

# REMOVAL OF AMERICAN MINK, *MUSTELA VISON*, FROM HIIUMAA

## REPORT

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### INTRODUCTION

The European mink, *Mustela lutreola*, is one of the most critically endangered species in Europe. To save the species, the Oxford University, Tallinn Zoo and European Mink Conservation and Breeding Committee (presently Foundation Lutreola) have since 1996 been in cooperation which at the end of 1998 resulted in a plan of concrete actions to guarantee the survival of the species by establishing a captive European mink population in the Endangered Species Centre at Tallinn Zoo and an insular European mink population on Hiiumaa Island. To introduce European mink to Hiiumaa, the first task was to get rid of the feral American mink population on the island.

This report reviews the efforts made for the removal of American mink from Hiiumaa during the period of 01.11.1998–25.03.2000.

The feral American mink population on Hiiumaa Island was formed on the banks of the Nuutri stream near Kärđla and consisted of the descendants of animals which once escaped from the fur farm at Palade village. By now the farm has finished American mink breeding. The last mink from the farm was held in private possession and died at the beginning of 1999.

Different estimates of the size of the feral American mink population have been made: according to local huntsmen (A. Takis, oral information) there were approximately 500 American mink on Hiiumaa, according to Nikolai Laanetu their number was less than 300.

In 1997 Adam Grogan and Cengiz Philcox (Oxford University, WildCru) assessed the suitability of Hiiumaa's semiaquatic habitat for the American mink (Philcox & Grogan 1997). According to their report, in summer period the capacity of the island is 105–203 animals.

On account of a probable calculation error we decided that the presumable size of the mink population that needed to be trapped was 300 animals.

### OBJECTIVE

The objective of the project was to remove all the American mink from Hiiumaa or weaken the mink population to such a degree that it would lead to its decease.

### DESCRIPTION OF THE PROVISIONAL ACTION PLAN

The removal of mink from such a large area like Hiiumaa is a unique undertaking and it is very difficult to find any guidelines from earlier projects of that kind. The most effective approach to this task was to learn by trial and error. We divided the removal operation into shorter periods during which different methods would be used, and intervals between the periods for making analysis and deciding how to proceed.

First we decided to engage local hunters for trapping and should they not be effective enough, call outside experts (from Belarus) for help. It was decided that Coniber traps would be used, because this is the only trap type legally allowed in Estonia without any special licence. On the first trial we were going to use lures commercially produced in the USA.

Trapping was planned in three sessions:

- 1–21 December 1998 1<sup>st</sup> session with local trappers
- 1–21 February 1999 2<sup>nd</sup> session with local trappers
- 15 March – 15 April 1999 3<sup>rd</sup> session and removal of the last specimens with the assistance of experts from Belarus Institute of Zoology (Dr. Vadim Sidorovic and his team).

Hiumaa was divided into 9 hunting regions. Initially we employed 17 local trappers, two for each region, excluding one.

The trapped animals were to be preserved in deep freeze.

## **ACTUAL PROGRESSION OF THINGS AND THE RESULTS**

### **THE FIRST AND THE SECOND SESSIONS**

Soon after the trapping started, it became clear that the combination of local trappers, Hiumaa natural surroundings, Coniber traps (later live traps), and lures would not give expected results. The reasons were as follows:

- The use of Coniber traps in Hiumaa natural surroundings is ineffective.
- Local hunters do not have much experience in using live traps either.
- The lures were far less effective than boosted.
- For using the Coniber traps, the hunters need more experience.
- The local hunters' knowledge of American mink as game animal was poor. Out of 17 trappers only two had some previous experience in mink trapping.
- Due to abrupt changes in weather conditions, it was nearly impossible to set the traps in right positions.

The poor results of the first trapping session notably diminished the enthusiasm of the trappers and by the second session their number had decreased to 6.

In two 3-week sessions from 1 December 1998 to 8 March 1999, the local trappers captures 12 animals.

### **THE THIRD SESSION**

As the results of the first two sessions with local trappers, Coniber traps and live traps proved inadequate, we decided to use the assistance of foreign experts led by Dr.

Vadim Sidorovic from Belarus Institute of Zoology. Our considerations were as follows:

- Dr. Vadim Sidorovic has been dealing with ecological research for years and is an experienced trapper (esp. of the American mink).
- As the natural conditions of Estonia are fairly similar to those of Belarus, the action of the Belarus team can be trusted to be on Hiiumaa as effective as in their homeland.

As the Belarus experts use leghold traps in their work, we had to apply to our Ministry of Environment for a special permit because these traps are prohibited in Estonia.

With the Belarus team trapping took place in four stages:

1. 14 March – 22 April 1999 (45 leghold traps)
2. 2 – 25 August 1999 (65 leghold traps)
3. 26 November – 15 December 1999 (65 leghold traps)
4. 28 February – 20 March 2000 (65 leghold traps)

All in all, the Belarus two-men team captured 38 mink with 40–60 leghold traps.

According to the count made in the first trapping stage, the Belarus experts assessed that the highest possible number of American mink on the island was 60–62 animals. Counting in the 12 animals already captured by the local trappers, we get a total of 74 animals on the island before the trapping. It is considerably less than the actual capacity of the island. We can only suppose that when the trapping started, the mink population on the island was in deep depression. This assumption is supported by the high proportion of females in the trapped animals. At a rough estimate, during the peak periods the number of mink on Hiiumaa may have been ab. 200 before the breeding season and ab. 500 after the breeding season.

According to our observations after the spring trapping at least 10 American mink must have remained on the island. Considering the summer increase, a population of 50–60 animals should have formed by August. But in August there was no evidence of such number of mink on Hiiumaa. Consequently we can presume that the small population of ten animals had headed for extinction –

a usual occurrence with small populations, because in a small population the persistence of the population depends on each single individual much more than in a large population. Accidental death of only a few individuals may bring about irreversible changes.

Thus it turned out that in the summer, autumn and winter sessions we had to trap just the last few remaining individuals. During the last three-week winter session we could trap not a single mink although we had set 60 leghold traps in the most optimal sites of mink habitat and it was breeding season, during which the animals are most active. We could not find any traces (neither new nor old) of the animals either, regardless of intensive field work. Thus we can be quite positive that the American mink has been removed from Hiiumaa.

The trapping sites of mink are shown in Fig. 1.

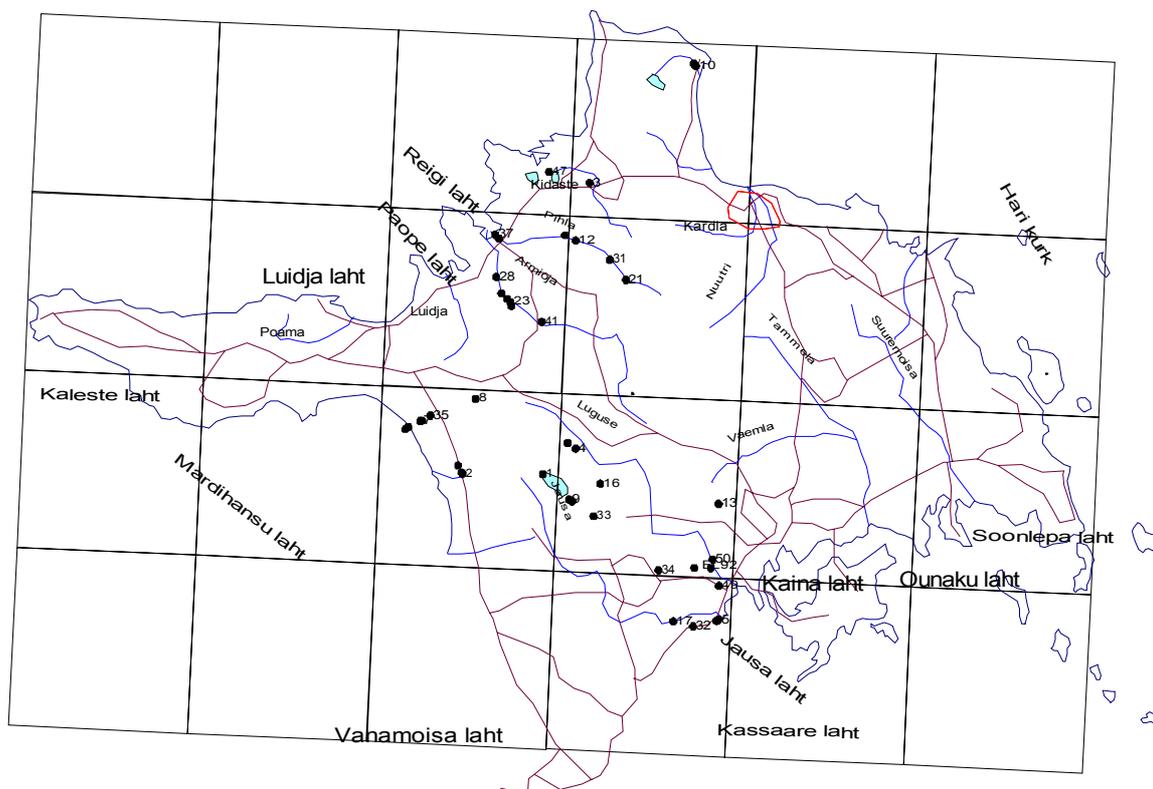


Fig. 1. Trapping sites of American mink on Hiiumaa

#### OTHER RESULTS

During trapping of mink the status of a number of other animals on Hiiumaa was investigated.

In spite of intensive trapping and field work, we could not see any polecat on Hiiumaa which gives us reason to believe that presently there are no polecats, although there are data on the species' former existence on the island. Quite possible that the disappearance of polecat from Hiiumaa is connected with competition with the American mink.

The existence of European beaver on Hiiumaa was reconfirmed (Fig. 2). Beavers have lived on Hiiumaa in four groups since the early 1990s. 3–5 years ago three litters were trapped. At the present there is only one population of 4–6 beavers on the island.

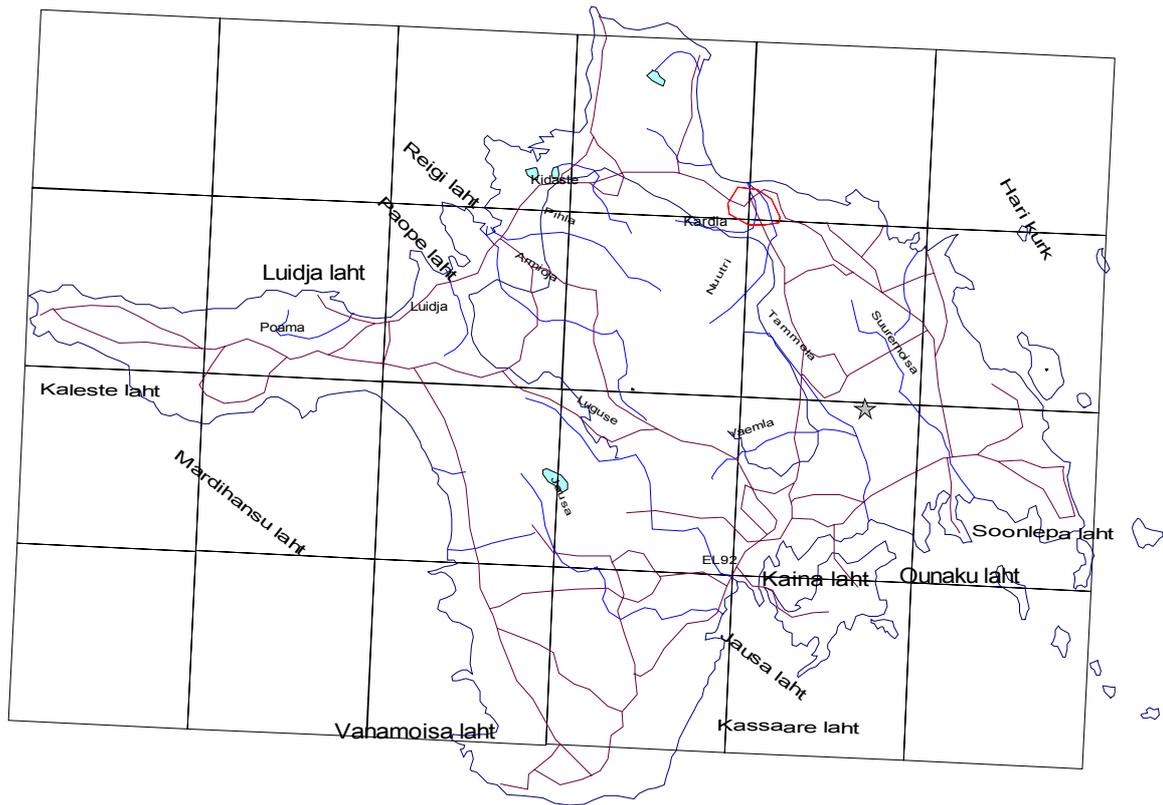


Fig. 2. Distribution of European beaver on Hiiumaa

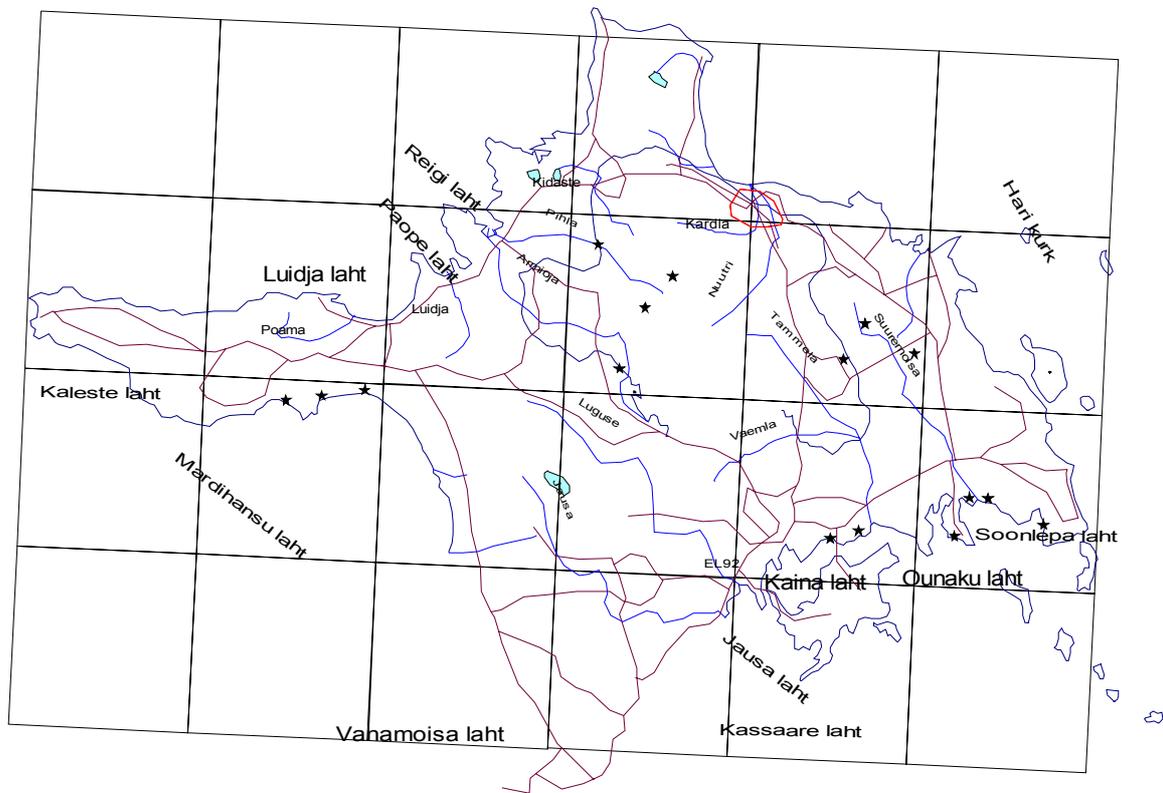


Fig. 3. Distribution of stoat on Hiiumaa

