# The Eurasian beaver - A menace to society?

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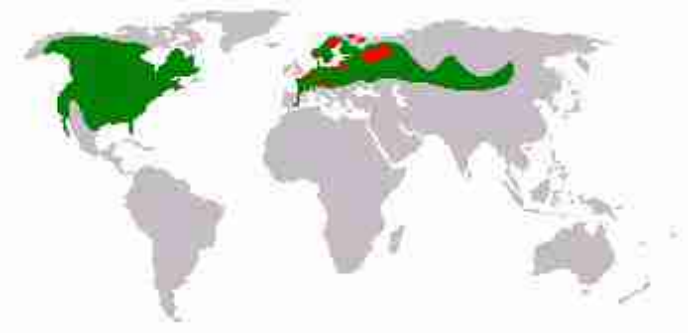
## Introduction

The Eurasian beaver, also known as the European beaver, *Castor fiber,* is a species of mammals in the rodent order. It is one of the wold's largest rodents.
Previously, it was found across Europe and North America and in large areas in Asia. (green coloration in model)
Today the population is limited to scattered areas of Europe and the European part of Russia. (red coloration in model)

The beaver is strictly herbivorous and eats plant material such as bark, shoots and leaves of plants, herbs and trees. The animal is a central-place forager. This means it moves out from the refuge to collect food and then transports it back.



## A study from Norway

O. Haarberg from the University of West Hungary, Institute of Wildlife Management, and F. Rosell from Telemark University College, Department of Environmental and Health Studies in Norway, conducted a study, *Selective foraging on woody plant species by the Eurasian beaver (Castor fiber) in Telemark, Norway,* to learn more about the foraging preferences concerning the selection of trees species by the Eurasian beaver.

In my opinion, this study is interesting because many land owners in Norway are concerned about beavers destroying their woods and consider the beaver as a vermin exclusively.

Is this a verified opinion, or is the problem exaggerated? Knowing what type of vegetations beavers prefer is the key to understand this question.
Allthough actions are taken to protect the beaver, there are still a certain amount of illegal hunting.

## Methods used in the study

The fieldwork was carried out on two rivers in the south-east part of Norway. This area is located in the vegetation zone of southern taiga. The population density is high in the beaver colonies used for the study.

Beaver foraging intensity and wood species abundancy where surveyed at seven beaver territory locations.

Within the territories the wooded riverbank was divided into 10 meter sections.
5% of these sections where randomly selected for the survey.

The species of both cut and standing trees with a >1 cm diameter where recorded in 10 x 40 meter transects along the river.

Transects where divided into four 10 meter wide plots which covered 0-10, 10-20, 20-30 and 30-40 m

## Study results

90% of the beavers diet consist of the following plant species groups:
Alder, rowan, pronus, birch, willow and conifers.
Preferentially, the beavers will feed on willow, rowan, and birches. In telemark, the willows were the absolute first choise. It is also the most common species (besides alder), and showed to be all most completely utilized by the beaver.
This is a result similar to other studies in Europe.

Far the most of the stems beavers cut were between 1 and 5 cm in diameter.
In comparison, only 5% of the stems cut by beavers exceed a diameter of 45cm, but this made up 53% of the basal area browsed.

The average distance of beaverdamaged woody plants in southern Norway was found to be 36 m from the water. (Parker er al., 2001)

## Discussion

Conifers are planted by humans and mainly used for timber production in this area. As we can see from the study, conifers are the least preferred by the beavers.
However, species fancied by the beavers are exploited as well, as burning wood and timber. (Esp birch) From an economic point of view, I would expect the alder and willow to be of a lesser importance.
Beavers eat 20% of their body weight every day, and also utilize a certain amount of vegetation for their constructional work. (Oak is an example, they are used for construction purposes only)

With this information, it is obvious that the beavers affect the forest community composition in a large scale. Another, well known problem is the building of beaver dams, which may block river traffic and overflood areas.
It must be weighted that the impact is done within a 40 meter range from the water only, and the fact that the food list also contain river bank plants; tubers and rootstocks of myrtles, water lilies and so on.
The beaver is a keystone in the ecosystems in which they live. Through their aquatic systems they provide habitats for many other species.

In my opinion, the damage extent seem to be disproportioned by some land owners. Dam building might be a larger problem than the impact on the forest; In this case it is a possibility to simply remove the dams.
If the populations are kept at a reasonable level, the coexistance of beavers and humans should not provide any large scale problems.

## References:

O. Haaberg and F. Rosell: "Selective foraging on woody plant species in the Eurasian beaver (Castor fiber) in Telemark, Norway"

Sharpe, Fiona and Rosell, Frank: "Time budgets and sex differences in the Eurasian beaver"

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http://en.wikipedia.org/wiki/Castor_fiber