
SUMMARY

Current survey is a part of EU LIFE Program Project LIFENAT/EE/7081 entitled: "Recovery of *Mustela lutreola* in Estonia: Captive and Island Populations". The performance of the survey was financed by Estonian Environmental Investment Center (project no 49) and, in lesser extent, by EU LIFE Program. The survey bases in fieldworks conducted mainly in December 2001 – March 2002. The aim of the study is to find sufficient replies to the following questions: (1) Is there enough suitable habitats for viable European mink population?; (2) How large is the population of *Mustela vison* in Saaremaa and is it feasible to start with eradication program?; (3) What is the abundance of other carnivores and what could be their impact to the establishment of European mink island population?; (4) Does the establishment of island population of the European mink pose any threat to local grayfish population?

The results of the study are the following:

1. There are enough habitats for viable population of the European mink. By most conservative estimate the habitats in Saaremaa can accommodate as much as 150 – 300 mink in winter; in summer the figure is much higher.
2. Most suitable watercourses in Saaremaa for European mink are Love, Kuke, Leisi, Volupe, Riksu and Maadevahe watercourses.
3. The American mink does not have any viable and stable population in Saaremaa. Only infrequently single specimen (mostly males) migrate from mainland to Saaremaa, but are not able to give start to viable population. Instead of that they vanish due to various natural courses.
4. The otter, *Lutra lutra*, forms a population in Saaremaa consisting of 10 – 15 individuals. The overall capacity of the island habitats is much higher.
5. Water vole, *Arvicola terrestris*, is very abundant in Saaremaa. One possible explanation of this is the lack of top-predator preying upon it.
6. Beaver, *Castor fiber*, is present in 7 watercourses in Saaremaa. Its wide range evidences that it has already formed steady population. The overall number is estimated to be 30 – 44 individuals.
7. Although confirmed data exists on the presence of polecat, *Mustela putorius*, in Saaremaa in recent history, our current study did not reveal any evidence on the presence of polecat in Saaremaa. It is likely that polecat has vanished because of the negative impact of highly abundant fox and raccoon dog.
8. Although there is number of claims in historical literature about the presence of stone marten, *Mustela foina*, in Saaremaa, our current survey does not confirm it. Most likely the stone marten has never inhabited Saaremaa and the earlier records are the result of confusion with pine marten, who, in years of high abundance, tends to overtake the typical stone marten behavior and live close to human settlements.

9. Pine marten is numerous in Saaremaa. According to our estimate its number reaches to 800 individuals.
10. The fox is highly abundant in Saaremaa with its overall number reaching to 8000 individuals in the island. The average abundance is ~ 30 ind/ km².
11. According to our calculations the number of raccoon dog is above 1500 animals. Due to the bias caused by the methodology the actual number is likely to be much higher.
12. According to our calculation the number of stoat and weasel are 300 and 5000 respectively. The actual number is likely to be much higher.
13. The badger, *Meles meles*, was recorded in 2 sites: Punapea river and Leisi river.
14. The tracks of two large carnivores were recorded in Saaremaa: wolf, *Canis lupus*, and lynx, *Felis lynx*.
15. Fish dominates (88,7% of occurrence and 87,1% of biomass) in the diet of otter, followed by birds (41,1% of occurrence and 12,2% of biomass). The river crayfish forms only an insignificant part in the diet of otter: 1,4% of occurrence.
16. It is likely that the diet of released European mink in Saaremaa differs from those released in Hiiumaa: (1) the proportion of amphibians in its diet will decrease, (2) the importance of fish increases, (3) the importance of small mammals and (4) invertebrates (incl. grayfish) increase as well.
17. The impact of released European mink is likely to be insignificant to local grayfish population.