

## *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, estuaries, 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 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 ( $\pm$  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). Removal 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 exercises 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:

**Compiler:** IUCN/SSC Invasive Species Specialist Group (ISSG) with support from Christopher Anderson and Brett Maley, Institute of Ecology, University of Georgia, Athens GA 30602 USA

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## 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;**

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

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### Management information

[Banks, B. Peter, Mikael Nordstrom, Markus Ahola, Palvi Salo, Karen Fey and Erkki Korpimarki, 2008. Impacts of alien mink predation on island vertebrate communities of the Baltic Sea Archipelago: Review of a long-term experimental study. Boreal Environment Research 13: 3-16 Helsinki 27 February 2008](#)

**Summary:** Available from: <http://www.borenav.net/BER/pdfs/ber13/ber13-A003.pdf> [Accessed 2 August 2010]

Bonesi, L. and Macdonald, D.W. 2004. Evaluation of sign surveys as a way to estimate the relative abundance of American mink (*Mustela vison*), *Journal of Zoology* 262: 65-72.

**Summary:** This study looks at the use of sign (scats and footprints) as a reliable and efficient method to estimate the relative abundance of the American mink (*Mustela vison*).

Bonesi, L. and Macdonald, D.W. 2004. Impact of released Eurasian otters on a population of American mink: a test using an experimental approach. *Oikos*. 106: 9-18.


**Summary:** This paper discusses the results of an experiment releasing otters into areas inhabited by American mink in the United Kingdom. It was found that otters have a dramatic effect on the distribution and density on the mink population.

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Council of Europe. 2002. Workshop on invasive alien species on European islands and evolutionary isolated ecosystems: Proceedings.

Convention on the conservation of European wildlife and natural habitats. Document prepared by the Directorate of Culture and of Cultural and Natural Heritage.

**Summary:** This document outlines a number of key issues regarding invasive alien species in Europe.

Desholm, M., Christensen, T.K., Scheiffarth, G., Hario, M., Andersson, , Ens, B., Camphuysen, C.J., Nilsson, L., Waltho, C.M., Lorentsen, S-H., Kuresoo, A., Kats, R.K.H., Fleet, D.M. and Fox, A.D. 2002. Status of the Baltic/Wadden Sea population of the Common Eider *Somateria m. mollissima*. *Wildfowl*. 53: 167-203.

**Summary:** This article outlines the status of the eider duck population in northern Europe, and outlines possible reasons for an apparent decline, including the presence of American mink.

[EuroSurveillance 2006. Influenza team. H5N1 infections in cats !\[\]\(950a62bbddad88d64435fd35607dfc42\_img.jpg\) public health implications. 11\(4\):E060413.4.](http://www.eurosurveillance.org/ew/2006/060413.asp#4)


**Summary:** Available from: <http://www.eurosurveillance.org/ew/2006/060413.asp#4> [Accessed 15 December 2006]

Genovesi, P. 2005. Eradications of invasive alien species in Europe: a review. *Biological Invasions*. 7 (1): 127-133.

**Summary:** This paper gives details of the eradications of introduced species in Europe, including the eradication of *M. vison* from Hiimaa Island in Estonia.

Gillies, C. and Williams, D. Undated. Using tracking tunnels to monitor rodents and mustelids.

**Summary:** This paper gives detailed information about how to use tracking tunnels.

Hammershøj, M., 2004. Population ecology of free-ranging American mink *Mustela vison* in Denmark. PhD thesis  National Environmental Research Institute, Kalø, Denmark. 30 pp. <http://afhandlinger.dmu.dk>

**Summary:** This PhD discusses the presence of American mink in Denmark, and outlines some management options.

Hebridean Mink Project. Bulletin February 2004.

**Summary:** This newsletter gives information and news updates on the project which aims to control and eradicate American mink in the Western Isles of Scotland.

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**Summary:** This newsletter gives information and news updates on the project which aims to control and eradicate American mink in the Western Isles of Scotland.

[Huckle, Jon., 2002. Fact Sheet: TA/M/09: Invasive Alien Terrestrial Animal Species \*Mustela vison\* \(Schreber, 1777\) American Mink.](http://138.253.199.114/IAAP%20Web/IAAPwebsite/FactSheet/Mink.doc)

**Summary:** Available from: <http://138.253.199.114/IAAP%20Web/IAAPwebsite/FactSheet/Mink.doc> [Accessed 17 February 2008]

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**Summary:** A look at the use of halothane for the anesthesia of American Mink for capture-recapture operations.

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[Moore, N.P., Roy, S.S. and Helyar, A. 2003. Mink \(\*Mustela vison\*\) eradication to protect ground-nesting birds in the Western Isles, Scotland, United Kingdom. \*New Zealand Journal of Zoology\*. 30: 443-452.](http://www.nzj.zoology.govt.nz/issue30/443-452)

**Summary:** This article discusses the impacts of American mink in the Western Isles of Scotland, and the project which is in place to eradicate and control them.

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**Summary:** This paper discusses the results of mink removal from some islands in Archipelago National Park in south-west Finland.

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**Summary:** This study tests the effectiveness of the Bionic(R) trap.

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**Summary:** This study looked at various management techniques for American mink in the Avon catchment in the UK, and presented a new method of trapping using rafts.

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**Summary:** Fourteen of 27 American mink (*Mustela vison*) trapped in the upper Thames region were positive for anti-Aleutian disease antibodies. This occurrence of the Aleutian disease parvovirus (ADV) in a feral American mink population suggests that it could threaten populations of at least two protected mustelids, the otter (*Lutra lutra*) and the polecat (*Mustela putorius*), and may also play a role in the apparent decline of local mink populations in Britain.

Yamaguchi, N., Rushton, S. and Macdonald, D.W. 2003. Habitat preferences of feral American mink in the Upper Thames, *Journal of Mammalogy* 84(4): 1356-1373.

**Summary:** This study looks at habitat use by members of a wild population of American mink (*Mustela vison*) that were live trapped and radiotracked year round in the Upper Thames region, United Kingdom.

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**Summary:** This study examines the factors that determine the distribution and abundance of vole metapopulations preyed upon by feral American mink *Mustela vison* in the outer Finnish archipelago of the Baltic Sea.

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**Summary:** In this paper differential habitat use was analysed as a potential mechanism for the coexistence of two competing riparian mammals, the specialist and dominant Eurasian otter (*Lutra lutra*) and the generalist and sub-ordinate American mink (*Mustela vison*).

Bonesi, L., Chanin, P. and Macdonald, D.W. 2004. Competition between Eurasian otter *Lutra lutra* and American mink *Mustela vison* probed by niche shift, *Oikos* 106(1): 19-26.

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Bonesi, L., Dunstone, N. and O Connell, M. 2000. Winter selection of habitats within intertidal foraging areas by mink (*Mustela vison*), *Journal of Zoology* 250: 419-424.

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**Summary:** A feeding trial on feral mink *Mustela vison* was carried out to find the differences in digestibility of particular prey types. The use of evaluated correction factors enables more accurate estimates of the food composition of wild living mustelids.

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**Summary:** This articles details the spread of American mink through Poland, and gives some details of its impacts.

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- Summary:** This study investigates food competition between American mink and otters in the Scottish Islands.
- Clode, D. and MacDonald, D.W. 2002. Invasive predators and the conservation of island birds: the case of American Mink *Mustela vison* and terns *Sterna* spp. in the Western Isles, Scotland, *Bird Study* 49: 118-123.
- Summary:** This study looks at the effect of mink on the colony size and breeding success of terns in the Western Isles, Scotland.
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- Summary:** This study investigates the behaviour of terns (*Sterna* spp.) and gulls (*Larus* spp.) to the introduced mink (*Mustela vison*), the native otter (*Lutra lutra*) and the rabbit (*Oryctolagus cuniculus*), in particular anti-predator mobbing.
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- Summary:** The role of the Aleutian disease parvovirus (ADV) in the decline of the endangered European mink (*Mustela lutreola*) in France was tested through a serologic survey. The association of the disease with the American mink is supported by the results.
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- Summary:** Diets of the otter *Lutra lutra* and the American mink *Mustela vison* from river habitats were studied in Poland.
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**Summary:** Individual feeding behaviour of the European mink *Mustela lutreola* and American mink *M. vison* inhabiting the upper reaches of the Lovat river, Belarus was investigated. Resource competition between the European mink and the naturalised American mink is discussed.

Sidorovich, V., Kruuk, H. Macdonald, D.W. 1999. Body size, and interactions between European and American mink (*Mustela lutreola* and *M. vison*) in Eastern Europe, *Journal of Zoology* 248: 521-527

**Summary:** This study compare body sizes of the European mink (*Mustela lutreola*), the polecat (*M. putorius*) and the American mink (*M. vison*) over a 10-year period in Belarus, before and after the invasion by American mink. Data is presented and discussed with respect to interspecific interactions.

[The Wildfowl & Wetlands Trust \(WWT\), 2008. Common Scoter](#)

**Summary:** Impacts of mink on common scoter in Northern Ireland

Torres-Mura, J.C. 2004. Fauna del Archipiélago Fueguino y el Cabo de Hornos. Informe FDI CORFO, Fundación EuroChile. Santiago, Chile.



# GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Neovison vison*

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[Walday and Kroglund, undated. Europe's biodiversity - Biogeographical regions and seas: Seas around Europe - The Baltic Sea. European Environment Agency.](#)

**Summary:** This paper discusses the environmental state of the Baltic Sea, including invasive species such as the American mink. Woodroffe, G.L., Lawton, J.H. and Davidson, W.L. 1990. The impact of Feral Mink *Mustela vison* on Water Voles *Arvicola terrestris* in the North Yorkshire Moors National Park. *Biological Conservation*. 51: 49-62.

**Summary:** This paper assesses the relationship between the spread of the American mink in the UK, and the associated decline in the water vole (*Arvicola terrestris*) population.