The Eurasian lynx in Scandinavia, and the work to prevent illegal hunt

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Contents:

The Eurasian lynx (*Lynx lynx*)

The lynx is one of the four large predators in Sweden. The other three are wolverine, brown bear and wolf.
Among the lynxes, the Eurasian lynx is the biggest with a high about 70 cm at the shoulders, and a weight up to 25 kg in males. They are mostly active during the night and lives solitary as an adult, apart from the breeding season. Some examples of they're prey are hares, roe deer, reindeer and rabbits.

In the beginning of the 19th century there were lynxes all over Sweden, mostly in the middle parts and the north. During the 19th century there were extensive shooting on the lynx and in the beginning of the 20th century only a small amount of lynx remained in the northern-middle part of Sweden. In 1927 the lynx got protected, and the hunt was straight forbidden until 1943 when it was re-introduced though the lynx had started to recover from nearly being extinct.
Habitat: Map from the 21st century:

Lives mostly in forested areas.

Introduction

There are four large carnivores in Scandinavia. The Eurasian lynx, the brown bear, the wolf and the wolverine. They mainly occur outside the protected areas and that, of course, starts discussions and conflicts, when they are close to human societies. Worth mentioning is though, that the protected areas are smaller than the natural ranges for a large carnivore.

The lynx is found from south-middle Sweden and further up to the north, where they live within the Sami reindeer husbandry areas. The reindeers are the main prey for the lynx within these areas. Outside these areas roe deer and sheep are the main preys.
Because of the lynx hunting these animals the reindeer husbandry's, sheep farmers and hunters demand that the population of lynx should be limited. But active management of any wildlife animal requires careful research with a good base of specific data. This especially for a minority like the big carnivores.
To identify the primary cause of mortality is very important, tough poaching often is a main factor in large carnivore populations.

The aim of this research is to describe causes of mortality in the Eurasian lynx populations in Scandinavia. Another question asked is whether increased hunting quotas can increase the acceptance by those affected by the lynx, as for example the reindeer husbandry's.

The areas that were studied during this research are as follow:

- Sarek in northern Sweden, where data was taken between 1994 and 2002. Here the reindeers are the main prey.
- Bergslagen in southern Sweden, where data was collected between 1996 and 2002. In Bergslagen the main prey is roe deer.
- Nord-Tröndelag in northern Norway, collected data between 1994 and 1996. Both reindeer and roe deer are main prey's.
- Hedmark in south-eastern Norway, with data between 1995 and 2002. Main prey is roe deer.
- Akershus/Östfold in southern Norway, where data was taken between 2000 and 2003. Roe deer is main prey.

There were only enough data from Sarek, Hedmark and Bergslagen for this study.

Methods

Mainly this study is based on radio-collared lynx, but they also equipped some animals with an implanted transmitter and also traced them by helicopter. Most of the transmitters had a mortality function which made it easier to track dead animals and determine the cause of death. They were radio-tracked at least two times a month or more.
The different classifications for the cause of death were:

- Natural death (eg. starvation)
- Trafic (eg. car accident)
- Harvest (eg. shot during legal hunt)
- Poaching
- Probable poaching
- Unknown cause of mortality

The survival rates for the radio-marked lynx were calculated. The animals were divided into female and male and three age classes for a more age specific mortality estimation.

Results

Together in Sarek, Hedmark and Bergslagen there were 202 lynx that were followed. In all these areas the age differences in mortality are classified.

- The highest mortality cause in adult lynx was because they were legally or illegally shot.
- In yearlings this also was a high death cause together with natural causes and traffic.
- Most of the kittens died of unknown causes.

The results showed that the illegal hunt differed significantly in the time of the year between Sarek and the other study areas. In Sarek the illegal hunt was higher during the first half of the year. In the other more southern areas the illegal hunt ratio is higher in the last half of the year. The assumed reason for this will be discussed under the next headline.

Discussion

I would like to start the discussion with the assumed reason for the difference of illegal hunt seasons.
In the northern Swedish Sarek it mainly occurred in the first half of the year. This is probably because there is snow in this region at that time of the year, which makes it easy to access remote areas with snowmobiles, and that makes it easier to locate and kill lynx without being detected.
In the other areas the illegal hunt occurs mainly in the autumn, which is during the moose and roe deer hunt. So there is a risk that hunters take the opportunity to illegally shot a lynx. This would mean that lynx also is hunted in a opportunistic reason, rather than a planned manner.

The study shows that the cause of mortality in adult lynx is very much influenced by humans in the examined areas. In kittens the most important cause was the natural cause. This pattern of humans causing mortality in adults is similar to other studies to that of other large carnivores.
The average mortality rates for adult lynx in these studies increased 5 – 10 times when hunting and poaching were included. This is followed by an impact on the rate of increase. When hunting and poaching where included in the survival estimate, the rate of increase changed from 20% / year to approximately 3% increase per year.

About 46% of the mortality in the adult lynx is caused by poaching and probably poaching. There are reasons for humans to want to decrease the lynx population. The reindeer husbandry suffers great losses to predation. Although they are compensated for the loss, the Swedish reindeer owners' organisation claims that this compensation is too low. Because in this compensation is not the future production loss due to a female reindeer included. If this is considered the loss is about 4 – 5 times larger than the compensation paid out today. So based on this, reindeer owners believe that it is better to reduce the lynx population rather than getting the compensation.

The case of lynx poaching in Scandinavia is interesting in that it occurs in a rich country with high standard of living, high levels of education, with relatively honest and effective law

enforcement, and is motivated only slightly by economic gain. Well there is the desire to minimise every economic loss, and economic losses do act as a proximate reason. Can it be that it is just lack of acceptance of the presence of lynx as a predator in the modern society?! Well this is not discussed in this study, but to conclude, the main thing to do for a long-time survival of the lynx in Scandinavia is to increase the tolerance towards the lynx and thereby reduce the poaching.
The present population in lynx in Sweden is about 1200 – 1400 individuals and has a very low probability of extinction. But if there is a undetected increase of poaching, that can change this conclusion. This is a big problem in many wildlife species, where poaching is the most important threat across all populations.

Own opinion
For me this topic is interesting because I am a huge cat lover. I choose the lynx because it is the biggest cat in Sweden, where I live. When I looked up information what to write about there was a lot of information about them being under threat of extinction during the 19th century and the illegal hunt today. The question what preventative work is being done came to my mind. This article was exactly what I looked for. One study where they examined the animals and what work that needs to be done to stop the illegal hunt on the lynx.

This also showed a new point of view for me. I do not agree with the poachers, but there is anyway a slight understanding - IF it is true what they say about their losses, and that the compensation is too small especially if they also count for the losses of females off springs.

I agree in the statement that there is a lack of acceptance and understanding from the poacher's side. Lynx is a carnivore that needs its food just as we all do. That it is choosing reindeer is an unfortunate coincidence, (and it is hard to tell them not to..)
So more acceptance from the owners and maybe more compensation to make this progress go faster, is what I think would be the best solution after have worked with this study.

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