Lynx management in Latvia: population control or sport hunting?

JĀNIS OZOLIŅŠ[1], ALDA PUPILA[2], AIVARS ORNICĀNS[3] AND GUNA BAGRADE[4]

Abstract

The study examines the harvesting manner of lynx population in Latvia. Samples from hunting bags compose the main material used for analysis. From 1998 to 2005 a total of 178 lynxes were investigated for sex, absolute age, female fertility, and fecundity. The sample consisted of 33.7% juveniles, 12.4% yearlings and 53.9% adults. The sex ratio did not deviate significantly from 1:1. Nearly 91% of the adult females were involved in reproduction. Average fecundity was 2.33 embryos per producing female. These data are used to evaluate the impact of hunting on population recruitment. The sex-age structure of the hunting bag confirms that hunters used the permitted opportunity to reduce lynx numbers rather than to obtain distinguished trophies. The hunters are motivated by concern about the increase of lynx population due to its predation on ungulates, in particular roe deer. To avoid overexploitation of lynx population and to reduce public strain about depredation, yields below 10% of estimated numbers are proposed.

1. Introduction

Although the population of Eurasian lynx *Lynx lynx* in Latvia shows increase (Anderson et al. 2003), hunting is mentioned as the main factor affecting numbers and distribution (Ozoliņš 2002). When considering hunting, however, we do not mean just killing of animals for sport or utilization. Hunting in modern times can be described as a really multi-purpose human occupation, and most of the hunted species are managed in tight accordance with their population ecology. In concern with this study, we prefer the definition of hunting by Kurt Lindner (after Kühnle 2000) who reveals that this is somewhat of very specific activities typical only for human beings and consisting of (1) traditional selection of game species, (2) their targeted persecution in a traditional way ending in killing, and (3) particular care for recovering of game resource. Consequently, human hunters may manipulate game species in several, sometimes very complicated ways. To supervise the hunting efficiently, it is important to know why a species is hunted. Not always it can be taken for granted. Lynx is one of such examples.

An inquiry of hunters is likely the simplest method to get an answer. Hunters, however, are quite contradictory social group, and their minds not necessarily reflect the force or weight of their activities. Two surveys have been carried out in order to assess the hunters' opinions. The most representative one was done in the late 1990s and it covered 2450 respondents or 7.3% of all hunters in Latvia. The results showed fairly negative attitudes towards large carnivores and their current management was often criticised. 60-80% of respondents considered large carnivore control (i.e., cutting down)

[1] State Forest Service, 13 Janvāra str. 15, Riga, LV – 1932, e-mail: janis.ozolins@vmd.gov.lv

[2] Administrattion of Teiči Nature Reserve, Aiviekstes str. 3, Ļaudona, Madonas raj., LV – 4862.

[3] State Forestry Research Institute "Silava", Rīgas iela 111, Salaspils, LV – 2169.

[4] Natural History Museum of Latvia, K. Barona iela 4, Riga, LV – 1712.

the most important task in game keeping that would need priority status and financial subsidies (Dālbergs 1999). Obviously, hunting of large carnivores is not in compliance with the third aspect of the Lindner's definition above. However, the opposite decision was taken by the responsible authorities at that time, i.e., the bounties for killed wolves were entirely abolished in 2000; such bounties were never implemented for lynx. Still, five years later nearly a half of the readers of Latvian hunting magazine considered wolf and lynx abundance sufficient and some readers even liked to have them more (Andersone & Ozoliņš 2004). One of the aims of this study was to find out what happened since the 1990-ies survey, i.e., whether lynx population declined, and why the hunters have changed their opinion. Our study was an attempt to assess hunters' attitudes towards lynx by examining hunting bags, a result of hunting activities.

With accession to the European Union in 2004, Latvia was obliged to implement new restrictions to ensure species conservation in conformity with the EU Habitat Directive 92/43/EEC, as well as with the Bern Convention and the Washington Convention – CITES (both ratified by Latvia in 1997). These restrictions were introduced not because of identified threats to population but rather to establish a system for diminishing or banning harvest as soon as any threat to lynx population would appear (Ozoliņš 2002). Since 2004, lynx hunting became subject to derogations from the Habitat Directive. The lynx is harvested in accordance with strict annual quotas and the national State Forest Service, which has dealt with supervision of hunters and game management already before, is the responsible institution ensuring population monitoring and quota setting. Another objective of this study was to analyse lynx population response to the new management system after the first three years after EU-accession, as well as to evaluate the harvesting results from a conservation point of view. This knowledge supposedly will facilitate further decisions on sustainable yields.

2. Material and methods

2. 1. System of data recording and reporting

All data were collected within the framework of the State Forest Service (SFS) since 2000, and by the analogous governmental authorities before 2000. The empiric material on lynx numbers was provided by the professional forest guards once a year, and summarized by foresters in each forestry district. These estimates are an educated guess because all foresters have passed a special course in game biology either at the College of Forestry or at the Latvian University of Agriculture. Further, data were summed up by forestry headquarters, and collected in the SFS Game Management Department. While the territorial units of the SFS do not overlap, a number of ranges of the forest guards, forestry districts, and even headquarters have changed over a period. During 2000-2005, the SFS consisted of 26 head offices in regional districts and 197 local forestry offices employing more than 800 local forest guards.

During the last three years, once a year country-wide snow tracking was organized to assess lynx distribution. All local forest guards of the SFS examined their ranges during the same day and recorded the presence or absence of fresh lynx tracks. Surveys were stopped as soon as the first fresh sign was found. Records were summarized by the headquarters. The total percentage of lynx occurrence for the particular day (districts with lynx tracks *vs* all districts) was calculated, and sightings mapped.

All shot lynxes were reported by the hunters in writing to the local forestry offices. Since 2003, the national lynx management plan (Ozoliņš 2002) was implemented and all lynxes hunted or found dead were reported within 24 hours period enabling researchers to collect the carcasses for investigations. The amount of collected material was limited by the lynx quotas: 50 individuals in 2003, 50 in 2004, and 70 in 2005.

2. 2. Laboratory investigations of material

Altogether, 178 skinned lynx carcasses were sampled from October 1998 to January 2006 to determine sex, absolute age, and reproductive status. Since the hunters often were mistaken in sex determination, in particular that of juvenile and young lynx, the abdomen region of the lynx body was carefully checked (Kunz et al. 1996). The reproductive organs of all females older than 1 year were removed. Visual examination of ovaries and uterus was used to determine if the female had been reproducing (Kirkpatrick 1980). The uterine horns were opened to check the internal walls. The placental scars or swelled post-birth sites were counted assuming that these numbers have little deviation from the actual litter size. The scars of any previous pregnancy usually stood out as darkened purple or violet spots. In some cases, it became necessary to press the uterus walls between two glass plates and to look through against a light source. The date of the killing was also considered to determine the ratio of reproducing females. For instance, if an adult female lynx was killed late in the winter, she was found to be freshly ovulated, uterus walls were all swelled and not appropriated for counting anything, then the animal was registered as breeding (fertile) but not included in the subsample for fecundity assessment.

The heads of all collected carcasses were cut off. Sometimes the carcasses were heavily shot or consumed for food. Then only the head was available for study, and we used it only if sex of the animal was certainly known. One of the canines was extracted boiling the skull and ca. 1.5 cm long tip of the root was sawn off. Techniques recommended by Kunz et al. (1996) and properly described by Klevezal (Клевезаль 1988), including decalcification, freezing, sectioning, staining and mounting on a glass slide, were used. Counting of incremental lines of the tooth cement was performed microscopically. The slides were stored. Not every animal was aged successfully, and for various technical reasons 21 individuals, of 178 sampled, were determined as adults with unknown absolute age. The canine was placed back in the skull to avoid spoiling the trophy; this encouraged the hunters to provide material.

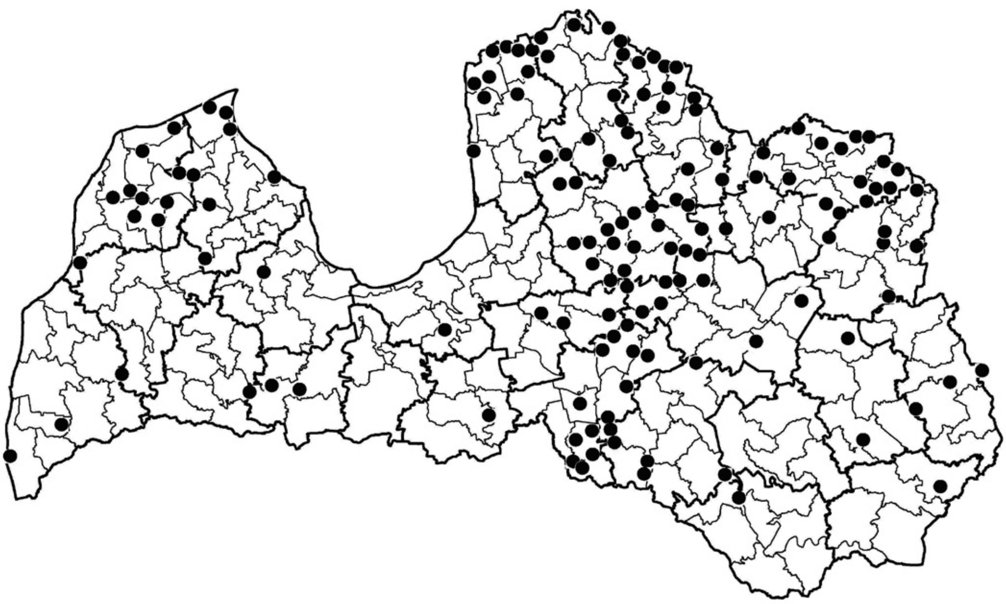

Figure 1. Distribution of fresh lynx tracks after simultaneous one-day census in 2005. Thin lines indicate borders of local forestry districts; bold lines indicate borders of the SFS headquarter districts. Dots indicate the locations of fresh lynx tracks.

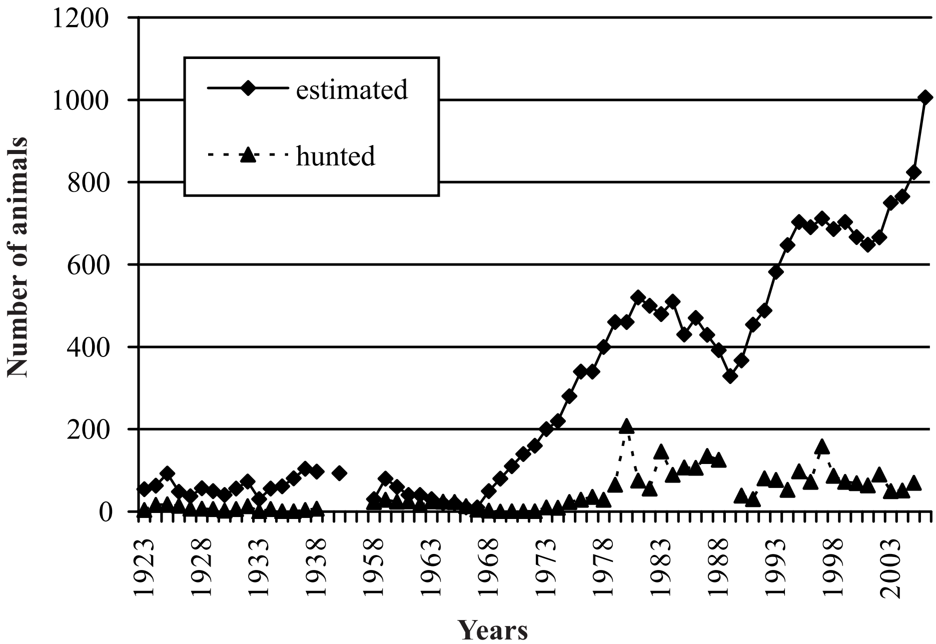

Figure 2. Official Latvian State Forest Service statistics on lynx numbers. Data are not available for the World War II period and 1989.

3. Results

Lynx is distributed throughout the country with the exception of the central part, south from Latvian capital Riga, where forest coverage is the scarcest (Figure 1). The percentage of lynx occurrence by surveyed forestry districts was 30.5% in 2004, 21.6% in 2005, and 31.8% in 2006.

The largest ever registered lynx cull during one hunting season was 208 in 1980. Afterwards, the culls declined to only 56 in 1982 despite official estimates which decreased much more slowly: from 520 in 1981 to 330 in 1989 (Figure 2). Until the 1990s, however, fur procurement probably was the main driving force for lynx exploitation in Latvia, therefore statistics of the last sixteen years are more appropriate to understand the recent processes.

The total lynx cull from 1990 to the last hunting season in 2005/2006 was 1161. The largest lynx number shot within one year (1997) for this period was 158, and again the population decreased remarkably (Figure 3). Since 1998, the lynx hunting bag never exceeded 90. Formal estimates increase considerably since 2004 when the quota system was introduced. Although hunting has taken place under quota restrictions, all predicted cull limits were met and the majority of lynxes were shot during the first month of the open season, i.e., December (Figure 4).

In the whole sample analyzed for sex and age (Figure 5), 33.7% of the lynxes were the juveniles. The largest proportion of juveniles was recorded for the year 2002 – 46.7%. It is significantly more ($\chi^2 = 4.39$, $P = 0.05$, d.f. = 1) than the smallest ratio in 1998, i.e., 12.5%. In the meantime, the proportion of lynx kittens in the hunting bag gradually increased and afterwards stabilized at nearly 40% (Figure 6). The lynx generations born in 1998 and 2001 had also very different occurrence pattern in the hunting bags of subsequent years (Figure 7). While the generation of 2001 shrank gradually until 2005, the generation born in 1998

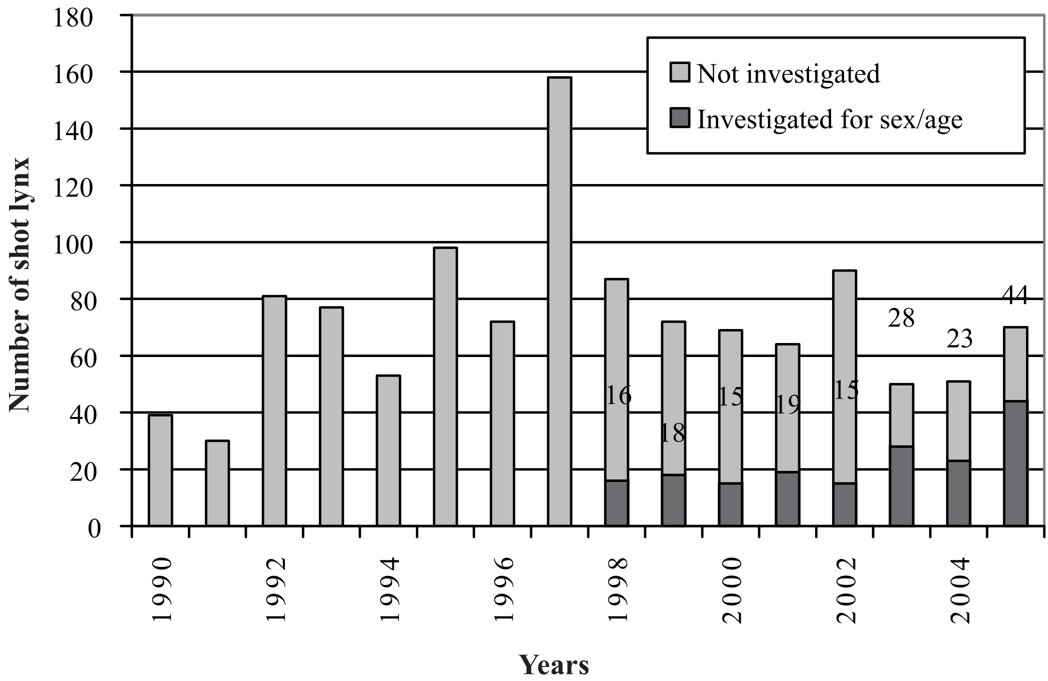

Figure 3. Lynx hunting bag in Latvia 1990-2005 (total n=1161).

was even increasingly represented in 1999 and 2000.

The mean number of placental scars per adult (≥2 years) female was 2.33 (n = 27, SD = 1.00). Only females that had distinct placental scars were taken into account. Quite a small percentage of adult females had no evidence of breeding, i.e., 9.1% of 33 checked. The most frequent number of placental scars was 2 (Figure 8). Female fecundity positively correlated with the age (r=0.64; n=15; P<0.01). The knowledge of female fertility and fecundity was used to calculate the theoretical number of juveniles in the given sample of the lynx population. Following formula was used:

$N_J = N_F * F * P;$

where N_J – theoretical number of juveniles; N_F – number of adult females; P – mean number of juveniles produced by one female; F – ratio of adult females involved in reproduction. The number of at least two-year-old females in our sample was 57, therefore theoretically they produced 120 kittens: $N_J = 57 * 0.91 * 2.33 \approx 120$.

Since our sample contained 22 one year old lynxes and assuming that proportions among age groups have not changed over time too quickly, and not taking into account the migration bias, we can calculate the survival rate from the first to second year of life: $S_J = N_{1Y} / N_J = 22 / 120 = 0.18$, where S_J – survival of juveniles; N_{1Y} – number of yearlings.

The oldest lynx in our sample was an 11 year-old male. The total age structure of the sample had a pyramid-shaped pattern (Figure 5) meaning that the population was growing (Odum 1971). Looking at the sex ratio, 43.3% of juveniles (n=60) were males but the female prevalence over male pups was not significant (χ^2=0.54, d.f.=1; n.s.). The ratio between males and females was almost equal in other age classes. Only adult females with an undetermined absolute age had a significantly greater occurrance (χ^2=4.45, d.f.=1; P<0.05,) but this phenomenon was related to our attempt to check as many females as possible for reproductive success rather than to a shaped population structure.

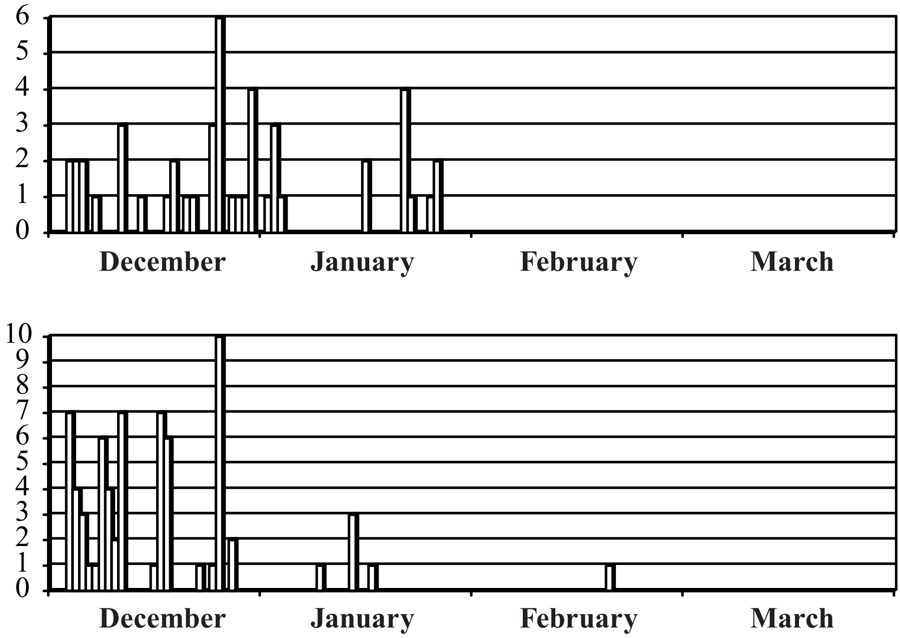

Figure 4. Calendar of lynx hunting during the winter season of 2004/2005 (upper graph, n=50) and during the winter season 2005/2006 (lower graph, n=70). Bars show the number of shot lynx per one day.

4. Discussion

4.1. Bias possibilities

Hunting bags at least to some extent reflect the attitude of hunters to their game. The survey of hunting bags, however, might be biased by both the behaviour of hunters and the method of research. First doubt appeared whether the number of placental scars indicated the true fecundity. This problem concerns mostly research techniques because the hunters were involved only to report about suitable material. Extensive material has been sampled to confirm compatibility between numbers of placental scars and born cubs in wolves (Bondarev 2002). Information on fecundity of female lynx is mostly related to studies of small samples of traced, hunted, or occasionally found family groups (Table 1). Sometimes the hunters in Latvia reported seen but not killed kittens but in this study we preferred better evidence of lynx reproduction. It is still possible to overlook the lynx kittens, in particular if snow tracking or specially trained dogs are not used. Kvam (1990) in Norway has studied the largest sample of 83 females for ovulation rate, and determined on average 3.1 fresh luteal bodies or Graafian follicles per animal. Comparing results, the bias caused by the method still should be considered. Logically, the highest birth rate (pre-natal one) should be indicated by ovulation, a bit lower by placental scars, and the least one – by counting the offspring or its traces. Although a true comparison is only possible with data obtained by the same method, counting results of placental scars fell very well in the general knowledge of lynx fecundity (Table 2). Our calculation of the theoretical number of all offspring given by females in the sample probably just slightly overestimates the reproduction success in the population. Experience and good skills of autopsy are important for this research, and preferably all individuals in a sample should be examined by the same person. Nevertheless, good contacts between hunters and researchers are essential to apply reproduction monitoring from hunting bags in the described way in practice.

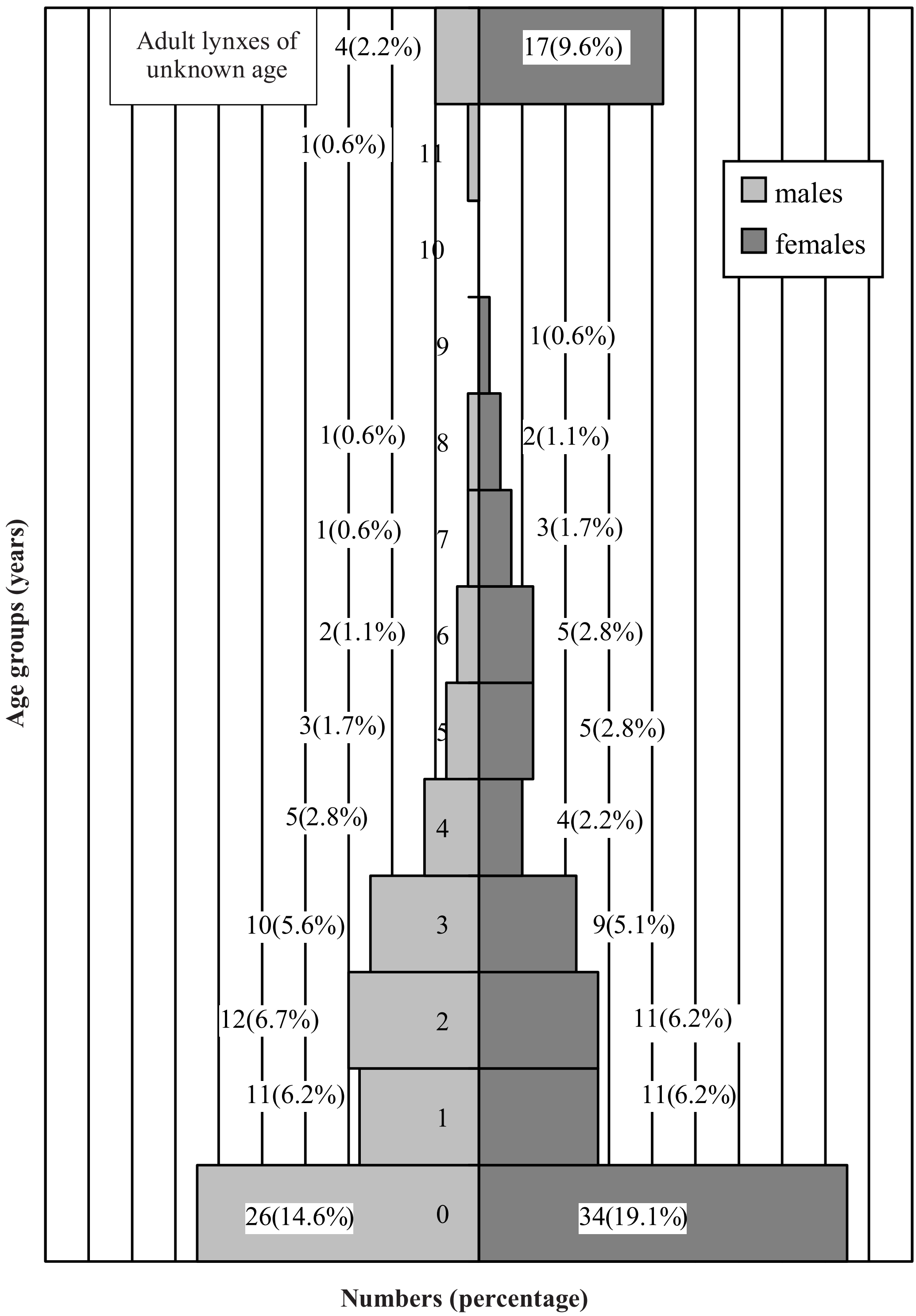

Figure 5. Age structure of lynxes shot during 1998-2006 in Latvia. Total hunting bag was 553 individuals and sample size was 178 individuals.

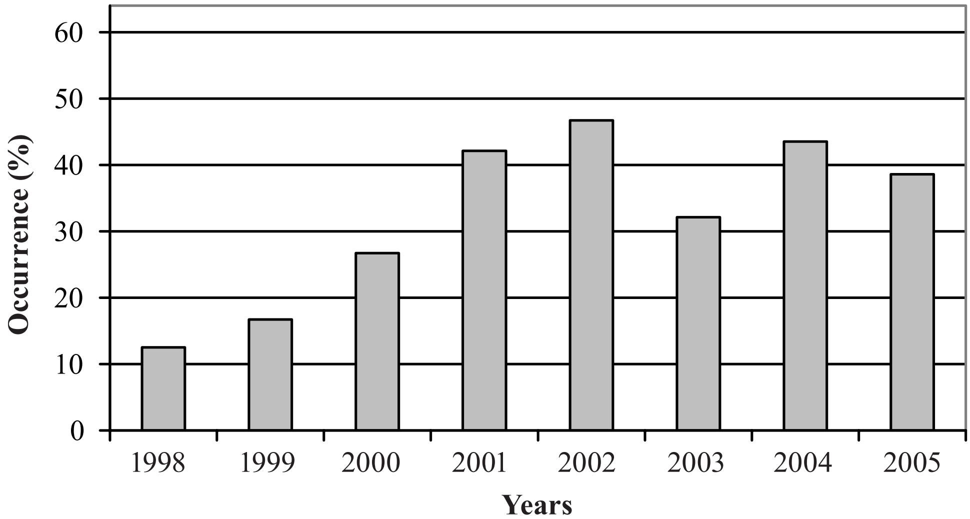

Figure 6. Proportion of juvenile lynxes in the hunting bag.

Our study also revealed occurrence of animals in the hunting bag accordingly to sex-age structure of the population. Doubt that results might be biased by a kind of selective hunting was examined by the mutual comparison of age groups in our sample and by studying literature for similar experience. Kryazhimskiy et al. (2003) wrote that selectivity for juveniles is found in an analysis of hunting results (n=285) done by Malafeev. He reported that more juveniles occurred in a bag if shotguns were used while more adults were obtained by trapping.

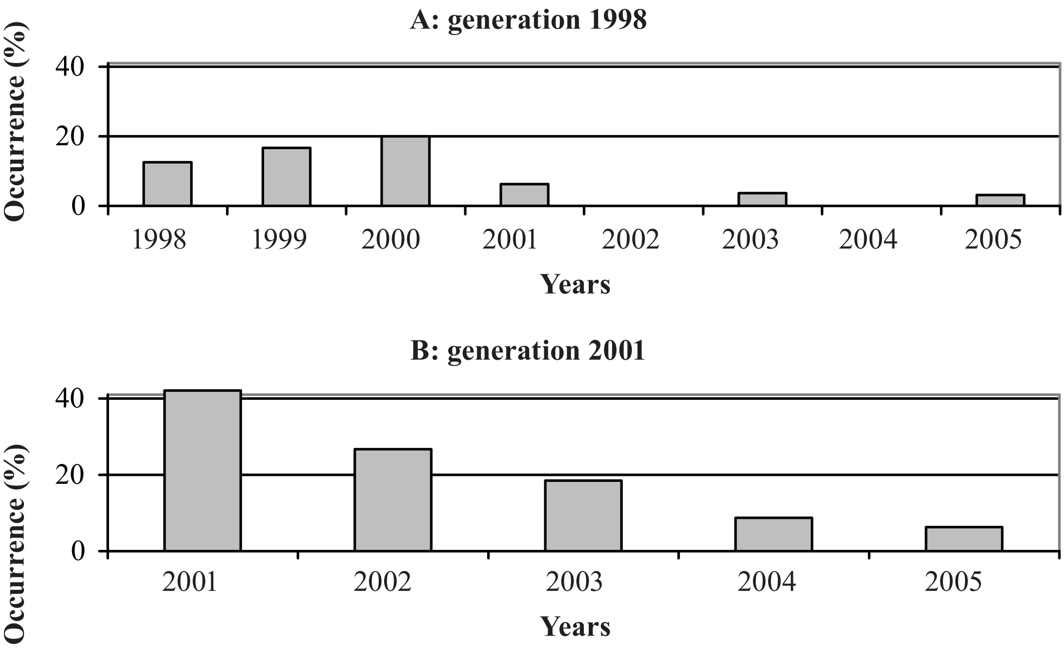

Figure 7. Occurrence of the lynx generations of the years 1998 and 2001 in the hunting bags.

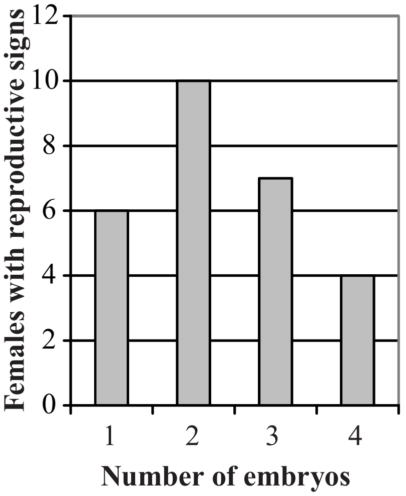

Figure 8. Lynx fertility: occurrence of the number of placental scars in the uterus horns.

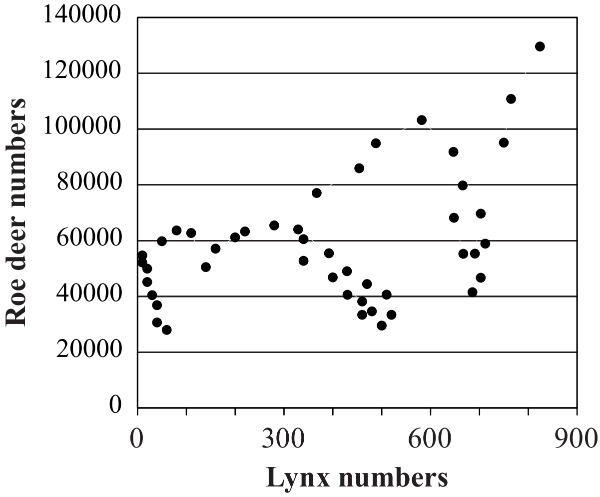

Figure 9. Relationship between the numbers of lynx and roe deer in Latvia, 1960-2005 (r=0.44; n=46; P<0.01).

The pattern of sex-age structure in Latvia's lynx population was very similar to that in Kirov oblast, Russia (Kozlovskiy 2003). Despite the sample from Russia (n=76) was collected during a 20-year period, the oldest animal was 11 years old, i.e., of the same age as in Latvia. Perhaps this is the limit for the life span of lynxes in harvested populations. Although the maximum life span of Eurasian lynx in captivity can reach 25 years, there are no records that lynx may live longer than 17 years in nature (von Arx et al. 2004). Anyway, we can assume that hunting bag covers all or almost all age groups existing in nature. Two groups of animals were conspicuous for possible bias. They were juveniles that occurred considerably more than other age groups but less than expected from female fecundity, and juvenile females that exceeded juvenile males in numbers. Selective hunting for the biggest lynx, when a group of animals was found, would be compatible with hunting for trophies. However, selection for juvenile females is rather implausible. While juveniles are remarkably smaller than older animals, at that age, the females are of the same size as males (Tumanov 2003). In the North-West of Russia, an area adjacent to Latvia, the percentage of juveniles in a sample (n=112) obtained by hunting amounts 45.5% (Danilov et al. 2003). The population density in that region next to the Latvian border is 0.1-1.5 animals per 100 km² being less than in Latvia (Danilov et al. 2003, Andersone & Ozolins 2004). Not so big but still large a proportion of juveniles in hunting bags is reported by other authors who also studied age structure (Danilov et al. 2003, Kozlo 2003, Smirnov & Noskov 2003, Zyryanov & Smirnov 2003). At the same time, the number of kittens in our sample was twice as less as theoretically expected from the fertility and fecundity of females in the same sample. Obviously, apart from hunting, there are other reasons for kitten mortality and/or loosing of foetuses. Tumanov (2003) reports 51% mortality of lynx kittens even in captivity. Killing of productive females increases kitten mortality in remnant population because normally the kittens follow their mother until the next mating season (Tumanov 2003, von Arx et al. 2004), and their survival skills depend supposedly to a great extent on learning. From this point of view, non-selective population control in frame of determined quota is more suitable for sustainable use of resources than sport shooting of adult animals.

While in our sample the juvenile males were slightly underrepresented, the prevalence of juvenile females over males is mentioned by other researchers (Danilov et al. 2003, Kozlovskiy 2003). We concluded that this phenomenon should be critically considered because hunters in Latvia very often failed to determine gender in lynx kittens correctly. For scientific purpose, records that are not examined by seeing lynx carcasses by skilled researchers should not be used.

4. 2. Assessment of previous harvesting

Review of the lynx harvesting history in Latvia is given by Ozoliņš (2002) and Anderson et al. (2003). Three main reasons for lynx hunting in Latvia were taken into account – hunting for fur, for fun or sport and to reduce competition for common prey - ungulates, roe deer *Capreolus capreolus* in particular. Lynx was hunted for fur until the 1990s and particularly between 1983 and 1989. Although it was the most expensive fur-bearing animal in Latvia, the hunters were obliged with very few exceptions to sell all harvested pelts to the governmental buying-up stations. The decline of the population for this period is not surprising. The fur market with Russia collapsed in the 1990s (Andersone-Lilley & Ozoliņš 2005) and recently the hunting for fur is likely not an urgent issue. Despite enforcement of the Washington Convention, illegal trade might still persist because the value of lynx pelts behind the eastern border is mentioned within the range from 300 to 500 U.S. dollars (Kozlo 2003, Zhiraykov & Baydavletov 2003). Therefore, we cannot exclude the trade

Table 1. Fecundity of the Eurasian lynx in various parts of its distribution range.

Country or geographical region	Pre-natal fecundity (placental scars or embryos per female)	Litter size after birth or averaged per season	Litter size in winter	Source
Baikal	-	1.56(1-4)	-	Smirnov & Noskov 2003
Belarus	-	-	1.82 (1-3)	Kozlo 2003
Caucasus	-	1.47(1-4)	-	Kudaktin 2003
Czech Republic in captivity	-	2.3(1-3)	-	Tumanov 2003
Far East in captivity	-	3.2(1-6)	-	Yudina & Yudin 1990 in Matyushkin et al. 2003a
Far East in nature	-	-	1.9-2.36 (1-3)	Darman 1990, Kutsherenko 1996 in Matyushkin et al. 2003a
Kazakhstan	-	1.8-2.75 (1-4)	-	Zhiraykov & Baydavletov 2003
Latvia	**2.33(1-4)**	-	-	**our data**
North-West of Russia in captivity	-	2.08(1-3)	-	Danilov et al. 2003, Danilov 2005
North-West of Russia in nature	-	1.73(1-3)	1.4 (1-3)	Danilov et al. 2003, Danilov 2005
Sayan Mountains	-	-	1.3 (1-3)	Zyryanov & Smirnov 2003
Western Siberia	-	1.5-1.9 (1-3)	-	Azarov & Shubin 2003
Yakutia	3(2-4)	-	-	Mordosov 2003

Table 2. Legal harvest rates of lynx population.

Country or geographical region	Estimated density per 100km²	Legal annual killings in % of population	Source
Arkhangelsk - North of European Russia	1.8	4.7*	Matyushkin et al. 2003b
Belarus	1.58*	25**	Kozlo 2003
Estonia	-	18	Valdmann 2003
Latvia	**2.36**	**22***	Andersone & Ozolins 2004
Lithuania **	1.0-4.1	10-15	Bluzma 2003
Middle Urals	0.27	30*	Kryazhimskiy et al. 2003
Sayan Mountains	0.04-1.2	21.6-22.2	Zyryanov & Smirnov 2003
Vologda – North and North-East of European Russia	2.5	15.5*	Matyushkin et al. 2003b

* recorded maximum
** 1960s-1970s

completely, especially if the animal was taken by a person with low income.

Lynx hunting for sport recently is more relevant. Lynx skulls and pelts are also widely appreciated hunting trophies regularly exposed in local, national, and international trophy exhibitions. Lynx chasing itself might be considered exciting to many hunters. The use of lynx meat for cooking can be related to traditions rather than economical utilization. Studying the reasons for lynx hunting, we found that large numbers of lynx were shot at the beginning of open season (Figure 4). This may indicate that these carnivores were hunted by local hunters rather than foreigners and city inhabitants. Successful lynx hunting can be hardly arranged for money to guests. Especially since lynx hunting was unpredictable in the last years as tracking was impossible because of lack of snow cover in December. Consequently, a majority of hunted lynxes were taken on occasions when the animals were met by hunters during the chasing or awaiting other game. There are few particularly active hunters who had shot many lynxes while for most hunters the large cat will be an awaited adventure and a trophy to seek for. The export of trophies from the country is not simple due to CITES rules (Anon. 1973). Otherwise commercial hunting would still become an unpredictable force in lynx harvesting because the numbers of hunters in other countries of the European Union compared to Latvia are enormous (Mooij 2005), and their access to Latvia has improved greatly. So far we found lynx shooting either as a matter of chance when hunting for other game, or as a specially practised tradition, or sport for a limited number of particularly skilled local persons.

Recent manner of harvesting does not seem shaping the natural structure of population. A different pattern is assessed for 1998, when juveniles were underrepresented in the hunting bag (Figure 7). Two hypotheses may be mentioned to explain this phenomenon. After overexploitation in 1997, the structure of population might be heavily desolated resulting in a low growth rate. The large cull in 1997 might intensify the immigration of matured individuals from less harvested areas as well. The latest version seems more feasible because we could not see any reason why kittens would be overlooked by hunters in 1998 and then taken as yearlings or two years olds in coming years (Figure 7).

The status of ungulate populations is really an important issue to be considered by lynx conservation policy makers. Low numbers of roe deer *Capreolus capreolus* likely caused the very negative attitudes to lynx in the 1990s (Dālbergs 1999). Today the tension between hunters and lynx as competitors for the roe deer should decrease because roe deer population is growing over the past years (Andersone-Lilley & Ozoliņš 2005). The importance of roe deer in the lynx diet is recognized in Latvia and in surrounding countries (Bluzma 2003, Kozlo 2003, Valdmann et al. 2005). SFS statistics showed a positive correlation between lynx and roe deer numbers (1960-2005; r=0.44; n=46; P=0.01). However, Figure 9 shows that it would be possible to select a part of data in order to get a negative correlation. Under such selection, these might be the years with either specific weather conditions or with very intensive carnivore control. Both factors need more detailed analysis: the predator-prey relationship between lynx and roe deer is a sophisticated issue deserving particular study. For management, it is important to realize that the general public, particularly hunters, do not think long term and will not accept the obvious decline of roe deer numbers while the lynx population is thriving. In any case, the hunting of roe deer meets qualifications of the hunting definition by K. Lindner (Kühnle 2000) much better than the hunting of lynx.

4. 3. Management implications

Our results allow to conclude that lynx hunting in Latvia is justified by the attempt to control population rather than desire for sport or trophy shooting. Bearing in mind that hunters do not take lynx selectively, but put all efforts toward reducing predation on ungulates, the challenge to maintain lynx population at a favourable status goes with the authority which determines quotas. Available references on lynx yields are usually given as a percentage of estimated numbers (Table 2). In none of the referred countries or regions the lynx is recently extinct but no one can confirm that harvesting was sustainable. In wide areas of Russia with formerly high hunting activity, the lynx density is low. Lynx is considered threatened in Lithuania and Belarus (Bluzma 2003, Kozlo 2003) as well as declined in the 1980s in Latvia (Figure 2). Thus we can learn little about sustainable harvesting level from current experience.

The State Forest Service of Latvia implements a method of quota adjusting in relation to population changes (Sutherland 2000). Although we have a long experience of number estimates (Figure 2), a specific characteristic of lynx management in Latvia is an unpredicted target population (Ozoliņš 2002). Unlike the Estonian large carnivore management plan (Lõhmus 2002), our plan does not recommend any numbers of lynx for Latvia to avoid the situation that at abundance estimation the local foresters would be affected by the interests of hunters. Furthermore, the number estimates are less valuable, i.e., more difficult to approve than reproduction and population structure records from hunting bags. Exploitation is improved by adjusting yield each year in relation to observed or predicted changes in breeding output and mortality. Our results proved that nearly 18% of the born lynxes survived for the next year. The ratio of yearlings in the population amounts 12% (Figure 5). The ratio of two years old animals is the same but it does not necessarily mean that there is no mortality at this age. This phenomenon might be caused by a move of matured individuals from lesser exploited to overexploited areas. Particularly the yearlings can play an important role of standby in remnant population after harvesting. The occurrence of individuals in further age classes declines gradually within the range between 0.5-5% each year. In consequence of the stated mortality, a safe cull to prevent decrease of population should not exceed the number of yearlings within population. Because the culls tend to distribute rather randomly among age classes, there is a tiny risk to reduce the population while the given demographic characteristics persist. Since we are not sure about the accuracy of population estimates, the yields are temporarily kept under 10% of the estimated numbers (Ozoliņš 2002). More intense hunting could also diminish the share of old animals in the population which might reduce, in turn, population growth rate by lower fecundity. For the hunting season 2006/2007, SFS predicted a quota as big as 94 lynxes. At the same time it is believed that the reasonably limited harvesting has reduced the strain in the hunters' minds about lynx predation. Protection of abandoned species could aggravate public perception of conservation measures and cause an unpredictable impact on the population status, including illegal killings.

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