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SOME ASPECTS OF HUMAN DIMENSIONS OF LARGE CARNIVORES IN NORTH-WEST LITHUANIA

Co-existence with large carnivores has always been an innate characteristic of Lithuanians. Checking the land-use map at the scale 1:50000, and just for names of towns and villages, we can find 97 names which came from the wolf. North-west districts bear many, for example Vilkaičiai (Akmenė district), Vilkakalnis and Vilkinė (Biržai district), Vilkickai (Joniškis district), Vilkaušai (Kelmė district), Vilka, Vilkyčiai (Klaipėda district), Vilksdaržė, Vilkiškė, Vilkuriai (Šiauliai district), Vilksduobė (Radviliškis district), Vilkakiai, Vilkas, Vilko miškas (Telšiai district) and others. 43 place names came from the bear – in Lithuanian “meška” or “lokys”. In the north-west we can mention Meškėliai and Meškiai (Akmenė district), Meškinė, Mešklydžiai and Meškuičiai (Kelmė district), Meškėliai (Mažeikiai district), Meškiai, Meškinė, Meškiškė and Meškuičiai (Šiauliai district), etc. 53 place names came from fox, but the name of lynx is used in place names quite scarcely – just three place names may be found. Hundreds and hundreds of forests, lakes and rivulets also bear names which originated from the carnivores.

Background

North-western administrative districts of Lithuania are characterized by quite high number of wolves, but not lynx (Table 1, Table 2). The atlas distribution of these species in the country is shown in Fig. 1. Obviously, NW Lithuania is one of the most wolf-populated parts of the country. For the lynx, these districts are not very suitable. Comparing lynx data from the Fig. 1 and Table 2 it may be noticed that after 1995, lynxes disappeared from Akmenės and Kelmės districts. The latest data on wolf numbers are presented in Table 1 and Fig. 2. Analysing official survey data several inadequacies may be noticed. First of all, in the same 1995 year, two ministries pub-

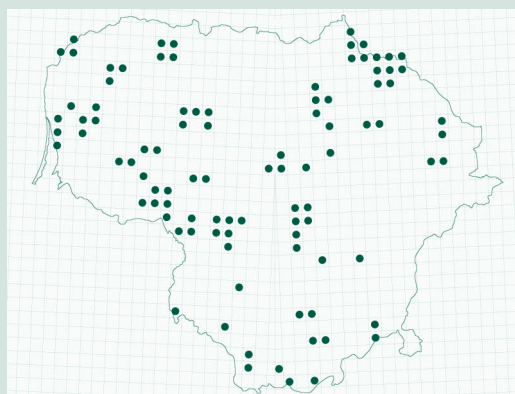
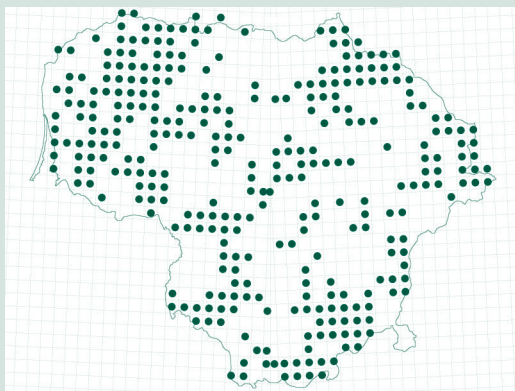


Fig. 1
Data on distribution of
wolf and lynx in
Lithuania, period 1990-
1999 (Balčiauskas et
al., 1999)

lished survey data with a difference of 68 wolves just for the NW region of Lithuania! The amplitude of differences reached 20 individuals. Geographically these differences were not connected with numbers, thus making it a doubtful wolf survey in all (Fig. 2, left). Similar results may be seen when comparing data of two last official wolf surveys (Table 1, Fig. 2). Three districts – Šiauliai, Telšiai and Klaipėda showed about a one hundred percent increase of population. In general, NW districts gave more than half of the total wolf population increase (in Lithuania, for the period 1999-2000, population increase of 68 animals is reported officially, while for 1998-1999 – a decrease of 132 animals).

Table 1
Number of wolves in north-western districts according to official survey data

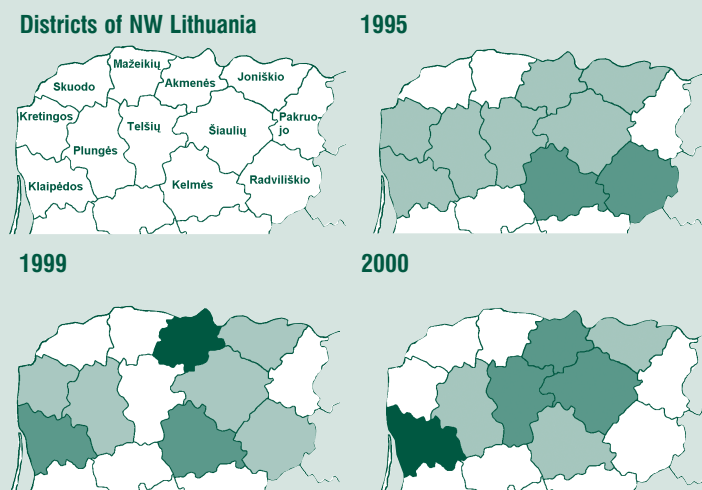
Districts	1995 ¹	1995 ²	Difference 1-2	1999	2000	Difference 2000-1999
Pakruojis	0	5	-5	5	7	+2
Joniškis	21	19	+3	12	14	+2
Akmenė	12	18	-6	33	27	-6
Mažeikiai	0	6	-6	6	6	0
Skuodas	6	2	+4	2	2	0
Kretinga	14	14	0	13	8	-5
Radviliškis	17	28	-11	13	8	-5
Šiauliai	20	15	+5	17	30	+13
Telšiai	12	13	-1	10	21	+11
Plungė	24	20	+4	14	14	0
Klaipėda	14	20	-6	26	53	+27
Kelmė	9	24	-15	21	19	-2
Total:	116	184	-68	172	209	+37

1 – according to the Environmental Ministry

2 – according to the Ministry of forestry

Fig. 2

Wolf numbers in NW Lithuania, 1995-2000.
Wolf numbers: no colour – 0-10, light grey – 11-20, dark grey 21-30, black – more than 30 per district



In 2000, the local newspaper of Kretinga district published an article on wolf damage done in the zone between Klaipėda and Kretinga districts, near Jokūbavas. Only 5 wolves per district were reported. This situation deserves some clarification.

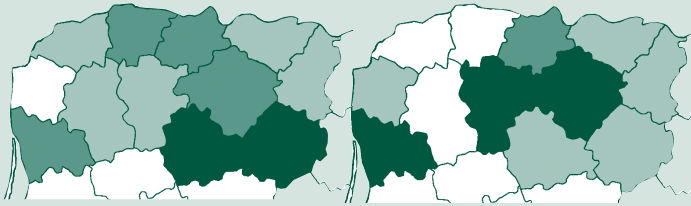


Fig. 3

Differences between official wolf survey results of the two ministries (left), and population trend in 1999-2000 (right). Differences in wolf numbers: no colour – 0, light gray – 1-5, dark gray – 6-10, black – more than 10 per district.

Near the areas of damages, wolves settled and had young in quite unusual habitat – 100 ha field of fallow land, overgrown with smallreed and starting to cover with bushes. Dogs and hunters were not able to drive them away. This unusual case of wolf breeding shows the high plasticity of the species in habitat selection, which may give wolf a chance of further number increase.

In the period 1995-2000, lynxes were registered in four NW districts only. Again, there are differences between data of two ministries. In 2000, lynxes were reported from Skuodas and Kretinga districts, where they were absent in 1999.

Districts	1995 ¹	1995 ²	Difference 1-2	1999	2000	Difference 2000-1999
Skuodas	2	3	-1	0	3	+3
Kretinga	3	4	-1	0	4	+4
Plungė	2	3	-1	5	4	-1
Klaipėda	3	6	-3	6	3	-3
Total:	10	16	-6	11	14	-4

1 – according to the Environmental Ministry

2 – according to the Ministry of forestry

For the further analysis, the most representative areas with the highest number of respondents were selected in the region:

- Kretinga district (number of answers - 47), where the main body of respondents live in and around Baubliai village. Questioning was performed among schoolchildren and their parents, as well as neighbours. Within the reach of wolf packs,

Table 2

Number of lynxes in north-western districts according to official survey data

there is suitable habitat around. Only three cases of wolf damage were reported (6.4% form answers), but the above mentioned Jokūbavas is not far away.

- Kelmės district (number of answers – 32). The main body of respondents live near or in the Kurtuvėnai regional park. For habitat description, see V. Lopeta’s paper in this book. Questioning was done among various social groups. Eight cases of wolf damage (25% of answers) were reported.
- Joniškis district (number of answers – 19). Five cases of damage (26.3% from the answers) were reported. Juodeikiai and Gaižaičiai villages are between two forests, Žagarės forest and Mūšos Tyrelio forest group, characterised by bogs and swamps. These forests have for long time been known as wolf denning area.
- Šiauliai district, environs of Dirvonėnai village (16 answers). Three cases of wolf damage (18.8% form the answers) were reported. The village is surrounded by forests (Užpelkių forest, Ilgšilis, Vanagiškės forest, Paežerių forest). Questioning was done among all social groups from the local people. The total number of respondents for this analysis equals 114. Comparing to full extent, it is characterised by a higher percentage of hunters (12.3% vs. 3.1%), working people and farmers.

Results of questioning

Analysis of data for NW Lithuania was done with respect to the wolf damage intensity. First of all, we tested the influence of damage to the subjective assessment of predator numbers in the country (Table 3). Wolf numbers were indicated as unknown in 5 out of 19 answers (26.3%) in Joniškis district, 25% of answers in Kelmė district, 62.5% of answers in Šiauliai district and 59.6% of answers in Kretinga district. Lynx numbers were indicated as unknown in 57.9% of answers Joniškis district, 50% of answers in Kelmė district, 56.3% of answers in Šiauliai district and 53.2% of answers in Kretinga district. From Table 3, it is clear that in NW districts, characterised by high wolf damage, the correct population number is known better than an average. Also, there is a less number of respon-

Wolf					
	0-100	101-500	501-1000	1001-5000	>5000
Joniškis district	0	28.6	57.2	7.1	7.1
Kelmė district	0	29.2	29.2	29.2	12.4
Šiauliai district	0	66.6	16.7	16.7	0
Kretinga district	10.5	0	36.8	31.6	21.1
Average per country	7.0	36.0	27.2	16.0	13.8
Lynx					
	0-10	11-50	51-150	151-500	>500
Joniškis district	0	40.0	10.0	40.0	10.0
Kelmė district	0	5.6	27.8	55.5	11.1
Šiauliai district	42.8	28.6	0	28.6	0
Kretinga district	13.6	9.1	13.6	18.2	45.5
Average per country	4.7	16.1	25.6	29.8	23.8

Table 3

Assessment of wolf and lynx numbers by respondents (in %)

dents who underestimate and a bigger number of respondents who overestimate wolf population size. As for the lynx, in most of the investigation areas, the population number was overestimated. Here is worth remembering that lynx does not inhabit the area.

Not surprisingly, a very high proportion of our respondents from NW districts reported that they have seen wolf in the wild (Fig. 4). This percentage is significantly higher than the average for the country and mostly expressed in Dirvonėnai village situated among the forests.

We compared also differences of personal attitude towards

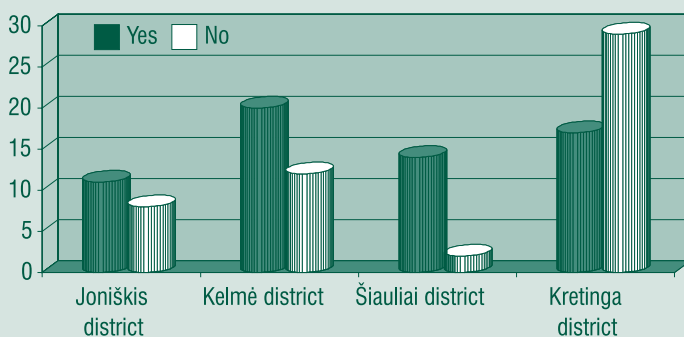


Fig.4

Proportion of respondents who have seen a wolf in the wild (number of answers)

wolf existence in NW districts vs. the average for the country (Table 4). In general, respondents from NW districts are not so lenient to wolves and support strict measures of management. Thus, significantly more people from the NW region definitely disagree (chi-square=12.79, p=0.00003) or simply disagree (chi-square=7.15, p=0.0075) that Lithuania could bear more wolves than there are now, and less of them approve this possibility. The proportion of respondents approving or disagreeing with the current wolf number in the NW districts is surprisingly the same as in the country. Again, in NW Lithuania, less respondents definitely disagree that wolf numbers should be diminished (chi-square=4.96, p=0.026), but significantly more of them approve such a decision (chi-square=14.74, p=0.0001). In our opinion, the most interesting is the point of view to wolf extermination. Nothing strange, that more people from NW districts, where residents suffer from wolf damage, support/approve this idea (chi-square=13.60, p=0.0002) – and less of them are definitely against such a measure of regulation (chi-square=15.03, p=0.0001)

Table 4

Personal attitude of respondents from NW districts towards wolf management in comparison to the country average (NW/total, in percent)

	Definitely disagree	Disagree	No opinion	Approve	Definitely approve
Lithuania could bear more wolves than it has now	15.9/6.4	54.0/38.6	13.3/27.6	15.0/24.1	1.8/3.3
Current wolf number is appropriate	3.5/2.1	31.9/31.2	29.2/33.9	33.6/30.5	1.8/2.3
Wolf numbers are evidently too high and should be diminished	5.4/12.6	40.2/45.8	25.0/28.0	23.2/10.6	6.3/3.0
Wolves must be exterminated, leaving only a few in deepest forests	18.6/37.2	48.7/46.1	11.5/7.9	17.7/7.3	3.5/1.5

As a null-hypothesis we, of course, should expect, that people living in the localities with the high damage level, develop negative emotional attitude to large carnivores. We tested this hypothesis just by some valuations of wolf:

- aggressiveness – on the scale from “sweet” to “aggressive”,
- fear – on the scale from “I am not afraid at all” to “I am horrified”, and
- danger – on the scale from “very safe” to “very dangerous”.

Results are presented in Table 5 for wolf and Table 6 for lynx.

	Sweet	Friendly	I do not care	Not friendly	Aggressive
NW districts	1.0	11.2	9.2	38.8	39.8
Total	1.0	9.0	16.3	38.8	34.9

	I am not afraid at all	I am not afraid	I do not care	I am afraid	I am horrified
NW districts	6.1	26.5	5.1	50.0	12.2
Total	5.4	25.5	6.9	50.8	11.4

	Very safe	Safe	I do not care	Dangerous	Very dangerous
NW districts	6.1	12.2	6.1	66.4	9.2
Total	2.5	16.6	8.2	66.8	5.9

Table 5

Some aspects of emotional attitude to wolf in NW Lithuania (percent of answers)

Thus, the wolf null hypothesis is rejected almost in all cases. A slightly higher percent of our respondents from NW Lithuania think that wolf is aggressive, very dangerous and they are horrified by wolf, but most of the differences are not reliable statistically.

The lynx null hypothesis is also rejected, because all differences are not reliable. As a single exception, more people from NW districts regards lynx as “not friendly” ($p=0.035$). Thus we must agree that a higher level of carnivore-made damage does not necessarily mean, that animals are negatively treated.

Table 6
Some aspects of emotional attitude to lynx in NW Lithuania (percent of answers)

	Sweet	Friendly	I do not care	Not friendly	Aggressive
NW districts	3.3	17.8	16.7	43.3	18.9
Total	3.3	21.0	21.0	32.2	22.5
	I do not afraid at all	I do not afraid	I do not care	I am afraid	I am horrified
NW districts	3.2	26.9	14.0	47.3	8.6
Total	5.7	26.6	11.1	46.4	10.2
	Very safe	Safe	I do not care	Dangerous	Very dangerous
NW districts	3.2	18.3	11.8	57.0	9.7
Total	3.4	17.5	10.0	61.0	8.1

Conclusions

Several conclusions may be drawn after comparison to the NW region of Lithuania, which is characterised by high levels of wolf damage with the average for all respondents:

- Real wolf numbers are known better and more people overestimate wolf population size in NW districts of Lithuania;
- A lot of respondents from NW districts have seen wolf in the wild;
- More respondents from NW regions support most strict measures of wolf population management, including extermination of the species.
- In general, emotional valuation of the large carnivores does not differ across the country, thus it does not depend too much on the carnivore-made damage.

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KAI KURIE STAMBIŲJŲ PLĖŠRŪNŲ SOCIALINIAI ASPEKTAI ŠIAURĖS VAKARŲ LIETUVOJE

Šiaurvakariniam Lietuvos rajonams būdingas aukštas vilkų skaičius, tačiau juose beveik negyvena lūšys. Iki 1995 metų jos dar buvo aptinkamos Akmenės ir Kelmės rajonuose, tačiau pastaruoju metu juose nebegyvena. Tačiau būtent šių rajonų

dėka pasiektas daugiau kaip pusės vilkų skaičiaus priaugis šalyje.

Tačiau, išnagrinėjus oficialius stambiujų plėšrūnų apskaitų duomenis, paaiškėjo, kad jie yra labai nepatikimi. Pirma, tais pačiais metais pateikti Aplinkos apsaugos ir Miškų ūkio ministerijų duomenys skiriasi iki 20 individų amplitudė. Antra, kasmetiniai gausumo šuoliai yra tokie dideli, kad neatitinka biologinių rūšies galimybių.

Pateikiamas pavyzdys, kad, vilkams įsisavinus neįprastus šiai rūšiai biotopus (didelius apleistus piktžolėtų, krūmais užaugančių laukų masyvus), jie prisiveisia ir padaro žmonėms nemažai žalos. Analizei parinktos keturių rajonų vietovės, kuriose vilkų daromą žalą anketose pažymėjo didelis respondentų skaičius:

- Kretingos rajone – Baublių kaimo apylinkės (žalą nurodo 6.4% apklaustųjų);
- Kelmės rajone – Kurtuvėnų apylinkės (žalą nurodo 25% apklaustųjų);
- Joniškio rajone – Juodeikių, Gaižaičių ir kt. kaimų apylinkės netoli nuo Mūšos Tyrelio miškų ir pelkių masyvo (žalą nurodo 26.3% apklaustųjų);
- Šiaulių rajone – Dirvonėnų kaimo apylinkės tarp Užpelkių, Ilgšilio, Vanagiškių ir Paežerių miškų (žalą nurodo 18.8% apklaustųjų).

Paaiškėjo, kad šiuose rajonuose žmonės dažniau žino tikrąjį vilkų skaičių šalyje, be to, dažniau jį pervertina ir rečiau įvertina nepakankamai. Lūšių skaičius dažniausiai nurodomas esąs didesnis, nei yra iš tikrųjų.

Šiuose rajonuose daug žmonių matė vilką gamtoje. Jų procentas yra patikimai didesnis negu vidutiniškai Lietuvoje. Ypač šiuo atžvilgiu išsiskiria Dirvonėnų respondentai.

Šiaurvakarinių rajonų respondentai pasirodė esą mažiau atleidūs vilkams ir dažniau palaiko ypač griežtas jų skaičiaus reguliavimo priemones. Čia žmonės patikimai dažniau nei visoje Lietuvoje nesutinka, kad vilkų skaičius šalyje galėtų būti didesnis nei esamas ($p < 0.0075$). Net 3.5% atsakiusiųjų

palaikytų sprendimą išnaikinti vilkus, paliekant vos kelis jų pačiuose gūdžiausiuose miškuose.

Tuo tarpu emociniai stambųjų plėšrūnų vertinimai praktiškai nesiskiria nuo tų, kurie būdingi visos Lietuvos apklaustiesiems. Tai rodo, kad daroma žala nebūtinai susijusi su pačių plėšrūnų emociniu suvokimu, tačiau sukelia griežtesnį požiūrį į toleruojamą jų skaičių bei populiacijos reguliavimo priemones.