

## THE NORWEGIAN MAMMAL FAUNA: STATUS AND ATLAS MAPPING

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**ABSTRACT** – At least 85 mammal species (including 28 marine species) occur in Norway and Norwegian waters, of which 18 species currently are listed on the Norwegian Red List (Størkersen, 1992). *Canis lupus* is considered “Endangered”, *Ursus major*, *Gulo gulo* and *Lutra lutra* are listed as “Vulnerable”, *Mustela putorius* and *Sicista betulina* as “Rare”, *Alopex lagopus* as “Indeterminate”, and a number of species, mostly bats, are “Insufficiently known”. A revised list is under preparation. At least 8 species have reached the country solely through intentional or accidental releases in Norway or neighbouring countries. Many species’ distribution are not well known. The Norwegian Zoological Society started a mammal atlas project in 1993, based on squares of 10x10 km. Data collected for this project have also been presented to the EMMA project.

*Key words:* Mammals, Norway, Status, Extinction, Conservation.

### NORWEGIAN MAMMALS

The extant Norwegian mammal fauna (including the Arctic territories of Svalbard and Jan Mayen and territorial waters) consists of at least 85 species. This include 28 predominantly marine mammals (*Thalarctos maritimus*, 7 pinnipeds and 20 cetaceans) and at least 8 species which have been intentionally or accidentally released, or have reached Norway from such releases in neighbouring countries (*Oryctolagus cuniculus*, *Lepus europaeus*, *Ondatra zibethicus*, *Microtus rossiaemeridionalis* [confined to Svalbard], *Nyctereutes procyonides*, *Mustela vison*, *Cervus dama* and *Ovibos moschatus*). The distribution of *Erinaceus europaeus* has expanded due to deliberate releases (Juell, 1990). *Mustela putorius* may have been introduced, and although records exist from the 18th century it is likely that those found today stem from escapes from fur farms. In addition, *Pipistrellus nathusii* has recently been found, although the records are not yet substantiated in literature (see Syvertsen et al., 1995), and an unidentified *Lagenorhynchus* species has been reported (Sundnes, 1988). *Myocastor coypus* escaped from fur farms in the 1930s and there have also been introduction attempts, but the animals only survived in the wild for a few years (Bevanger and Ree, 1994). Recent reports of *Sus scrofa* in the south-east of Norway possibly relate to escaped semi-domestic animals (Bevanger and Ree, 1994). *Rattus rattus* is considered extinct (Sandlund, 1992; Isaksen and Syvertsen, 1996).

The terrestrial mammal fauna as currently understood consists of 7 insectivores, at least 10 bats (cf. Syvertsen et al., 1995), 3 lagomorphs, 17 rodents, 14 carnivores, and 6 artiodactyls. No mammal species is endemic to Norway or Norwegian waters. However, *Lemmus lemmus* has its main distribution in the mountains of

Norway and is confined to Fennoscandia and the Kola peninsula (Jarrel and Fredga, 1993). Norway has also an international responsibility for the conservation of the last remaining mountain-living indigenous populations of *Rangifer tarandus* in western Europe as well as the endemic subspecies *R. t. platyrhynchus* on Svalbard, and for *Gulo gulo* which has its only stronghold in Europe outside Russia in the Norwegian mountains. Norway also holds significant parts of the European populations of *Castor fiber*, *Alopex lagopus* and *Lutra lutra*.

#### CONSERVATION STATUS

The current Norwegian Red List (Størkersen, 1992) includes 18 mammal species, of which (according to the old IUCN categories) one species is considered as "Endangered" (*Canis lupus*), 3 as "Vulnerable" (*Ursus arctos*, *Gulo gulo*, and *Lutra lutra*), 2 as "Rare" (*Sicista betulina* and *Mustela putorius*), one as "Indeterminate" (*Alopex lagopus*), and 11 as "Insufficiently known" (*Erinaceus europaeus*, *Myotis dauhentonii*, *M. nattereri*, *M. mystacinus*, *Vespertilio murinus*, *Eptesicus nilssonii*, *Pipistrellus pipistrellus*, *Plecotus auritus*, *Barbastella barbastellus*, *Lynx lynx*, and *Phocoena phocoena*).

Of these species *Canis lupus*, *Gulo gulo* and *Lutra lutra* are considered as "Globally vulnerable" (Størkersen 1992).

#### ENDANGERED:

The small population of *Canis lupus* is found on the southern border with Sweden (Wabakken et al., 1984), otherwise there are only sporadic observations of wandering individuals near the borders with Finland and Russia, as well as isolated sightings in central south Norway.

#### VULNERABLE:

Individuals of *Ursus arctos* which occur today are mainly animals known to roam from populations in neighbouring countries (Sweden and Finland). Swenson et al. (1994) consider *U. arctos* as a species that could soon be eradicated in Norway and therefore ought to be considered as endangered. *Gulo gulo* is found mainly in the north of the country, and number some 200-280 individuals of which only 27-30 are found in Southern Norway (Landa et al., 1995). *Lutra lutra* was formerly common in most part of Norway, both along the coast and in river systems but is now mainly found along the northern coast where viable populations still exist (Christensen, 1995).

#### RARE:

*Sicista betulina* is poorly known and has only been recorded in about 35 localities in southern Norway (Sonerud, 1987; NFZ, unpub. data). There are observations of *Mustela putorius* from the south-east, and the population is considered small (Sandlund, 1992).

#### INDETERMINATE:

*Alopex lagopus* has a fragmented distribution in upland areas of Norway, and occurs also on Svalbard. It is as yet unclear if there is any gene-exchange between

the sub-populations on the mainland. Reproductive success for the species on the mainland has been very poor in recent years, and the number of individuals is currently considered to be alarmingly low.

#### INSUFFICIENTLY KNOWN:

The population of *Erinaceus europaeus* has declined in recent years but the species is still common in many areas, particularly along the west coast (Johansen, 1995). The status of all bat species in Norway is presently being investigated (Olsen, 1996). Numbers of *Lynx lynx* have declined dramatically during the last century (Kvam, 1990) but have increased somewhat in recent years and is now thought to number some 500-600 animals. Although numbers of *Phocoena phocoena* have declined along parts of the Norwegian coast, the population is still considered to be large (Størkersen, 1992).

Among the recommendations made in a recent evaluation of the status of mammals for a revision of the Norwegian Red List (Isaksen and Syvertsen, 1996) are that *Alopex lagopus* and *Ursos arctos* should be listed as "Endangered" and *Lynx lynx* as "Vulnerable", while it was proposed that *Myotis daubentoni* and *Eptesicus nilssoni* are removed from the list. The evaluation also took into consideration all the marine species and the arctic territories, several of these species are considered "Insufficiently known" (*Mesoplodon bidens*, *Hyperodnon ampullatus*, *Monodon monoceros*, *Phocoena phocoena*, *Lagenorhynchus acutus*), while *Balaena mysticetus* is "Endangered" and *Eubalaena glacialis* even must be listed as "Extinct" since no confirmed record from Norwegian waters exist for the last 50 years.

#### THE NATIONAL MAMMAL ATLAS PROJECT

The Norwegian Zoological Society (NZF) began a national mammal atlas project in 1993 (Isaksen et al. 1993) which will continue until the end of 1999. Data so far collected have been contributed to the EMMA project. All data collected until the deadline of the EMMA project will be, and is currently being, contributed to EMMA.

The Norwegian project uses a standardised atlas mapping system in that records of mammal species are recorded for 10x10 km squares as defined by the UTM system. For the Norwegian mainland and islands alone there are over 4,000 such squares, not including marine areas. In addition to the Norwegian mainland and outlying islands, NZF is also collecting data from Norwegian waters (namely the Norwegian territorial waters in the North Sea, the Norwegian Sea and the Barents Sea) as well as from Svalbard. For some species, such as large carnivores and cetaceans, the scale on the final maps will probably be increased to 50x50 km squares, as individuals of these species may travel over large distances making a finer scale of little sense.

The national mammal atlas project (although initiated in 1993) uses all available mammal data from 1980 onwards. Thus, as well as collecting new field data, NZF is also seeking all observations since 1980.

Because of the large area involved, NZF has sought/is seeking information from

a wide variety of sources, in order to have as complete coverage of Norway and associated islands and areas at sea as possible. Thus information and recording forms regarding the project have been circulated to NZF members (ca. 1,100), to members of the Norwegian Ornithological Society (ca. 3,500 members), to the Norwegian Hunters and Anglers Association (ca. 70,000 members) as well as to many other individuals. In addition the project has received media attention. Regional and local wildlife authorities have also been approached, as well as the major natural history collections. Furthermore, in cooperation with the Norwegian Polar Institute and the Marine Research Institute in Bergen, information from the databases of these institutions are also made available, All literature pertaining to mammals in the recording area is also being searched, and relevant information extracted.

Modified 50x50 km EMMA squares for which data is available, and the range of numbers of mammal species recorded for those squares, are shown in Figure 1. Data has been extracted from the national atlas project, as well as from available literature for the period before 1980. Most of the squares without any available data are either mainly within Sweden or are predominantly coastal areas with few islands.

Further information can be obtained from: "Pattedyratlas", Norwegian Zoological Society, P.O.Box 102 Blindern, N-0314 Oslo, Norway.

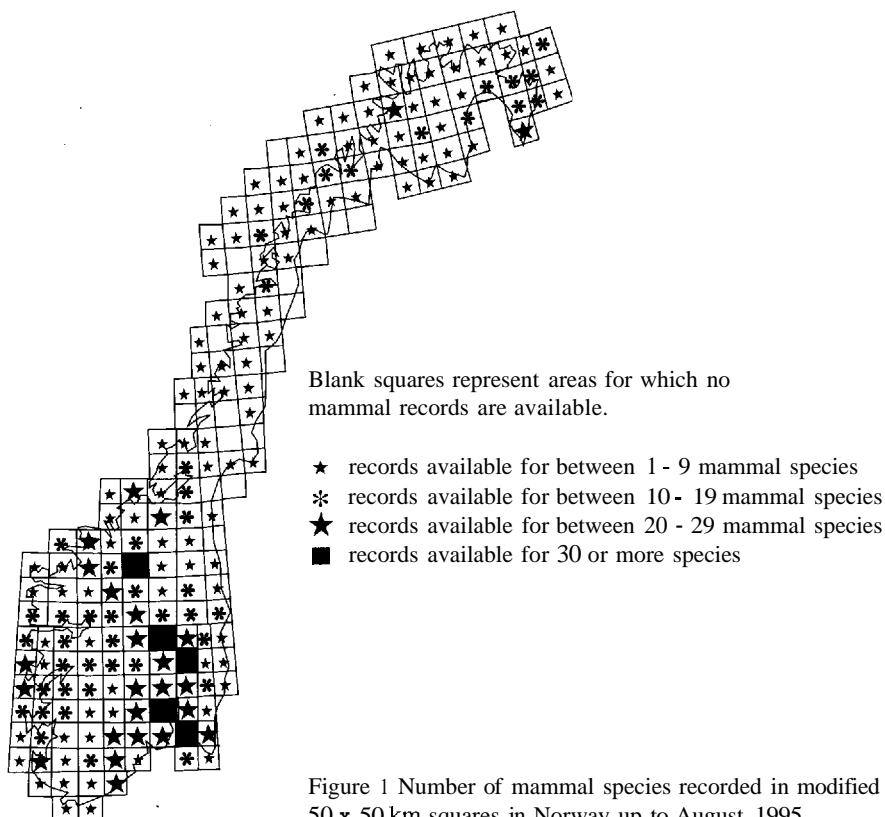


Figure 1 Number of mammal species recorded in modified 50 x 50 km squares in Norway up to August 1995.

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