Mustela vison



Taxon	Family / Order / Class / Phylum
Mustela vison (Schreber, 1761)	Mustelidae / Carnivora / Mammalia / Chordata

COMMON NAMES (English only)

American mink

SYNONYMS

Mustela canadensis Mustela rufa Lutra vison Vison lutreola

SHORT DESCRIPTION

Small, semi-aquatic carnivore living in freshwater and marine habitats. It is a generalist and opportunist predator with a variable diet that includes aquatic, semiaquatic and terrestrial prey.

BIOLOGY/ECOLOGY

Dispersal mechanisms

Males usually disperse further than females and can disperse up to 50 km from their natal home range, typically along water bodies.

Citative Bones

Mustela vison is a generalist and opportunist predator introduced for the fur farming industry.

Photo: Laura Bonesi

Reproduction

Mink are sexually dimorphic, with males weighing between 0.9-1.6kg (average 1.2kg) and females between 0.6-1.1kg (average 0.7kg). The spacing system is characterised by intra-sexual territoriality with inter-sexual overlap. In the temperate zone mating takes place between late February and early April. Mink exhibit delayed implantation and gestation lasts about 39 days. On average 5.8 young are born between April and May, they start dispersing in August and reach sexual maturity at 10 months. Life expectancy is 3-4 years in the wild.

Known predators/herbivores

Nocturnal raptors and larger mammals.

Resistant stages (seeds, spores etc.)

None

HABITAT

Native (EUNIS code)

B1: Coastal dune and sand habitat, B2: Coastal shingle habitats, B3: Rock cliffs, ledges and shores, including the supralittoral, C1: surface standing waters, C2: Surface running waters, C3: Littoral zone of inland surface waterbodies, *Secondary habitats*: F9: Riverine and fen shrub, G: Woodland and forest habitats and other wooded land, I: Regularly or recently cultivated agricultural, horticultural and domestic habitats.

Habitat occupied in invaded range (EUNIS code)

Same as above plus sightings in J: Constructed, industrial and other artificial habitats.

Habitat requirements

Nearly always found associated with water, habitat requirements are determined mainly by food availability, and secondarily by the availability of dens. Mink are sensitive to pollution by PCBs. They are absent from areas with snow cover all year round.

DISTRIBUTION

Native Range

North America, excluding the north of the Arctic Circle, the most southern zone of United States and Mexico. **Known Introduced Range**

Europe, the former Soviet Union, and in the most southern countries of South America (Argentina and Chile). Possibly also Japan and other Asian countries.

Trend

Increasing worldwide but apparently decreasing in some European countries (e.g. UK, Sweden)

MAP (European distribution)



Legend						
Kr	nown in country		Known in CGRS square	Ę	Known in sea	
Er	adicated		Eradicated	*	Extinct	

INTRODUCTION PATHWAY

Introduced for the fur farming industry or to be released in the wild. Feral populations formed because of intentional or accidental releases from the farms or because of intentional introductions. Intentional releases from the farms are often carried out by Animal rights activists.

IMPACT

Ecosystem Impact

The impact on native species can occur through predation, competition, and potentially also by acting as a vector of disease. Significant population declines of ground nesting birds (e.g. *Larus ridibundus, Sterna hirundo*) and small mammals (e.g. *Arvicola terrestris*) have resulted from mink predation in its introduced range. The European mink (*Mustela lutreola*), whose range is now restricted to a few fragmented populations, is threatened by the American mink through competition by means of direct aggression. Little is known about mink as a vector of disease but Aleutian disease has been found in a feral population.

Health and Social Impact

None.

Economic Impact

Can inflict damage to free ranging chickens, reared game birds, fisheries (salmon farming) and the eco-tourist industry through predation on ground nesting birds. Germany estimates the costs of impacts to be $4,200,000 \in$.

MANAGEMENT

Prevention

Regulating licenses to fur farms and improving fencing around the farms. Evidence suggests that habitat management may mitigate the effect of minks on water voles; in particular reed beds and isolated ponds may provide refuges.

Mechanical

At the moment lethal trapping is the only feasible method for containing or eradicating mink. Traps can be placed along the riverbank or on floating rafts. In most areas live-traps are recommended to avoid non-target impacts. Exclusion devices for otters should be used when appropriate. Research is currently being carried out to investigate effectiveness and best strategies for control trapping.

Chemical

None.

Biological

None.

REFERENCES

Bonesi L, Palazon S. The American mink in Europe: status, impacts, and control. Biological Conservation. In press Dunstone N (1993) The Mink. Poyser, London

Macdonald DW, Strachan R (1999) The mink and the water vole. Analyses for conservation. Wildlife Conservation Research Unit and the Environment Agency, Oxford, UK

OTHER REFERENCES

- Aars J, Lambin X, Denny R, Griffin A (2001) Water vole in the Scottish uplands: distribution patterns of disturbed and pristine populations ahead and behind the American mink invasion front. Anim. Conserv. 4:187-194
- Anistoroaei R, Farid A, Benkel B, Cirera S, Christensen K (2006) Isolation and characterization of 79 microsatellite markers from the American mink (*Mustela vison*). Animal Genetics 37:185-188
- Barreto GR, Rushton SP, Strachan R, Macdonald DW (1998) The role of habitat and mink predation in determining the status and distribution of declining populations of water voles in England. Anim. Conserv. 1:129-137
- Ben-David M, Hanley TA, Klein DR, Schell DM (1997) Seasonal changes in diets of coastal and riverine mink: The role of spawning Pacific salmon. Can. J. Zool.-Rev. Can. Zool. 75:803-811
- Bevanger K, Henriksen G (1995) The distributional history and present status of the American mink (*Mustela vison* Schreber, 1777) in Norway. Ann. Zool. Fenn. 32:11-14
- Birks JDS, Dunstone N (1985) Sex related differences in the diet of the mink *Mustela vison*. Holoartic Ecology 8:245-252
- Bonesi L, Harrington L, Maran T, Sidorovich VE, Macdonald DW (2006). Demography of three populations of American mink, *Mustela vison*, in Europe. Mammal Rev. 36:98-106.
- Bonesi L, Macdonald DW (2004) Evaluation of sign surveys as a way to estimate the relative abundance of American mink (*Mustela vison*). J. Zool.(Lond.) 262:65-72
- Bonesi L, Strachan R, Macdonald DW (2006) Why are there fewer signs of mink in England? Considering multiple hypotheses. Biol. Conserv. 130:268-277
- Brzezinski M, Marzec M (2003) The origin, dispersal and distribution of the American mink Mustela vison in Poland. Acta Theriol. 48:505-514
- Craik C (1997) Long-term effects of North American Mink *Mustela vison* on seabirds in western Scotland. Bird Study 44:303-309
- Delibes M, Clavero M, Prenda J, Blázquez MDC, Ferreras P (2004) Potential impact of an exotic mammal on rocky intertidal communities of northwestern Spain. Biological Invasions 6:213-219
- Dunstone N, Birks J (1985) The comparative ecology of coastal, riverine and lacustine mink *Mustela vison* in Britain. Zeitschrift fur Angewardte Zoologie 72:59-70
- Erlinge S (1972) Interspecific relations between otter (*Lutra lutra*) and mink (*Mustela vison*) in Sweden. Oikos 23:327-334
- Ferreras P, Macdonald DW (1999) The impact of American mink *Mustela vison* on water birds in the upper Thames. J. Appl. Ecol. 36:701-708
- Gerell R (1967) Dispersal and acclimatization fo the mink (Mustela vison Schreb.) in Sweden. Viltrevy 4:1-38
- Gerell R (1971) Population studies on mink Mustela vison in southern Sweden. Oikos 8:83-109.
- Hammershøj M (2003) Population ecology of free-ranging American mink *Mustela vison* in Denmark. PhD, Kalø, Denmark

- Hammershoj M, Asferg T (2000) Mink and polecats in Denmark: status, control and damage to poultry. Mammal Rev. 30:228
- Harrison MDK, Symes RG (1989) Economic damage by feral American mink (*Mustela vison*) in England and Wales. Mammals as pests, 242-250
- Hersteinsson P (1999) Methods to eradicate the American mink (*Mustela vison*) in Iceland, in: (Eds.), Proceedings of the Workshop on the control and eradication of non-native terrestrial vertebrates. Vol. 41. Environmental Encounters, Council of Europe Publishing, pp 25-29
- Jedrzeijewska B, Sidorovich VE, Pikulik MM, Jedrezejewski W (2001) Feeding habits of the otter and the American mink in Bialowieza Primeval Forest (Poland) compared to other Eurasian populations. Ecography 24:165-180
- Jefferies DJ (2003) The water vole and mink survey of Britain 1996-1998 with a history of the long term changes in the status of both species and their causes. The Vincent Wildlife Trust, Ledbury, UK
- Jensen S, Kihlström JE, Olsson M, Lundberg C, Örberg J (1977) Effects of PCB and DDT on mink (*Mustela vison*) during the reproductive season. Ambio 6:239
- Kauhala K (1996) Distributional history of the American mink (*Mustela vison*) in Finland with special reference to the trends of otter (*Lutra lutra*) populations. Ann. Zool. Fenn. 33:283-291
- Lambin X, Telfer S, Denny R, Aars J, Griffin C, Dallas J, Piertney S (1999) The roles of isolation and mink predation in water vole metapopulations. Final Report to the Trustees of the People's Trust for Endangered Species
- Maran T, Kruuk H, Macdonald DW, Polma M (1998) Diet of two species of mink in Estonia: displacement of *Mustela lutreola* by *Mustela vison*. J. Zool.(Lond.) 245:218-222
- McDonald RA, Lariviere S (2001) Diseases and pathogens of *Mustela* spp., with special reference to the biological control of introduced stoat *Mustela erminea* populations in New Zealand. J. R. Soc. N.Z. 31:721-744
- Medina G (1997) A comparison of the diet and distribution of southern river otter (*Lutra provocax*) and mink (*Mustela vison*) in Southern Chile. Journal of Zoology (London) 242:291-297
- Moore NP, Roy SS, Helyar A (2003) Mink (*Mustela vison*) eradication to protect ground-nesting birds in the Western Isles, Scotland, United Kingdom. N. Z. J. Zool. 30:443-452
- Nordström M, Hogmander J, Laine J, Nummelin J, Laanetu N, Korpimaki E (2003) Effects of feral mink removal on seabirds, waders and passerines on small islands of the Baltic Sea. Biol. Conserv. 109:359-368
- Previtali A (1998) Habitat use and diet of the American mink (*Mustela vison*) in Argentinian Patagonia. Journal of Zoology 246:482-486
- Romanowski J (1990) Minks in Poland. Small carnivore conservation 2:13
- Ruiz-Olmo J, Palazon S, Bueno F, Bravo C, Munilla I, Romero R (1997) Distribution, status and colonization of the American mink *Mustela vison* in Spain. Journal of Wildlife Research 2:30-36
- Sidorovich NV, Polozov A (2002) Partial eradication of the American mink *Mustela vison* as a way to maintain the declining population of the European mink *Mustela lutreola* in a continental area. A case study in the Lovat River head, NE Belarus. Small Carnivore Conservation 26:12-14
- Sidorovich VE, Lauzhel GO (1995) Spatial structure and abundance dynamics of the american mink population in Belarus. Ekologija 2
- Woodroffe GL, Lawton JH, Davidson WL (1990) The impact of feral mink *Mustela vison* on water voles *Arvicola terrestris* in the North Yorkshire Moors National Park. Biol. Conserv. 51:49-62
- Yamaguchi N, Macdonald DW (2001) Detection of Aleutian disease antibodies in feral American mink in southern England. Vet. Rec. 149:485-488
- Yamaguchi N, Rushton S, Macdonald DW (2003) Habitat preferences of feral American mink in the Upper Thames. J. Mammal. 84:1356-1373

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