

Chapter 1: Introduction: Framework



For centuries, all across the world, humans have had a continuous and strong cultural relationship with owls (Marcot and Johnson 2003), traceable back 30 000 years to caves in France. Some cultures view owls as omens of back luck, sickness and death, while others view them as creator beings or helping spirits, having profound wisdom, oracular powers or the ability to avert evil. Depending on where you are within the range of the Little Owl, both of these divergent (bad or good omens) are still held for owls.

In the mid twentieth century, drastic declines in several owl species attracted the attention of ornithologists, conservationists and researchers. Throughout Europe the decline of the species is mainly being caused by habitat destruction, especially due to the intensification and mechanization of agriculture. In order to counter this negative situation, scientists and conservationists have realized the need for international co-operation through a multidisciplinary approach.

Early literature on the Little Owl reflected general studies on biology, distribution, diet, nesting and habitat. In 2008 our first edition of this book (Van Nieuwenhuysen et al. 2008) was published. The publication gave a review of most of the literature that was available at the time. Since then, substantial new findings on the Little Owl have been produced from a growing number of countries within the range of the owl. Since our first edition, much has changed. Literature is now always digitally available as pdf files, primarily in English or at least containing English abstracts. Contacting authors has become simple, no matter which country they originate from. High-quality digital pictures are now available which are time-stamped and georeferenced as input for solving the taxonomic challenges within the species, yielding sample sizes that are 10- to 100-fold times larger than in the early days of ornithology. The georeferencing has allowed virtual travel to landscapes by means of maps and local landscape pictures enabling landscapes across the entire range of the species to be discovered, even in the most remote and hostile countries. Last but not least, the evolution of the artwork proved crucial for this book, having high-quality illustrations available digitally created by Joris De Raedt. This technological advancement in merely one decade has allowed us to take a giant leap in relation to our first edition.

The aim of this current book is to synthesize the substantial literature and knowledge base on this species and provide a more complete understanding of its range-wide ecology and conservation status. While rooted in science, this book has the principal aim of making the insights accessible to the wider international public. Recognition and appreciation of volunteer work is also of crucial importance for nature conservation. Virtually unlimited input of volunteers not only helps to construct huge,



standardized and reliable databases, it also helps to broaden the social network of nature conservation. In this way, nature conservancy is brought closer to the general public. The best guarantee for long-term conservation is to obtain the critical scientific insights resulting from co-operation between scientists and conservationists. The overall importance of detailed large-scale and long-term data collection by volunteers aided by scientists, and their contributions to applied as well as to basic scientific research, becomes increasingly important. Hence, a perfect blend of fieldworkers, data analysts, photographers and publishers is needed.

Finally, the Little Owl is a useful ambassador for small-scale half-open landscapes (ranging from pastoral landscapes with scattered trees to stony steppe deserts) and as such deserves special attention. The species has a multitude of strategic features that make it a flagship of the rural environment: the species is very well known among the public, it is still present in reasonable numbers in most European countries and is readily observed, and the Little Owl can offer us insights into methods to implement nature restoration. Due to its “high cuddle factor” it is a perfect vehicle to transfer nature conservation values to the broader public.

The framework of this book (Figure 1.1) reflects the complexity of the situation of the species at different scales. To position the Little Owl in a cultural context we look at the history and cultural traditions connected to the species and interpret this in the light of current knowledge (Chapter 2). Results of a large-scale research project dealing with owl myths and culture spanning over 6000 interviews collected in 26 countries are reported. Then we start with the bird itself and describe the taxonomy, the races to settle some taxonomic discussions (Chapter 3) and the morphology of the species (Chapter 4). Major progress has been made on genetic, morphological and biogeographical insights into the subspecies of the Little Owl. More data were collected on size and coloration of stuffed birds from various historical collections. Skins were measured and photographed, opening up new standardized, historical data. Genetics allowed for more clarification on the postglacial colonization of the different European subspecies. The distribution of the different subspecies and recent population estimates for the Western Palearctic are given in Chapter 5 to illustrate the diversity and local peculiarities. We then zoom in on both biotic and abiotic factors that influence Little Owl numbers. The habitat is described and the relationships between the landscape and the species are characterized in Chapter 6. A principal biotic factor inside the habitat is the food delivering the crucial energy input for the birds. Abiotic factors such as breeding cavities and perches show their importance for breeding and foraging efficiency to minimize the energetic cost for the birds (Chapter 7). Chapter 8 focuses on the breeding season and the genetic offspring of the birds, including clutch size, hatching and fledging success in relation the age of the birds. We then describe the behavior of Little Owls (Chapter 9), mainly based upon captive breeding data and complemented by almost two decades of webcam observations. The next section zooms in on the limiting factors for population regulation that influence the number of owls in a given geographic environment (Chapter 10). Input into the local population from outside is through immigration, re-introduction or supplementation. Local offspring feed back new owls into the local population too. Population outflow is observed

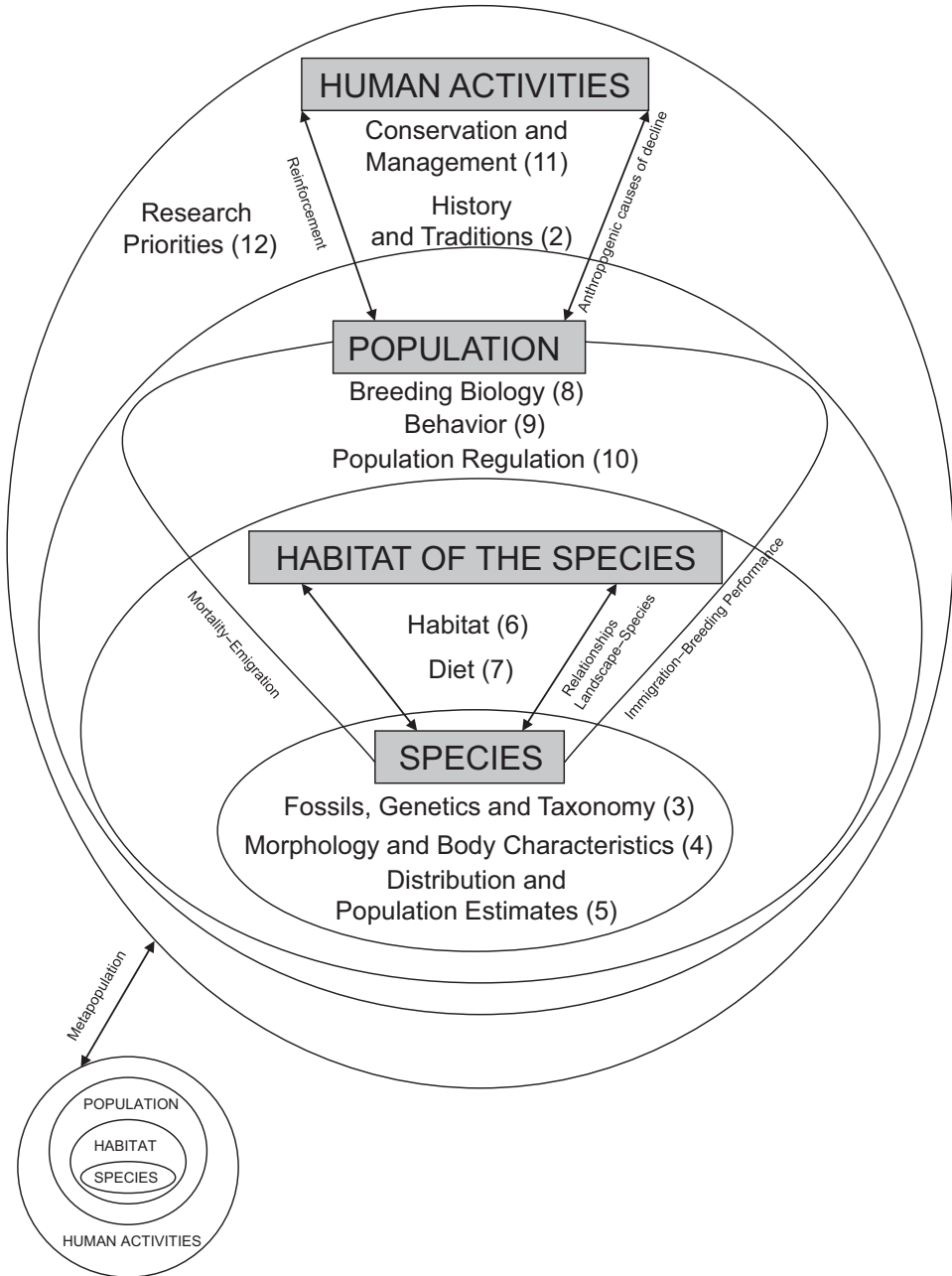


Figure 1.1 Framework of the book.

through emigration and local mortality. Both external input and outflow, and local offspring and mortality influence the number of owls in a given location. Mechanisms that interact between local populations such as migration, metapopulation functions and the occurrence of sinks and sources place the individual parameters in a wider



context. The insights obtained through population studies have proven to be crucial in conservation. After describing the main causes for declines in the species, we summarize the knowledge presented so far in the form of an international Little Owl conservation and management strategy and best practices (Chapter 11). This chapter will also discuss specific methods involved in reintroducing and translocating owls, captive breeding and releasing Little Owls into the wild to establish or improve local populations. Finally, we conclude this book with an overview of the key points raised and the most important open questions and advice for future studies (Chapter 12).

Readers will find supplementary resources online at www.cambridge.org/littleowl. These include appendices as well as tables which previously appeared in the first edition (Van Nieuwenhuysen et al. 2008).