

## HOOFDSTUK 9 SUMMARY

### CHAPTER 1 Introduction

*Mammals in the Netherlands* is the third nationwide overview of the occurrence and ecology of wild mammals. The two previous atlases were respectively published in 1971 and 1992. Increasingly, the data (1,3 million records) for this atlas were collected by 18,000 non-professional observers. Therefore, it is typically a product of citizen science. We hope to unveil a lot of hidden mammal life through the combination of clear writing, attractive pictures and comprehensive graphics. In this manner, protection of this important group will hopefully be enhanced.

### CHAPTER 2 Species list

This chapter presents the list of species dealt with in this atlas. Scientific species names follow Wilson & Reeder (2005), except for the sperm whale *Physeter macrocephalus* (HUSSON & HOLTHUIS 1974) and the white-sided dolphin *Leucopleurus acutus* (HARRIS & YALDEN 2008). English names used in the summaries follow Harris & Yalden (2008); for species not mentioned there, Mitchell-Jones et al. (1999) are followed, with one addition: montane water vole (WILSON & REEDER 2005). Taxonomy, sequence and names of orders follow Harris & Yalden (2008), including their separate use of Artiodactyla and Cetacea that are now usually combined into one order, Cetartiodactyla. We present the latter as superorder.

### CHAPTER 3 Of mammals and men

This chapter reflects on the peculiar phenomenon that publications like this atlas overlook man and its domesticated mammals, in spite of man being the keystone species in the (semi) urban Dutch landscape. Moreover, man has an ambiguous attitude towards wild mammals, ranging hardly consistently from hugging via negligence and exploitation till eradication. Evocating and intriguing examples are presented of these different attitudes. This overview offers a specific blend of economy, ecology and affection for many species.

### CHAPTER 4 Mammals in a changing landscape

Many changes in the Dutch wild mammal populations are unravelled in this atlas and more in detail covered in this chapter which focuses on the changes in the landscape of the Netherlands in the last decades and their consequences for wild mammals. After a process of centuries of unintentionally differentiation of the landscape by men, this process of influencing changed dramatically during the twentieth century. Key developments are intensification of agricultural land use, urbanisation and the development of a dense infrastructural network. This reduces the differences in scale of landscape, of trophic levels and fragmentises habitats. The effects for many wild mammal populations were dramatic. On the other hand, more opportunistic and compliant species seem to benefit from new niches offered in great quantity like urban areas and new nature reserves. Over the last decades specific protection schemes like defragmentation measures and reintro-

duction programmes enhanced or brought back populations of species like badger, otter and Eurasian beaver. The improvement of the environment (improved water quality, banning the most harmful pesticides, etc.) and improved management of landscape, forest and nature is amongst others reflected in recovering bat populations. This chapter offers also an overview of the (changes in) legislation concerning wild mammals in the Netherlands and of the checklists as presented by different authors in the last 200 years.

### CHAPTER 5 Changes in the distribution of wild mammals in the Netherlands

This chapter compares the distribution of wild mammals in the Netherlands in the period 1970-1988 (described in the previous atlas, Broekhuizen et al. 1992) and 1989-2012 (this atlas). The comparison is made on the presence of a species in a grid cell (5x5 km), irrespective of the number of observations and differences within a period. Only grid cells with sufficient data (ten species over both periods) were analysed. Sufficient data were available to make this comparison for 77 (out of 106) species. Methodological complication is the big difference in the number of observations between the two periods. This is best tackled by a logarithmic transformation. Table 1 lists the result of the comparison; table 2 summarises the results. Three species went extinct, two of which concern vagrant species. Seven species, three of which exotic, (re)appeared in the Netherlands. 40 species show a (strong) increase in distribution, five show a (strong) decrease and 19 are stable (less than 5% change).

### CHAPTER 6 Methods

This atlas is based on a database with 1,3 million records, collected by around 18,000 persons and organisations, ranging from the general public to specialists on (groups of) species, the latter both professional and non-professional. In several projects, both nation-wide and regional, data were collected. Additionally coincidental observations, especially of the larger and more or less diurnal species were collected. Surveys like ‘What does my cat catch?’ and ‘Hedgehog weekend’ activated the general public in collecting data. Enthusiastic volunteers went out with bat detectors and binoculars. Both volunteers and professionals cooperate in the National Ecological Monitoring scheme, which monitors the trends in the populations of the species mentioned in table 1 and 2.

### CHAPTER 7 The species

This chapter is the heart of the book. After a short introduction, in which the species selection and the set-up of the species accounts are explained, 106 mammal species are presented, with paragraphs on general characters, habitat, food, the species’ general range, occurrence and distribution in the Netherlands in subsequent periods, changes in distribution and numbers and their causes, and threats and protection. Each species entry is concluded with an English summary.