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## **HISTORY AND STATUS OF THE ARCTIC FOX IN ICELAND**

The Arctic fox has inhabited Iceland since the end of the Ice Age. The only rodent in Iceland is the wood mouse (*Apodemus sylvaticus*) which was introduced by man about 1100 years ago and is not an important prey of Arctic foxes which feed mostly on birds. Icelandic bird species, with the exception of the rock ptarmigan (*Lagopus mutus*), do not experience short-term population fluctuations. In recent decades the Arctic fox has shown numerical responses to the 10-year ptarmigan cycle only in a small area in northern Iceland. Over most of inland Iceland the ptarmigan is only an important prey species in winter and the foxes largely switch to migrant birds in summer. In coastal areas seabirds are the most important prey species in all seasons. Thus the prey base of the Arctic fox is relatively very stable in Iceland compared to areas where lemmings are the mainstay of its diet. The fox has adapted to this situation by producing smaller litters than elsewhere within its geographical range where lemmings (*Lemmus* and *Dicrostonyx* spp.) are the mainstay of its diet. Although the Arctic fox has been under heavy hunting pressure in Iceland its population has been on the increase during the last 25 years during which time it has increased about five-fold. This has resulted in an increase in the proportion of non-breeding foxes in western Iceland but not in eastern Iceland and fecundity remains high all over the country. The Arctic fox population increase and almost total lack of density dependent effects is probably the result of improvements in its prey base, as goose populations (*Anser anser* and *A. brachyrhynchos*), fulmars (*Fulmarus glacialis*) and possibly wader populations too, have been on the increase.