

The status of wolf population, distribution and dynamic in Belarus. National management plan of wolf population.



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With support:

- Ministry of natural resources and protection of environment Belarus
- prof. Vadim Sidorowich (pictures and scientific data)

The national legal acts

- The decree of President on hunt and fishing
- The law on wild animals
- Some legal acts of Ministry of natural sources and nature protection and Ministry of forestry
- under develop the law on ecological network

International acts

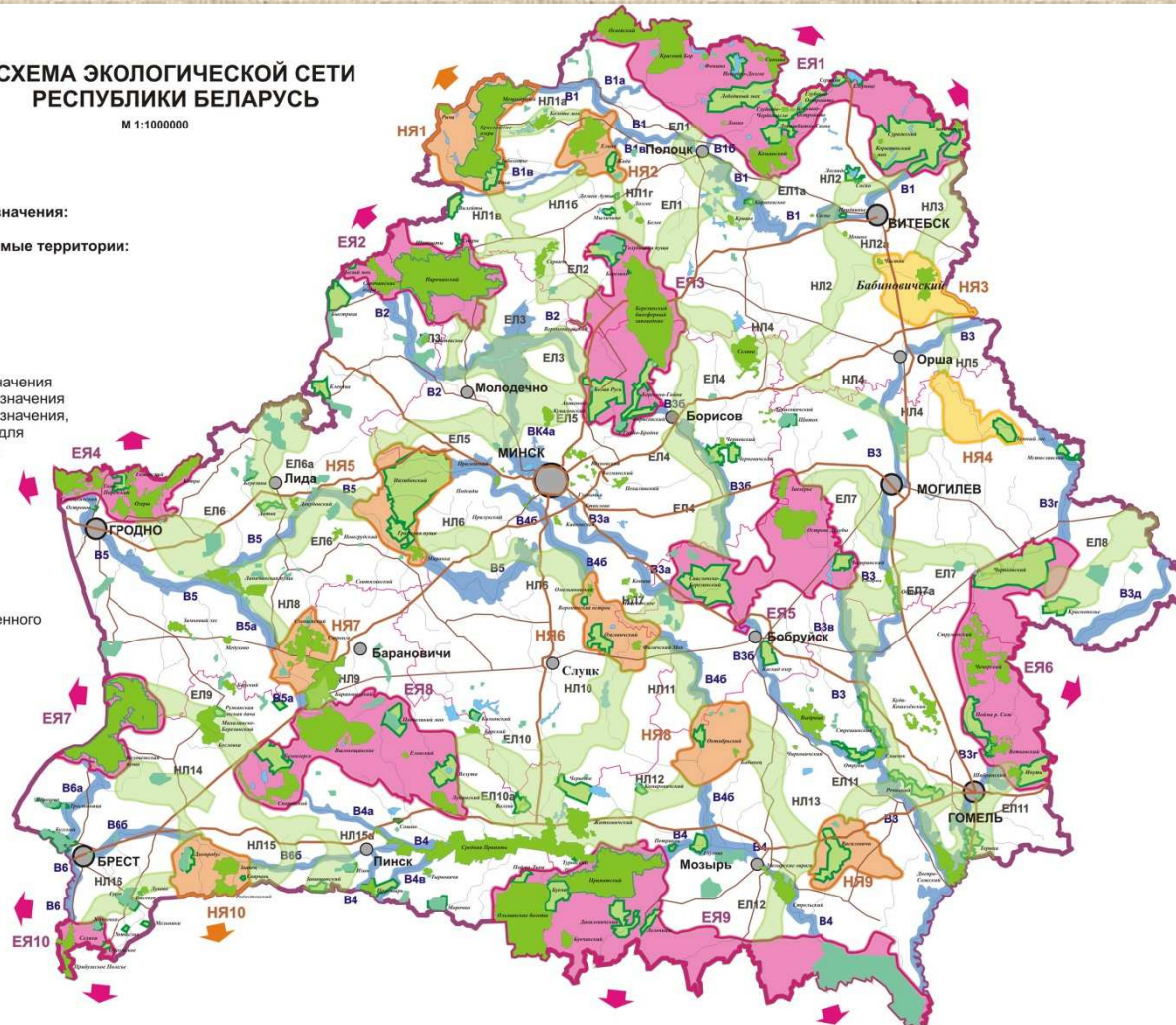
- Convention on Biological diversity
- CITES
- CMS
- Ramsar convention
- In process ratification the Bern convention (planing on 2014), at present in progress adoption of national legislation to Bern convention, including the edition of the list methods of number regulation

The ecological network system

СХЕМА ЭКОЛОГИЧЕСКОЙ СЕТИ РЕСПУБЛИКИ БЕЛАРУСЬ

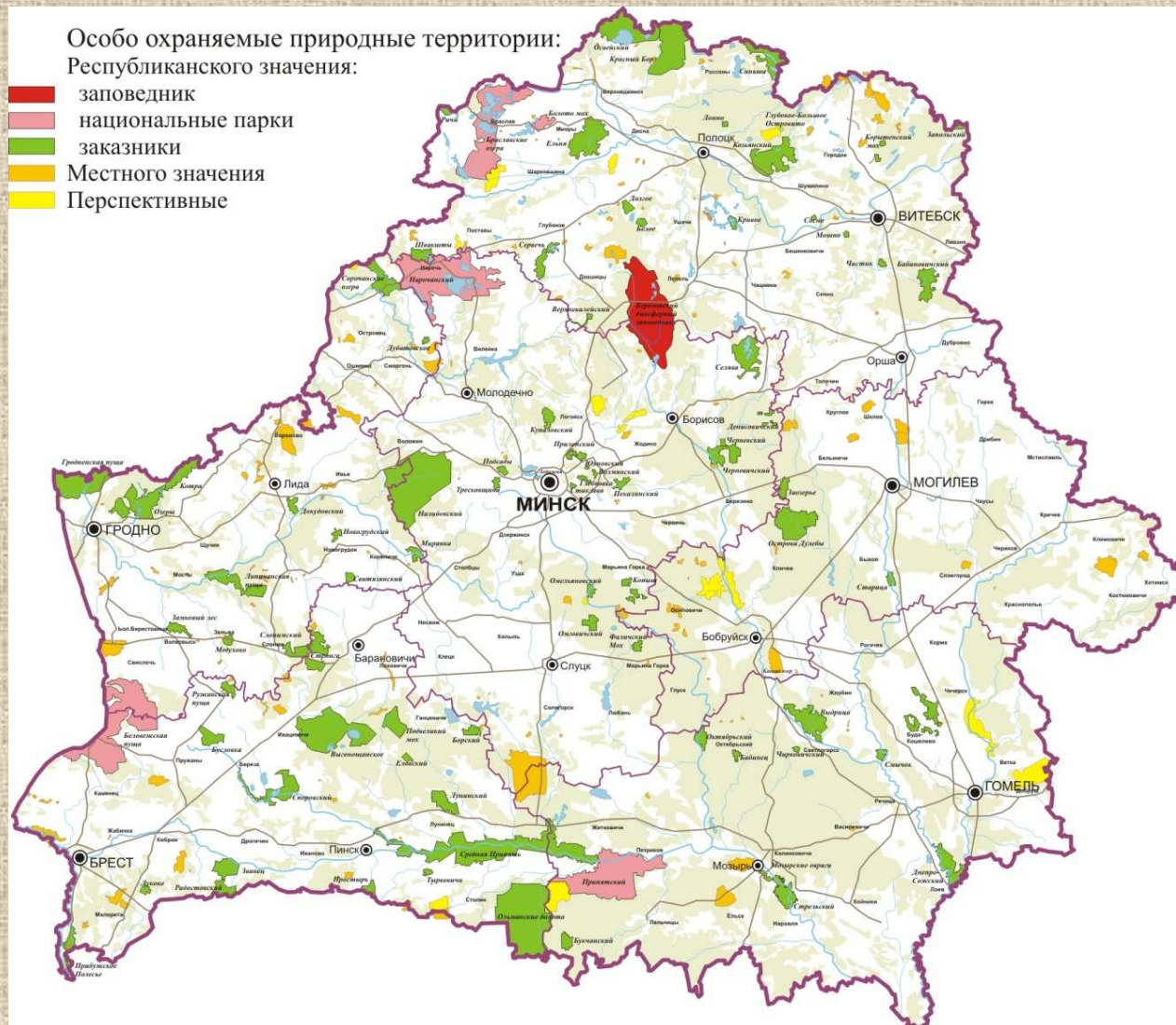
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- Условные обозначения:
- Особо охраняемые территории:
 - Существующие
 - Перспективные
 - Местные
 - Зоны отдыха
 - Ядра:
 - Европейского значения
 - Национального значения
 - Национального значения, перспективные для восстановления
 - Коридоры:
 - Водный
 - Лесной
 - Экологические связи:
 - Европейского значения
 - Межгосударственного значения



More than 1200 objects, in particular 1 reserve, 4 National parks, 85 zakazniks of national level and so on. Total square protected areas national and local level 8,1% of total country square. The square SPA of national level is about 6,7%. Till 2015 this number will be increase to 8.5%.

The scheme of natural strict protected areas (NSPA)



National level of NSPA:
1 rezerve, 4 National
parks, 85 zakazniks of
national level and so
on.

The increasing of
square of NSPA will be
done with the
creation new NSPA
mainly national level.

Status of large carnivores

- Volf – game species. Total number on 2011 – about 1300-1500 ex., in accordance with management plan the number must be regulated on level 500-600 ex. on beginning of breeding season
- Linx – redlisted, about 800 ex. (2011) max estimated in optimal ecological condition – 1500 ex., mainly on western and northern part, stable.
- Bear – redlisted, about 65-75 ex. (including 33-34 ex. on Berezinsky reserve) – the number fluctuating, migration from Russia.

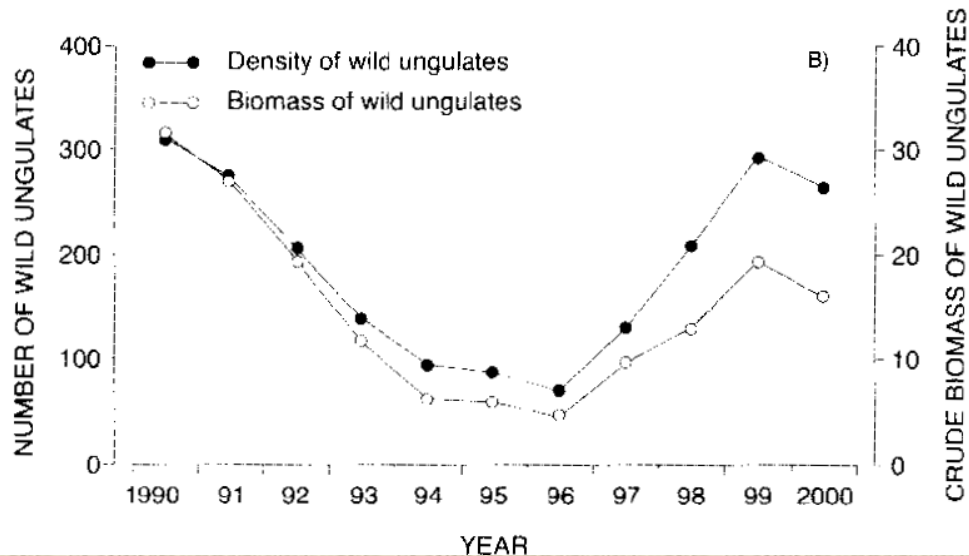
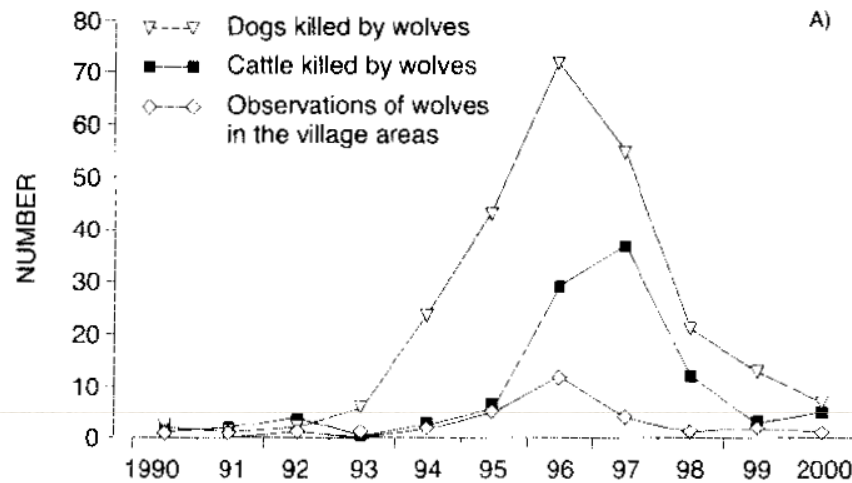
The national monitoring system

- National countings providing by hunters on all terrain of the hunting husbandry in accordance with Decree on hunt and fishing – providing annually on all terrein, based statistical data
- Scientific monitoring – for correction of statictical data, not annually, locally
- Scientific inventory – to delep or correct the management plans of NSPA

Wolf aggression against people and rabies spread by wolf

- According to the Health Ministry of Belarus, during the last seven years 98 cases of aggressive behaviour by wolf (bites and/or scratches and/or saliva impacts) are registered in the country, i.e. on the average about 14 cases per year. Fatal cases are not registered. To compare, foxes and a raccoon dogs displayed aggression in 38 times more frequently, and they account on the average for 528 annual cases of aggression.
- According to the Agriculture and Food Ministry of Belarus, during the last eight years 52 wolves ill with rabies have been identified in the country, on the average 7 wolves a year. In the same time, cases of rabies among foxes and raccoon dogs are registered 86 times more frequently than among wolves on the average 561 cases annually.

The consumption the domestic animals



Sidorovich,
Tichomirova,
Jedrzievska, 2003

Wolf predatoriness

- Predatoriness of the wolf is to a **large** extent selective while aimed **at sick** animals, and it essentially improves populations of all wild ungulates, improving their trophy qualities and average weight of the game animals extracted by hunters (Jedrzejewski et al., 2002; Husseman et al., 2003; Mech, Boitani, 2003; Wright et al., 2006).

The estimated figures concerning the consumption of resource species of game animals by wolves are presented in the Annex 1.

On the average one wolf kills per annum 13 foxes and 19 raccoon dogs. Killing foxes and raccoon dogs, the wolf thereby prevents rabies spread by these species, as well as possible predatory influence of these species on the population of the game animals resource species, first of all their predatory influence on the grouse and duck birds, roe deer and hares.

The wolf population can maintain numbers of beaver at the level which ensures demographic viability of their population, that results in reduction of the damage caused by beavers to forestry and agriculture. In the case of high density of the beaver population its share in the diet of wolf grows and, accordingly, extraction of ungulates by wolves decreases.

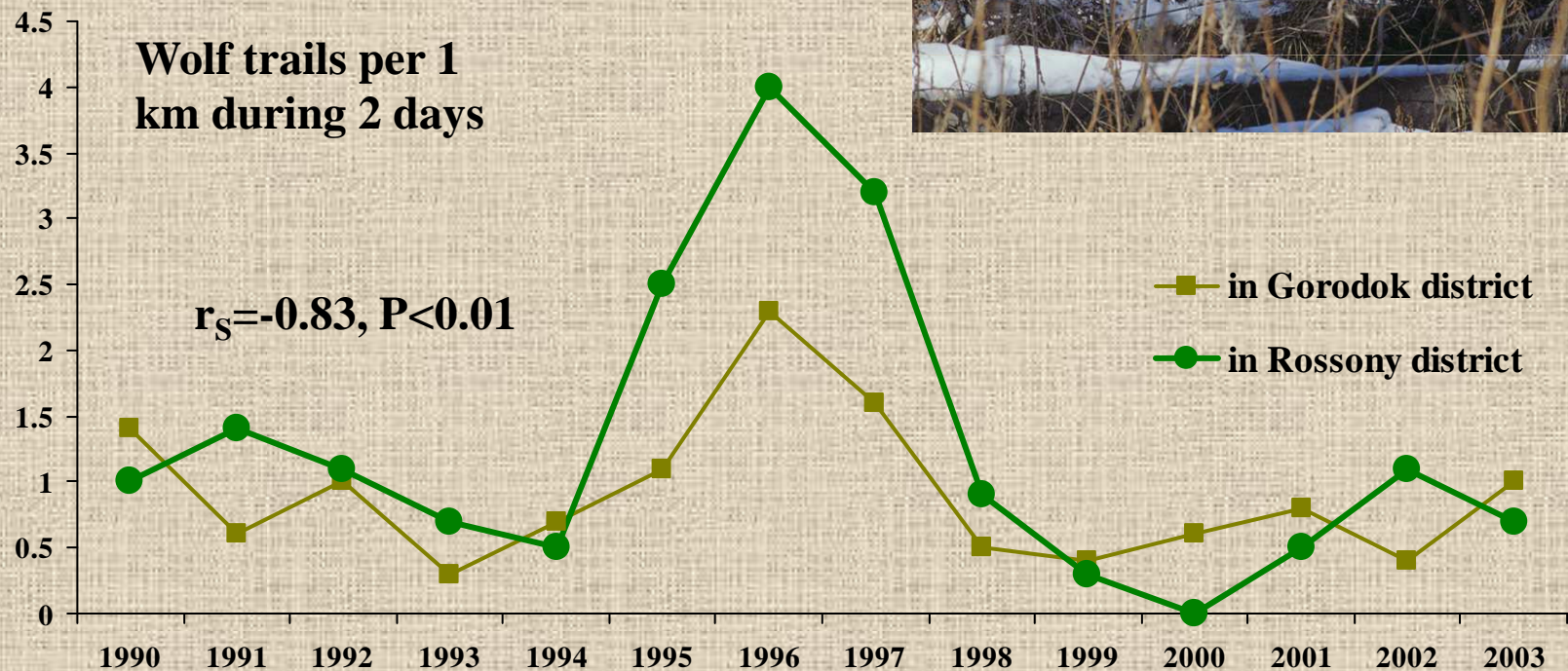
*13 foxes and 19 raccoon dogs would consume at least 18 wood grouses, 51 black grouses, 140 ducks and other waterfowl birds, 162 young hares and 24 young roe deers (Sidorovich et al. 2007 a, b; Sidorovich et al., 2006, 2008).

Dietary habits of wolf

- In most cases and everywhere the wolves consume wild boars, and in some regions of the Republic — also beavers, elks, roe deers, red deers and hares, as well
- as foxes and raccoon dogs. Consumption of domestic and agricultural animals varies between 0.1 and 13%. Seasonal differences of dietary dynamics are insignificant and depend more on the availability of hunting objects. Daily food consumption by wolves makes 3-5 kg at a rich and 1-3 kg at a poor food reserve. Under favorable food conditions an average pack of wolves extracts per annum about 5,430kg of animals, or about 2.7 kg on one wolf a day. Under poor food conditions 3,546 kg of animals or about 1.8 kg a day, accordingly.

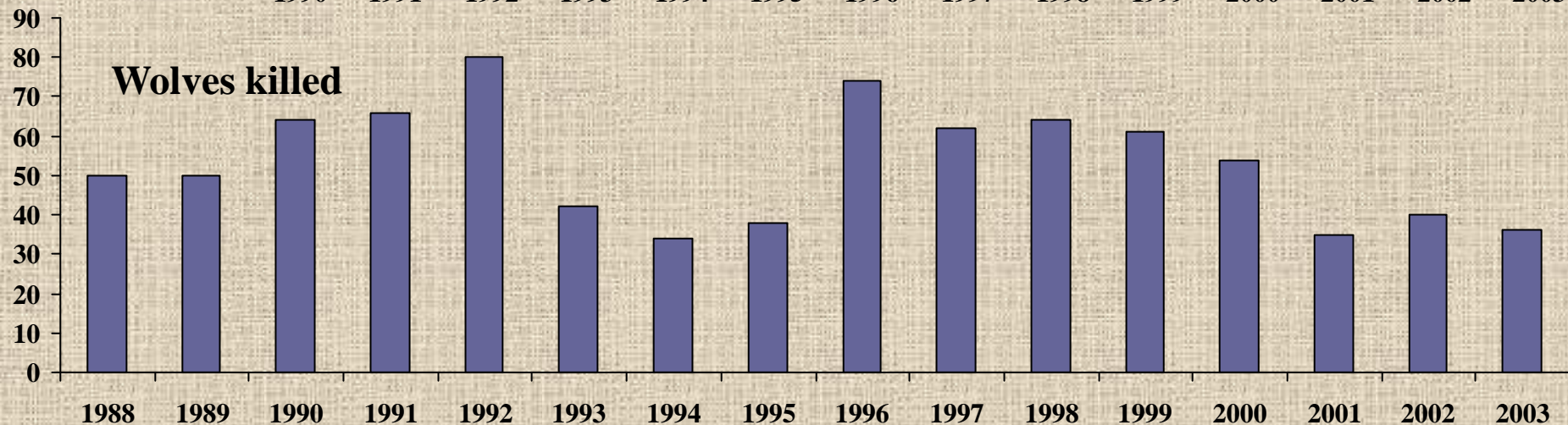
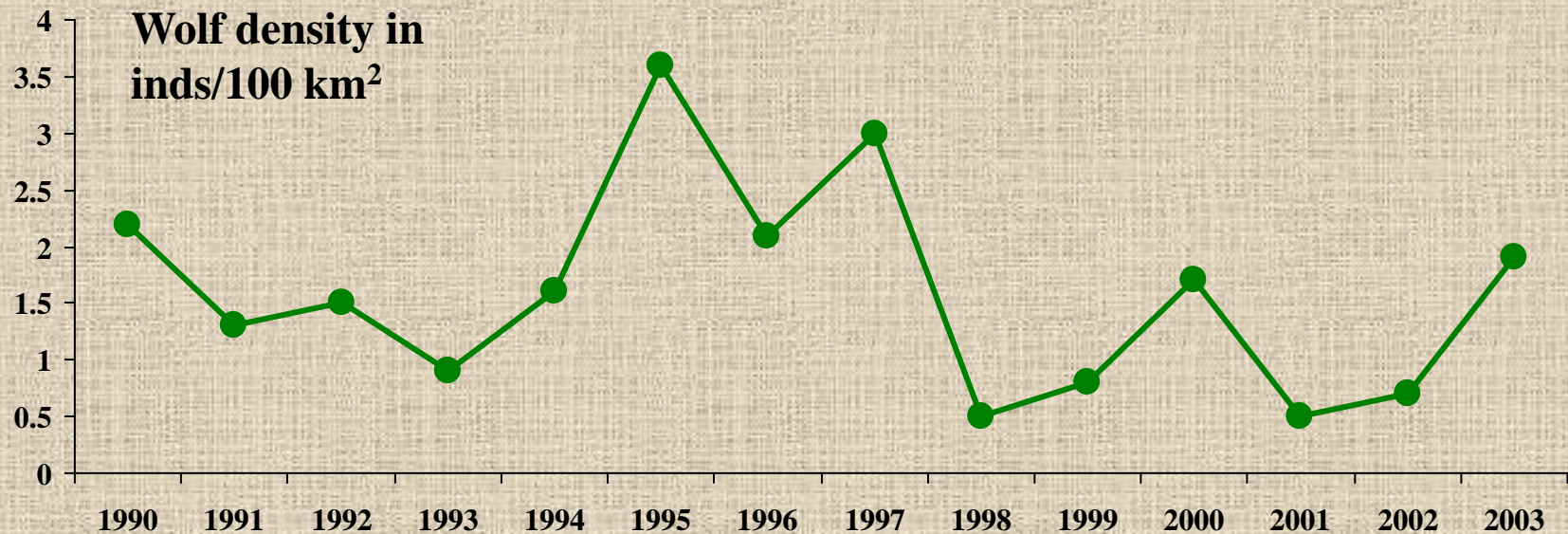
Between-year changes in wolf numbers in Poozerre Forest, northern Belarus, winters 1990-2003

Vadim Sidorovich, Estonia 2008



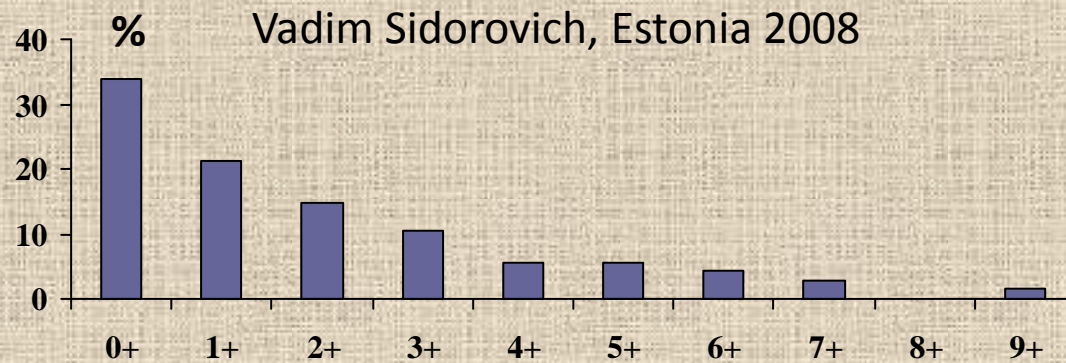
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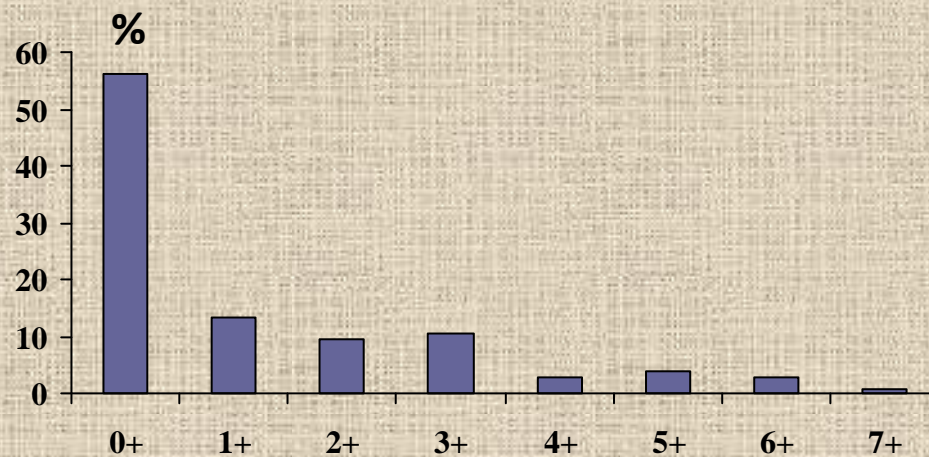


The wolf density is significantly negatively correlated with the summed harvest in two preceding years, $R^2=0.30$, $P=0.04$.

Age structure in wolves population



Killing rate is fairly low



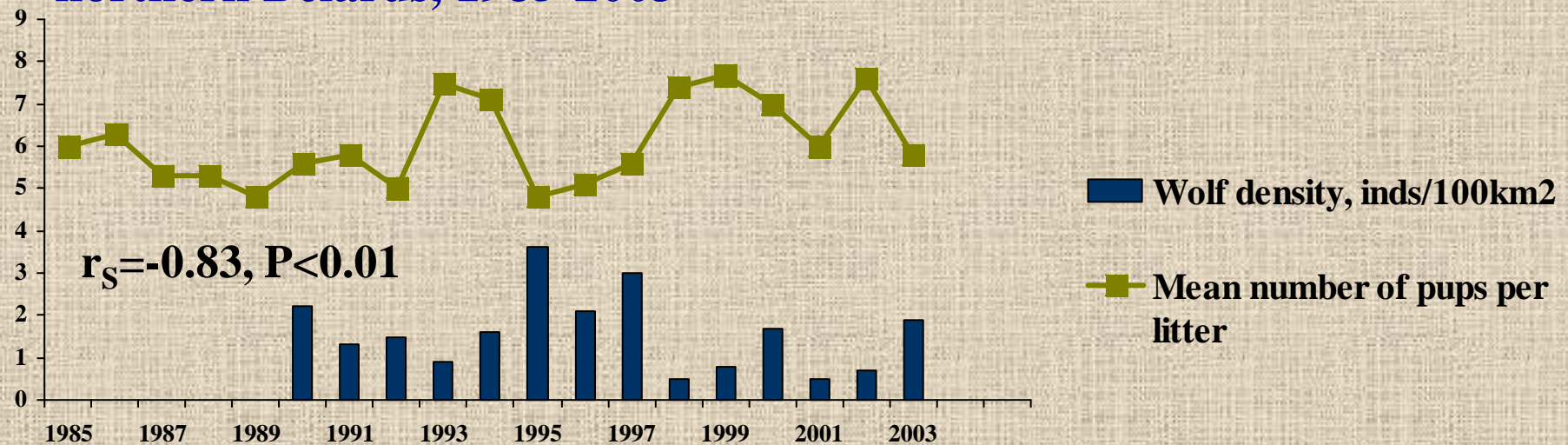
Killing rate is rather high



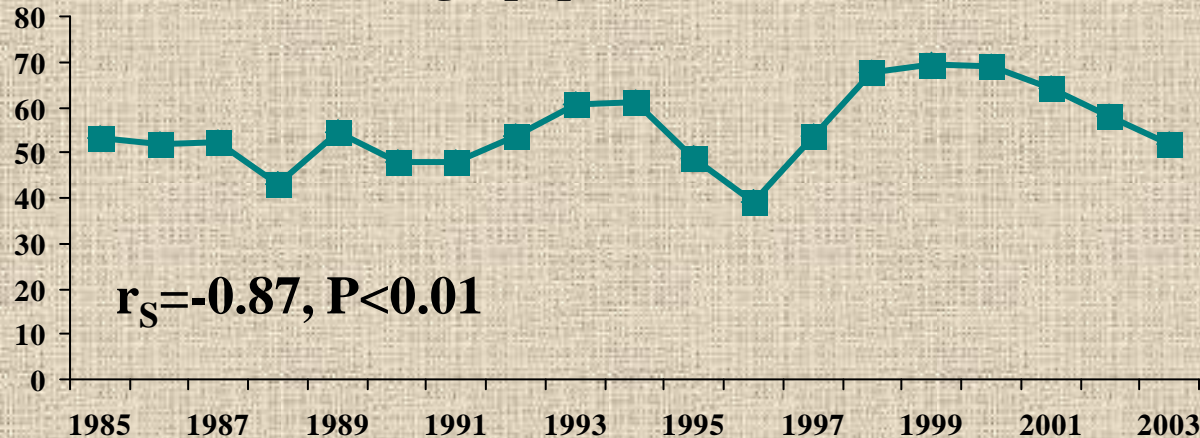
During period of heavy persecution of wolves compared to period of markedly lower killing rate, age composition in wolves had markedly lower values: respectively, the maximal age – 7+ versus 9+; the mean age of adults – 3.2 versus 5.1 years; and the population mean age – 1.5 versus 2.8 years. High prevalence of juveniles – 55%, and the fairly irregular age composition in adults attributed to the wolf population in the conditions of low density after the period of heavy human persecution.

Between-year changes in wolf litter size and sex-ratio amongst pups, northern Belarus, 1985-2003

Vadim Sidorovich, Estonia 2008

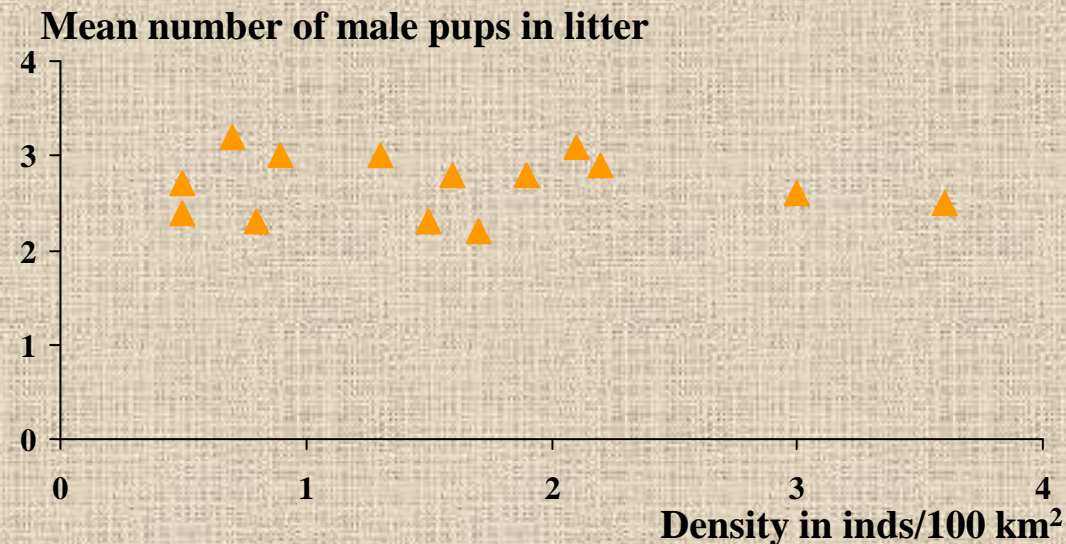
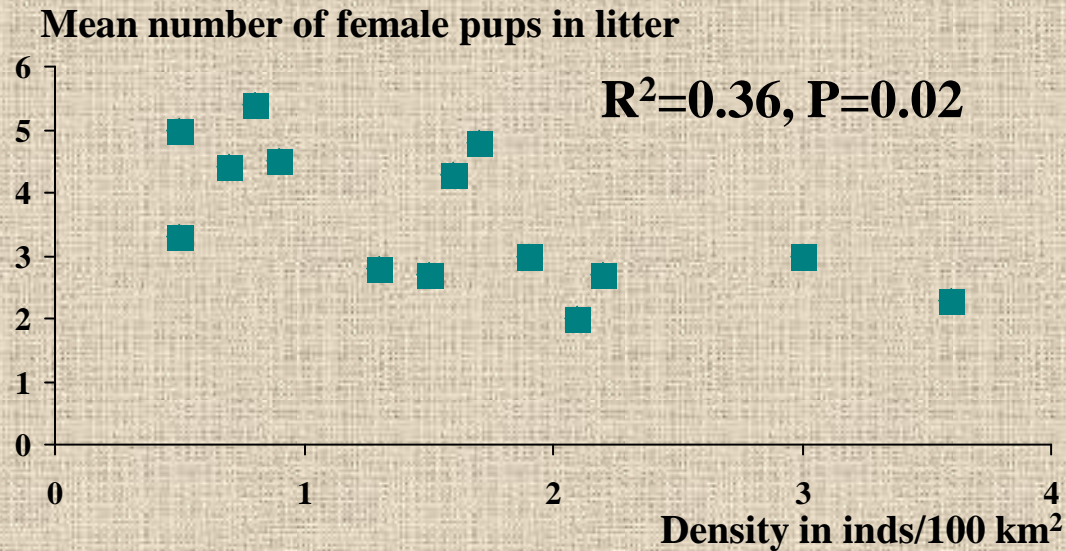


% of females amongst pups



Litter size of wolves varied from 2 to 10 pups, averaging 6.1. The lower wolf density, the higher fertility in wolves and more females amongst pups were recorded.

Density-dependent changes in wolf litter size and sex-ratio amongst pups, northern Belarus, 1985-2003



The inversely density-dependent increase in litter size concerned only female pups. The average number of female in a litter varied from 2 at the highest population density to 5.4 at the lowest population density. The number of male pups in a litter was not related to population density and averaged 2.7 ex/100 km².

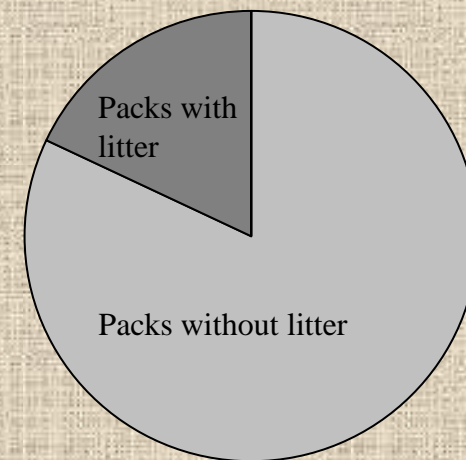
Vadim Sidorovich, Estonia 2008

Frequency of giving birth in wolf packs in connection with their deterioration across winter persecution by human in northern Belarus, 1985-2003

Heavy persecution by human



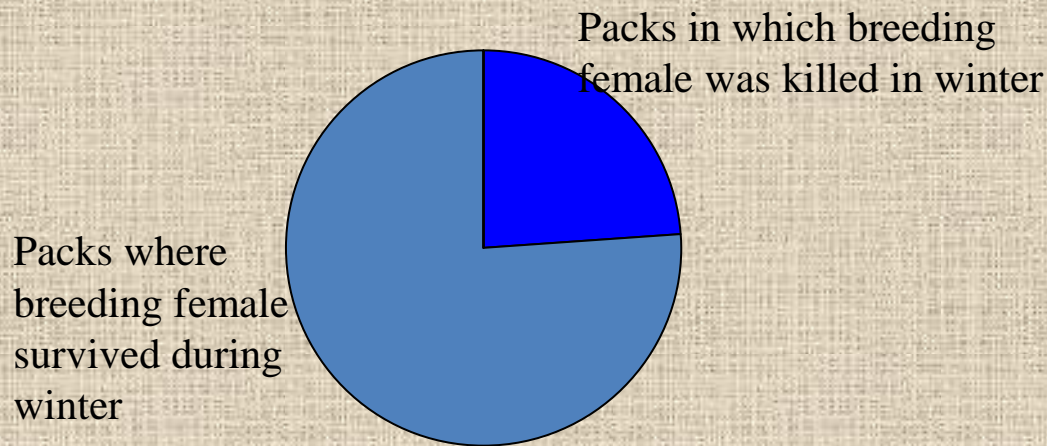
In the conditions of heavy winter persecution by human about 57% of wolf packs were substantially altered, i.e. breeding female or the whole parental pair was extirpated, and in turn about 82% of wolf packs had no litter next breeding season.



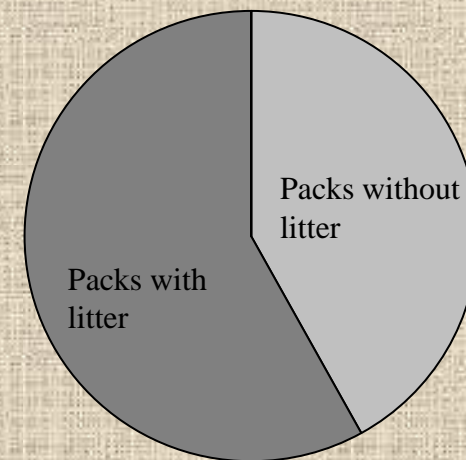
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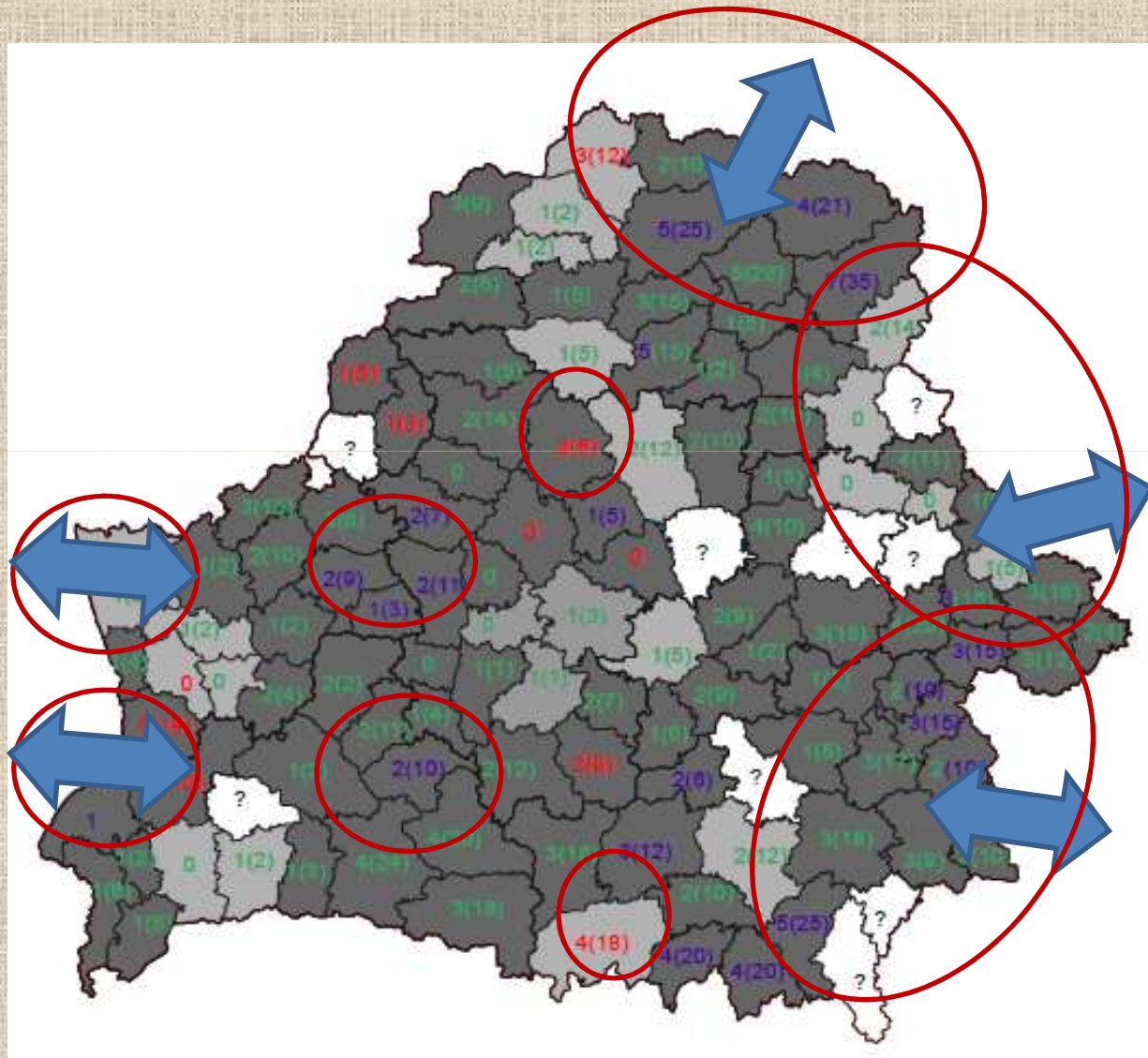
Moderate persecution by human




If the elimination rate was not heavy, only about 24% of wolf pack were altered in winter. Afterwards, 42% of wolf packs had no litter next breeding season.



The distribution of wolf population in Belarus on 2008



 The main localities
on 2012

The estimation of square different category

Region	Square,	Habitats second category		Habitats therd category		Habitats fourth category		Total	
	км ²	км ²	%	км ²	%	км ²	%	км ²	%
Minsk	40200	1673	4,2	8374	19,8	4114	10,2	14161	35,2
Vitebsk	40100	1317	3,3	10582	26,4	2244	5,6	14143	35,3
Mogilev	29100	-	-	4541	15,6	3581	12,3	8122	27,9
Grodno	25000	1042	4,2	1979	7,9	2302	9,2	5323	21,3
Gomel	40400	2972	7,4	11967	29,6	4371	10,8	19310	47,8
Brest	32800	870	2,7	5260	16,0	3993	12,2	10123	30,8
	207600	7874	3,8	42703	20,6	20605	9,9	71182	34,3

The estimated optimal number of wolf for regions of Belarus

Region	Habitats of the second category		Habitats of the third category		Habitats of the fourth category		Total for all categories	
	Packs	Animals	Packs	Animals	Packs	Animals		
Minsk	4	28	7	49	3	21	14	98
Vitebsk	4	28	9	63	2	14	15	105
Mogilev			4	28	3	21	7	49
Grodno	2	14	2	14	2	14	6	42
Gomel	7	49	10	70	4	28	21	147
Brest	2	14	4	28	3	21	9	63
								504

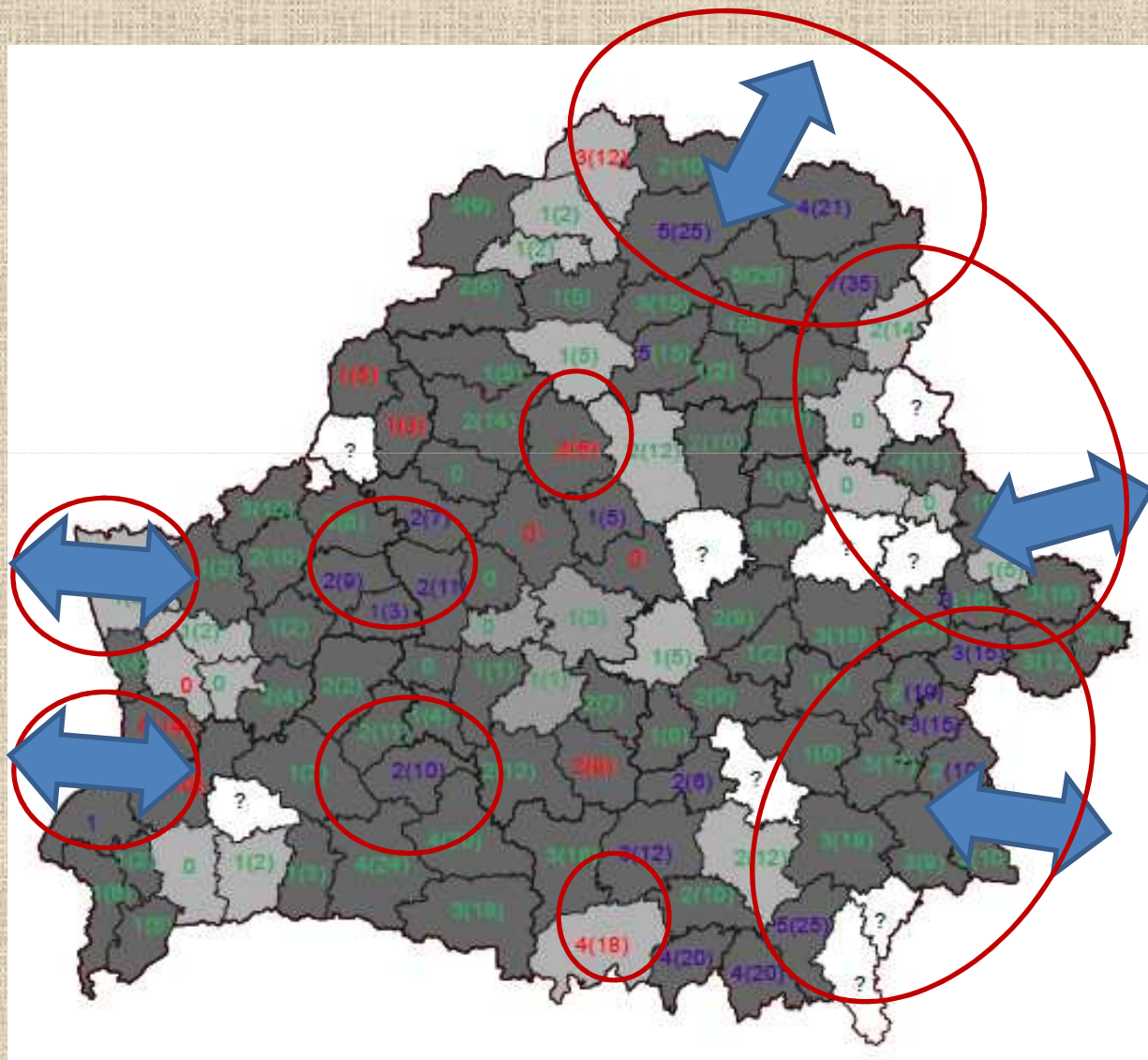
The total number are estimated based on ecological volume of terrains
from second to fourth category.

Fourth category based on a NSPA national level.

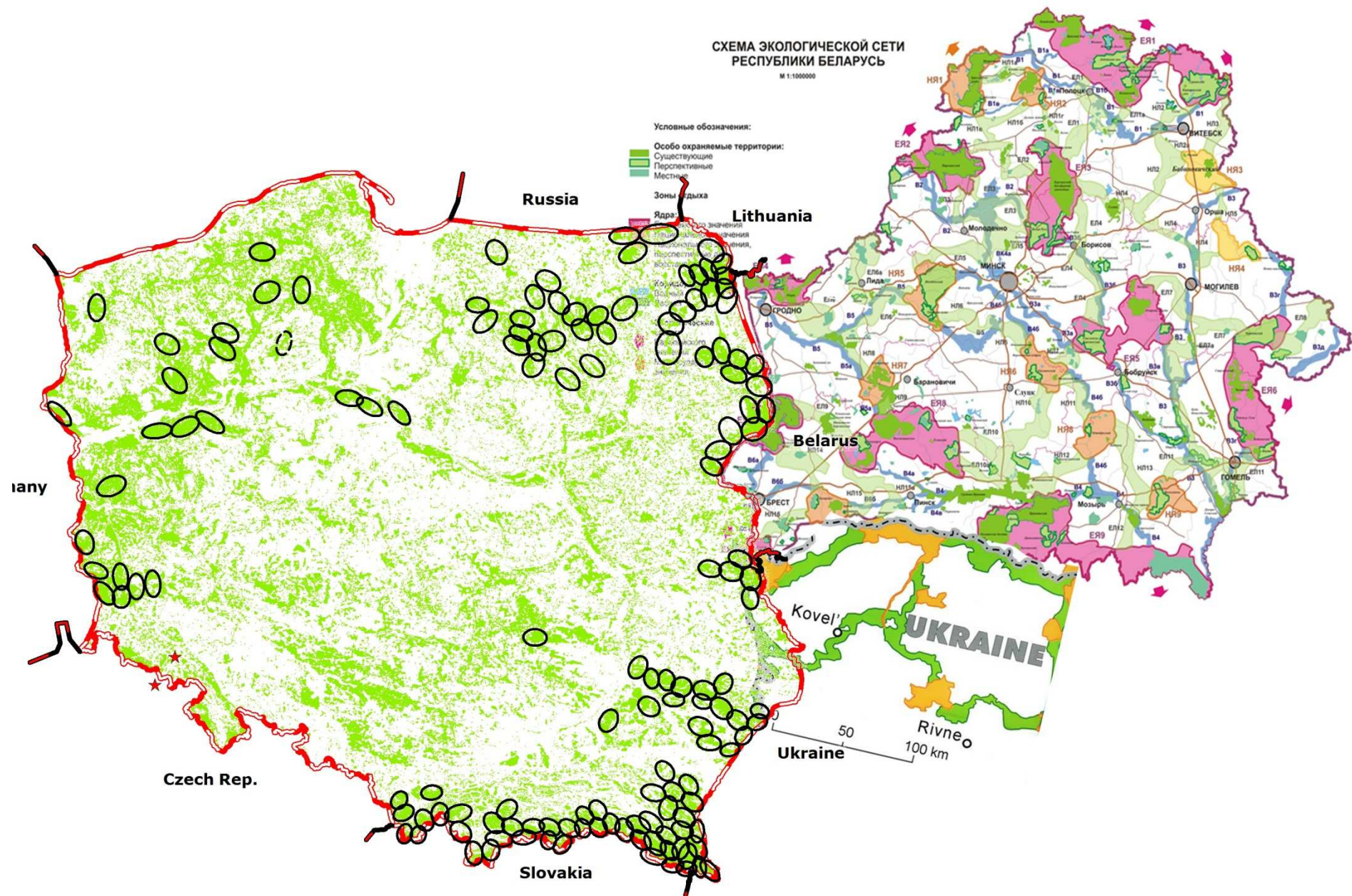
The wolf in Belarus and transborder aspect

- In countries situated on the west of Belarus, wolf is a redlisted. Therefore the migration movements of wolves westwards. In that frame the wolf population in Belarus is regarded as one of the main donor populations supporting genetic diversity of such populations.
- Nevertheless, considering requirements of the international agreements and national legislation of the Republic of Belarus on animals protection and sustainable use, it is necessary to implement a package of measures concerning wolves' population, which shall ensure preservation of demographically viable wolves population, reduction of damage caused by them to hunting and agriculture, prevention of rabies spread by wolves.

The distribution of wolf population in Belarus on 2008



Importance for protection



Discussed propositions in transbordering aspects



- The creation of the buffer zone with a special status of local pucks along a border the same with proposal for Slovenia
- Should be consider the possibility to reintroduce the wolf on Polish side from Byelorussian populations in frame of international cooperation.

**Thank you
for attention.**

