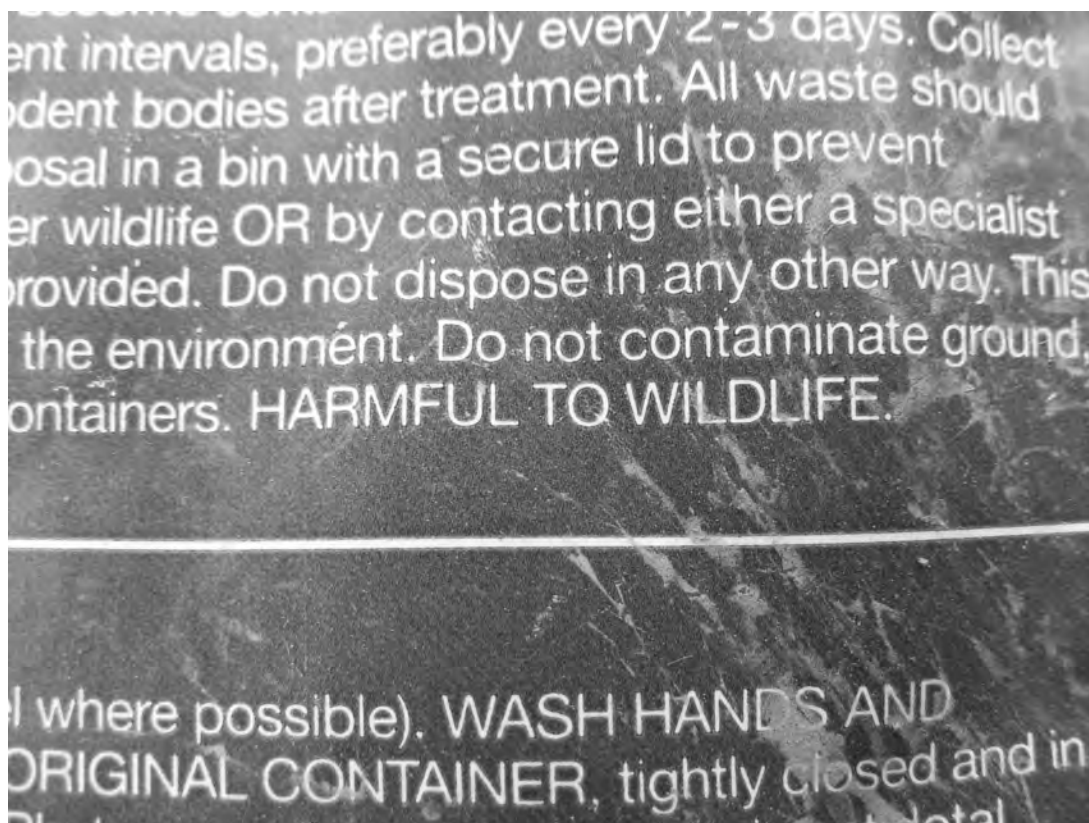
**Fig 1.14** A purpose-made nestbox (with its lid removed) about to be erected in a modern agricultural building. © Barn Owl Trust. Photographer David Ramsden.

in people's minds. The next time you meet, raise the subject of Barn Owls again and see if the 'seed' has germinated. As soon as it feels appropriate, make a suggestion that will lead to action. Something like: 'By the way, there's a local Barn Owl group based down at xxxxxxxxxxxx, and I'm sure they'd be interested - I'll give you their number'. Some landowners are just not interested, some are fiercely independent and a small minority feel very defensive of 'their' Barn Owls. Fortunately, the vast majority are usually more cooperative.

- In your free time, have you thought about contacting your nearest Barn Owl group and volunteering your help?

Perhaps you could visit a local farm, politely introduce yourself and ask how long ago a Barn Owl was last seen there, exactly where it used to roost or nest, would the farmer like to see Barn Owls around the place again, is there anywhere one could still be roosting, are there any areas of really rough-looking grass on the farm, would it be all right for you to erect a nestbox in one of the sheds, could additional areas of rough grassland be created, has the landowner thought about entering an agri-environment grant scheme?

There is absolutely no substitute for *personal involvement* in hands-on nature conservation and the sense of achievement that comes with it. In Barn Owl conservation, the ultimate reward is the successful establishment of a new pair, watching them hunt at sunset, realising that they are nesting, then seeing one of the young take its first flight...these are moments to treasure that will stay with you forever.



**Fig 1.15** Since 2003 manufacturers have been required to include the statement 'HARMFUL TO WILDLIFE' on rodenticide products. However, they are not yet required to provide ANY information about secondary poisoning or point out that these products KILL Barn Owls. Nor are they required to state that 89% of Barn Owls contain these types of poison and that the effects of sub-lethal doses are unknown (see 7.3.1 and 7.3.2). © Barn Owl Trust. Photographer Matthew Twiggs.

## 1.4 The European perspective

The extent to which the information presented in this chapter can be applied to other parts of Europe varies a great deal from section to section. Here is a brief overview.

The idea of *learning* a little about individual species so that you can interpret reports of owls from the public can obviously be applied universally. However, the *availability* of the required information about the species and its ecology does vary quite substantially across Europe. In addition, there are far more owl species in mainland Europe to learn about. It would be foolish to try to make sense of reported owl sounds in Spain with no knowledge of Eurasian Scops Owls *Otus scops* and the owl surveyor who decides to start checking tree cavities in northeastern Europe without first considering the behaviour of Ural Owls *Strix uralensis* may not last very long! Yet in spite of the differences, some information in this chapter certainly does apply throughout Europe. Although the main *calls* of the owl species described can have local dialects, they are essentially the same. Similarly, typical *colouration* may differ slightly across Europe but probably not much more than the variation between individuals seen within any one country. Barn Owls in Britain and western Europe are mainly the white-breasted race *Tyto alba alba* and Barn Owls in eastern Europe are mainly the dark-breasted race *Tyto alba guttata*. In central Europe both races are present and interbreed. In Britain and Spain, for example, the races are partially mixed, as *guttata* individuals occasionally arrive and breed with local birds. Similarly, white-breasted birds occur in eastern Europe. In all but their colouration the two races are apparently very similar.



**Fig 1.16** Field Voles are the most important prey for many Barn Owls in Britain but are far less important across mainland Europe where other species of field-dwelling voles also occur. © Barn Owl Trust. Photographer David Ramsden.

*Little Owls* are more abundant in southern Europe than they are in Britain, probably because they eat a lot of invertebrates, and large beetles are much more numerous in warmer climates. On a summer's evening drive through olive groves and small fields in southern Spain it is quite easy to count as many as ten *Little Owls* in 30 minutes (D. Ramsden, personal observation). Indeed, at 560,000–1,300,000 pairs, *Little Owls* have the highest European population estimate of all five species (Burfield & Bommel 2004).

*Tawny Owls* are also more numerous across most of Europe, for example in the vast forests of France, Germany, and Poland, and although they will take many species of woodland small mammal that do not occur in Britain, their basic ecology is the same. In Norway, where prey abundance is far less than in Britain, *Tawny Owls* have much bigger territories, but in most other respects their behaviour is similar (Mikkola 1983). *Barn Owls*, on the other hand, are absent from Norway, Finland and all but the southernmost tip of Sweden. *Long-eared Owls* are much more numerous in central and eastern Europe than in the rest of Europe. On a motorway journey in Britain it is only too easy to count dead *Barn Owls*, but during a similar journey in Hungary the dead owls spotted will usually be *Long-eared Owls* (D. Ramsden, personal observation). Whereas the small communal winter roosts of *Long-eared Owls* in Britain are always in the countryside, in central and eastern Europe they are almost always urban – perhaps because of the slightly warmer air temperature in built-up areas. A small group of fir trees in the grounds of a suburban school, for example, will often be the daytime roost for over 30 *Long-eared Owls* (D. Ramsden, personal observation) and roosts of over 100 are quite commonplace.

In Britain, the only species of *vole* that is numerous in open grassland are *Field Voles* (also known as *Short-tailed Voles*). *Field Voles* generally prefer to stay above ground, using the cover afforded by very long grass, or ideally the permanent deep litter-layer that is present in rough grassland. Where grass is kept short (usually by grazing or cutting), voles are few and far between and it is for this reason that the creation of rough grassland

**See Plate 12 A dark-breasted Barn Owl of the sub-species *Tyto alba guttata* in the care of The Barn Owl Foundation (Hungary).**

The major differences are in *habitat, diet and roost/nest site selection*. *Owls* in mainland Europe tend to eat basically the same sort of diet, but its composition and prey species are usually different. The warmer climate in southern Europe often means that owl prey is sufficiently abundant on high ground, and therefore owl species are present at much higher altitudes than they are in Britain. All five of the species described in this chapter are well distributed across Europe and all of them are more numerous in certain parts of Europe than they are in Britain.

*Barn Owls* are widely distributed across Europe, with the exception of Scandinavia, and are much less restricted to lowlands. Altitudinal *distribution* is closely linked to prolonged snow cover. At more southerly latitudes long-duration snow cover is generally restricted to higher elevations, allowing the species to forage at significantly higher altitudes than the approximate 300 m ceiling imposed by the UK's northerly climates. Studies by Kaus (1977) in Germany found *Barn Owls* up to about 500 m whilst Alegre *et al.* (1989) recorded the species to 1300 m in Spain, which, as Taylor (1994: 213) observes, coincides with approximately 40 days of winter snow cover at these elevations. Another fundamental difference is that *Barn Owls* in mainland Europe commonly breed in urban areas where there are suitable nesting spaces (e.g. Baudvin & Jouaire 2001). Indeed, they can even be found nesting within major European cities, such as in Rome (Salvati, Ranazzi & Manganaro 2002) and in Seville, where they also forage (I. Fajardo, personal communication). For further information, see Chapter 2.



**Fig 1.17** A Barn Owl nest site in Zala District, Hungary. Barn Owl nests across mainland Europe are often located in towns and villages as well as more rural locations. Nests are usually higher above the ground than in Britain, possibly due to the presence of Stone Martens. © Barn Owl Trust. Photographer David Ramsden.

is the dominant idea in habitat creation for Britain's Barn Owls. Immediately upon arrival in mainland Europe one has to adopt a completely different approach because of the presence of Common Voles *Microtus arvalis* and other small mammal species which are absent from Britain, such as Savi's Pine Voles *Microtus savii* and Mediterranean Pine Voles *Microtus duodecimcostatus*. These vole species are much more inclined to burrow underground and do not need rough grassland in the way that Field Voles do. *For more information see 2.6.3, Figs 2.44 and 5.6.*

Another area of variation across Europe is in the types of sites that Barn Owls use for roosting and nesting. To an extent this is governed simply by the types of site that are available to them, but is almost certainly influenced by the presence in mainland Europe of Stone Martens *Martes foina* (sometimes known as Beech Martens), which are absent from Britain. Stone Martens are voracious predators, eating birds and eggs as well as small mammals. They are able to climb vertical walls without difficulty and often live in attics (Jędrzejewski & Sidorovich 2010). Amongst European owl nestbox providers, Stone Martens are well known raiders of owl nests and this is probably why Barn Owls generally roost and nest in the tallest buildings available, such as church towers, which are usually situated in towns and villages. *For more information see 6.5.* Potential nest predation by Stone Marten means that the availability of safe nesting places can be extremely low in some areas. This may help to explain why Barn Owls and Tawny Owls sometimes nest sequentially in the same nestboxes and Barn Owls may kill small Tawny Owl chicks in order to nest earlier (rather than waiting for the Tawny to complete their nesting cycle) (Matics et al. 2008).

Researchers in southern Spain have observed Barn Owls regularly feeding in towns and cities as well as roosting and nesting there (I. Fajardo, personal communication). However, even in countries where Barn Owls occupy urban sites, the vast majority reside in more rural areas, making use of agricultural, domestic and other buildings as well as churches, tree hollows and nestboxes.

Barn Owl *population decline* has occurred across much of Europe and the reasons behind this (a reduction in food supply, the loss of roost/nest sites and increased man-made mortality) are essentially the same as those in Britain, although their relative importance will obviously vary from area to area. The theory behind population

level control is universal and those factors identified as exerting the most influence in Britain are almost certain to be the main factors in mainland Europe as well.

In summary, before attempting to use this handbook in mainland Europe, it must be remembered that the information provided on Barn Owl distribution, population monitoring and conservation is largely UK-specific and that additional information will therefore be required. *Owls of Europe* by Heimo Mikkola (1983) is an excellent place to start, but there will never be a substitute for making use of the first-hand knowledge of an experienced person in the relevant country. To find such people, we suggest that you contact Birdlife International (see Appendix 1 *Contacts*).