

## ELK POPULATION CONTROL SYSTEM

In terms of the value of meat from hunted animals, the European elk (*Alces alces*) is Finland's most important game animal. In 2004 meat from hunted elk was worth about €50 million. However, elk are also nuisance animals, which cause damage in traffic, forests and to some extent also agriculture. The compensation paid by the State for damage to property in traffic accidents and for damage to forests has doubled from the 1990s level. In addition to this, State finances are burdened by, e.g., the cost of fencing roads. Looked at from the perspective of society as a whole, i.e. in the light of social economics, alone the cost of traffic accidents involving elk is calculated at over €100 million a year.

The audit examined how the goals set for the elk population regulation system are being achieved. The central question was how the size of the elk population is being influenced by means of the regulation system. The data for the audit were obtained from statistical material and research reports as well as through theme interviews and an e-mail questionnaire study.

Responsibility for the overall direction and oversight of hunting and game management functions resides with the Ministry of Agriculture and Forestry. The Ministry sets result and performance targets for the game management districts, the national hunters' organisation *Metsästäjien keskusjärjestö* and the Finnish Game and Fisheries Research Institute. The elk population is regulated by hunting. Section 26 of the Hunting Act states that when licences to hunt elk are granted by game management districts, it must be ensured that elk population is not endangered by hunting and that damage caused by these animals is kept at a reasonable level.

The main result of the audit was the observation that the elk population regulation system does not entirely meet the targets set for it. The system does guarantee preservation of

the elk population, but leads to major fluctuations in the population and to its being excessive at times. In the view of the State Audit Office, the Ministry of Agriculture and Forestry should study alternatives to the existing elk population regulation system. One alternative that should be considered is a regulation system in which the present procedure for granting hunting licences has been completely abandoned.

The problems of the regulation system stem from the looseness of the result and performance targets set by the Ministry of Agriculture and Forestry, the inflexibility of the licensing system, the difficulty of estimating the population and poor utilisation of the available data.

The way in which the Ministry of Agriculture and Forestry has set result and performance targets has not been effective. The targets have been so loose that no actual guidance effect has been achieved. The Ministry's intention in setting the targets in such loose terms has been to keep decision making local. This has led to different results in different areas with regard to the size of the elk population. The density target set by the Ministry is not based on an economic calculation of the elk's importance. From the perspective of government finances, the animal is mainly a nuisance. Also in the light of social economics, its value is negative at the present population level. When setting targets, the Ministry of Agriculture and Forestry should strive for a lower elk population than at present. From the perspective of government finances, it would be justifiable to aim for a sustainable minimum population. Several instances consider a winter population of 60,000 elk to be both economically and ecologically sustainable. From the perspective of assigning damage, regional elk density targets should be based mainly on the damage resulting from traffic accidents involving the animals.

The flexibility of the elk population regulation system is weak because hunting licences cannot be granted after 10 August. In practice, this weakness has been circumvented in that some game management districts grant so-called bank or shelf licences and/or joint licences, meaning in effect that decisions on culls can be partly postponed until the autumn. In order to increase flexibility the system has

in places become, by dint of practical necessity, different from what it was originally intended to be. Data relating to population estimation and taxation are coming in throughout the hunting season. In the view of the State Audit Office, the Ministry of Agriculture and Forestry should examine how, within the framework of the existing regulation system, decisions on hunting licences could be made more flexibly later in the autumn.

Several problems are associated with estimating the elk population. The estimate is based on observations made by hunters. The Finnish Game and Fisheries Research Institute has found a certain systematic error in this. When the population is growing, the estimators do not believe that this is the case, but instead underestimate the growth. The result of this is that too few animals are hunted, leading to an acceleration of growth and a rapid increase in the population. On the other hand, when the population is in a downward phase, the number of elk is overestimated and this leads to excessive culling and the population declining faster than desired.

The hunt records required for regulating the elk population as well as data on damage caused by the animals in traffic accidents and forests should be compiled in one place, which would improve the planning of hunting and its assignment according to the amount of damage. Bottom-up social economic research is likewise a requirement for determining national and regional elk populations. This would provide a basis on which to determine what elk population is optimal from the perspective of society.

A problem with the compensation system for damage caused by elk is that there are delays of as much as a year and more before the compensation sums are paid by the State. Parties who have suffered damage have criticised the retention component and the level of compensation. Hunters find it problematic that also land-owners who do not allow hunting on their land are entitled to compensation for damage. In the opinion of the State Audit Office, keeping the elk population close to the minimum sustainable level will solve also most of the damage compensation problems, because then the number of

incidents of damage will remain considerably less than at present.