1

Introduction

For centuries, all around the world, humans have had a continuous and strong cultural relationship with owls (Marcot & Johnson 2003), traceable back 15 000 years to caves in France. Some cultures view owls as omens of bad luck, sickness, and death, while others view them as creator beings, 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 viewpoints (bad or good omens) are still held for owls. (Figure 1.1).

In the mid 20th century, drastic declines in several owl species attracted the attention of ornithologists, conservationists, and researchers. Throughout Europe the decline of Little Owls 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 multi-disciplinary approach.

Early literature on the Little Owl reflected general studies on the biology, distribution, diet, nesting, and habitat. In the early 1990s an excellent book was published on the species in German (Schönn *et al*. 1991). This publication gave a review of most of the literature that was available at that time. Since that time, substantial new findings on the Little Owl have been produced (in many languages!) from a growing number of countries within the range of the owl.

Recently, the International Little Owl Working Group (ILOWG) organized three international Little Owl symposia in three years: the first International Little Owl Symposium in Europe '*Little Owls and landscapes*' took place in Champ-sur-Marne, France, in November 2000, the second International Little Owl Symposium '*The Little Owl in Flanders in its international context*' in Geraardsbergen, Belgium, in March 2001, and the third in Cheshire, England, in November 2002. Participants from eight European countries attended the meetings. The ILOWG boosted international communication and the exchange of knowledge and allowed us to obtain until now unexploited information from the former Soviet Union, the Middle East, Arabia, and China. The most recent literature overview of the species was published in the Update of the Birds of the Western Palearctic (Génot & Van Nieuwenhuyse 2002).

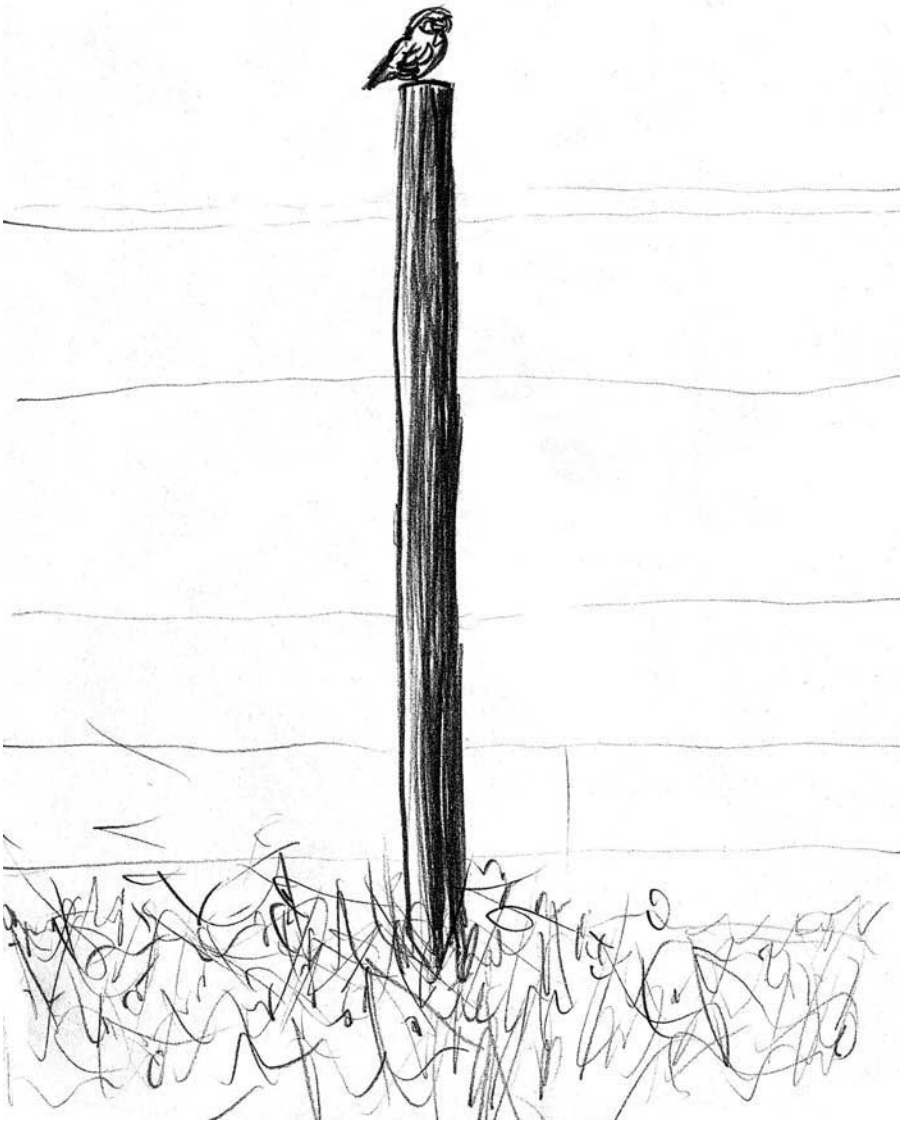

Figure 1.1 Little Owl on a fence pole (François Génot).

Researchers conducting ringing and habitat studies have made substantial findings to our understanding of the Little Owl. At the end of the twentieth century, new papers offered important data on meta-populations and the relations between the Little Owl and the landscape at different geographic scales. Growing numbers of enthusiastic volunteers want to help conserve owls. Given our field experiences with owls, the growing body of scientific literature on the Little Owl, and our desire to further international collaboration and owl conservation, we have undertaken this project.

While rooted in science, this book has the principal aim of making the information accessible to the larger international public. This follows in the spirit of the United Nations declaration of the year 2001 to volunteers and conservationists in recognition of their crucial international contributions. Recognition and appreciation of volunteer work is also of crucial importance for nature conservancy. The valuable input of volunteers not only helps to construct huge, standardized, and reliable databases, it also helps to broaden the social network of nature conservation.

The Little Owl is associated with small-scale half-open landscape (ranging from pastoral landscapes with scattered trees to stony steppe deserts). The species has a multitude of strategic features that make it an indicator of a healthy environment: the species is very well known to 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 the methods of implementing 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 reflects the complexities of the species in different social and ecological contexts (Figure 1.2). To position the Little Owl in the cultural context we look at the history and cultural traditions of the species (Chapter 2). We describe the taxonomy and genetics of the owl (Chapter 3), and then characterize the morphology and body characteristics of the species (Chapter 4). Distribution aspects, population estimates, and population trends are given in Chapter 5. Owl habitat is described and the relationships between the landscape and the species are characterized in Chapter 6. The diet of the Little Owl has been studied in many regions, and we summarize the substantial literature on diet in Chapter 7. We examine the breeding biology, nests, and foraging of the species in Chapter 8, We then describe the behavior of Little Owls (Chapter 9) mainly based upon captive breeding data but also new recent material. Chapter 10 offers insights into factors that influence the number of owls in a given geographic environment and act to regulate owl populations. Aspects of immigration, re-introduction, supplementation, emigration, and local offspring and mortality are discussed. Mechanisms that interact between local populations such as migration, meta-population 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 aummarize conservation strategies for the Little Owl (Chapter 11). In Chapter 12, we offer an overview of the most important open questions and offer recommendations for future studies summary of future research activities. In Chapter 13, we propose an ambitious monitoring program for the owl, involving a network of 30 Vital Sign demographic study areas across 20 countries. In our final section (Chapter 14) we close by focusing on the fundamental role that volunteers play in owl science and conservation.

During our work on this book, we became aware of the need to clarify the terminology used in characterizing nesting success and other aspects of owl demography. Clarification of terms is important in order to provide a scientific foundation for the accurate and consistent collection and analysis of data gathered across the range of the

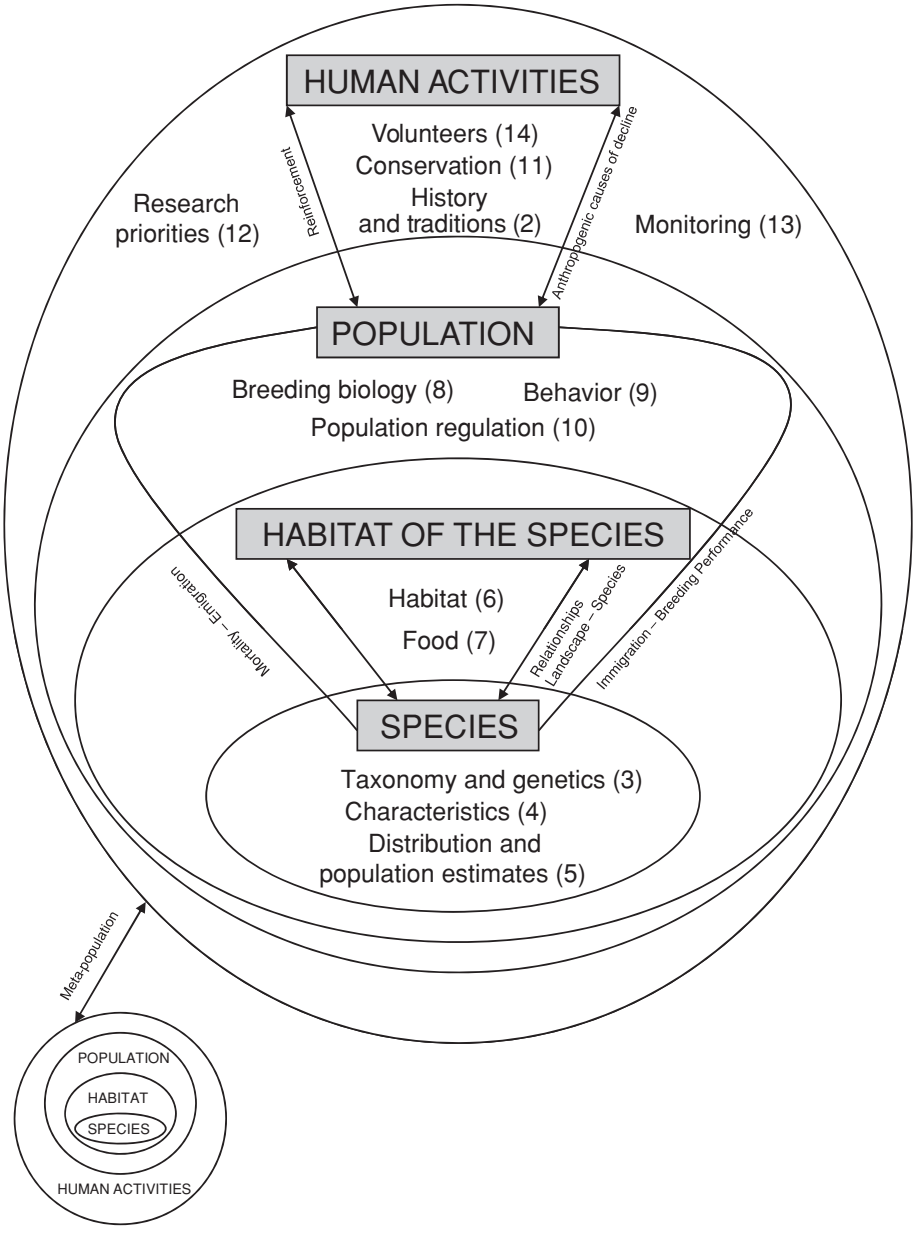

Figure 1.2 Framework of the book. (Numbers in brackets refer to the relevant chapters in the book.)

Little Owl. We offer definitions for key terms throughout the book, but particularly in the glossary.

A fudamentally important aspect of our work has been on assembling the available literature on the Little Owl. A bibliography on the species, along with queries based on keywords, is offered in a special section at the end of this book.

2

History and traditions

Throughout human history, owls have variously symbolized dread, knowledge, wisdom, creator beings, death, witchcraft, and religious beliefs in a powerful spirit worlds. See Figure 2.1. A small but important body of literature is beginning to document the important aspects of owls both across cultures and through time (e.g., Medlin 1967; Simmons 1971; Stuart 1977; Holmgren 1988; Gimbutas 1989; Weinstein 1989; Enriquez & Mikkola 1997; Marcot & Johnson 2003).

The most ancient representations of owls date from the Upper Paleolithic (13 000 BC) and are seen in two caves in France. The first site reflects three owls (generally considered Snowy Owls) in the "Gallery of the Owls", in the French cave of Les Trois Frères in Ariège. A second site, in the Cave Chauvet (Chauvet *et al.* 1996) represents a single "eared" owl that looks to be a Long-eared Owl (or Eagle Owl). Other prehistoric sites with owl art and symbolism are found in an array of locations around the world, such as the Victoria River region of northern Australia, the Columbia River region of northwestern USA, and a Mayan cultural site in what is now Guatemala (Marcot & Johnson 2003). In the east Mediterranean, archaeological digs in Syria and Jordan have recovered anthropomorphized owls in the stone or clay as early as the pre-pottery Neolithic period (8000–6500 BC)(Gimbutas 1989:190–195). Representations of Little Owls were found associated with the Xian culture (a society of agriculturists) in Inner Mongolia, dating from 8000–7500 BC (Schönn *et al.* 1991).

Owls have been viewed by human societies in many different ways. Some societies view owls as a single group of animals (e.g., species are not differentiated and any owl is a bad omen), and others view large owls as bad (harbingers of bad luck, illness, death) whereas small owls are not viewed in this way. Still others are attentive to specific owl species for medicine, religious, or hunting applications (and of course for current-day conservation purposes). Societies and societal values change, and whereas owls may have been viewed in one way or another in the past, current cultural views may differ. For example, during the Middle Ages, the owl was linked to witches and bad spirits, but nowadays in Turkmenia, the Little Owl is a sacred species and to kill one is a great sin (Shukurov in Khokhlov 1995). Another example of this change may be seen (in general) in Western culture, where newer perspectives pertain more to scientific understanding and conservation needs of owls; a specific example is how Spotted Owls have become symbols of old-growth forest protection.

Figure 2.1 Little Owl drying its feathers (François Génot).

Included in her book on the religion of the Old European Great Goddess, Gimbutas (1989) presents a pictorial "script" consisting of signs, symbols, and images of divinities. The main theme of goddess symbolism is the mystery of birth and death and the renewal of life, not only human but all life on Earth. Symbols and images cluster around the partheno-genetic (self-generating) goddess and her basic functions as giver of life, wielder of death, and as regeneratrix. Overall, owls were deeply feared, and viewed as the harbingers of

death. The goddess in the guise of an owl was prominent in stone, pottery (e.g., terracotta figurines, burial urns), engravings on statues, schist plaques, bone phalanges laid in graves, drawings, amber figurines, wooden posts, and gold sculptures in this prehistoric religion, which extended from the Neolithic to the Early Bronze Age (general dates of 6500 BC to 2500 BC). Archaeological artifacts and images of owls in this religious context were generic or abstract in shape and pattern, and specific images distinguishable as Little Owls are not apparent. The features that characterize owls (round eyes and beak) can be seen on statue menhirs of southern France and the Iberian Peninsula, and in reliefs and charcoal drawings in the hypogea of the Parisian basin. A series of stelae and drawings of the Owl Goddess from Brittany and the Paris basin are depicted with breasts and one or more necklaces. Beautiful examples of owl-shaped burial urns dating from *c*. 3000 BC come from the Baden culture in Hungary, from Poliochni on the island of Lemnos, and from Troy. They have wings, the characteristic owl beak connecting arched brows, and sometimes a human vulva or a snakelike umbilical cord, symbols of regeneration. In continental Greece, gold sculptures have been found in the *tholos* tombe (Kakovatos, Pylos) and from shaft graves in Peristeria of the fifteenth century BC (Marinatos 1968: pl. 58). In spite of the gloomy aura that surrounds it, the owl has also been endowed with certain positive qualities, such as profound wisdom, oracular powers, and the ability to avert evil. However, this latter ambivalent image is a dim reflection, diffused through time, of the owl as an incarnate manifestation of the fearsome Goddess of Death. Perhaps she was respected for her grim but necessary part in the cycle of existence, as the agony of death, which we take so much for granted, was nowhere perceptible in this symbolism (Gimbutas 1989).

With its large distributional range across Europe, the Middle East, and Asia, and an ability to co-exist as a commensal with many human habitations, not surprisingly, the Little Owl has figured prominently in many cultural beliefs, and in a variety of ways. The common names given to this species across the countries are linked to its activity (Nightbird), to its voice (Kliwitt), to its morphology (Little Owl), to its food (Lark Owl or Sparrow Owl), to the beliefs (Death Bird), to its habitat (House Owl, Willow Owl, Stone Owl), and to mythology (Bird of Minerve [Roman]).

The Little Owl was first formally described to science by Giovanni Antonio Scopoli in 1769 (Scopoli 1769). The origin of its scientific name, *Athene noctua*, combines the genus *Athene*, derived from the goddess of wisdom Athena in Greek mythology, and the species *noctua*, as derived from the nocturnal characteristics of this bird of prey. An early name for the Little Owl, *Strix passerina*, was noted on Thomas Bewick's 1797 drawing. This scientific name was not used, as the name *Athena noctua* more accurately placed the Little Owl within the taxonomic naming convention of owls. While the origin of the English name, Little Owl, is probably linked to the size of the owl, the German and Dutch names – Steinkauz and Steenuil, respectively – refer to the open habitat of this species that it uses in many countries, where it breeds in piles of stones. Common names for the Little Owl in other countries include:

Figure 2.2a Greek silver tetradrachm coin showing the image of the Little Owl.

Italy: Civetta
Spain: Mochuelo Comun
Portugal: Mocho
France, Wallonia, Switzerland: Chevêche d'Athéna
Germany, Austria, Switzerland: Steinkauz
Greece: Κôυκουβάγια (Koukouvaya)
Denmark: Kirkeugle
Netherlands, Flanders: Steenuil
Turkey: Kukumav
Russia: Domovogo sycha
Georgian: Tchoti
Hungary: Kuvik
Mongolia: Chotny bugeechej
Somalia: E'yu

The relationship between the Little Owl and Greece is very long indeed, and is one of the most well-known affiliations between a particular owl species and a prominent society. This affiliation is again alive and prospering, with the new Greek one-euro coin showing the same Little Owl design as the former tetradrachm coin from 2500 years ago (Figures 2.2a and 2.2b).

In Greek mythology, Athena was the daughter of Zeus and originally a Mycenaean palace goddess. Her function later expanded to include the role of guardian of cities, war goddess, patroness of arts and crafts, and promoter of wisdom. Always shown modestly clothed and

Figure 2.2b Greek one-euro coin showing the image of the Little Owl, 2002.

often armed, the Little Owl is her special bird. Figure 2.3 shows a fifth century BC bronze sculpture of the Goddess Athena holding the Little Owl in her hand.

An emblem refers to some distinctive characteristic or activity for which the issuing city is known. The Attica tetradrachm coin bearing an obverse head of Athena and reverse owl with olive branch is perhaps the best known example of a city emblem. The Greek Goddess Athena is a punning reference to the city (in Greek, *Athenai*) that honored her as its chief protective diety. The owl as Athena's favorite bird, and the olive, which was one of the city's most lucrative exports, in time came to stand for Athens throughout the Mediterranean world. With rich silver mines at Laurium at the southern tip of Attica, the Athenians were able to export bullion for foreign exchange at a time when most Greek states restricted coinage to home use. The necessity to create a standardized Greek currency that would be widely acceptable demanded a rigid uniformity in metallic purity, type, and style seldom seen elsewhere in the Greek world. What resulted from *c*. 525 BC onward was the famous series of tetradrachms that carried an obverse image of Athena's head on one side, and a Little Owl with an olive branch and a cresent moon on the reverse. The type was kept in circulation for the next two centuries. The coins were made of silver, and their nickname "owls" become synonymous with Athen's commercial power. The *Obal, Stater, Drachm, Didrachm, Tetradrachm, Octodrachm*, and *Decadrachm* are terms for common denominations based on these weight systems. See Figures 2.4, 2.5 and 2.6.

About 77 BC, the Roman scholar Pliny the Elder assembled more information about the owl in a few chapters of Book X in his *Historia Naturalis*. He specified the Little Owl, the Eagle Owl, and the Screech Owl. His observations were laced with beliefs not entirely sound by today's zoological standards, but they were studied as gospel during the Middle Ages (Medlin 1967:20).