

APPROVED
By the order of the
Minister of Environment of
the Republic of Lithuania
dated 28 August 2014
No D1-699

WOLF (*CANIS LUPUS*) PROTECTION PLAN

I. DESCRIPTION OF WOLF, ITS POPULATION AND HABITAT

1. Description of wolf

1. Grey wolf (*Canis lupus*) belongs to the order of carnivorans (*Carnivora*), family of canids (*Canidae*). Lithuania is home to a subspecies *Canis lupus lupus* (Linnaeus, 1758). Wolf is a largest member of the family of canids present in natural wildlife. The exterior demonstrates a thick, muscular neck (older males have longer fringe), fairly long legs, long and untapering muzzle, small triangular ears, lowered straight tail, covered with longer hair. Coat colour is uneven, with a range of grey, brown, black, and yellowish colours. Males are larger than females. Average weight of an adult male is 45 kg, and average body length, 124 cm.

2. Description of wolf habitat

2. Wolves represent a local species to be found in Lithuania, with ability to adapt to arrange of habitats and to survive and procreate in a wide range of environments. Wolves can perfectly survive in a landscape affected by humans. The choice of habitats for wolves was affected by fragmentation of forests in Lithuania, increasing recreation and economic activities and other environmental factors. Wolves to be found in Lithuania prefer forests of the 1st group (reserves), swamps and large unfragmented forest areas, offering food, water, and safe spots for rest and lair.

3. Prevalence and abundance of wolves, and their dynamics in Lithuania

3. In the period of 1993 to 1999, wolves were common almost throughout national territory. Wolf prevalence in Lithuania has fallen from 2000 to 2005 (in the period of 2000 to 2002, it included 80 percent of national territory, in 2003, 70% and in 2004, it included 60% of national territory). In the period of 2006 to 2011, the distribution of wolves turned more even, with less fragmentation. In 2010, traces of wolves were found in 111 out of 412 forestry districts (included in the reporting, i.e. 26.9 percent), while a survey conducted in 352 forestry districts in 2011 found traces of wolves in 111 forest areas (i.e. 31.5 percent). A report conducted in 354 forestry districts in 2012 found traces of wolves in 109 forestry districts (i.e. 30.8 percent). Over the last decade (2004 to 2013) the reports on wolf population based on traces found that there were at least 200 to 300 wolves existing in Lithuania. According to the estimates, there are approximately 60 to 70 wolf families currently existed in Lithuania. Wolf population abundance regulation plan 2012 seeks to ensure existence of at least 250 wolf nationwide.

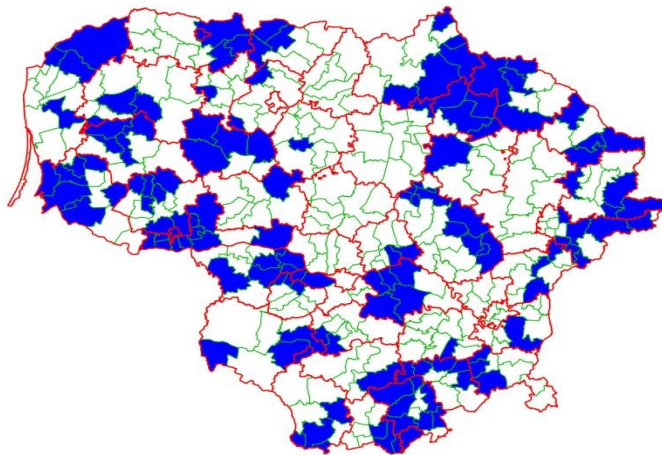


Fig.1. Prevalence of wolves in Lithuania in 2013.

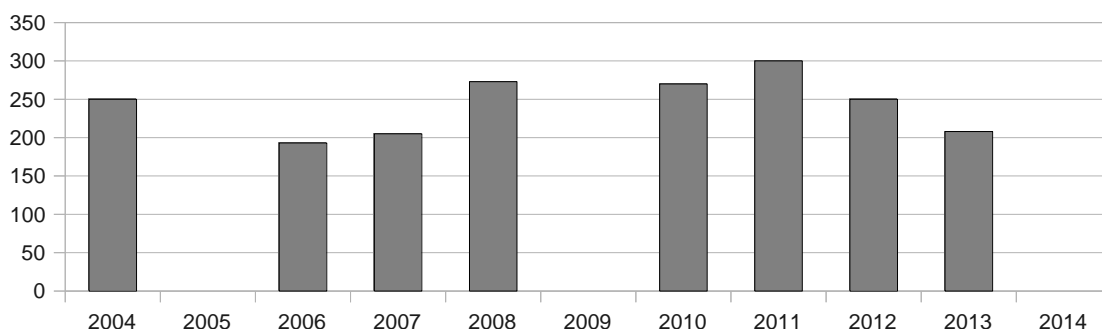


Fig 2. Dynamics of population of wolves in Lithuania in the period of 2004 to 2014 (report of 2004 included half of Lithuanian forests, with the outcome for the entire area achieved through extrapolation; in the period of 2006 to 2008 and from 2010 to 2012 the reports were conducted in State forests, with the outcome for 2008 for the entire area achieved through extrapolation; in 2013 the report encompassed entire national territory, with data on tracks for the first time marked on maps, along with geographical data analysis; no reports were conducted in 2005, 2009, and 2014).

4. Prevalence of wolves, size of population, area taken up by habitats, and changes in Europe and/or across the range

4. Both Central and Northern Europe witnessed the extinction of wolves in 19th and 20th centuries after the Second World War. Some wolves survived in Southern Europe (Portugal, Spain, Italy, and Greece), as well as in Finland in Eastern Europe. In 1980, the population of wolves in Europe dropped record low, however the last decade or so has seen gradual restoration and increase of the population. Most wolves are to be found in Eastern Europe and the Balkan Peninsula. As for the Central and Western Europe, wolves are mainly present in mountainous areas, with lower population density and consequently economic activities are less intense. The distribution of wolves is highly unstable, with the remaining areas suitable for wolves both small and isolated. There are 3 smaller sub-populations to be found in the Iberian Peninsula, Scandinavia and Italy-France.

5. Wolves present in Lithuania form a part of common wolf population in the Baltics, along with wolves existing in Latvia, Estonia, North Eastern Poland, Belarus, and Western regions of Russia. As the official statistic suggests, abundance of wolf population in Lithuania, Latvia, and Estonia can be characterised by similar dynamics.

6. In Latvia the number of wolves after closing of a hunting season does not exceed 200 to 300 individuals (with approximately 200 to 300 wolves hunted down during any given season). Wolf protection plan in Latvia seeks to maintain population of wolves of 300 to 500 individuals. Wolf population management plan prevailing in Belarus provides there were 834 wolves existing in the country in the period of 2006 to 2008, i.e. 195 families; however, the population is expected to be reduced to 72 families (504 wolves after reproduction). Estonian plan on protection and management of large carnivores of 2012 to 2021 provides there were 24 families of wolves in 2010 nation-wide (approximately 230 individuals in autumn), while the plan expects to maintain 15 to 25 reproducing families (150 to 250 wolves in autumn, before the hunting season begins). In Poland, the population and prevalence of wolves is not restricted (excluding hunting of problematic individuals). As a result, some of the largest population of European wolves is affected by measures governing population of wolves, while migration between neighbouring countries remains an important factor affecting viability of population of wolves in the Baltics.

Table 1. Sizes of wolf population in Europe 2012 (excluding data in the wolf records of Belarus and Russia), based on the scientific report listed in position 31 of the above plan.

| Population | Countries | Size (2012), units | Trend |
|--------------|----------------|--------------------|------------|
| Scandinavian | Norway, Sweden | 260–330 | Increasing |

| | | | |
|--------------------------|--|-------------|------------|
| Karelian | Finland | 150–165 | Declining |
| Baltic | Estonia, Latvia, Lithuania, Poland | 870–1400 | Constant |
| Central European lowland | Germany, Poland | 36 families | Increasing |
| Carpathian | Slovakia, Czech Republic, Poland, Rumania, Hungary, Serbia | 3000 | Constant |
| Dinaric-Balkan | Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Former Yugoslav Republic of Macedonia, Albania, Serbia (including Kosovo), Greece, Bulgaria | 3900 | Constant |
| Alpine | Italy, France, Switzerland, Austria, Slovenia | 280 | Increasing |
| Apennine peninsula | Italy | 600–800 | Constant |
| North West Iberian | Spain, Portugal | 2500 (2007) | Declining |
| Sierra Morena | Spain | 1 family | Declining |

5. Biology behind wolf breeding

7. Wolves reach their sexual maturity as they close their second year. Heat of wolves lasts from late January to mid-March. Gestation lasts 62 to 63 days. Cubs are usually born from late April to mid-May, although both earlier and later dates of litter are possible. A single litter includes 1 to 9 cubs. Wolf cubs usually demonstrate high mortality rate, with a small percentage surviving for 1 year or more. In Bialowieza Forest, 50% cubs do not survive past 3 months, and 65% do not last a year. According to the studies conducted in Latvia, as little as 11.2% of cubs survive for a year.

8. Family represents key social structure for wolves. Family usually consists of the so called *alpha* wolf couple, their cubs of current year, along with wolves from previous litters. Only *alpha* female usually raises cubs. Average size of a wolf family in Europe is 7 wolves (2 to 15 wolves), with the size depending on the wolf living environment, population density, hunting intensity and other factors. No exact data is available on the size of wolf families in Lithuania. Studies based on surveys of hunters suggest the average family of wolves in Lithuania contains 3 to 4 wolves. A certain part of the population consists of solitary wolves, i.e. young wolves separated from their family, in search for territory and a mate, as well as wolves that have lost their families or failed to fit in a family.

9. Wolf population in Lithuania can be characterised by genetic diversity of the same level as found elsewhere in Europe; however currently available in this field are not sufficient.

6. Feeding, migration, hibernation and migration of wolves

10. Since wolves are carnivores, they take up top position on the food chain. For the most part, wolves in Lithuania feed on the ungulates, dominating the area in question. Beavers form another important component of their diet. Small rodents usually account for 2 to 10 percent of wolf diet, mostly relevant to young wolves. Wolves can also hunt hares, other smaller predators, birds, reptiles, and feed on berries and fruit. Occasionally wolves can feed on livestock. During winter, wolves in Lithuania often suffer from insufficient diet.

11. Wolves have a diverse impact on the population of their prey. Wolves usually first hunt down sick and weak wild animals, thus improving population of their prey. Wolves can also have a significant impact on abundance of isolated populations. This impact however works both ways (as the prey become less numerous, the number of wolves drops too), while partial or complete destruction of population of the prey can only happen with existence of other factors (such as hunting, fire, and other conditions unfavourable to the population of the prey).

12. Wolf has no natural enemies in Lithuania. As for the food, wolves can compete with foxes and raccoons, and as for carrion, they can compete with wild boars and ravens.

13. Wolves are attached to their territory, since each family has its own territory, one it protects from other wolves. The size of territory taken up by a wolf family has not yet been investigated in Lithuania, however information from neighbouring countries suggest that a family of wolves can take up an area of approximately 100 to 300 km² (in forest areas). The size of territory taken up by a family depends on prevalence of wolves, availability of prey and other factors. Territorial lifestyle and social conduct represent factors of self-regulation of wolf abundance, which also affect the spreading of wolves to neighbouring areas. The number of suitable territories limits the quantity of families of wolves in a given area, social conduct limits the number of reproducing females, while wolves having separated from their families migrate to neighbouring areas in search for a territory.

7. National and international legal status of wolf species

14. On 3 July 1995, Lithuania, through a resolution of the Republic of Lithuania No I-985 concerning ratification of the Convention on Biological Diversity, acceded to the United Nations Convention on Biological Diversity. The convention seeks to secure protection of biological diversity, and the signatories agree to take the measures as necessary.

15. In Lithuania, wolf is classified as protected species, since on 11 June 1996, a law of the Republic of Lithuania concerning ratification of Bern Convention on the Conservation of European Wildlife and Natural Habitats ratified Bern Convention. Article 2(2) of the said law provides that wolves shall benefit from protection regime established by Appendix III, rather than Appendix II of the Convention. For this reason, Lithuania is not subject to prohibition of wolf hunting under Bern Convention.

16. On 22 May 2001, Lithuania adopted a law on ratification of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, ratifying the Convention on International Trade in Endangered Species of Wild Fauna and Flora. Under the convention, wolf is classified as part of Appendix II, i.e. species that are not necessarily threatened with extinction, but may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with the survival of the species.

17. Population of wolves in Lithuania has been included in Annex V (List of species of Community interest whose taking in the wild and exploitation may be subject to management measures) to the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ *special edition* 2004, chapter 15, vol. 2, p. 102) as last amended by the Council Directive 2006/105/EC of 20 November 2006 (OJ 2006 L 363, p. 368) (hereinafter the Habitat Directive).

18. Annex II to the Act concerning the conditions of accession of the Czech Republic, the Republic of Estonia, the Republic of Cyprus, the Republic of Latvia, the Republic of Lithuania, the Republic of Hungary, the Republic of Malta, the Republic of Poland, the Republic of Slovenia and the Slovak Republic and the adjustments to the Treaties on which the European Union is founded (OJ 2003 L 236, p. 33) provides for amendments to the wording of the Habitat Directive, to the effect that wolf populations in Lithuania, Latvia, and Estonia are included in Annex V, rather than Annex II and IV of the Habitat Directive, which allows for management of abundance of wolf population through hunting.

19. On 7 June 2006, the Minister of Environment of the Republic of Lithuania adopted an order No D1-284 concerning amendment of the order of the Minister of Environment dated 12 December 2001 No 592 concerning accumulation of data on species of fauna and flora of European Community importance, included wolf in the list of species of fauna and flora of European importance, with collection from nature and utilisation subject to possible management measures.

20. On 27 June 2000, the Minister of Environment of the Republic of Lithuania adopted an order No 258 concerning approval of hunting rules applicable on the territory of the Republic of Lithuania; these rules provide that:

20.1. wolf shall be classified as a part of large game fauna;

20.2. wolf hunting season lasts from 15 October to 1 April (where the wolf hunting limit is used up, hunting season shall be closed earlier);

20.3. Utilisation of wolves shall be restricted by setting a hunting limit; this shall be approved by the Ministry of Environment of the Republic of Lithuania, taking into account the scientific guidelines.

21. Clause 5 of the order of the Minister of Environment dated 21 November 2011 No D1-994 concerning approval of the indexed base tariffs applicable to damage caused to protected species and their habitats in Lithuania for 2012 provides that destruction of mammals included in the list of species of fauna and flora of European Community importance, yet excluded from the list of species of flora and fauna protected in the Republic of Lithuania shall be reimbursed at an indexed base rate of LTL 1,063.

22. Wolf can be hunted throughout the Baltics; the limits system for regulation of wolf hunting was introduced in Estonia in 2002, in Latvia, in 2004, and in Lithuania, in 2005.

23. As for Poland, wolf is included in Annex II and V of the Habitat Directive; it therefore benefits from Natura 2000 areas, but hunting is allowed elsewhere. Wolf hunting is permitted to problematic individuals only.

24. Belarus has signed the United Nations Convention on Biological Diversity and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The wolf population management plan of 2009 provides for zoning of wolf hunting, by listing regions for extermination, hunting, and preservation of wolves.

II. ASSESSMENT OF STATUS OF WOLF POPULATION AND HABITAT

8. Assessment of population size and prevalence

25. The status (size and prevalence) of wolf population in Lithuania is assessed as follows:

25.1. report of users of hunting areas is conducted yearly, as provided by the rules on hunting in the territory of the Republic of Lithuania;

25.2. report of wolf population in State forests and reserves, drafted by the Directorate General of State Forests at the Ministry of Environment in accordance with the methodology for report of the wolf population based on traces under Annex 1 of the plan (hereinafter partial report of wolves). Information gathered through partial report allows for assessment of the trends in the dynamics of the population size. Staff employed by forestry districts, state enterprise, and directorates of natural national reserves are in charge of reporting of wolves to be found in the State forests. Reports can also include staff of directorates of other protected areas, hunters, representatives of non-governmental organisations and other individuals wishing to get involved.

26. Report of wolf population is conducted once at least every 5 years in private forests too, in order to ensure a more accurate assessment of wolf population throughout the territory of the Republic of Lithuania. The Ministry of Environment is in charge of running this report.

27. Running of reports, summary of information collected and drafting of scientific findings can rely on funding from the State budget, environmental protection supporting programmes and other funds or programmes.

9. Threats and limitations

28. The main threats faced by wolf population and its protection in Lithuania are interrelated. List of threats, their relevance and effect on the population can vary, depending on a number of circumstances, with certain circumstances not related to the management of wolf population (such as dynamics in forest areas or abundance of ungulate animals).

Table 3. Description of threats faced by wolves

| Threat | Description |
|----------------------------|---|
| Setting of an unreasonably | Impact of the threat is significant, while its relevance to the wolf population in Lithuania is average. The threat to setting an unreasonably high limit is related to possibility that the number of wolves |

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| high limit | <p>hunted down can exceed the potential of recovery and/or growth of population, and so will break the social structure of the population, in case the size of population is overestimated. The main risk factor is inadequately established status, dynamics, and perspectives of the population, which directly depends on both monitoring of the population (reports in progress) and analysis of long-term trends.</p> <p>Possible outcomes of the threat include significant decline of the population abundance and/or prevalence, which can have a negative impact on the population and its survival.</p> <p>Key methods to limit the threat include as reliable monitoring (report) of the population as possible, adequate hunting regulation, monitoring of trends, and response to negative changes.</p> |
| Poaching | <p>Impact of the threat is significant, while its relevance to the wolf population in Lithuania is uncertain.</p> <p>Due to poaching, some individuals removed from the population may not appear in other reports. This will lead to additional errors when assessing adequacy of management decisions on hunting, and assessing status of population and trends in its dynamics.</p> <p>Key methods to limit the threat include education of the public (focussing on hunters and farmers) on the true role played by wolves (including damage and benefit), development of intolerance to poaching, strict reporting of trophies, efficient management and imposing of penalties.</p> |
| Lack and fragmentation of habitats | <p>Impact of the threat is significant, while its relevance to the wolf population in Lithuania is low.</p> <p>In Lithuania, wolves are found in forest areas, therefore the threat of lack and fragmentation of habitats is mostly connected to fragmentation of forests and disturbance.</p> <p>As the numbers of most adequate habitats declines, wolves turn to less suitable ones, such as those more cultivated, exposed to a more intense human activities, however due to shortage of wild prey, livestock of farmers becomes exposed to wolves more often. This would lead to wolves getting less acceptable to the public, which would then pose a threat for a long-term survival of wolves in Lithuania.</p> <p>Key methods to limit the threat relate to increased forestation and preservation of forests classified as group I and II.</p> |
| Lack of nutrition base | <p>Impact of the threat is significant, while its relevance to the wolf population in Lithuania is low.</p> <p>Decline in nutrition base brought about by natural reasons usually leads to decline in population of wolves and focussing on another type of hunting.</p> <p>Lack of nutrition base may be caused by natural changes in abundance of ungulate animals (diseases of ungulate animals, decline in the number of ungulate animals due to changes in habitats), changes in abundance of wolves and direct impact of humans on the populations of ungulates (i.e. hunting and poaching).</p> <p>Key methods to limit the threat include regulation of hunting of ungulate animals, since these represent the basis of wolf nutrition in Lithuania.</p> |
| Disturbance | <p>Impact of the threat is average, while its relevance to the wolf population in Lithuania is average.</p> <p>Wolves usually prefer forest areas characterised by lower intensity of economic and recreation use, with the lower population and those situated away from main highways.</p> <p>Disturbances can be classified as temporary (such as logging, recreation and tourism, hunting) and permanent (such as disturbance caused by territories, either urbanised, or under urbanisation, and transport infrastructure).</p> <p>Restriction of temporary disturbance must take into account the fact that wolves are most sensitive in the period of heat, when giving birth, and during first few months of cub rearing.</p> |
| Wolves killed on roads and artificial barriers for dispersal | <p>Impact of the threat is insignificant, while its relevance to the wolf population in Lithuania is low.</p> <p>This threat mostly relates to road transport infrastructure. Foreign studies have found the ability of wolves to cross highways of several lanes, and use crossings intended for different animals. However, whenever wolves have an option, they will turn to direction where no such obstacles exist. This can lead to a long-term effect that given continuous development of infrastructure and increasing intensity of traffic, certain territories can turn less appealing and less inhabitable by wolves.</p> <p>Key method to limit the threat is building of crossing for animals above roads (intended for all larger mammals).</p> |
| Negative public opinion | <p>Impact of the threat is significant, while its relevance to the wolf population in Lithuania is high.</p> <p>Negative public opinion of the wolves remains a key threat, although an indirect one. As long as the public in general, and farmers in particular, considers wolf to be a pest, no other measures to combat threats will prove sufficiently effective, and will prevent from accomplishment of the long-term objectives.</p> <p>Key reasons behind negative views of the wolves include damage caused to livestock farmers and concerns for direct threat to humans. In this instance, the notional damage and threat, often exaggerated given lack of knowledge and negative image of wolves in popular culture, are more important than the reality based on facts of scientific proof.</p> <p>The threat can be limited through regular education of the public, focussing on the main stakeholder groups, children and young adults, on a comprehensive presentation of both the benefits and the</p> |

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|-------------------------|--|
| | actual damage or potential damage caused by wolves. |
| Hybridization with dogs | Impact of the threat is average, while its relevance to the wolf population in Lithuania is low. Morphological studies have found individual cases of hybrids of wolves and dogs in Lithuania. Although wolves are usually intolerant to dogs, natural cross breeding or illegal cross breeding arranged by man is still possible. Scientists believe that hybrids are more dangerous than wolves, especially hybrids arranged by man, or hybrids that have either escaped, or were set free. Studies have found very few hybrids among Lithuanian wolf population. Key method to limit the threat includes assurance of effective management so that no wolves held in captivity would be crossbred with dogs, while any existing hybrids would be sterilised and held safely in captivity. It is difficult to assess whether or not a wolf living in the wild is hybrid, unless a wolf demonstrates unnatural behaviour or demonstrates other features uncommon to wolves. There are therefore virtually no direct measures to combat the threat. Indirect method seeks to ensure the wolf population remains healthy which is likely to protect itself from hybrids. Direct measure (hunting) should apply in exceptional cases, when there is clear evidence that a certain wolf is a hybrid and so poses a more serious threat. |
| Diseases | Impact of the threat is average, while its relevance to the wolf population in Lithuania is uncertain. According to the information available, the risk of spreading of diseases threatening viability and survival of the wolf population is low. The last few decades have revealed very few cases of rabies. Although parasite infection is common, however, its impact on the entire population has not yet been examined. |

10. Studies and inventory

29. First studies dedicated to biology and ecology of wolves in Lithuania date back to the forties of the 20th century. Wolf nutrition was last examined in the period of 2004 to 2012. Since 2004, there are a number of studies dedicated to the inventory of wolves (their prevalence, abundance, genetic structure of the population), as commissioned and funded by the Ministry of Environment of the Republic of Lithuania. Monitoring of wolves carried out under commission of the Environmental Protection Agency was the conducted on several occasions, the last time in 2008. Table 4 of the above Plan provides information on the studies and publication of their outcome.

30. For a summary of studies dedicated to management of wolf population and ecology, see a monograph on wolves around the world, published by the University of Calgary; it includes a section dedicated to the Baltics: Jędrzejewski, W., Jędrzejewska, B., Anderson-Lilley, Z., Balčiauskas, L., Mannil, P., Ozolins, J., Sidorovich, V. E., Bagrade, G., Kubarsepp, M., Ornicans, A., Nowak, S., Pupila, A., Zunna, A. 2010. Synthesizing wolf ecology and management in Eastern Europe: similarities and contrasts with North America / The world of wolves: new perspectives on ecology, behaviour and management / ed. by M. Musiani, L. Boitani, P.C. Paquet. University of Calgary Press. P. 207–233.

31. Most relevant information on the status and management of wolf population in Europe appears in the following report: Petra Kaczensky, Guillaume Chapron, Manuela von Arx, Djuro Huber, Henrik Andren, and John Linnell (Editors). 2012. Status, management and distribution of large carnivores – bear, lynx, wolf & wolverine – in Europe.

32. Studies dedicated to wolves and carried out in the period of 1958 to 2010 appear in Annex 2 to the above Plan.

III. DEFINITION OF PROTECTION STATUS FAVOURABLE TO WOLF SPECIES

33. Status of protection of wolf species is considered favourable based on the following criteria:

33.1. population is either stable (at least 250 individuals) or increasing, provided the scope of use of the population does not pose a threat to the long-term survival of the species;

33.2. the range of the species nationwide does not decline and is not expected to decline in the future, while individuals of wolves are regularly observed in at least 60 percent of the national territory;

33.3. the habitat of the species is sufficiently large and existing fragmentation, disturbance of the species in the habitat and other specific characteristics of the habitat ensure that population remains viable in the long run, and no negative development is expected in those specific characteristics of the habitat.

IV. UTILISATION OF WOLF POPULATION AND REGULATION OF ITS ABUNDANCE

34. Abundance of wolf population is managed through hunting in accordance with the rules on hunting in the territory of the Republic of Lithuania, and by setting limit on hunting of wolves for each hunting season.

35. Abundance of the wolf population is not managed in reserves and their buffer protection areas. Collection (hunting) of wolves from their habitats in national parks, telmological, ornithological, and botanical-zoological reserves, Žuvintas Biosphere Reserve and Vištytis Regional Park requires a permit issued in accordance with the procedure for utilisation of protected species, approved by the order dated 15 July 2010 No D1-622 concerning approval of procedure for utilisation of protected species, seeking to accomplish the tasks set out in the said procedure.

36. The Ministry of Environment seeks to ensure a favourable protection status of wolf species and relies on the reporting data, studies and guidelines of advice scientists and approves a wolf hunting limit for each current hunting season by 15 October, in light of the following conditions:

36.1. where the number of wolves does not exceed 100 individuals, no hunting of wolves is allowed;

36.2. where the size of the population exceeds 100 individuals, but falls below 250, the use of the population is planned to ensure constant growth of the population until it reaches 250 individuals. Hunting rate is planned using regioning, depending on the report carried out and damage caused as well as its distribution. The hunting limit is set up to 20 percent of the wolf population size;

36.3. where the size of the population exceeds 250 individuals, but falls below 500, the use of the population is planned to ensure long-term stability of the population within these limits. Hunting rate can be planned using regioning. The hunting limit is set up to 20 percent of the wolf population size. Wolf hunting limit set can be adjusted depending on the damage caused by wolves to livestock as well as its distribution. This requires separate justification for the decision;

36.4. where the size of the population exceeds 500 individuals, the use of the population is planned to ensure long-term decline of the population, too ensure it remains within the limits of 250 to 500 individuals;

36.5. whenever no reporting of the wolf population under clause 26 of the Plan is carried out throughout the national territory, while the reports of the previous years and trends and hunting results included in the partial reports of wolves suggest that the estimated population wary between 250 and 500 individuals, the wolf hunting limit is either set the same as in previous year or it is reduced proportionally depending on the decline of the population found in the partial reports and/or decrease in damage caused by wolves to the livestock of farmers (the damage caused by wolves to livestock of farmers is assessed in both previous and current year, from January 1 to September 1, based on information submitted by municipality administrations);

36.6. any other wolf individuals, killed for reasons other than hunting in the current hunting season, regardless of the moment and reason, shall be included in the limit of wolf hunting set for the hunting season;

37. Use of the hunting limit is monitored by the Ministry of Environment, and where the limit is used up prior to closing date of the wolf hunting season, respective hunting season shall be closed.

38. In the event of wolf epizootic, management of wolf population may be carried out regardless of the hunting time lines and the limits set on hunting.

39. Outside the permitted wolf hunting period wolves can be collected (hunted) from their habitats upon permission granted by the procedure for utilisation of protected species only.

V. TASKS, OBJECTIVES AND MEASURES OF THE WOLF PROTECTION PLAN

40. Key long-term task of management and protection of wolf population is to ensure a favourable status of protection for the wolf species, having its ecological role in natural habitats, thus ensuring peaceful coexistence of these predators and humans.

41. To allow for genetic diversity and ecologic efficiency of their species, wolves should be allowed to take up as large adequate habitat nationwide as possible, while the prevalence of wolves should only be limited wherever unavoidable and over-intense conflicts with economic interests of humans occur. Population management measures should not lead to local extinction of wolves. They should seek to maintain gradual distribution of wolves within population and as well as communication to the populations found in the neighbouring countries.

42. Based on the objectives above, status of the existing wolf population and existing threats, the following objectives are set out:

42.1. Protection of population of the species;

42.2. Protection of habitats of the species;

42.3. Management of damage caused by wolves and conflict resolution;

42.4. Monitoring and studies;

42.5. Education and information;

42.6. Coordination of actions.

Table 5. Plan of protection measures, based on their priority (A, important; B, of average importance; C, optional)

| Task | Measure | Priority |
|---|---|-----------------|
| Protection of population of species | Management of abundance of wolf population | A |
| | Combatting poaching | A |
| Protection of habitat of species | Prevention of disturbance | B |
| | Spots where wild beasts cross roads that fragment their habitats | C |
| Management of damage caused by wolves and conflict resolution | Protection of livestock and prevention of damage | A |
| | Compensation of damage | A |
| | Exceptionally, wolf hunting | A |
| Monitoring and studies | Monitoring of status of wolf population | A |
| | Monitoring of quality of habitats | C |
| | Monitoring of public opinion | A |
| | Collection and publication of statistics on wolves, both killed and hunted down | A |
| Education and information | Collection of damage statistics | A |
| | Studies | A |
| | Public information on status of wolf population and its protection | A |
| Coordination of actions | Educational programmes targeting specific interest groups | A |
| | Inter-institutional coordination | A |
| | International cooperation | A |

43. Reasoning of the protection measures included in the above plan, timeframes for their implementation, and authorities in charge of the implementation appear in the plan on implementation of measures included in the wolf (*Canis lupus*) protection plan (Annex 3). The plan of protection measures (Table 5) provides a range of measures based on priority.

METHODOLOGY OF WOLF POPULATION REPORT BASED ON TRACES

1. Wolf population report based on traces (hereinafter the report) shall be carried out by calculating wolf traces left in snow.
2. Report shall be set in February-March, given a permanent, new snow cover.
3. Report shall be repeated twice, every 3 to 4 days.
4. Report date must be coordinated between tarp forestry enterprises within the same block only. Blocks of wolf population report based on traces appear in Fig. 1 of the methodology of wolf population report based on traces.



Fig. 1. Blocks of wolf population report based on traces

5. The report data shall be registered at the time of report both in the survey of wolf population report based on traces (Annex 4) and the map; picture of traces shall be taken.
6. A survey of wolf population report based on traces shall be completed during mapping of detection of traces as follows:
 - 6.1. Column “No” (*Nr.*) shall include a number of location where a trace was detected. This number shall coincide with the number on the map;
 - 6.2. Column “Number of individuals” (*Individų skaičius*) shall provide a number of individuals of wolves, determined based on traces found in the snow;
 - 6.3. Column “Block No” (*Kvartalo Nr.*) shall provide a number of a forest block where the traces were detected. Where traces are detected on a border of a block, the column shall provide a forest block where a wolf migrated to;
 - 6.4. Column “Freshness” (*Šviežumas*) shall provide whether traces are fresh (less than a day old), or old;

6.5. Column “Quality” (*Kokybė*) shall provide the quality of wolf traces found as follows: clear, blurred, yet certainly identified, or doubtful;

6.6. Column “Comments” (*Pastabos*) shall provide any other important information on the traces detected (cubs, remains of prey of a predator found nearby, etc.);

6.7. Even if no wolf traces are detected, the form must still be returned with completed 7 contacts of a forestry district, data on weather conditions, and remark in the comments as “None detected” (*Nerasta*).

7. Fig. 2 provides an example of completion of a survey of wolf population report based on traces.

| <i>Miškėnai forestry enterprise, Girėnai forestry district</i> | | | | | |
|---|-----------------------|----------|-----------------------|----------------------------------|---|
| (forestry enterprise and forestry district) | | | | | |
| SURVEY OF WOLF POPULATION REPORT BASED ON TRACES | | | | | |
| Weather conditions (please complete and/or underline as necessary) | | | | | |
| 27/02/2014, air temperature:-3..... °C. Snow thickness:3-6..... cm. | | | | | |
| (report date) | | | | | |
| Last time of snow: .. <i>February</i>25 / .. hours before / snowing at the time of reporting. | | | | | |
| Traces detected and recognised | | | | | |
| No | Number of individuals | Block No | Freshness (fresh/old) | Quality (clear/blurred/doubtful) | Comments |
| N1 | 3 | 5 | <i>fresh</i> | <i>clear</i> | <i>Followed for approx. 100 meters. Found separation in 3.</i> |
| N2 | 1 | 13 | <i>old</i> | <i>blurred</i> | |
| N3 | 2 | 32 | <i>fresh</i> | <i>clear</i> | <i>Followed for approx. 200 meters. Found several separations in 2.</i> |
| N4 | 2 | 33 | <i>fresh</i> | <i>clear</i> | <i>Traces followed the block line for a while.</i> |
| Comments and observations: <i>a family of 4 wolves regularly visits the above and adjacent forestry district</i> | | | | | |
| Report completed by | | | | | |
| <i>Forest ranger</i> | | | <i>Full name</i> | | |
| (Position) | | | (Full name) | | |
| | | | (signature) | | |

Fig. 2. Example of completion of wolf population report based on traces.

8. Mapping of report data shall be completed as follows:

8.1. Marking shall be completed by a pen, fountain pen or pencil (no marker shall be used);

8.2. Top of the map shall provide a forestry enterprise, state enterprise, forestry district, and report date;

8.3. Route completed shall be marked by a continuous line;

8.4. Place, where traces are detected shall be represented by a dot on the map. It shall be accompanied by an encircled serial number (with consecutive numbering as follows: N1, N2, N, etc.). Numbers will provide an opportunity to link the map to a survey;

8.5. Movement of wild animals shall be reflected using arrows, accompanied by a number of individuals detected (for instance, 2 wolves);

8.6. If traces are old, a comment shall appear in the brackets “(Old)” (*Seni*);

8.7. If pictures are taken, numbers of related pictures shall be listed on the same map, where space is available. Pictures shall be linked to places of traces using numbers.

9. Fig. 3 provides an example of mapping of wolf traces.

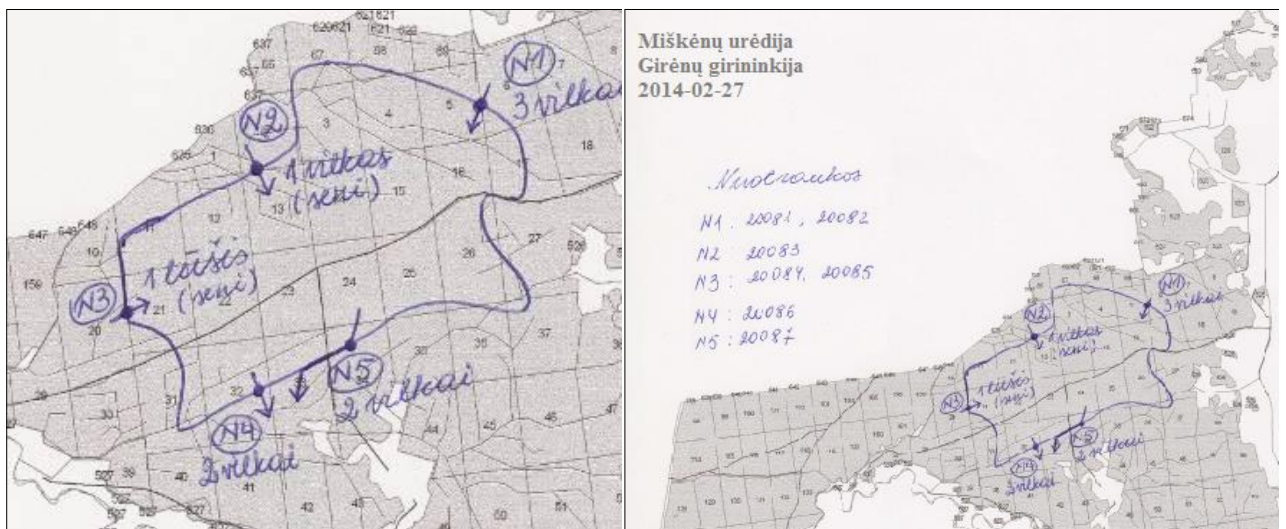


Fig. 3. Example of mapping wolf traces.

10. Photography of wolf traces requires:

10.1. In each place, where a trace is found, pictures of a single trace (footprint) and the entire line of traces shall be taken;

10.2. Pictures must be taken of those places, where a line of wolf traces splits;

10.3. Pictures of individual traces should only be taken using a ruler on the side (preferably wooden one, since it is better visible in snow). A ruler can also be placed between traces in line, to allow for measurement of a step;

10.4. When taking pictures, objective lens of a camera must remain directly above a trace, at a right angle;

10.5. Pictures should only be taken of most clear-cut and best visible traces;

10.6. Numbers of pictures shall be included as comments on the map.

11. Examples of pictures of wolf traces are provided in Fig. 4.

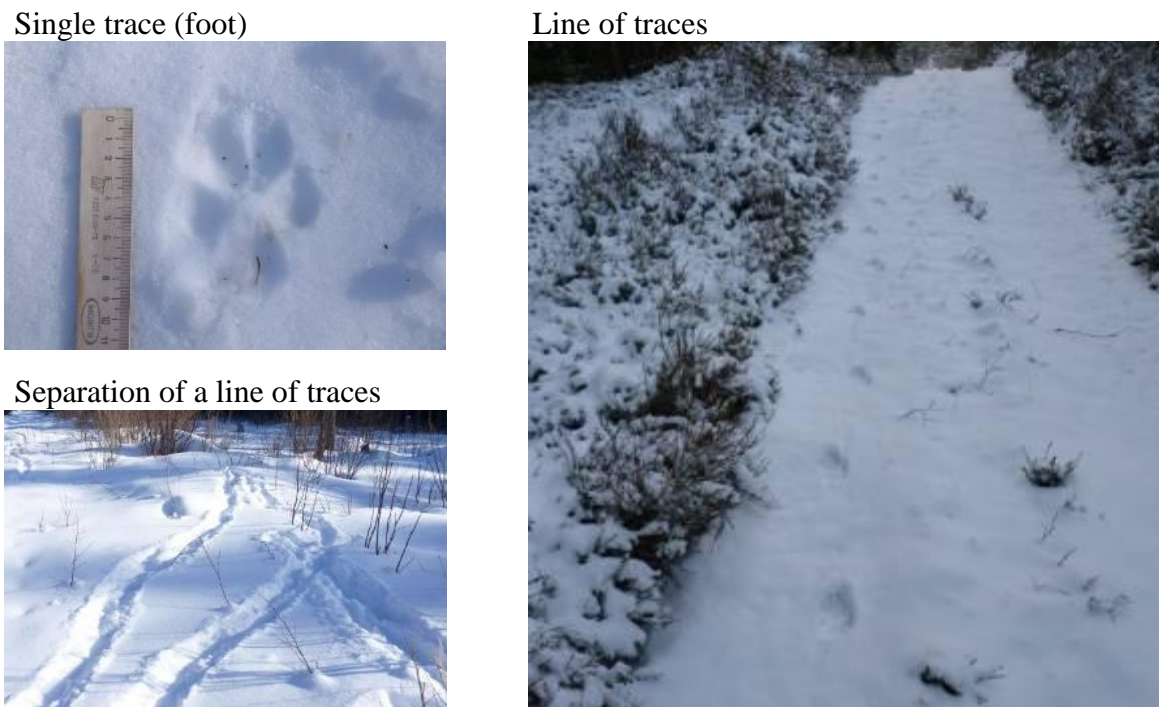


Fig. 4. Examples of pictures of wolf traces.

12. Forest ranger or another individual in charge of report and signing surveys shall be responsible for true and valid data included in the report.

13. On the report date, territory shall be inspected and comment shall be included in the survey and the map, referring to evidence demonstrating existence of wolves, i.e. fresh wolf traces (up to 24 hours old) along with places of detection. Number of wolves must be provided. It is advisable to follow fresh traces until the spot where wolves separate and to assess their number in that exact place.

14. If longer period of time passes after snow, the survey should include traces that are older than 1 day but still clearly recognisable.

15. Places where traces are detected shall be referred to using number of a forest block. Where there are numerous traces, places of detection (block number) can also be continued on the reverse of the report.

16. Areas should be verified starting with those, where detection of wolf traces is most likely, based on the previous experience.

17. It is advisable to follow closed inspection routes in the shape of a circle, triangle or rectangle, not necessarily coinciding with the limits of a forest block or a forest sector. Route should be 9 to 12 km long.

18. On the first day of inspection, where the place and situation is suitable, traces detected should be covered. On occasion of second inspection, only fresh traces should be marked.

19. If territory inspected reveals no wolf traces on the report date, a relevant comment should be included in the report survey.

20. Once completed, individuals in charge of reports shall, within 3 business days after second check, submit the surveys, maps, and pictures to forestry enterprises, and these shall deliver them to the Directorate General of State Forests within 10 business days.

21. The Directorate General of State Forests, along with representatives of authorities carrying out the reports, shall deliver the report data to the State Forest Survey Service for an overview.

STUDIES DEDICATED TO WOLVES 1958 TO 2010

| | |
|-------------|--|
| Before 1970 | Studies of biology, feedings, abundance, and prevalence of wolves Prūsaitė, J. 1961a. Lietuvos vilkų morfologinė charakteristika ir jų paplitimas. Lietuvos TSR Mokslų Akademijos darbai, serija C, 1(24): 161–176; Prūsaitė, J. 1961b. Lietuvos vilkų mityba ir veisimasis. Lietuvos TSR Mokslų Akademijos darbai, serija C, 1(24): 177–191. |
| 1988 | Overview of biology and ecology of wolves Prūsaitė, J. (red.). 1988. Lietuvos fauna. Žinduoliai. Vilnius: 215–218. |
| 1999 | Assessment of status of wolf population based of information contained in reports carried out by hunters and forestry professionals Bluzma, P. 1999. Estimation of the state of lynx and wolf populations in Lithuania. <i>Acta Zoologica Lithuanica</i> 9 (1): 34–41. |
| 1999 | Overview of prevalence of wolves Balčiauskas L., Trakimas G., Juškaitis R., Ulevičius A., Balčiauskienė L. 1999. Lietuvos žinduolių, varliagyvių ir roplių atlasas. Antras papildytas leidimas. [Atlas of Lithuanian mammals, amphibians and reptiles. 2 nd ed]. Vilnius. 120 p. |
| 1999 | Early monitoring studies of wolves Bluzma, P. 2000. Large predatory mammals in Lithuania: abundance dynamics, distribution, population density. Proceedings of the fourth Baltic theriological conference. Tallinn: 35–41; Bluzma, P., Baleišis, R. 2001. Monitoring of the large carnivores in Lithuania: experience and first results. Proceedings of BLCI symposium “Human dimensions of large carnivores in Baltic countries”: 55–62. |
| 1998–2011 | Assessment of damage caused by wolves Project of “Large carnivores in northern landscapes: an interdisciplinary approach to their regional conservation” Andersone Ž., Balčiauskas L., Valdmann H. 2001. Human-Wolf Conflicts in the East Baltic – Past, Present, and Future. In: <i>Wildlife, Land and People: Priorities for the 21st Century</i> . Eds. R. Field, R.J. Warren, H. Okarma, P.R. Sievert: 196–199.; Balčiauskas L., Balčiauskienė L., Volodka, H. 2002. Preliminary assessment of damage caused by the wolf in Lithuania. <i>Acta zoologica Lituanica</i> , 12(4): 419–427.; Linnell J.D.C., Andersen R., Andersone Ž., Balčiauskas L., Blanco J.K., Boitani, L., Brainerd, S., Breitenmoser, U., Kojola, I., Liberg O., Loe J., Okarma H., Pedersen H.C., Promberger C., Sand H., Solberh E., Valdmann H., Wabaken P. 2002. The fear of wolves: A review of wolf attacks on humans. NINA Oppdragsmelding 731, NINA NIKU Stiftelsen for naturforskning og kulturminneforskning: 65 p. Balčiauskas L., Volodka H. 2005. Wolf damage in Lithuania meets EU requirements on carnivore protection. Abstracts of the Plenary, Symposium, Poster and Oral papers presented at IMC 9 IX International Mamological Congres: 230.; Balčiauskas, L., Balčiauskienė, L. 2006. Wolf damage to livestock breeders and humans – historical overview of Lithuania. Presentation in: FRAP conference “Management of Conflicts between wildlife and human resource use”, Leipzig, Germany, 2006 01 25–27.; R. Špinkytė-Bačkaitienė, K. Pételis. 2011. Wolf Depredation on Livestock in Lithuania in 2009 and 2010. The Fifth International Scientific conference "Rural Development |

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| | 2011": proceedings. Vol. 5, b. 2, p. 149-155. |
| 2000–2005 | Assessment of prevalence of wolves (survey of forest rangers). Project on “Large carnivores in northern landscapes: an interdisciplinary approach to their regional conservation” |
| 2002 | Drafting of wolf population management plan Balčiauskas L., Stončius D. 2001. Vilkų populiacijos valdymo plano metmenų paruošimas. Projekto “Approximation of Lithuanian capacity, policies and procedures on Nature Protection to EU requirements, with particular focus on implementation of the EEC Habitats Directive (92/43) and the EEC Birds Directive (79/409)” ataskaita. Vilnius: 1–55 p.; Balčiauskas L. 2002. Possibilities of the development of the wolf population management plan for Lithuania. <i>Acta zoologica Lituania</i> , 12(4): 410–418. |
| 2003–2004, 2008 | Wolf population monitoring Website of the Environmental Protection Agency: 28/04/2009, http://gamta.lt/cms/index?rubricId=a5e7580d-29bc-45c5-b3a4-111afe0ca8cf . |
| 2004 | Partial report of wolves Bukelskis, E., Pėtelis, K., Tijušas, E. 2004. Elninių žvėrių, vilkų ir lūšių apskaitos rezultatai. <i>Medžiotojas ir medžioklė</i> , 3: 32–33. |
| 2001–2010 | Studies of public opinion on large carnivores Project of “Large carnivores in northern landscapes: an interdisciplinary approach to their regional conservation” Balčiauskas, L. 2001. Human dimensions of the large carnivores in Lithuania – general overview of the survey results from 1999-2001. In: Proceedings of BLCI symposium “Human dimensions of large carnivores in Baltic countries”: 7–27. Šiauliai University; Balčiauskas L., Volodka H. 2001. Some aspects of human dimensions of large carnivores in North-west Lithuania. In: Proceedings of BLCI symposium “Human dimensions of large carnivores in Baltic countries”: 92–102.; Balčiauskienė L., Balčiauskas L. 2001. Threat perception of large carnivores: are there sexual differences? In: proceedings of BLCI symposium “Human dimensions of large carnivores in Baltic countries”: 64–76.; Balčiauskas, L., Randveer, T., Volodka, H. 2005. Influence of place of residence and possible property loss on large carnivore acceptance in Estonia and Lithuania. <i>Acta Biol. Univ. Daugavpil.</i> , 5(1): 47-53.; Balčiauskas, L., Kazlauskas, M., Randveer, T. 2010. Lynx Acceptance in Poland, Lithuania, and Estonia <i>Estonian Journal of Ecology</i> 59, 1, 52–61.; Kazlauskas, M. 2010. Visuomenės nuomonė apie Lietuvos stambiuosius žinduolius, jų populiacijų valdymą ir apsaugą. Daktaro disertacijos santrauka. Vilnius. |
| 2001–2013 | Scientific address of issues of protection of wolves Kull T., Pencheva V., Petrovič F., Eliaš P., Hemle K., Balčiauskas L., Kopacz M., Zajickova Z., Stoianovic V. 2004. Agricultural landscapes. In: “Conflicts between human activities and the conservation of biodiversity in agricultural landscapes, grasslands, forests, wetlands and uplands in the Acceding and Candidate Countries (ACC).” A report of the BIOFORUM project, March 2004. Eds. Young J., Halada L., Kull T., Kuzniar A., Tartes U., Uzunov Y. and Watt A.: 10–20.; Balčiauskas L. 2005. Large carnivores in Lithuania: Changing habitats, population numbers and public acceptance. Abstracts of the Plenary, Symposium, Poster and Oral papers presented at IMC 9 IX International Mamological Congress: 229.; Balčiauskas, L., Randveer, T., Volodka, H. 2005. Some aspects of large carnivore acceptance in the Baltic countries: comparisons between Estonia and Lithuania. 3 rd International conference ‘Research and conservation of biological diversity in Baltic region’, |

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- book of abstracts: 26–27. Daugavpils.; Balčiauskas, L., Randveer, T., Volodka, H. 2005. Influence of place of residence and possible property loss on large carnivore acceptance in Estonia and Lithuania. *Acta biologica universitatis Daugavpiliensis* 5(1): 47–53.; Kavaliauskaitė K., Balčiauskas L., Volodka H. 2005. Environmental position of Lithuanian hunters. *Acta Zoologica Lituanica* 15(3): 271–275.; Balčiauskas L., Volodka H., Kazlauskas M. 2007. Wolf conservation and acceptance: comparison of South East Lithuania and North East Poland. *Acta biologica universitatis Daugavpiliensis Supplement 1*: 20–27.; Balčiauskas, L. 2008. Human-Wolf Coexistence in the Baltic. In: POTTS, R. G. & HECKER, K. (eds.): *Proceedings of the International Symposium “Coexistence of Large Carnivores and Humans: Threat or Benefit?”* Belgrade: 68–72.; Špinkytė-Bačkaitienė, R., Pėtelis, K. 2009. Vilkų populiacijos būklė pagal 2005–2009 metų sumedžiojimą. *Žmogaus ir gamtos sauga 2009. Tarptautinės mokslinės – praktinės konferencijos medžiaga*. 3 –oji dalis: 57–59.; Špinkytė-Bačkaitienė, R., Pėtelis K. 2012. Diet Composition of Wolves (*Canis lupus* L.) in Lithuania. *Acta Biol. Univ. Daugavp.*, 12 (1): 100–105.; Balčiauskas, L., Kawata, Y. 2009. Estimation of carrying capacity and growth rate of wolf in Lithuania. *Acta Zoologica Lituanica*, 19 (2): 79–84.; Špinkytė-Bačkaitienė, R., Pėtelis K. 2013. Possibilities of the improvement of the annual wolf number assessment in Lithuania. *Acta Biol. Univ. Daugavp.*, 13 (1): 127–132.; R. Špinkytė-Bačkaitienė, K. Pėtelis. 2013. The Quality of Wolf Population in Lithuania According to Hunting in 2005-2013. *The Sixth International Scientific conference "Rural Development 2013: Innovations and Sustainability"*: proceedings. Vol. 6, b. 3, p. 481–485;
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- 2009–2010 Genetic studies of wolves
 “Vilkų populiacijos genetinių tyrimų ir apskaitos atlikimas”, GTC report
 Špinkytė-Bačkaitienė R., Pėtelis K. 2009. Ar Lietuvoje gyvena vilkų ir šuns hibridai. *Medžiotojas ir medžioklė* 5 (141): 35–36.
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- 2006, 2007, 2008, 2010, 2011 Global report of wolves (carried out, under coordination of GTC, by forestry professionals throughout forestry districts)
 Balčiauskas, L. 2006. Large carnivore numbers and distribution in Lithuania: conflict between protection requirements and admissibility. Presentation in: FRAP conference “Management of Conflicts between wildlife and human resource use”, Leipzig, Germany, 2006 01 25–27.; Balčiauskas, L., Balčiauskienė, L. Volodka, H. 2006. If wolf is disappearing – what do people say? Presentation in: FRAP conference “Management of Conflicts between wildlife and human resource use”, Leipzig, Germany, 2006 01 25–27.; Balčiauskas L. 2008. Wolf numbers and distribution in Lithuania and problems of species conservation. *Annales Zoologici Fennici* (45): 329–334.; Balčiauskas L., Kazlauskas M. 2008. Wolf numbers and public acceptance in different regions of Lithuania. *Acta Biol. Univ. Daugavp.*, 8(1): 95–100.; Špinkytė-Bačkaitienė, R., Pėtelis, K. 2009. Vilkų populiacijos būklė pagal 2005–2009 metų sumedžiojimą. *Žmogaus ir gamtos sauga 2009. Tarptautinės mokslinės – praktinės konferencijos medžiaga*: 57 – 59.
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PLAN ON IMPLEMENTATION OF MEASURES INCLUDED IN THE WOLF (*CANIS LUPUS*) PROTECTION PLAN

| Measure | Actions | Reasoning | Responsible / implementing authority, timeframes |
|---|--|---|--|
| 1. Management of abundance of wolf population | Regulation of wolf hunting (territories excluded from wolf hunting, duration of hunting season, methods of hunting, and setting of annual limit for wolf hunting) | Regulation of wolf population abundance and limited wolf hunting are necessary to ensure demographic and genetic viability of the population, provide for conditions for existence of wolf families of organised social structure and natural behaviour | Ministry of Environment. Regularly. |
| 2. Combatting poaching | Management of wild life use, identification and publication of potential poaching cases | Combatting and publication of potential poaching cases provides an efficient tool to ensure the public takes negative view on illegal hunting | State Environmental Protection Agency, regional environmental protection departments. Regularly. |
| 3. Prevention of disturbance | Restriction of traffic and development of forest roads in forest territories depending on the status and purpose of a territory and the needs of both local residents and economic activities (forestry) | Disturbance caused by humans has a negative impact on the quality of wolf habitats. Wolves are most sensitive to disturbance in the period of heat, when giving birth, and during cub rearing | Forestry districts, state enterprises, municipality administrations. Regularly. |
| 4. Spots where wild beasts cross roads that fragment their habitats | Drafting of guidelines concerning construction of points for crossing of animals (green bridges) when building or reconstructing main highways throughout Lithuania | Network of highly congested roads with fences from wild animals has a negative impact on the choice of habitat of wolves and other species, their communication between habitats, and movement of sub-populations and wild animals | Ministry of Environment. By 31/12/2019. |
| 5. Protection of livestock and prevention of damage | 1. Preparation and distribution of information addressed to farmers (including leaflets, booklets, special directory), dedicated to the practises of raising livestock and application of protection measures. | Most efficient measure to deal with damage caused to farmers is application of special practise of livestock farming and reliance on protection measures. Prevention of damage would encourage a more favourable public | 1. Ministry of Environment, Ministry of Agriculture, non-governmental organisations. Regularly. |

| Measure | Actions | Reasoning | Responsible / implementing authority, timeframes |
|---|--|--|--|
| | 2. Drafting of methodology on financial aid when acquiring and implementing protection measures. | opinion on the wolves | 2. Ministry of Environment, together with the Ministry of Agriculture. By 01/06/2015. |
| 6. Compensation of damage | <p>1. Revision of methodology for assessment of damage caused by hunted wild animals to agricultural crops, livestock, and forest, approved by a joint order dated 1 October 2013 No D1-723/3D-669 of the Minister of Environment and the Minister of Agriculture of the Republic of Lithuania concerning amendment of the a joint order dated 23 September 2002 No 486/359 of the Minister of Environment and the Minister of Agriculture of the Republic of Lithuania concerning approval of methodology for assessment of damage caused by hunted wild animals to agricultural crops and forest.</p> <p>2. Drafting of methodology for identification of a perpetrator of damage caused to livestock (including wolf, dog, other predators), as well as training.</p> | Damage caused to farmers by the predators living in the wild leads to negative view on the wolf and undermines ideas to protect the predator. Compensation of damage should be connected to encouragement of application of protection and prevention measures, as well as financial support | <p>1. Ministry of Environment, together with the Ministry of Agriculture. By 01/06/2015.</p> <p>2. Ministry of Environment, together with the Ministry of Agriculture and non-governmental organisations. By 31/12/2015.</p> |
| 7. Exceptionally, wolf hunting | Revision of procedure for utilisation of protected species, approved by the order dated 15 July 2010 No D1-622 of the Minister of Environment concerning approval of procedure for utilisation of protected species | Hunting of wolves that cause problems (both exceptional, i.e. outside the hunting season, and immediate) would lead to more efficient solution to remedy damage caused by wolves | Ministry of Environment. By 15/10/2014. |
| 8. Monitoring of wolf population status | <p>1. Arrangement of report of wolf population in the State forests and reserves.</p> <p>2. Arrangement of report of wolf population in every forest, regardless title.</p> <p>3. Revision of documents concerning implementation of the State environmental monitoring programme, to ensure report of wolf population would be included</p> | Any management and protection decisions should be based on precise, objective and relevant information on the status, abundance, prevalence, and trends of dynamics of wolf population | <p>1. Directorate General of State Forests and the State Forest Survey Service. Yearly.</p> <p>2. Directorate General of State Forests and the State Forest Survey Service.</p> |

| Measure | Actions | Reasoning | Responsible / implementing authority, timeframes |
|--|---|---|---|
| | <p>in the State environmental monitoring programme.</p> <p>4. Drafting and implementation of a new methodology seeking to ensure a greater precision and reliability when reporting wolf population, assessment of number of wolf families and lesser dependence on the weather conditions in winter and spring.</p> | | <p>Every 5 years.</p> <p>3. Environmental protection agency. Based on the monitoring plan.</p> <p>4. Ministry of Environment, scientific institutions, together with non-governmental organisations in the field of environmental protection.</p> <p>By 31/12/2016.</p> |
| 9. Monitoring of habitat quality | Development of a system for monitoring of quality of habitats and respective change through the State environmental monitoring programme | Preservation of wolves requires existence of their habitats, therefore habitat quality must be assessed regularly | Scientific institutions and non-governmental organisations. Regularly. |
| 10. Monitoring of public opinion | Public survey | Considerable part of management and protection measures seek to improve acceptability of wolves with the public, consequently any assessment of efficiency of measures in place must include regular and reliable assessment of changes in public opinion | Scientific institutions and non-governmental organisations. Every 3 to 5 years, starting with 2015. |
| 11. Collection and publishing of statistics on wolves, both killed and hunted down | <p>1. Centralised collection and submission for analysis, as well as publication of information on wolves hunted down (including date, place, hunting method, gender, approximate age, external characteristics and weight).</p> <p>2. Collection and submission for analysis and publication of data on wolves killed for other reasons caused by human activity (killing of wolves on roads, poaching).</p> | Collection of information on wolves hunted down and killed is required in order to assess the status of the wolf population | Ministry of Environment. Regularly. |
| 12. Collection of | Collection of information on damage and | Key reason for intolerance of wolves, as | Ministry of Environment, |

| Measure | Actions | Reasoning | Responsible / implementing authority, timeframes |
|--|--|---|--|
| damage statistics | compensations paid out | proclaimed in Lithuania, is damage caused to livestock. Incomplete information on the scale and distribution of damage leads to negative image of the wolf and makes choice of adequate protection measures more difficult | Ministry of Agriculture, municipal administrations. By 31/12/2014. |
| 13. Research | <ol style="list-style-type: none"> 1. Studies dedicated to family size, territories they take up and use. 2. Studies dedicated to the population structure. 3. Study dedicated to factors affecting habitat quality and studies of adequate habitats. 4. Handing over of bodies and samples of animals hunted down for research purposes. | An important share of information on wolves in Lithuania is outdated and no longer true. Scientific basis for wolf population management in Lithuania requires revision of certain data and performance of additional studies | <ol style="list-style-type: none"> 1-3 scientific institutions, non-governmental organisations. Regularly. 4. Users of hunting grounds. Regularly. |
| 14. Public information on status of wolf population and its protection | Development of system for information and data on the wolves and protection of their population (including abundance of wolves, prevalence of population and trends of changes, habitats and their quality, outcome of public surveys, statistics of damage caused by wolves, measures for damage prevention and compensation, hunting and wolves killed for other reasons, protection solutions adopted and implemented), development of a publication system | Objective and reliable information on the population and its protection is important to secure transparent management and protection, education of the public by including the public into issues relevant to the environmental protection, thus ensuring greater tolerance of wolves | Ministry of Environment, non-governmental organisations. Regularly. |
| 15. Educational programmes targeting specific interest groups | <ol style="list-style-type: none"> 1. Revision and supplementing of materials for hunter training by making available complete information on the effect of wolf on agriculture and forestry, populations of animals exposed to hunting, effect of hunting on wolf population, family structure, etc. 2. Education of farmers concerning practises of innovative farming in areas inhabited by wolves, | Education is an important measure to ensure adequate public view on the wolf and affecting long-term viability of wolf population | <ol style="list-style-type: none"> 1. Ministry of Environment 2 and 3 scientific institutions, non-governmental organisations. Regularly. |

| Measure | Actions | Reasoning | Responsible / implementing authority, timeframes |
|--------------------------------------|--|---|---|
| | measures of protection of wolves, available compensation of damage, wolf and its role. 3. Public information on wolf as species and its protection | | |
| 16. Inter-institutional coordination | Coordination of gathering and analysis of information required for protection of wolf population, decision taking and inter-institutional cooperation | Implementation of various measures included in the plan (such as registration and compensation of damage, performance of reports and studies, monitoring of population status, poaching control, etc.) depends on a number of institutions, therefore their actions must be coordinated to ensure the measures included in the Plan are efficient | Ministry of Environment, Ministry of Agriculture, Association of Local Authorities in Lithuania. Regularly. |
| 17. International cooperation | 1. Translation of the plan into English and making it available to countries protecting and using population of the Baltic wolf (including Latvia, Estonia, Belarus, and Poland). 2. Steps to initiate establishment of an international working group dedicated to coordination of wolf protection measures. | In accordance with the Berne Convention and the guidelines on drafting of plans for management of large predators, regulation of the wolf population should be carried out in coordination with the neighbouring countries | 1. Ministry of Environment. By 01/06/2015. 2. Ministry of Environment. By 31/12/2015. |

(Form of a survey of wolf population report based on traces)

(forestry enterprise and forestry district)

SURVEY OF WOLF POPULATION REPORT BASED ON TRACES

Weather conditions (please complete and/or underline as necessary)

....., air temperature: °C. Snow thickness: cm.
(report date)

Last time of snow: (date) / before hours / snowing at the time of reporting.

Wolf traces detected and recognised

| No | Number of individuals | Block No | Freshness (fresh/old) | Quality (clear/ blurred/ doubtful) | Comments |
|-----------|------------------------------|-----------------|------------------------------|---|-----------------|
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Comments and observations:

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.....
.....

Report completed by

(Position) (signature) (Full name)

Note. Where more space is necessary, please complete the reverse side.