GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Neovison vison***

Neovison vison **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Carnivora	Mustelidae

Common name American mink (English), mink (English)

Synonym *Mustela vison* , Schreber, 1777

Similar species

Summary Mustela vison (American mink) is part of the mustelid family (order Carnivora). They live alone along riverbanks and lakeshores and have been introduced to many countries to set up mink breeding farms for producing fur. From these farms Mustela vison have consequently escaped and become naturalised in many locations. In some instances there have been intentional releases by fur farmers hoping to produce better quality \"free-range\" fur (mainly in Eastern Europe) and intentional release by animal activists. In countries where fur farms still operate, mink still frequently escape into the surrounding environment. In introduced locations the mink has proved to be an extremely competitive predator which has had a huge impact on prey populations.

view this species on IUCN Red List

Species Description
Mustela vison (American mink) is a member of the family Mustelidae. It is a medium-sized carnivore with an elongated body approximately 30cm long, relatively short limbs, and a tail approximately a third of the body length. Wild native American mink are uniformly dark brown but breeding in fur farms (or ranches) has resulted in a wide range of pelage colours, and consequently escaped feral mink may vary in colour from white, grey or fawn through to black (CCS Undated).

Notes
Deliberate release of *Mustela vison* (American mink) from fur farms by animal rights activists has become a regular hazard, eg. 6000 mink were released from a fur farm in the Netherlands in 2003 (Reynolds *et al.* 2004).

Lifecycle Stages
Mustela vison (American mink) mate in the spring, and young are born in the summer. Gestation is 39-76 days. Young are born blind, and females lactate for 6 to 8 weeks. Males mature at 18 months and weigh 550-1250 g at maturity, females mature at 12 months and weigh 550-1000 g at maturity. Both sexes are promiscuous and no pair bonds are formed. Longevity is about 5 years in the wild (Macdonald *et al*. 2002).

Uses
Mustela vison (American mink) was widely farmed for its fur throughout the twentieth century, and this continues today in some countries.

Habitat Description
Mustela vison (American mink) are semi-aquatic inhabiting the boundaries of lakes, rivers, streams, coasts, esturies, wooded marshlands and swamps. Habitats with broad littoral zones, abundant cover and rockpools are particularly favoured In the UK, they will live near urban areas if there is sufficient cover and abundance of prey (Macdonald *et al*. undated). An existing cavity usually within 10 metres of water is nearly always used to provide a den site and several dens may be found within one home range. Mink are able climbers and may find dens in scrub, brush, tree roots, stones, hollow trees or rabbit burrows which they then elaborate and modify. Mink live individually and occupy home ranges that vary in size with the quality of the riparian habitat; home ranges vary from between 1 km and 6 km long (Dunstone, 1993, in Macdonald *et al*. undated).

Nutrition
Mustela vison (American mink) are generalist, opportunistic predators that feed on small mammals such as rodents, water-birds, small invertebrates such as crustaceans, amphibians, reptiles and fish. In their native range they feed predominantly on muskrats and hares. In the United Kingdom mainland, they feed mainly on rabbits, brown rats and field voles (Dunstone 1993; Strachan and Jefferies 1996a; in MacDonald and Harrington 2003), while on offshore islands they concentrate on marine invertebrates, fish and birds (Helyar 2006). The proportion of mammals in their diet varies significantly with local availability and abundance. Diet may differ between individuals, sexes and seasons (MacDonald and Harrington 2003). On the mainland, rabbits are often the most important summer food, while in winter fish are more important prey, especially as many species become torpid and thus easier to catch when water temperatures are low. Near rivers mammals, fish and amphibians are the most important food resources, whereas near lakes birds and fish predominate (J'drzejewska *et al.* 2001; in Bartoszewicz and Zalewski 2003). In coastal habitats, gulls are the most common avian prey (Macdonald *et al.* undated). Mink will often kill more birds than they can eat, and will store the surplus to eat later, a habit displayed by many carnivores (Kruuk 1964; in MacDonald and Harrington 2003). They will feed on eggs, young and sometimes the adult birds. Chickens and gamebirds form less than 1% of the minks diet in south-west England (Macdonald *et al*., undated). In another study, which investigated the mink's diet during the birds' breeding season (March–September), it was found that Ralliformes (coots or moorhens) represented 10% of the ingested biomass of the minks diet, while rabbits represented 45%, fish 25% and small mammals 14%. Mink obtained 11% of their energy requirements from coots and moorhens (Ferreras and Macdonald 1999).

General Impacts

Mustela vison (American mink) is a voracious predator which kills in excess of its needs due to the phenomenon of surplus killing. As a result an individual mink may decimate entire colonies of ground nesting birds (Clode 2002). Overall mink have large impacts on prey populations. The near extinction of the water vole (see *Arvicola terrestris* in IUCN Red List of Threatened Species) in the UK can attest to this. There is also evidence that mink could account for a large proportion of salmonid mortality in some river systems (Heggenes and Borgstrøm 1988, in CCS Undated). In Europe, mink predation has caused the decimation of seabird colonies and reduction of some waterfowl populations. For example, mink almost certainly have a serious adverse effect on the native biodiversity of the Western Isles (UK) and pose a threat to the many internationally important populations of ground-nesting birds. While terns and other seabirds are also impacted by mink predation the effect on riparian bird species is less clear but may potentially be high (Macdonald and Harrington 2003). Native rodents in South America are also affected (Woodroffe *et al*. 1990).

The Mustelid family is well represented throughout the countries where American mink have been introduced. This invading species may therefore pose a risk to these species through competition for food and territories. Aggressive interactions between American mink and the highly endangered European mink (please see *Mustela lutreola* in IUCN Red List of Threatened Species) have been observed, with European mink often driven from their territories (Sidorovich and Macdonald 2001, in CCS Undated). American mink are not, however, the sole cause of the decline in European mink as many populations were in decline due to habitat loss and overhunting before their arrival. Polecat populations also appear to be have been negatively affected by the spread of American mink in Belarus (Sidorovich and Macdonald 2001, in CCS Undated, Maran *et al.* 1995). South American mustelids are also affected (Woodroffe *et al*. 1990).

A recent survey (Mañas 2001) identified the presence of Aleutian mink disease parvovirus (ADV) in free-ranging mustelids including both the European and American mink and the Eurasian otter (please see *Lutra lutra in IUCN Red List of Threatened Species*).

American mink may also impact various economic sectors such as trout and salmon farms and hatcheries, poultry farms and sheep farms by preying on fish, chickens and farm birds and newborn lambs (Macdonald and Harrington 2003; Macdonald *et al*. Undated).

European Centre for Disease Prevention and Control, Stockholm, Sweden identifies mustelids (including ferrets, mink and wild mustelids) among cats, dogs, horses, humans, marine mammals and pigs as propagating hosts of influenza viruses (those species that are infected by a particular influenza, where it seems that the viruses are better adapted and are transmitted). Some influenza types that infect mustelids are H3N2, H10N4 and H5N1 viruses (EuroSurveillance 2006).

Management Info
The population size of introduced *Mustela vison* (American mink) in some countries is so large that that complete eradication, without re-invasion from neighbouring countries or from fur farm escapes, is thought to be virtually impossible (CCS Undated). Detailed knowledge of population sizes and distribution is lacking for most countries in which American mink have established. In the UK, mink are widespread along waterways and around the coast, and the population size has been estimated at over 110,000 (± 55,000; source: JNCC). However, there have been successful mink eradication programs on some islands where re-invasion is easier to control and seabirds have re-colonised nesting sites following mink control in Scotland. A proposal to eradicate mink from the Western Isles in Scotland by Central Science Laboratories (York) and Scottish Natural Heritage is currently being funded by the EU and other countries are addressing the feasibility of carrying out similar eradication schemes (Moore *et al.* 2003).
Macdonald and Harrington (2003) suggest a holistic approach to mink management, involving mink removal, habitat restoration, and the recovery of native competitors. It is necessary to ask whether control can be achieved on any geographical scale, how long term the effects will be, and what the costs would be in terms of either money or animal welfare (Reynolds *et al*. 2004). The return of the larger otter could be an important component of mink control in the UK as otters are hostile and detrimental towards the American mink (Macdonald and Harrington 2003). In Denmark the focus has been on prevention of mink escape from farms. In Finland, dogs are used to locate the mink and then an air-blaster is used to flush them out. In some areas of conservation importance, or for the protection of livestock, exclusion using mink-proof fences may be the most effective tool. Various types of repellent may also be used (Baker and Macdonald 1999; in Macdonald and Harrington 2003). \r\nRemoval of minks by live trapping is a successful method of control. In areas where native mustelids live selective killing procedures may be necessary. Bait containing mink scent glands has been found to be particularly successful (Roy *et al*. In Press), as mink, like other mustelids, communicate via scent deposition.. The expense of such an operation at a large scale may be prohibitive but this method has been successfully used in the Western Isles (UK), Belarus and on Hiiumaa Island in Estonia (where the mink was eradicated) (Macdonald and Harrington 2003). Modelling excerises have predicted that 60% of mink removed need to be juveniles or sub-adults in order to significantly impact mink numbers. The timing of mink control is also important; at the end of summer mink that remain are sometimes regarded as a \"doomed surplus\" and thus their removal would entail a waste of culling effort.
Please follow this link for an overview of the management methods adopted for the control of *Mustela vison* compiled by the ISSG

Pathway
Mustela vison (American mink) was introduced to Europe for fur farming, and spread due to accidental escapes and deliberate release.

Principal source:

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Pubblication date: 2009-12-19

ALIEN RANGE

[3] ARGENTINA
[1] BELGIUM
[6] CHILE
[4] DENMARK
[2] FINLAND
[4] BELARUS
[4] CANADA
[1] CZECH REPUBLIC
[2] ESTONIA
[1] FRANCE

[1] GERMANY
[1] ICELAND
[1] ITALY
[1] LATVIA
[1] MONTENEGRO
[1] NORWAY
[1] PORTUGAL
[1] SERBIA
[1] SPAIN
[1] UKRAINE
[1] UNITED STATES
[1] HUNGARY
[1] IRELAND
[1] KAZAKHSTAN
[1] LITHUANIA
[1] NETHERLANDS
[5] POLAND
[5] RUSSIAN FEDERATION
[1] SLOVENIA
[17] SWEDEN
[38] UNITED KINGDOM

Red List assessed species 46: EN = 5; VU = 4; NT = 2; DD = 1; LC = 34;

Alca torda **LC**
Anas querquedula **LC**
Aquila clanga **VU**
Arvicola sapidus **VU**
Aythya ferina **LC**
Batrachyla nibaldoi **DD**
Calidris temminckii **LC**
Charadrius hiaticula **LC**
Fulica atra **LC**
Galictis cuja **LC**
Gavia stellata **LC**
Larus canus **LC**
Lissotriton boscai **LC**
Lontra provocax **EN**
Melanitta nigra **LC**
Mustela lutreola **EN**
Myocastor coypus **LC**
Phalacrocorax aristotelis **LC**
Podiceps nigricollis **LC**
Rallus aquaticus **LC**
Somateria mollissima **LC**
Sterna albifrons **LC**
Sterna hirundo **LC**
Anas clypeata **LC**
Anser erythropus **VU**
Arvicola amphibius **LC**
Austropotamobius pallipes **EN**
Aythya fuligula **LC**
Calidris alpina **LC**
Cepphus grylle **LC**
Crex crex **LC**
Galemys pyrenaicus **VU**
Gavia arctica **LC**
Larus argentatus **LC**
Larus ridibundus **LC**
Lontra felina **EN**
Melanitta fusca **EN**
Mergus serrator **LC**
Mustela putorius **LC**
Ondatra zibethicus **LC**
Podiceps auritus **LC**
Ptychoramphus aleuticus **LC**
Rana iberica **NT**
Speculanas specularis **NT**
Sterna caspia **LC**
Sterna paradisaea **LC**

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