

# Facing Extinction, Last Call for the European Mink



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## Abstract

The European mink (*Mustela lutreola*) is one of the most threatened mammals of Europe. Its present distribution is limited to three isolated areas: northern Spain and western France, the Danube delta in Romania, and Ukraine and Russia. Hunting pressure, habitat loss and the impact of the alien American mink (*Neovison vison*) have all been proposed as reasons for this drastic decline. American mink is occupying the last European mink distribution areas leading to the disappearance of the latter species. To add to this dramatic situation, two new threats are currently undermining conservation efforts: firstly, the powerful fur trade lobby is trying to exclude the American mink from the Invasive Species List and secondly, a recent opinion is paradoxically proclaiming to consider southern populations of European mink as invasive species. However, there is an immediate need for energy and budgets to be focused on avoiding this mammal's imminent extinction.

## Dramatic Situation for the Last European Mink

The European mink (*Mustela lutreola*), once widespread throughout most of Europe, is now one of the most threatened mammals and is classified as Critically Endangered by the IUCN [1]. Its present distribution is limited to three isolated areas: northern Spain and western France, the Danube delta in Romania, and Ukraine and Russia. Moreover, the species is suffering a rapid decline in all three remaining enclaves [1,2]. Hunting pressure, habitat loss and the impact of the alien American mink (*Neovison vison*) have all been proposed as reasons for this drastic decline [3,4] but none of them explain *per se* the rapid disappearance of the European mink from vast regions. While overhunting eradicated the species in several parts of Eastern Europe in the past [4], habitat loss in western Europe has recently been observed to condition population viability and dispersive potential in areas where rivers have deteriorated [5]. Additionally, there is growing evidence supporting the rapacious effect of the invasive American mink on all remaining populations of the European species [4-7]. The most recent data from the southwestern population shows that the American mink is occupying the European mink's distribution area with devastating effect, leading to the disappearance of the latter species [9]. Podra M, Gómez A (2018) Rapid expansion of the American mink poses a serious threat to the European mink in Spain. *Mammalia* DOI: <https://doi.org/10.1515/mammalia-2017-0013> A similar situation is occurring in the last

reservoirs of European mink in Russia [1]. The same problem may soon reach the Danube delta, where the alien mink has not yet become established [2], even though it is present in other parts

of Rumania [10] and Ukraine [2]. Therefore, the European mink will soon be extinct unless institutions take fast and determined actions.

## Modern Hazards in a Global World

To add to this dramatic situation, two new threats are currently undermining conservation efforts: firstly, the powerful fur trade lobby is trying to exclude the American mink from the Invasive Species List [11]; secondly, a recent opinion is paradoxically proclaiming to consider southern populations of European mink as invasive species, and questions all conservation activities in the southwest population [12]. Considering the first of these problems in more detail, the European Union (EU) published the "Regulation on the prevention and management of the introduction and spread of invasive alien species" in its Official Journal on November 4<sup>th</sup> 2014, issue L 317/35 [13]. This regulation became enforceable law in all Member States on 1<sup>st</sup> January 2015. The new legislation establishes automatic, stringent provisions for preventing the introduction of listed invasive species into the EU, including a ban on import, trade, possession, breeding, transport, use, and release into the environment [11]. Furthermore, when an "Invasive Alien Species of Union Concern" is detected, European States will be

obliged to attempt immediate eradication whenever feasible. Nonetheless, major fur producing countries have expressed their confidence that the American mink will not be included in the final list [11]. Moreover, fur industry lobbyists have created a potential loophole for American mink and are pressing to exclude this species from the list. In fact, considering Spain in particular, the American mink was placed on the list of invasive species [14], and possession and trade ought to have been strictly controlled. However, the change in the national political scene after November 2011 led to a temporary suspension of the decree by the Supreme Court. The latest update of the law, the royal decree 630/2013 [15], regulating the Spanish Catalogue of Invasive Species, forbids the expansion or creation of American mink farms in provinces included within the European mink distribution area in the Inventory of Spanish Natural Heritage and Biodiversity. Therefore, existing farms are still allowed to produce, despite possible escapes and intentional massive releases by animalist groups, and new farms can be allowed in areas neighboring to European mink range. If fur industry lobbying finally succeeds in excluding the American mink, against scientific recommendations, local eradication projects may well be affected. Many of the American mink control measures carried out in Spain during the last fifteen years have been supported by LIFE, the major European Union funding program for environmental and nature conservation projects (four LIFE-projects were carried out in 2001-2005 and three are on-going). If the American mink is dropped, the EU may well cease to focus on it, thus reducing the funds needed for its control or eradication. As noted above, another danger to the European mink has recently emerged. Genetic analyses in southwestern populations have shown a severe lack of genetic variability, with a single lineage of mitochondrial DNA identified, suggesting recent bottleneck processes [16]. The observed genetic pattern indicates that the western population could have been established by a small number of founders and is coherent with two hypotheses: human introduction into France, or dispersal of a few individuals creating a new population. Surprisingly, some authors consider that bottleneck is better explained by human-mediated introduction [12], and claim for a reevaluation of conservation needs and priorities concerning the European mink. However, the genetic study gives the same weight to both hypotheses [17], though it does not explain the historic changes in known mink distribution and, importantly, fails to address the ecology of the species Zuberogoitia I, Põdra M, Palazón S, Gómez A, Zabala N, Zabala J (2016) Misleading interpretation of shifting baseline syndrome in the conservation of European mink. *Biodivers Conserv* 25: 1795-1800. [18]. Alternatively, the presence of this species in France and Spain has been explained as natural colonization from the now extinct central European population [17,18]. The only prehistoric records of European mink are from between 2300BC and 2100BC at Vlaardingen, in the Netherlands [19] cited in [17], part of the questioned western range of the species. However, the absence of prehistoric findings in most of Europe does not mean that the species was absent in the area

[20]. Mustelids normally have a high capacity for dispersion and colonization [21]. The dispersive movements and colonization of new areas by European mink through France and Spain would tend to support this alternative hypothesis [22]. Authors in favor of the introduction hypothesis dismiss the natural dispersion hypothesis and, au contraire, suggest that it seems appropriate to open a debate in Europe and other management spheres on whether active conservation should focus on what now could be considered non-native species [11]. While discussion always enriches science and all possible scenarios should be considered, spreading a biased interpretation of the hypotheses about the native or non-native origin of the European mink in the current situation only generates confusion and has negative effects on the conservation of the species and its habitat. In fact, the usefulness of the European mink as an umbrella species is irrefutable for river ecology conservation in certain areas of Spain, one of its last remaining territories. We believe that, with one of the last few populations of the species rapidly diminishing in the wild, decisive actions need to be taken instead of a discussion on whether or not the European mink is a native species in southern Europe. Insofar as the species is disappearing not only from Spain but also from its complete distribution range, there is an immediate need for energy and budgets to be focused on avoiding this mammal's imminent extinction. Once it disappears, there will be no use in crying over extinct mink.

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