5th NATIONAL REPORT

TO THE

CONVENTION ON BIOLOGICAL DIVERSITY

LITHUANIA

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Abbreviations

Birds Directive – The Directive 2009/147EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

CBD - Convention on Biological Diversity

EAFRD – European Agricultural Fund for Rural Development

EFF – European Fisheries Fund

EIA – Environmental Impact Assessment

EPA – the Environmental Protection Agency

ERDF – European Regional Development Fund

ESF – European Social Fund

ESI – the European structural and investment funds

EU – European Union

EU LIFE – The LIFE programme is the EU's funding instrument for the environment and climate action

FAO – Food and Agriculture Organization of the United Nations

Habitats Directive – The Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

HELCOM – the Convention on the Protection of the Marine Environment of the Baltic Sea

NAP – Nitrates Action Programme

Natura 2000 – Europe-wide network of habitats and bird sites

NBCSAP – National Biodiversity Conservation Strategy and Action Plan of the Republic of Lithuania

NFI – and National Forest Inventory

PAF – Prioritised Action Framework

RBMP – River Basin Management Plans

SAC –Special Ares of Conservation under the Habitats Directive

SCI –proposed as Sites of Community Importance under the Habitats Directive

SFI – Standwise Forest Inventory

SIA – Strategic Impact Assessment

SPA – Special Protection Areas under the Birds Directive

UWWTD – Urban Waste Water Treatment Directive

EXECUTIVE SUMMARY

Lithuania belongs to Boreal biogeographical region. Lithuania is home to about 20,500 fauna, 1,800 flora and 6,100 fungi species, of which 771 species are entered in the List of list of protected fauna, flora and fungi species of the Republic of Lithuania and 53 plant communities are included in the List of Plant Communities of the Red Data Book. Lithuania and its territory in the sea have 54 natural habitat types of Community importance and 101 flora and fauna species of Community interest.

There are 1,52 million hectares of high nature value areas, including protected areas, natural grasslands, protected areas, various types of wetlands in Lithuania. That comprises ~23 % of the whole territory.

The Lithuanian **coastal area** has a unique and vulnerable landscape and important elements of the nature frame as it is crossed by watersheds of international and national importance and migration routes. This area is rich in natural and cultural resources and is among the most attractive ones for recreation. Lithuania has a short (90.6 km long) coastline of the Baltic Sea. The state of the seacoast is directly dependent on the interaction of natural and anthropogenic factors. Climate change is having a great effect on the Baltic Sea coast.

The backbone of **green infrastructure** in Lithuania is the national legislation on ecological network (nature carcass), which requires to incorporate protected areas and other ecologically and biologically valuable areas into spatial planning processes with the aim to protect biodiversity, landscape and natural recreational resources, to make interlinkages among the most ecologically valuable habitats, to form migration corridors, to enhance areas of forests, to regulate development of urbanization and agriculture.

Lithuanian **forests** – a natural element of the Lithuanian landscape characterized by health, biodiversity, productivity and sustainability, providing timber, green energy, food products and opportunities for recreation of the urban and rural people, forming habitats for numerous flora and fauna species, preventing soil erosion, purifying air and absorbing carbon dioxide, protecting ground and surface waters, satisfying other ecological, economical, and social needs of society at national and global levels. Other forest products – mostly berries and mushrooms, provide additional income to people living in rural areas and are collected for personal use.

Since 2009 the forestland increased from 2,150,300 ha, covering 32.9% of the country's territory to 2177 000 ha covering 33,3% of the country's territory in 2014. Occupying 1,152,400 ha, coniferous stands prevail in Lithuania, covering 56.1% of the forest area. They are followed by softwood deciduous forests (827,500 ha, 40.3%). Hardwood deciduous forests occupy 75,800 ha (3.7%).

The total value added in the forest sector (including manufacture of furniture) reached LTL 4.9 billion in 2013 and was 10% higher than in 2012. Sectors share in the total national value added has increased from 4.4% (2012) to 4.5% (2013).

Assessment of **game** in the beginning of 2014 proved a continuous expand of elk's and red deer's herds. The population of elk increased by 16% to 11,000, during 2013-2014 hunting season.

Hunters counted 30,000 red deer, a 7% increase during a year. The accounts shows quite stable numbers of roe deer over the past six years. It ranges from 100 to 117 thousand.

The number of hunted animals gradually increases with the growing population of elk. 543 elks were hunted during 2013-2014 hunting season. A similar number of animals were hunted only about 2000. The number of hunted red deer increased by one fifth to 2467. The amount of harvested roe deer corresponds to the average of last ten hunting seasons – 16,800.

National **Forestry** Development Programme among other objectives aims at protection and enhancement of sustainability of forest ecosystems.

National legislation requires a forest management plan for each forest holding. Only limited activity is allowed without forest management plan. Requirements for forest management plan content and its preparation procedure oblige to take duly account of biodiversity features in the area when forest management measures are planned.

There are some restrictions for forest fellings related to protection of birds of prey. A distance from the nesting sites of different bird species where the final fellings are prohibited are set in the Rules of Forest Fellings.

In order to protect biodiversity of forests and prevent the reduction of forestland because of land-use changes, Lithuania has introduced specific forestry legislation. In cases of land-use change, all forest owners must plant new forest on their own land or pay compensation, used to plant and maintain new forests.

Comparing the **national network of protected areas** in 2009 and 2014 it increased from 968,100 ha or 14.8% of the total Lithuanian territory in 2009 to 1 026 100 ha or 15.7 % of the total Lithuanian territory in 2014.

Between 2011-2015 Lithuania carried out a national habitat inventory with a view to determine the exact localization of natural habitats and also to collect the necessary data needed for establishing favourable reference values and the relevant conservation objectives for each habitat type. Preliminary results of the exercise strongly suggest that the information on the present SCI's will have to be substantially reviewed as to reflect the current reality. Furthermore, it also points to the idea that the current SCI network might be incomplete for some habitat types and species.

Species conservation plans and management plans of protected areas continue being developed in Lithuania according to the requirements of the European legislation. At present, there are 82 management plans for Natura 2000 sites adopted, and 143 in preparation at different stages of development. Since the start of implementation of Natura 2000 network in Lithuania in 2004, Lithuanian public institutions implemented more than 400 individual nature management actions covering more than 14 thousand ha of natural habitats or habitats of the species. In addition, in 2013-2015 conservation measures for 23 protected species were implemented in 129 localities.

The main identified **difficulties for implementation of the required nature management activities** over the Natura 2000 network in Lithuania are the lack of financial resources for the funding of surveillance of species and habitats as well as for activities related to habitat restoration and maintenance. Conflicts between commercial agricultural or forestry activities and the particular management of the land for nature protection needs represent a serious limiting factor. This is especially where specific agricultural practices as pastures or forest conditions are no longer economically profitable. The grassland habitats in need of protection under Natura 2000 are the weakest links of the network in Lithuania.

The protected areas have some sites where the state is deteriorating due to the inadequate use, extensive farming (grazing, haymaking), natural successive processes in nature, spread of invasive species, non-regulated visiting and lack of an outdoor information system (people come to places where visiting is prohibited or restricted), absence of nature management operations etc.

Due to the lasting unavailability of possibilities for managing natural and cultural valuable sites and landscape complexes that see intensive flows of visitors, the state of some of them has become unsatisfactory. Moreover, after taking the public needs and the purposes of designating protected areas into consideration, these areas have to be adapted to visiting.

The existing methodologies, measures and equipment are not sufficient for the effective evaluation of the state of protected areas and the importance of their values, and for monitoring.

The main **threats and pressures to species and habitats** reported under Habitats Directive are natural biotic and abiotic processes (without catastrophes), agriculture, sylviculture, forestry, natural system modifications, pollution.

According to the reports of the Birds Directive (2013) the short-term trend of population of 115 breeding bird species is stable, for 50 species it is increasing, for 36 species it is decreasing, for 5 species it is fluctuating and for 8 unknown. For wintering species, the short-term trend of the population is stable for 9 species, fluctuating for 2 species, decreasing for 3 species and unknown for 2 species. The long-term trend of population of 104 breeding bird species is stable, for 52 species it is increasing, for 41 species it is decreasing, for 4 species it is fluctuating and for 13 unknown. For wintering species, the long-term trend of the population is stable for 2 species, fluctuating for 1 species, decreasing for 3 species and unknown for 10 species.

According to the latest report (2013) on the conservation status of habitats and species covered by the Habitats Directive, 18.5% of the habitats biogeographic assessments were favourable in 2013. Furthermore, 52% are considered to be unfavourable–inadequate and 24% are unfavourable – bad. As for the species, 26.5% of the assessments were favourable in 2013, 55% at unfavourable-inadequate and 10% unfavourable-bad status.

There still remains a great threat of losing the living environment of protected species, in particular their habitats, and factors favourable to these species are deteriorating in the habitats. The process of habitat loss has especially intensified due to changes in forestry and agricultural technologies, the disappearance or change of traditional land use forms in agriculture, the disturbance of the natural hydrological regime, the development of urban infrastructure, the urbanisation of shores of water bodies and the growth of tourism infrastructure. Passive protection of habitats of species (where species are protected against direct physical destruction by means of hunting, fishing, plucking, picking etc.) is insufficient as various species are not only lost through physical destruction but they also withdraw or are eliminated or are threatened by extinction in the face of the natural change of habitats and ecosystems where conditions develop that better meet the needs of species other than protected species (e.g. due to the disruption of the natural hydrological regime, an open wetland habitat is replaced by shrubbery that is inappropriate for the breeding of protected species).

The emergence of private ownership reduced the need for farming, especially in small areas. The survival of open habitats (grassland, wetland and sand) has come under a great threat as Lithuania is in the forest zone. Following the cessation of agricultural activities, open spaces grow over with forest quickly. To safeguard open grassland and wetland, immediate specific management measures need to be implemented.

Participation of farmers in biological diversity conservation schemes proposed by national rural development programme is considered as not sufficient. In 2007-2013 only 7.5 percent of whole farmland was covered by rural development measures designed for biodiversity conservation.

Farmland Bird index shows common decrease of wild birds population on farmland from 2000. Nevertheless, from 2006 until 2013 (in shorter period) Farmland Bird Index remained stable.

Biodiversity conservation is mainly funded via different EU funds and state budget, but also from European Economic Area financial instrument. Other significant sources of funding for environmental conservation are the Environmental Protection Support Programme, as well as budgets of municipalities and regions.

Payments for commercial **fishing** (EUR 150 thousand per year) are allocated to special account of Fisheries Development and Competition Programme and are administered by the Service of Fisheries under the Ministry of Agriculture. Revenues collected from the auctioning of fishing quotas for commercial fishing and for the right to use fishing areas for recreational fishing are used to finance fishery related measures, restore fish stocks etc. In 2015 research in inland water bodies proved that status of fish resources is good or even very good, the population of certain fish species increased. Licence fees on recreational fishing generated EUR 1.7 million in 2015 and revenues are allocated to Environment Protection Support Programme. The income of these fees is increasing (EUR 0.75 million in 2012; EUR 1.45 million in 2013; EUR 1.7 million in 2015).

Key challenges in the fishing sector are to reach environmentally sustainable and profitable fisheries, achieved by enhancing the competitiveness of fisheries businesses and reducing the impact of fisheries on the marine environment.

The national list of **invasive species** contains 39 species (plants and animals). The list is constantly reviewed and complemented by new invasive species. The Invasive Species Control Council which consists of representatives of public and scientific institutions has constative role on the invasive species issues. There are general recommendations for eradication of invasive species adopted.

Measures for control of invasive alien species have to be planned and undertaken in order to minimise their impact on species and habitats of Community interest. 7 invasive alien species are in focus of current project under implementation with assistance of EU structural funds: 2 mammal species (*Nyctereutes procyonoides, Mustela vison*), 1 fish species (*Perccottus glenii*), 1 crustacean species (*Orconectes limosus*) and 3 plant species (*Acer negundo, Heracleum sosnovskyi, Lupinus polyphyllus*). 660 ha occupied by plant invasive species were managed.

At present Lithuania has no accurate data on the number, spread, abundance, the speed and pathways of the spread of invasive species, and pathways of their entry into the territory of the Republic of Lithuania. Research on invasive species in Lithuania is very much dispersed, exclusively fundamental and rarely applicable in practice. A shortage of scientists and scientific knowledge is felt when assessing the impact of invasive species on biological diversity, ecosystems and human health. There are at least eight invasive species that require special measures to regulate their abundance. To take such actions, appropriate documentation needs to be prepared first, i.e. action plans for the regulation of invasive species (their entry and spread, prevention of entry, regulation of abundance and destruction).

Plant **genetic resources** and domesticated animals genetic resources are regulated separately in national legal acts in Lithuania. Two national institutions are coordinating and harmonizing the relevant technical activities with respect to genetic resources: Plant Gene Bank and National Farm

Animal Genetic Resources Coordinating Centre. There are several other institutes dealing with plant genetic resources conservation activities in the country.

The general principle is that plant genetic resources can be freely accessed for plant selection and other *bona fide* targets as scientific research, seed collecting, reproduction, exchange of plant genetic resources, for human needs (food, medicines). The plant genetic resources should be used in a way that genetic resources are not damaged or destroyed and biodiversity is conserved. Regulations on protected species and other relevant legal acts on biodiversity conservation should be followed.

At the moment there are about 4000 objects that are treated as plant genetic resources. The number is increasing every year.

Every year the Ministry of Environment allocates some funds for preservation of collections of plant genetic resources.

The existing equipment and tools for the restoration and conservation of plant genetic resources are depreciated, which may lead to problems with their functionality and effectiveness and with ensuring conditions appropriate for the storage of plant genetic resources in the future. Lithuania has no research on the establishment of the genetic identity of plant genetic resources as technological means need to be acquired for this purpose.

Long-term actions in the form of **environmental education** are constantly being carried out. Environmental education is one of the priority objectives of sustainable development listed in the National Sustainable Development Strategy. Provisions on the promotion of environmental education and environmental awareness among the public are enshrined in national legislation. Public authorities have a binding obligation to organise environmental education and adopt environmental education measures. Ways and means of education are set out in national legislation.

Lithuania has created a **system of tourist information centres** that is located in municipalities. Visitor centres have been established in national and regional parks and provide information to the public about protected areas, natural and cultural resources, travelling possibilities and more.

Environmental Protection Agency ensures continuous and complex **environmental monitoring,** evaluation, forecast of and information on environmental quality and nature resources use in accordance with State Programme on Environmental Monitoring in 2011-2017. The State Service for Protected Areas under the Ministry of Environment coordinates activities of protected areas administrations in protected areas, including in Natura 2000 sites. Essential element of Natura 2000 site management plan is a monitoring scheme.

Incomplete individual monitoring schemes exist for 173 sites. Incompleteness is mainly due to lack of monitoring elements for some of the species present on the site. 299 is the total number of Natura 2000 sites where species are among conservation objectives.

National monitoring methodologies exist for 62 species of Community interest. 101 is the total number of species of Community interest, which conservation status needs to be evaluated and monitoring methodologies created.

Diffuse source agricultural **pollution** can account for 45-80% of all the load of nitrogen pollution washed to waterbodies. In Lithuania, due to non-point source pollution 222 surface water bodies out of 1177 do not meet the criteria of good ecological status. This accounts for 19% of the total number of all water bodies.

In 2006–2011, high and good ecological status was determined for 79–89% of all examined water bodies in terms of total phosphorus. Based on the total nitrogen, approx. 82% of lakes and reservoirs that were examined during the period from 2004 to 2011 have met the requirements of high or good ecological status.

In January, 2015 **Action Plan on Conservation of Landscape and Biodiversity** for the period of 2015–2020 was adopted. This Plan mainly focuses on conservation of protected species and habitats, management of invasive species, sustainable use of fauna, flora and genetic resources, as well as on mapping and economic evaluation of ecosystems and their services, development of green infrastructure. The Action Plan sets a strategic goal to halt biodiversity loss and degradation of ecosystems and their services and, where possible, to restore them. Preliminary needs of financing biodiversity at national level are indicated in this Action Plan.

Several **horizontal strategies** and development programmes relating to the objectives of the EU biodiversity strategy as well as to Aichi targets were renewed or being renewed for the financial period of 2014-2020, including the most important: National Progress Programme (adopted in November, 2012), Rural Development Programme (adopted in February, 2015), Operational Programme of the Fisheries Sector for 2015-2020 (adopted in August, 2015), National Forestry Development Programme (adopted in May, 2012), National Renewable Energy Development Programme, National Transport Development Programme (adopted in December, 2014), National Climate Change Strategy (adopted in May, 2013), National Tourism Development Programme (adopted in March, 2014), Baltic Sea Environmental Protection Strategy (adopted in August, 2010) and etc. Considerations of biodiversity are also integrated in national legal acts with respect to planning of economic and others activities, for example, requirements for environmental impact assessment are renewed.

The National Sustainable Development Strategy promotes economic development that takes into consideration environmental and social development. Integration of environmental aspects into other policy areas ensures consistency of sectoral policies with biodiversity objectives, prevention from environmental pollution and other negative environmental impacts. This Strategy sets the following objectives in the area of biodiversity that have to be achieved by 2020: 1) to preserve biodiversity and to ensure its rational use; 2) to minimize the negative effect of agricultural activities on biodiversity; 3) to develop the network of protected areas and the natural frame, to incorporate them into the European ecological networks and to increase the coverage of protected areas in Lithuania to 14-18 % of the country's territory; 4) to increase the Lithuanian forest area by 3 %, to expand other areas of natural perennial vegetation and to reduce the inequality of forest layouts, paying special attention to the afforestation in the districts with the smallest forest cover; 5) to improve the biodiversity protection methods and research into biodiversity, impacts of economic activities and efficiency of the protected area regime.

The **National Environmental Protection Strategy** defines the country's environmental vision for 2050 and the priority directions and areas for policy implementation by 2030. The document provides as a strategic objective: „to attain a healthy, clean and safe environment in Lithuania that addresses the needs of society, environmental protection and the economy in a sustainable way".

Maintenance of ecosystem stability as well as conservation and sustainable use of biodiversity are among the main priority areas of the National Environmental Protection Strategy. Integration of the environmental protection policy in other sectors of the national economy (including transport, industry, energy, construction, agriculture, housing, tourism and healthcare) is the key principle of environmental policy implementation. An integrated approach is used to minimise any adverse environmental impacts and maximise eco-efficiency of these sectors by including environmental

measures into strategic documents for the development of these sectors. The Strategy stipulates the objective to halt the loss of biodiversity, the degradation of ecosystems and their services and, when possible, to restore them. The key directions implementing the policy are the following: 1) designation and provision of legal protection and maintenance of areas featuring the most valuable landscapes and major accumulations of biodiversity values; 2) conservation of protected flora and fauna species and habitats; 3) management of invasive alien flora and fauna species; 4) reduction of direct threats to biodiversity; 5) adaptation of landscape, ecosystems and biodiversity to climate change; 6) preservation of genetic resources of flora, fauna and microorganisms.

The Polluter Pays principle is a fundamental principle of environmental policy in Lithuania. This principle is included in many core environmental legal acts – the National Environmental Protection Strategy, the Law on Environmental Protection, the Law on Waste Management, the Law on Packaging and Packaging Waste Management, the Law on Drinking Water Supply and Waste Water Management and etc. The Polluter Pays principle has been implemented through the Law on Environmental Pollution Tax, the Law on State Natural Resource Tax, the Law on Hydrocarbons Resource Tax, the Law on Excise Duty, the Law on Financial Instruments for Climate Change Management and other governmental resolutions and ministerial orders.

According to the provisions of the Law on Environmental Protection, implementing the Polluter Pays principle, users of natural resources as well as persons pursuing economic activities must take all the necessary measures to prevent causing damage to the environment, human health and life, property and interests of other persons. Persons responsible for the damage done must restore the state of the environment, where possible, to the baseline condition as it was prior to the damage and compensate all the losses. The baseline condition is determined on the basis of the information available on the best state of the environment.

Environmental impact assessments of the proposed economic activity and the strategic environmental assessment are the key tools to prevent environmental deteriorations and ensure policy coherence.

The Law on Environmental Impact Assessment of the Proposed Economic Activity is the framework law establishing the environmental impact assessment system in Lithuania and through the Regulations on Strategic Assessment of the Effects of Plans and Programs on the Environment, which stipulate the process of strategic assessment of the effects of plans and programmes on the environment and the relationships between the participants in this process.

PART I: AN UPDATE ON BIODIVERSITY STATUS, TRENDS, AND THREATS AND IMPLICATIONS FOR HUMAN WELL-BEING

Brief Overview of Lithuanian Biodiversity

Lithuania is home to about 20,500 fauna, 1,800 flora and 6,100 fungi species, of which 771 species are entered in the List of list of protected fauna, flora and fungi species of the Republic of Lithuania. and 53 plant communities are included in the List of Plant Communities of the Red Data Book Lithuania and its territory in the sea have 54 natural habitat types of Community importance and 101 flora and fauna species of Community interest.

LAND FUND REPUBLIC OF LITHUANIA BY LAND-USE CATEGORIES

Land-use categories	**2003 01 01**		**2013 01 01**		**2014 01 01**	
	Area		***Area***		***Area***	
	1000 ha	**%**	**1000 ha**	**%**	**1000 ha**	**%**
Agricultural land	3 487,4	53,4	3 462,2	53,0	3 461,9	53,0
Forest land	2 008,5	30,8	2 128,9	32,6	2 130,2	32,6
Other wooded land (bushes)	80,1	1,2	92,2	1,4	99,4	1,5
Roads	131,0	2,0	131,7	2,0	131,4	2,0
Urban territory	189,2	2,9	181,8	2,8	182,0	2,8
Water	262,2	4,0	262,5	4,0	262,5	4,0
Swamps (bogs)	146,1	2,2	114,3	1,8	113,2	1,7
Other land	225,5	3,5	156,4	2,4	149,4	2,3
Total	**6 530,0**	**100,0**	**6 530,0**	**100,0**	**6 530,0**	**100,0**

Protected species

In the Red Data Book are included 771 species which are dvided into 5 categories.

Categories		0 (Ex)	1 (E)	2 (V)	3 (R)	4 (I)	5 (Rs)	In total
Animals								
1.	Mammals	3	2	3	7	5	4	24
2.	Birds	3	13	20	31	8	5	80
3.	Reptiles	–	2	–	–	–	–	2
4.	Amphibians	–	–	–	1	2	2	5
5.	Fish	3	1	–	1	4	–	9
6.	Molluscs	–	1	–	–	4	–	5
7.	Spiders	–	–	–	2		–	2
8.	Insects	9	4	14	63	33	–	123
9.	Crustaceans	1	–	2	–	1	–	4
10.	Leeches	–	–	–	–		1	1
In total		***19***	***23***	***39***	***109***	***53***	***12***	***255***
Plants								
1.	Club mosses	–	1	1	–	–	1	3

2.	Horsetails	–	–	–	1	–	–	1
3.	Ferns	–	5	–	1	2	–	8
4.	Conifers	1	–	–	–	–	–	1
5.	Flowering plants	12	51	63	67	19	9	221
6.	Red algae	–	1	–	–	–	–	1
7.	Brown algae	–	–	–	–	1	–	1
8.	Charophytes	–	2	1	4	3	–	10
9.	Mosses	1	19	19	26	28	–	93
In total		***14***	***79***	***84***	***99***	***53***	***10***	***339***
Fungi								
1.	Fungi	2	28	24	27	31	–	112
2.	Lichens	12	32	15	6	–	–	65
In total		***14***	***60***	***39***	***33***	***31***	***–***	***177***
In total		**47**	**162**	**162**	**241**	**137**	**22**	**771**

0(Ex) – Extict or possibly extinct.

1(E) – Endangered species on the verge of extinction yet can be saved only with the implementation of special conservation measures.

2(V) – Vulnerable species whose population figures and abundance is rapidly decreasing.

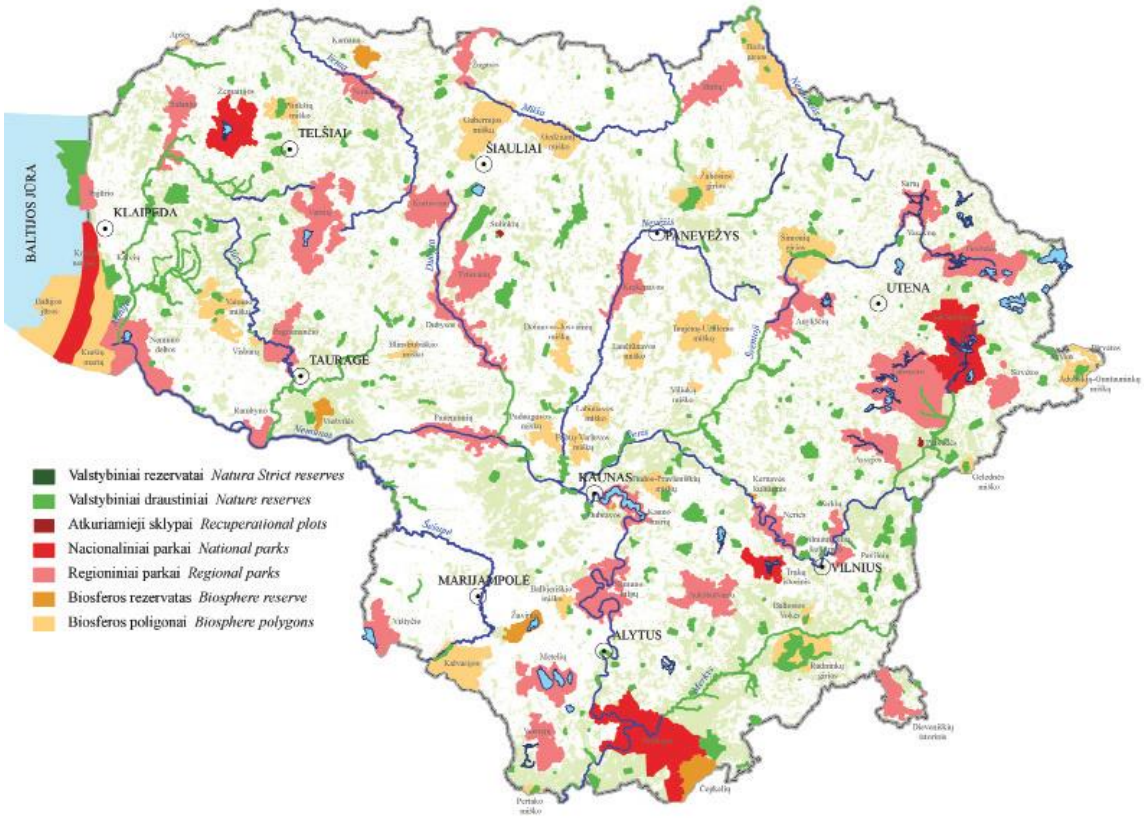
3(R) – Rare species with a small number of population due to their biological characteristics.

4(I) –Indeterminate species,which can not be included in the other categories due to a lack of data.

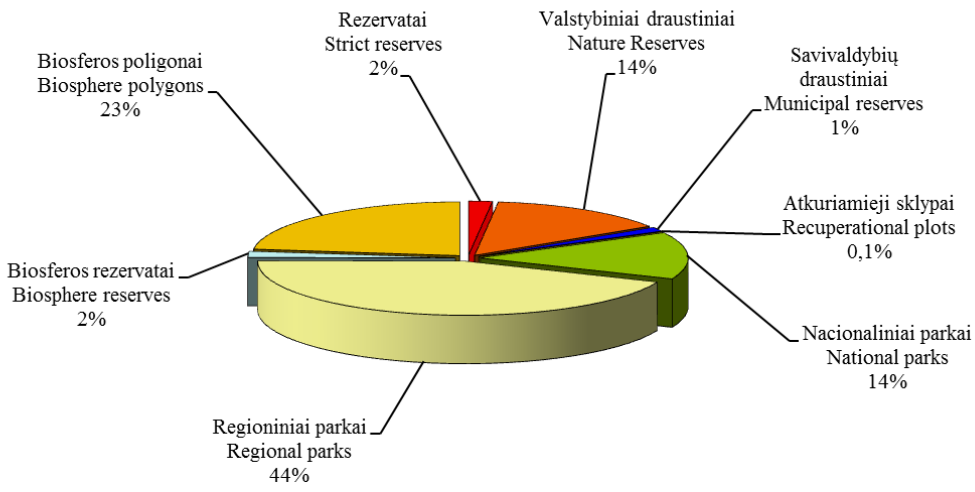
5(Rs) – Restored species once included in the Red List whose abundance has since been restored.

Protected areas

By 1st January 2014, the national network of protected areas covered 1,026,100 ha1 or 15.7% of the total Lithuanian territory. Protected areas slightly increased compared to 2013.



Proportion of protected areas by categories 01.01.2014



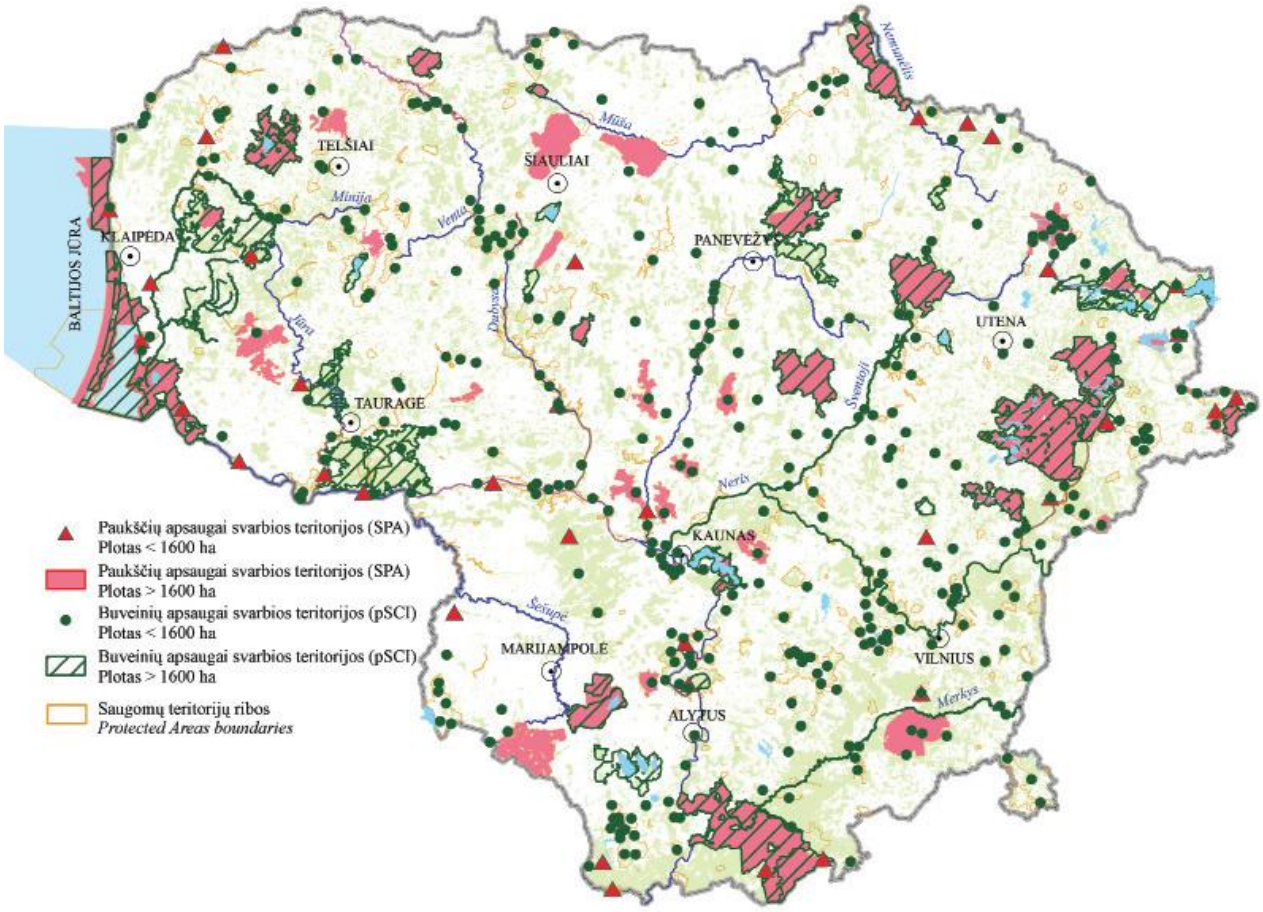
Šaltinis: Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos
Source: State Service for Protected Areas under the Ministry of Enviroment

The 1992 EU Habitats Directive and the 1979 Birds Directive are the cornerstone of the European legislation aimed at the conservation of the EU's wildlife. Natura 2000 is the key instrument to achieve and implement the Directives' objectives to ensure the long-term protection, conservation and survival of the most valuable and threatened species and habitats and the ecosystems they underpin.

The adequate designation of protected sites as Special Ares of Conservation (SAC) under the Habitats Directive and as Special Protection Areas (SPA) under the Birds Directive is a key milestone towards meeting the objectives of the Directives.

By early 2016, 12.16% of the national land area of Lithuania is covered by Natura 2000, with Birds Directive SPAs covering 8.47% and Habitats Directive SCIs covering 9.40%. The list of SPAs in Lithuania comprises 83 sites covering a total area of over 626 000 ha, while the list of SCIs consists of 410 sites covering 667 000 ha. The area of overlapping SPAs and SCIs is about 385 000 ha. With the establishment of the last marine SPA in July 2015 Lithuanian network of SPAs is being considered as completed.

NATURA 2000 areas



Forests

According to Standwise Forest Inventory (SFI) and National Forest Inventory (NFI) data up to the 1st January 2014, the total forest land area was 2,177,000 ha, covering 33.3% of the country's territory.

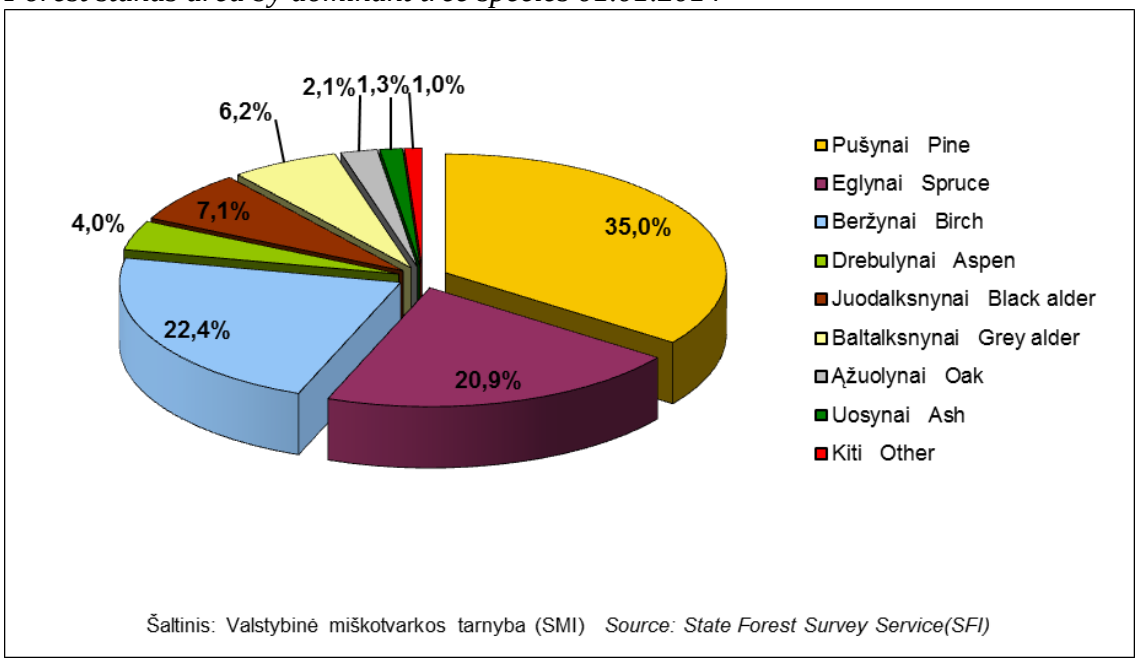
According to national law, Lithuanian forests attributed to 4 different management groups (the criterion of this differentiation is the main function of the forest). I group of strictly protected (with no management) forests covers 26 262 hectares (1,2 percent of all forest). Forest ecosystems develop here naturally and any economic activity is forbidden in these forests. II group of forests covers 266 521 hectares (12,3 percent) and serves for biodiversity conservation and recreation purposes. Age of final felling is substantially postponed here; other use of forests is strictly regulated. III group of other forests is mainly designated along waterbodies and in other forests with prevailing protective function. Economic activity here is less restricted, these forests cover 331 317 hectares (15,2 percent). IV group of forests or commercial forests are managed for economic purposes and constitutes 1 552 593 thousand hectares or 71,3 percent of the whole forest area.

Occupying 1,152,400 ha, coniferous stands prevail in Lithuania, covering 56.1% of the forest area. They are followed by softwood deciduous forests (827,500 ha, 40.3%). Hardwood deciduous forests occupy 75,800 ha (3.7%).

Scots pine occupies the biggest share in Lithuanian forests – 720,300 ha, Norway spruce stands covers 429,600 ha, with a reduction of 15,700 ha.

Birch stands covers the largest area among deciduous trees – 459,700 ha, alder – 146,700 ha, *aspen – 82,500 ha, oak stands – 42,500 ha, ash – 26,500 ha.*

Forest stands area by dominant tree species 01.01.2014



Šaltinis: Valstybinė miškotvarkos tarnyba (SMI) *Source: State Forest Survey Service(SFI)*

Coastal area and Baltic sea

The Lithuanian coastal area has a unique and vulnerable landscape and important elements of the nature frame as it is crossed by watersheds of international and national importance and migration routes. This area is rich in natural and cultural resources and is among the most attractive ones for recreation. Lithuania has a short (90.6 km long) coastline of the Baltic Sea. The state of the seacoast is directly dependent on the interaction of natural and anthropogenic factors. Climate change is having a great effect on the Baltic Sea coast. The Baltic Sea water level at Lithuania's coast rises about 6.5 mm a year. If it continues to rise, alarming changes of the coastline will occur at the end of the 21st century and the water will flood a part not only of the seacoast but also of the Curonian Lagoon coast. Recently, Lithuania has succeeded in containing the negative changes in the state of the coast, and in 2007–2012 the trends of coastline transgression and buildup of deposits were observed instead of the previous regression and deposit reduction. These positive changes have been achieved as a result of the development of a legal and programme seacoast management basis and the implementation of integrated coast maintenance measures. To avoid negative trends in the coastal zone and assess the risk caused by climate change, coast management measures need to be implemented and the state of the Baltic Sea coast needs to be improved on a constant basis.

Q1: Why is biodiversity important for the country?

1.1. Forests

Lithuanian forests – a natural element of the Lithuanian landscape characterized by health, biodiversity, productivity and sustainability, providing timber, green energy, food products and opportunities for recreation of the urban and rural people, forming habitats for numerous flora and fauna species, preventing soil erosion, purifying air and absorbing carbon dioxide, protecting ground and surface waters, satisfying other ecological, economical, and social needs of society at national and global levels. Other forest products – mostly berries and mushrooms, provide additional income to people living in rural areas and are collected for personal use.

The total value added in the forest sector (including manufacture of furniture) reached LTL 4.9 billion in 2013 and was 10% higher than in 2012. Sectors share in the total national value added has increased from 4.4% (2012) to 4.5% (2013).

The revenues of state forest enterprises grew up by 8% to LTL 544 million in 2013. The income from the sold roundwood increased by 8% to LTL 485 million, comprising 89% of total income. Transportation services generated LTL 23 million of income, i.e. the same amount like in 2012.

By 1st January 2014 4 038 persons were employed in State Forest Enterprises, in the forestry sector: Forestry and logging – 11 182, Manufacture of wood and of products of wood and cork and other manufacture – 21 141, Manufacture of paper and paper products – 3 798, Manufacture of furniture –24 009

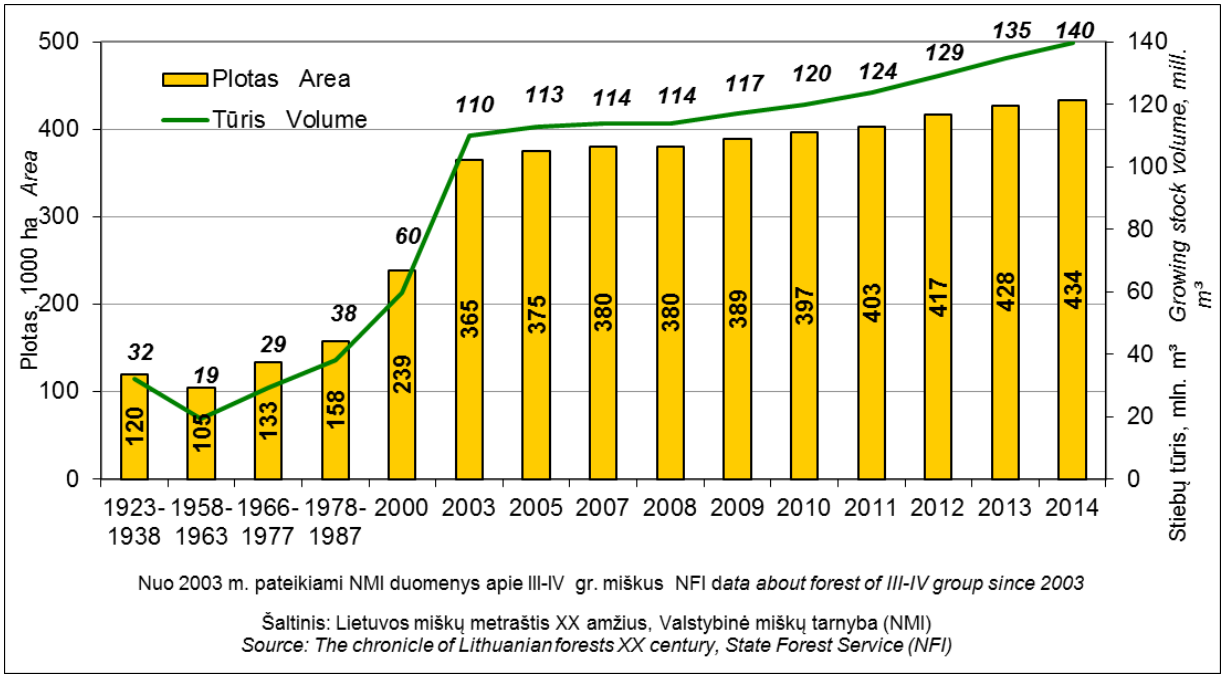
PERSONS EMPLOYED IN THE FOREST SECTOR, 2000–2013

Year	*Forestry and logging*	*Manufacture of wood and of products of wood and cork and other manufacture*	*Manufacture of paper and paper products*	*Manufacture of furniture*
2000	11 094	23 808	3 373	11 856
2001	10 456	25 457	3 214	12 938
2002	9 743	27 968	3 176	14 831
2003	9 598	28 892	2 812	18 639
2004	9 581	29 237	2 790	20 437
2005	9 871	30 533	2 753	22 984
2006	10 139	31 965	3 045	24 755
2007	10 072	31 045	3 422	24 431
2008	9 803	26 513	3 327	24 499
2009	8 556	20 944	2 779	19 378
2010	8 960	19 506	3 258	19 359
2011	10 295	20 591	3 284	21 376
2012	10 962	20 801	3 451	23 541
2013	11 182	21 141	3 798	24 009

SHARE OF FOREST SECTOR IN VALUE ADDED, 2000–2013

Year	*Gross domestic product (GDP) at current prices, mill. LTL*	*Value added, gross at current prices*							
		Forestry and logging		*Manufacture of wood, products of wood and cork and other manufacture*		*Manufacture of pulp, paper and paper products*		*Manufacture of furniture*	
		mill. LTL	*%*	*mill. LTL*	*%*	*mill. LTL*	*%*	*mill. LTL*	*%*
2000	45 674	240,3	0,59	517,0	1,27	136,4	0,33	326,1	326,1
2001	48 585	241,1	0,55	600,8	1,38	162,1	0,37	371,1	371,1
2002	51 971	256,4	0,55	706,5	1,52	162,2	0,35	460,2	460,2
2003	56 804	274,1	0,54	836,6	1,63	165,0	0,32	562,4	562,4
2004	62 698	296,0	0,52	979,4	1,72	201,1	0,35	793,3	793,3
2005	72 402	325,6	0,50	1 106,0	1,69	206,3	0,32	870,3	870,3
2006	83 227	360,4	0,48	1 175,7	1,57	206,3	0,28	1 090,0	1 090,0
2007	99 229	502,2	0,56	1 340,6	1,51	230,1	0,26	1 242,5	1 242,5
2008	111 920	495,6	0,49	1 189,7	1,18	274,8	0,27	1 447,0	1 447,0
2009	92 032	345,3	0,42	940,7	1,13	244,6	0,30	1 147,4	1 147,4
2010	95 676	479,7	0,56	1 089,7	1,27	357,2	0,42	1 291,2	1 291,2
2011	106 893	580,1	0,61	1 277,4	1,34	428,3	0,45	1 753,5	1 753,5
2012	113 735	616,1	0,60	1 286,8	1,26	443,7	0,43	2 044,8	2 044,8
2013	119 575	654,2	0,61	1 530,2	1,42	548,8	0,51	2 142,5	2 142,5

Area and volume of mature stands, 1923-2014



1.2. Hunting

Assessment of game in the beginning of 2014 proved a continuous expand of elk's and red deer's herds. The population of elk increased by 16% to 11,000, during 2013-2014 hunting season. Hunters counted 30,000 red deer, a 7% increase during a year. The accounts shows quite stable numbers of roe deer over the past six years. It ranges from 100 to 117 thousand.

The number hunted animals gradually increase with the growing population of elk. 543 elk were hunted during 2013-2014 hunting season. A similar number of animals were hunted only about 2000. The number of hunted red deer increased by one fifth to 2467. The amount of harvested roe deer corresponds to the average of last ten hunting seasons – 16,800.

1.3. Fisheries sector

Lithuania has relatively short coastline of 90 km. Its territorial waters and exclusive economic zone in the Baltic Sea amount to 7,000 sq. km, but Lithuania has significant inland waters covering 2,621 sq. km or 4% of the country's territory. There are 2,827 lakes with a surface greater than 0.5 ha (87,359 ha), 1,589 ponds (24,434 ha), and 731 rivers longer than 10 km (32,601 ha) including the largest rivers Nemunas and Neris.

The total value of the fisheries sector is less than 0.5% of the country's GDP. However, fisheries have a long tradition and play an important role in small communities in coastal areas. It employs 4,458 full-time equivalent (FTE) workers: 491 in fisheries, 431 in aquaculture, and 3,536 in processing. About 70% of the employees are women, who are traditionally occupied in the fish processing industry.

Marine fisheries represent about 97% of the total Lithuanian catch. Total capture fisheries catch in 2015 was 41,300 tonnes. The Baltic Sea marine fishery comprises five main commercial species, of which cod is the most important in value. Other species caught in the Baltic Sea include herring, sprat, turbot, and flounder. Catches of herring and flatfish have fluctuated substantially over the past years. All fish landed are used for human consumption. Inland fisheries account for about 2% of Lithuania's total catches, the Curonian Lagoon being the most significant inland fishing area.

The processing sector is the most important in terms of economic size and employment; it is competing successfully at international level. The processing sector is relatively large and export driven: its markets include both the EU and non-EU countries, while it relies on imported raw material. There are 42 fish processing companies distributed across almost all the counties. In 2014, 92,700 thousand tonnes were produced in total with value of production of almost €320 million.

In 2014, Lithuania exported fishery products with a value of around €625 million.

Key challenges in the fishing sector are to reach environmentally sustainable and profitable fisheries, achieved by enhancing the competitiveness of fisheries businesses and reducing the impact of fisheries on the marine environment.

Other sectors for which the biodiversity is important are tourism development, agriculture.

Q2: What major changes have taken place in the status and trends of biodiversity in your country?

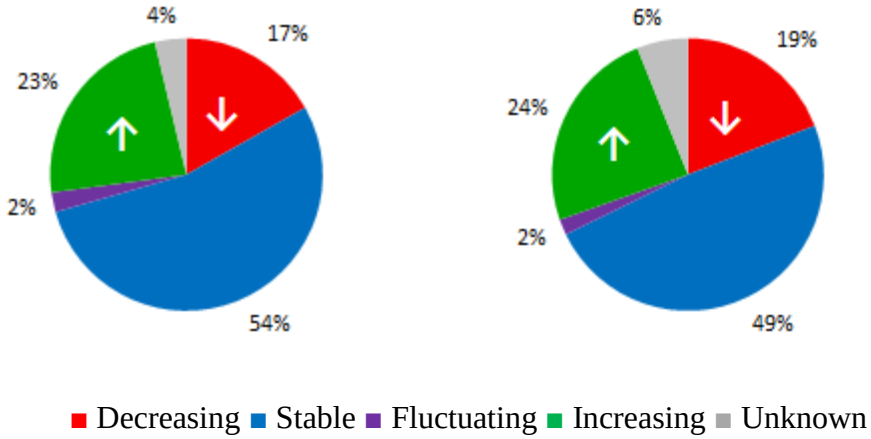
2.1. Status of birds according to Birds Directive

The first monitoring report of the European Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive) was completed at the end of 2013. According to the reports of the Birds Directive (2013) the short-term trend of population of 115 breeding bird species is stable, for 50 species it is increasing, for 36 species it is decreasing, for 5 species it is fluctuating and for 8 unknown. For wintering species, the short-term trend of the population is stable for 9 species, fluctuating for 2 species, decreasing for 3 species and unknown for 2 species.

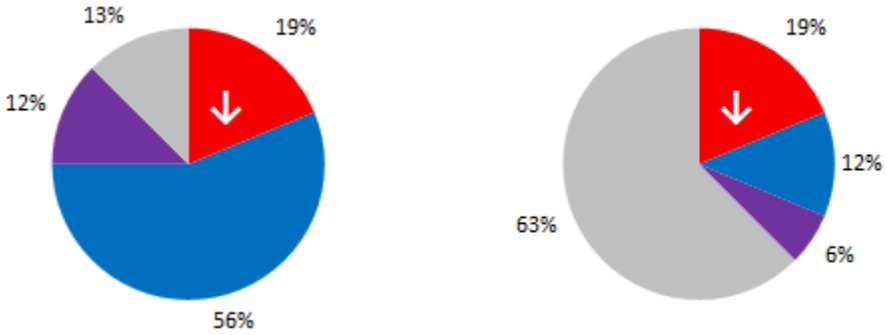
The long-term trend of population of 104 breeding bird species is stable, for 52 species it is increasing, for 41 species it is decreasing, for 4 species it is fluctuating and for 13 unknown. For wintering species, the long-term trend of the population is stable for 2 species, fluctuating for 1 species, decreasing for 3 species and unknown for 10 species.

Short-term population trend Long-term population trends

Breeding species



Wintering species



The table shows the numbers of taxa reported as having decreasing, stable, fluctuating, increasing or unknown population trends.

Population trend	**Breeding**		**Wintering bird species**	
	Short-term	Long-term	Short-term	Long-term
Decreasing	36	41	3	3
Stable	115	104	9	2
Fluctuating	5	4	2	1
Increasing	50	52		
Unknown	8	13	2	10

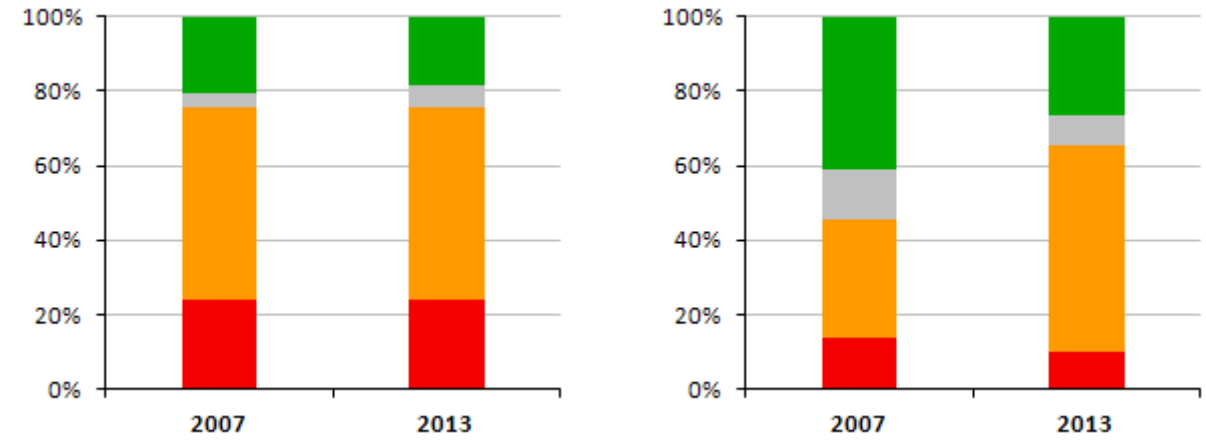
2.2. Status of species and habitats according to Habitat Directive

In 2013, the National Article 17 Report of the Habitat Directive was submitted to the European Commission by the Lithuania, including information on the conservation status and trends of Annex I habitat types and species of the annexes II, IV, and V during the 2007–2012 reporting period. All the report includes assessments for 98 species and for 54 habitat types.

The table below provides the total number and total area of sites proposed and designated under the Habitats Directive (Sites of Community Importance, SCIs & Special Areas of Conservation, SACs), terrestrial area of sites and number and area of marine sites (i.e. any site with a marine component).

	All		Terrestrial	Marine	
	No.	Area (km²)	Area (km²)	No.	Area (km²)
SCIs & SACs	406	8562.98	8416.41	2	146.57
SACs only	92	1521.07	1521.07	0	0
Date of database used: 20-11-2012					

According to the latest report (2013) on the conservation status of habitats and species covered by the Habitats Directive, 18.5% of the habitats biogeographic assessments were favourable in 2013 (EU 27: 16%). Furthermore, 52% are considered to be unfavourable–inadequate (EU27: 47%) and 24% are unfavourable – bad (EU27: 30%). As for the species, 26.5% of the assessments were favourable in 2013, 55% at unfavourable-inadequate (EU27: 42%) and 10% unfavourable-bad status (EU27: 18%). This is depicted in Figure below. The information on which these figures are based are presented in the table below the figures (real values).



Conservation status of habitats

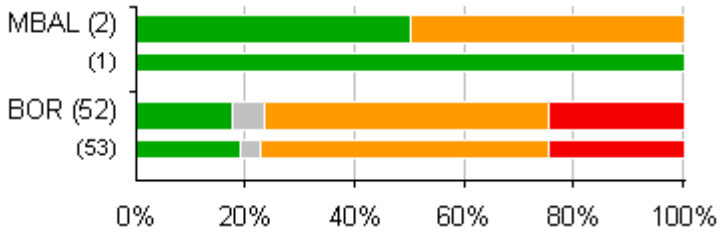
Conservation status of species

FV - Favourable XX - Unknown U1 - Unfavourable inadequate U2 - Unfavourable bad

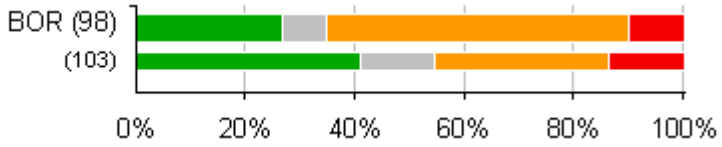
Year of assessment	HABITATS					SPECIES				
	FV	NA	XX	U1	U2	FV	NA	XX	U1	U2
2007	11		2	28	13	42		14	33	14
2013	**10**		**3**	**28**	**13**	**26**		**8**	**54**	**10**

Overall assessment of conservation status of habitats and species by biogeographical/marine region (%)

These figures show the percentage of assessments in each of conservation status category by biogeographical and marine region, for habitats and species, respectively.



Conservation status of habitats in biogeographical and marine regions



Conservation status of species in biogeographical and marine regions

■ FV - Favourable ■ XX - Unknown ■ U1 - Unfavourable inadequate ■ U2 - Unfavourable bad

MBAL – Marine Baltic, BOR – Boreal

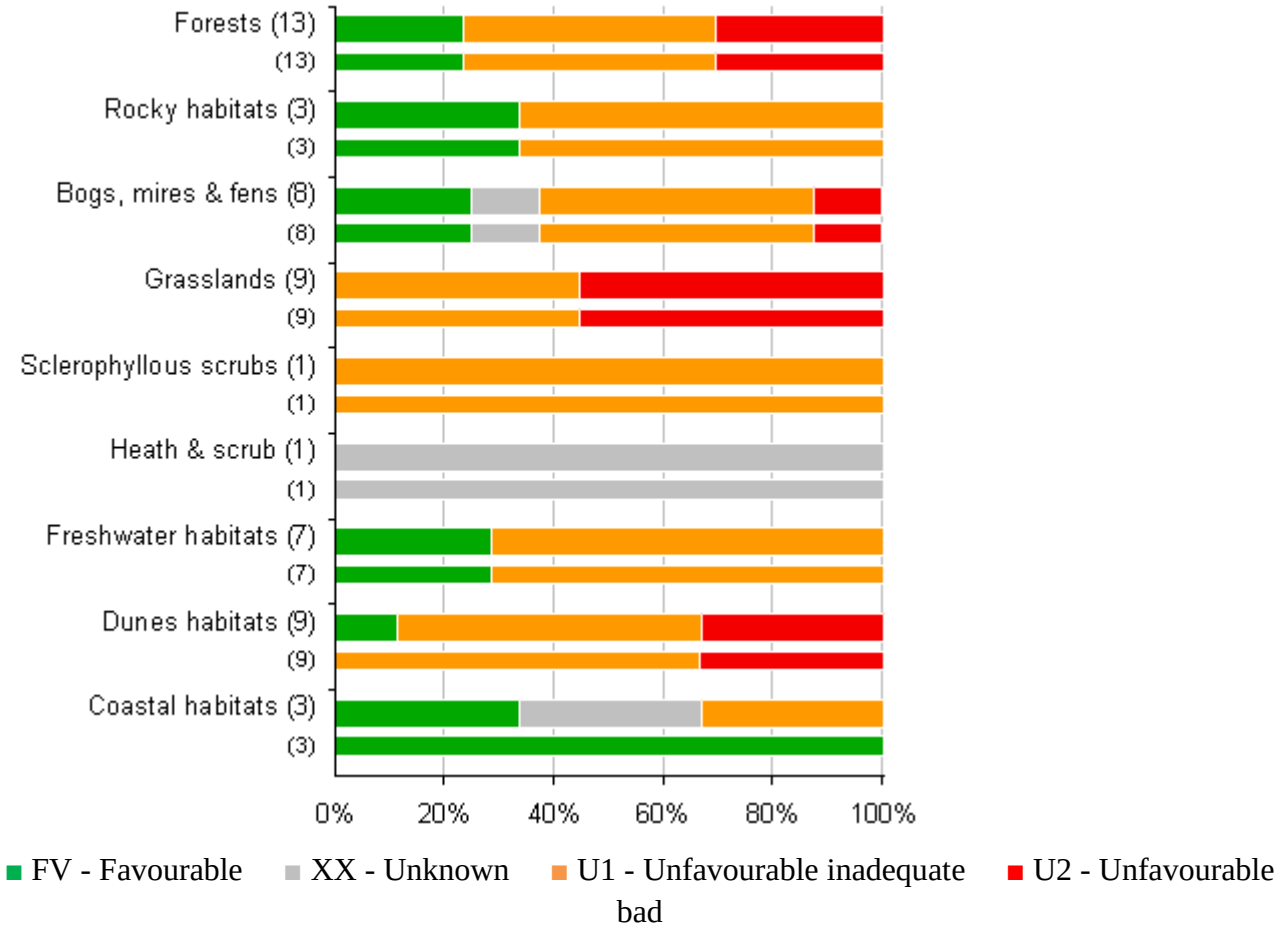
Note: wide bar corresponds to the 2007-2012 reporting period, and the narrow bar to the 2001-2006 reporting period. The number in brackets corresponds to the number of biogeographical assessments in the category

Overall assessment of conservation status by habitat category/species group (%)

These figures show the percentage of biogeographical and marine assessments in each conservation status category by habitat category and by taxonomic group, for habitats and species, respectively.

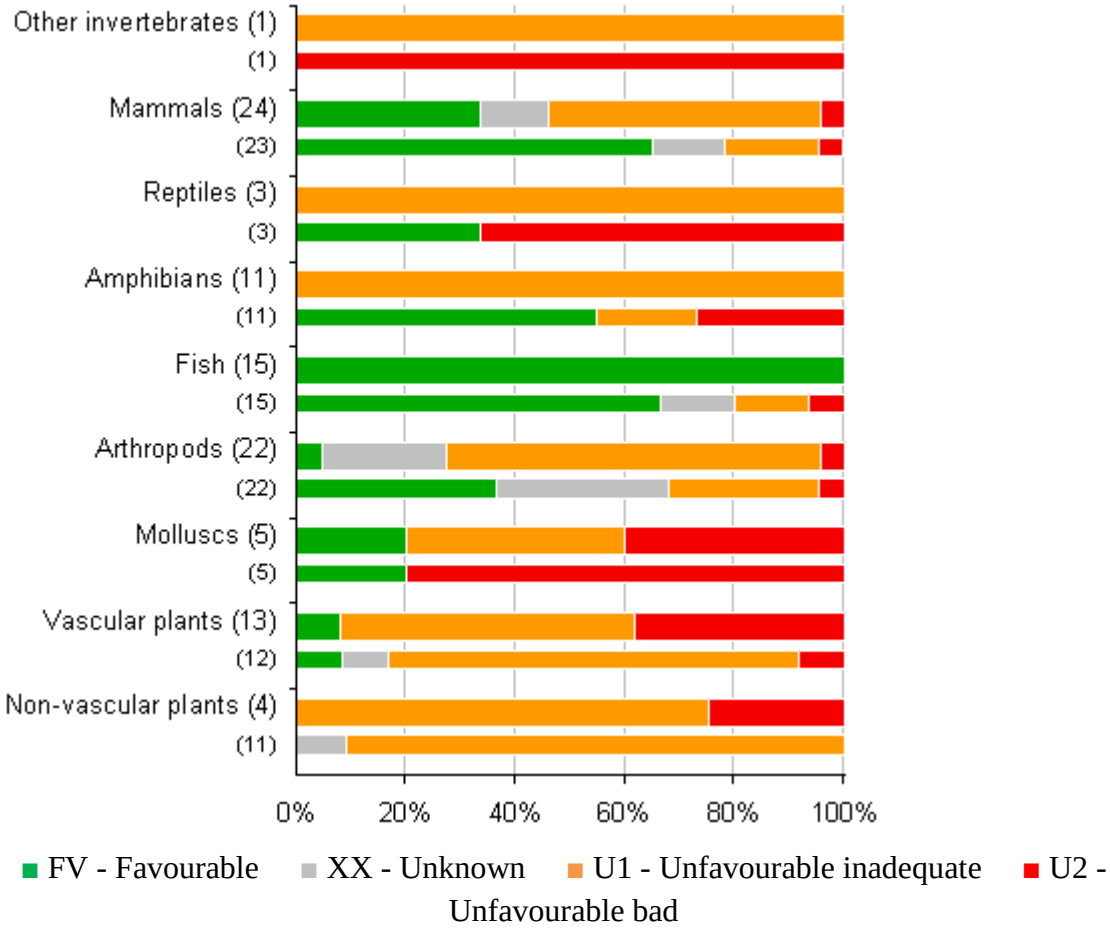
The figures show the proportion of assessments in each conservation status class for 2007-2012 (upper bar) and 2001-2006 (lower bar). The information (number of assessments) on which these figures are based are presented in the tables below each figure (real values).

Conservation status of habitats in biogeographical and marine regions



Note: wide bar corresponds to the 2007-2012 reporting period, and the narrow bar to the 2001-2006 reporting period. The number in brackets corresponds to the number of biogeographical assessments in the category.

Conservation status of species in biogeographical and marine regions



Note: wide bar corresponds to the 2007-2012 reporting period, and the narrow bar to the 2001-2006 reporting period. The number in brackets corresponds to the number of biogeographical assessments in the category.

2.3. Forests

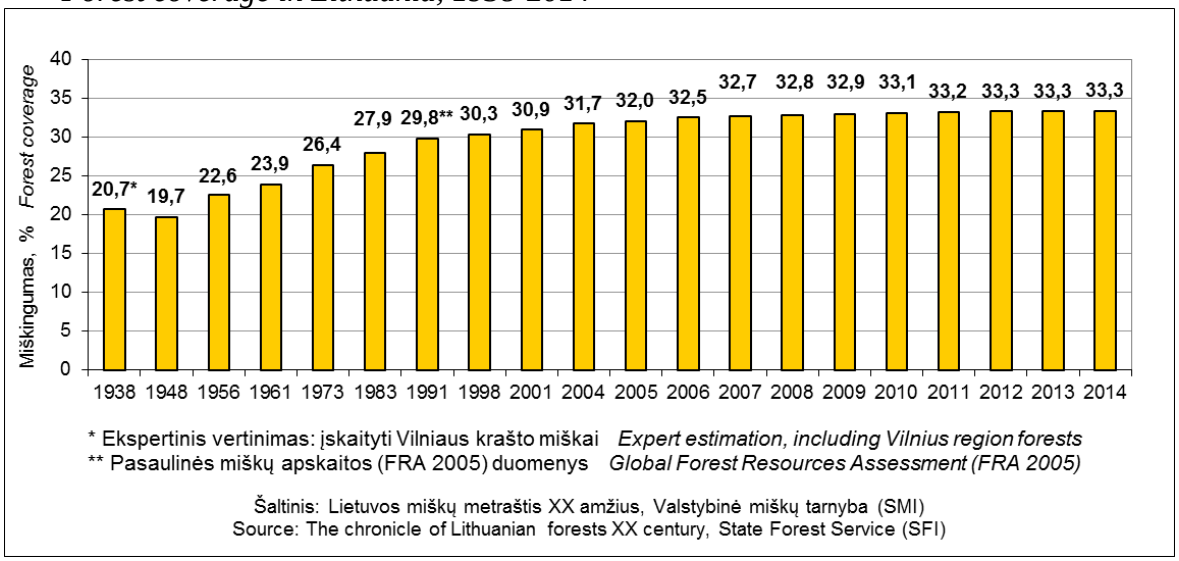
According to Standwise Forest Inventory (SFI) and National Forest Inventory (NFI) data up to the 1st January 2014 since the 1st January 2003, the forest land area has increased by 131,000 ha corresponding to 2.0% of the total forest cover. During the same period, forest stands expanded by 105,000 ha to 2,056,000 ha.

The total area of softwood deciduous forest land increased by 129,000 ha over the last eleven years. The area of hardwood deciduous has decreased by 16,800 ha (manly due to dieback of ash stands) and coniferous forest by 7,500 ha.

Compared to 2003, the area of pine expanded by 8,800 ha. Birch stands since 2003 increased by 67,500 ha and reached 459,700 ha by the 1st January 2014. Area of black alder increased by 27,200 ha, to 146,700 ha. The area of grey alder *expanded by 4,700 ha i.e. essentially less than the black alder stands, reaching 126,700 ha. The area of aspen stands expanded by 25,200 to 82,500 ha. The area of oak stands increased from 35,700 ha to 42,500 ha. The area of ash stands diminished by half to 26,500 ha.*

The average forest area per capita from 2003 to 2014 increased to 0.74 ha.

Forest coverage in Lithuania, 1938-2014



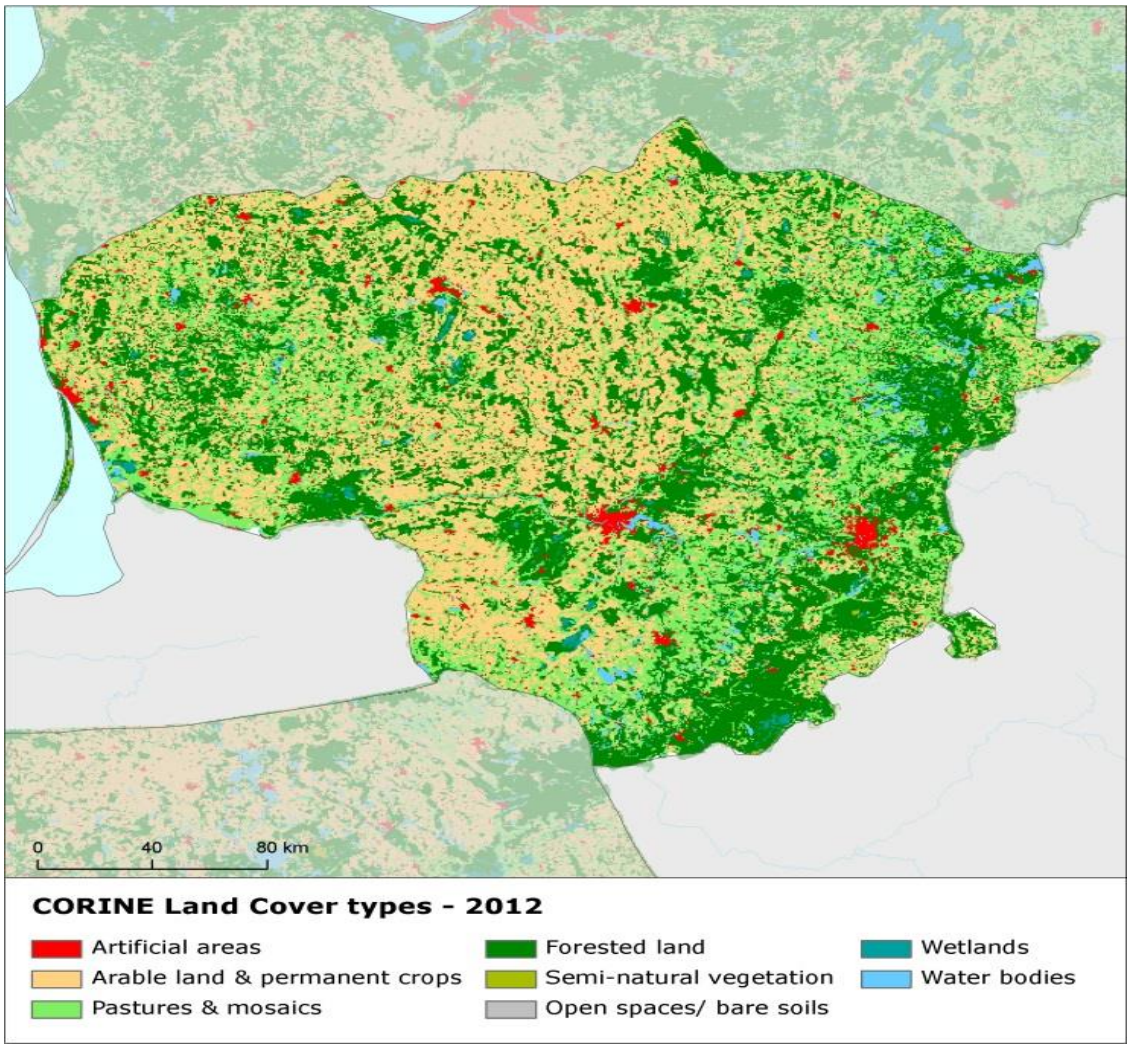
2.4. Soil

Soil is an important resource for life and the economy. It provides key ecosystem services including the provision of food, fibre and biomass for renewable energy, carbon sequestration, water purification and flood regulation, the provision of raw and building material. Soil is a finite and extremely fragile resource and increasingly degrading in the EU. Land taken by urban development and infrastructure is highly unlikely to be reverted to its natural state; it consumes mostly agricultural land and increases fragmentation of habitats. Soil protection is indirectly addressed in existing EU policies in areas such as agriculture, water, waste, chemicals, and prevention of industrial pollution.

The annual land take rate (growth of artificial areas) as provided by CORINE Land Cover was 0.29% in Lithuania over the period 2006-12, below the EU average (0.41%). It represented 612 hectares per year and was mainly driven by new construction, together with the extension of mines and quarry areas. The percentage of built up land in 2009 was 2.05%, below the EU average (3.23%).

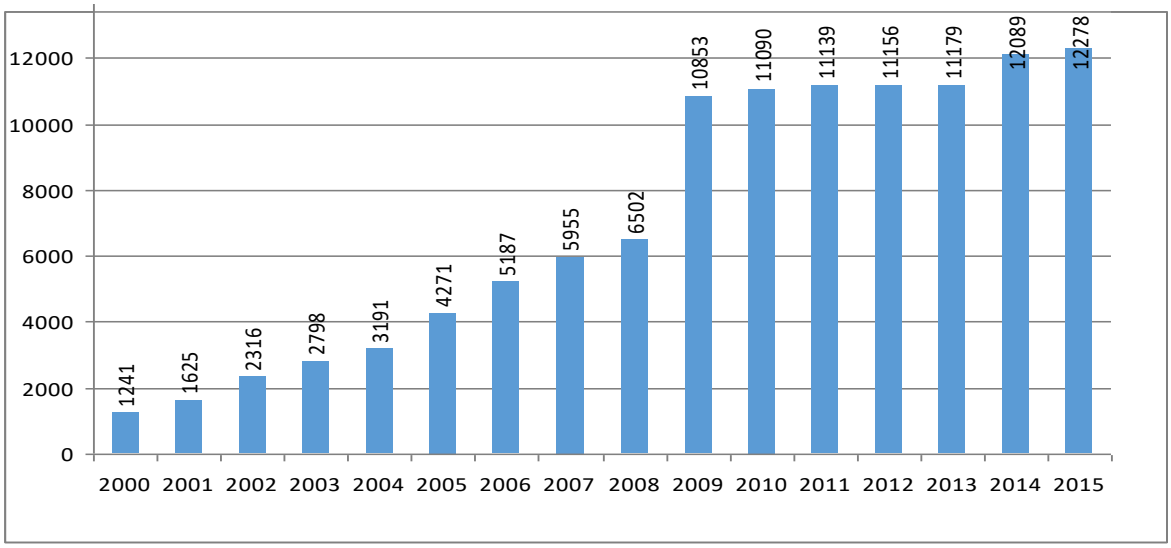
The soil water erosion rate in 2010 was 0.52 tonnes per ha per year, well below EU-28 average (2.46 tonnes).

Different land cover types in Lithuania in 2012.



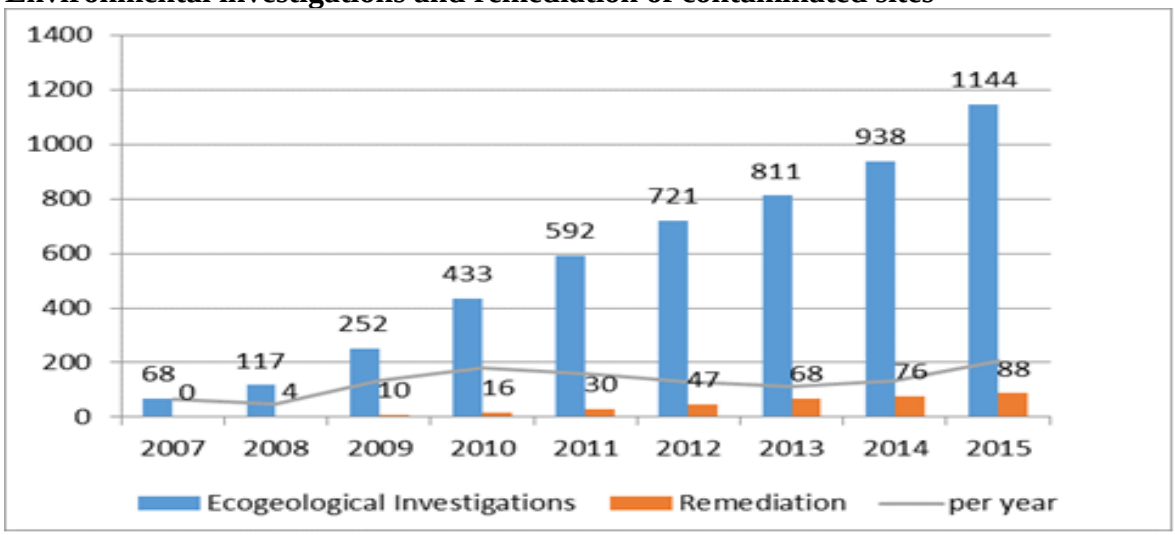
Since 1999, Lithuania is implementing a long-term project "Database fulfilment of geological environment's contaminated sites". During this period (until beginning 2016), 12,278 potentially contaminated sites have been inventoried (Figure bellow).

Inventorisation of potentially contaminated sites



In the time period from 2007 until 2015, more than 1000 contaminated sites were investigated. 887 of them are preliminary eco-geological investigations, 210 detailed eco-geological investigations and 88 control investigations after remediation of contaminated sites.

Environmental investigations and remediation of contaminated sites



Intensified remediation of contaminated sites is promoted by National Environment Protection Strategy (2015) and Management Plan of Contaminated sites for 2013-2023 approved by the Minister of Environment.

An updated inventory and assessment of soil protection policy instruments in Lithuania and other EU Member States is being performed by the EU Expert Group on Soil Protection.

2.5. Case study

The implemented measures for conservation of the European pond turtle and other rare species.

In 2010-2014 Life+Nature Project, "Development of a Pilot Ecological Network through Nature Frame areas in South Lithuania", funded by the LIFE+ programme and the Ministry of Environment of the Republic of Lithuania, aimed at conservation of rare and endangered species and their habitats and improving their conservation status, is being implemented in Lithuania. The project is implemented in the Southern part of the country – in the territories, adjacent to the sites of construction of the OHL. The project is being implemented by the Lithuanian Fund for Nature.

The project encompasses three major types of activities: protection of target species and restoration of their habitats, creation of an ecological network, and education of local communities. The target species of the project are the reptilian and amphibian species, listed in Annexes II and IV of the Habitats Directive, i.e. the Pond turtle (*Emys orbicularis*), European tree frog (*Hyla arborea*), Fire-bellied toad (*Bombina bombina*), Great crested newt (*Triturus cristatus*), Natterjack toad (*Bufo calamita*), European green toad (*B. viridis*), the Common spadefoot (*Pelobates fuscus*), Moor frog (*Rana arvalis*), Pool frog (*R. lessonae*), Sand lizard (*Lacerta agilis*) and a significant number of birds and invertebrate species, requiring small ponds of still water, small meadows and non-overgrown sandy slopes.

A whole range of conservation actions were foreseen for the target species, including digging of ponds, the preparation and surveillance of sites for turtles to lay eggs, collection of eggs laid in sites considered unsafe, raising juveniles, releasing them back to the natural environment, breeding tree frogs or collecting their eggs and raising of their juveniles, strengthening the sustainable nature friendly farming, etc. The said actions are carried out in order to create ecological corridors for the target species between the protected territories.

During the project 164 ponds were dug, with the total area of 151 130 m^2. 40 places, suitable for Pond turtles to lay eggs, were arranged. Also, 52 habitats for the project's target species were restored. In addition, employees of the Lithuanian Fund for Nature, the Regional Parks of Meteliai and Veisiejai, and the National Park of Dzūkija collected eggs from unsafe places (mostly from roadsides) and hatched 128 offspring turtles in the Lithuanian Zoo and set them free into the suitable habitats in the Southern Lithuania. Measures were taken to protect the turtles' eggs against the predators (foxes, raccoon dogs) that have a significant adverse effect on the pond turtles – they eat their eggs. 88 egg hatches were preserved during the project.

More information on the project could be found http://www.glis.lt/ekotinklas/index.php/en/.

During the period of 2005 – 2009 Lithuanian Fund for Nature implemented the joint international project Protection of *Emys orbicularis* and amphibians in the North European lowlands (NELEAP) LIFE Project No. LIFE05NAT/LT/000094 (2005 - 2009). The project was implemented in cooperation with German, Polish and Lithuanian environmental protection organizations. During the project in the Southern Lithuania different environmental protection measures were implemented for the purpose of conservation of endangered populations of Pond turtles and rare amphibians – Great crested newts and Fire bellied toads and for improving the environmental conditions for survival of the target species. Old ponds were restored and new ponds were dug, nesting areas for turtles improved and new created, hibernation places for Pond turtles and amphibians were created as well as other measures, improving the state of populations of Pond turtles and rare amphibians, were implemented.

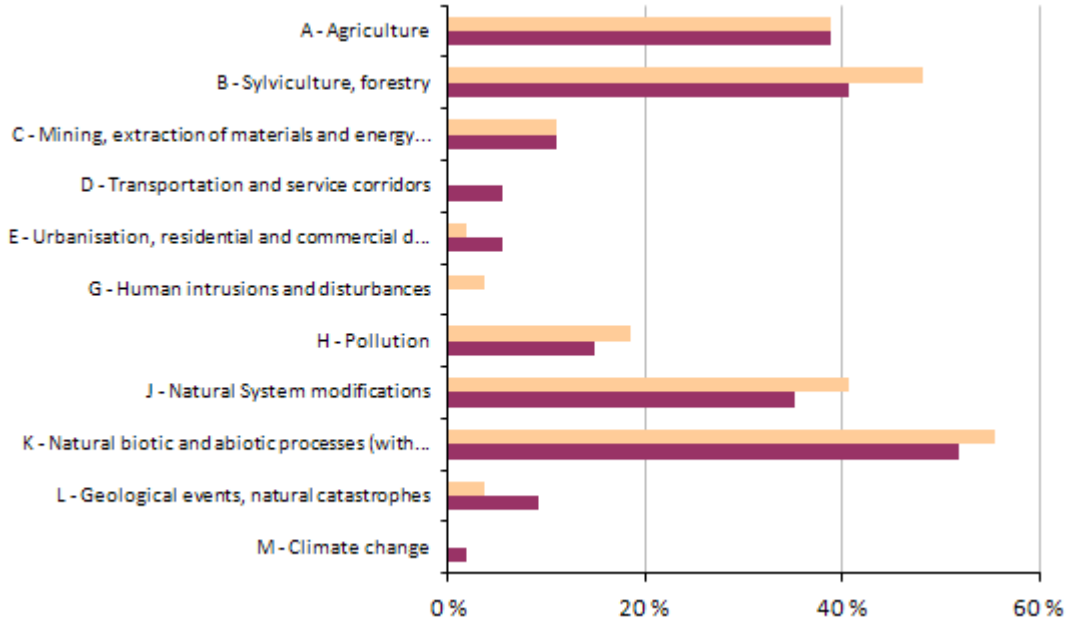
More information about the project could be found http://www.glis.lt/life/.

Q3: What are the main threats to biodiversity?

3.1. Pressures and threats according to the Habitats Directive

Frequency of main pressures and threats (%)

This section provides information on the relative importance of pressures and threats reported for habitats and species. The figures show the percentage of biogeographical assessments reported as being affected by one or more pressures or threats categorised as of 'high importance'. The information for the number of pressures and threats on which these figures are based are presented in the tables below the figures.

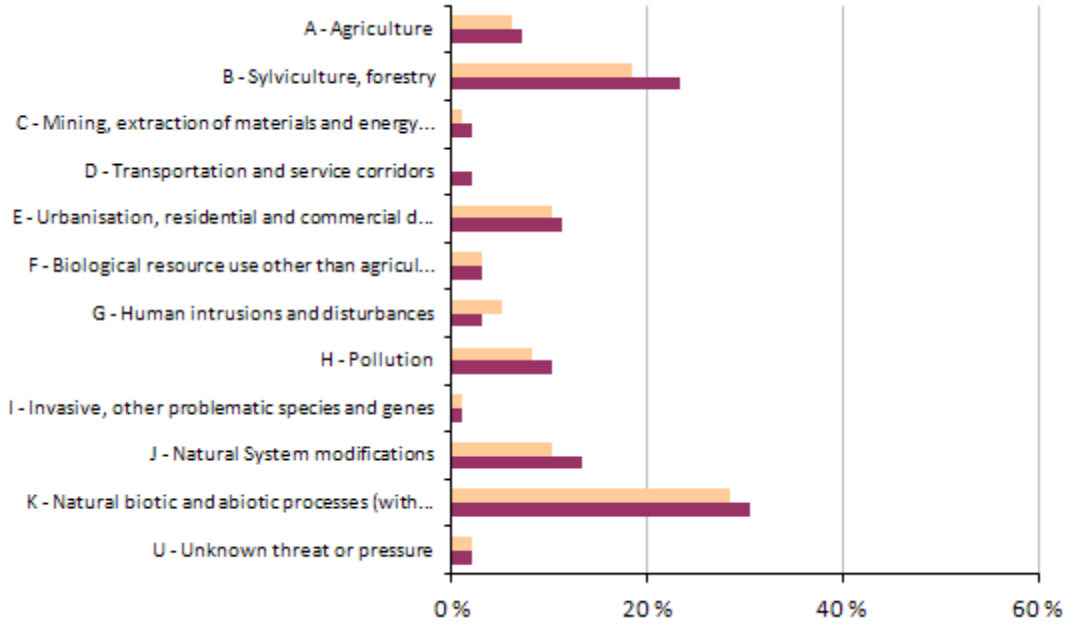


% of **habitat assessments** reported as being affected by one or more 'high' importance pressures/threats

pressure threat

Total number of assessments considered in the calculation: **54**
Number of assessments with no high ranking threats (or no threats at all reported): **2**
Number of assessment with no high ranking pressures (or no pressures at all): **3**

Pressures and threats	HABITATS	
	Number of threats	Number of pressures
A - Agriculture	21	21
B - Sylviculture, forestry	22	26
C - Mining, extraction of materials and energy production	6	6
D - Transportation and service corridors	3	
E - Urbanisation, residential and commercial development	3	1
G - Human intrusions and disturbances		2
H - Pollution	8	10
J - Natural System modifications	19	22
K - Natural biotic and abiotic processes (without catastrophes)	28	30
L - Geological events, natural catastrophes	5	2
M - Climate change	1	



% of **species assessments** reported as being affected by one or more 'high' importance pressures/threats

pressure threat

Note: Threats and pressures categories not reported are omitted.

Total number of assessments considered in the calculation: **98**
Number of assessments with no high ranking threats (or no threats at all reported): **36**
Number of assessment with no high ranking pressures (or no pressures at all): **44**

Pressures and threats	SPECIES	
	Number of threats	Number of pressures
A - Agriculture	7	6
B - Sylviculture, forestry	23	18
C - Mining, extraction of materials and energy production	2	1
D - Transportation and service corridors	2	
E - Urbanisation, residential and commercial development	11	10
F - Biological resource use other than agriculture & forestry	3	3
G - Human intrusions and disturbances	3	5
H - Pollution	10	8
I - Invasive, other problematic species and genes	1	1
J - Natural System modifications	13	10
K - Natural biotic and abiotic processes (without catastrophes)	30	28
U - Unknown threat or pressure	2	2

3.2. Invasive alien species

Invasive species, introduced due to the expanding trade, tourism and cross-border freight traffic pose a serious threat to Lithuania's biodiversity and ecosystems. This threat is increasing - plant and animal species introduced into new habitats may threaten ecosystems by disturbing fragile balance between native flora and fauna. Climate change accelerates shifts in species ranges therefore problem of invasive alien species become more significant. The effects of climate change in Lithuania have been started to explore just a few years ago and so far its research is of a general nature.

Q4: What are the impacts of the changes in biodiversity for ecosystem services and the socio-economic and cultural implications of these impacts?

Impacts of biodiversity changes for ecosystem services, socio-economic and cultural implications of these impacts has not been evaluated yet.

Optional question: What are possible future changes for biodiversity and their impacts?

Climate change

Impact on biological diversity, ecosystems and their components

As a result of the global warming, degradation of ecosystems and habitats, extinction or withdrawal of species from the territory of Lithuania, and the appearance of species from other environments will take place. Not all the new coming species will be desirable – new diseases and new pests, new changed connections in ecosystems, consequences of which can be difficult to forecast. During last decades, seasonal dynamics of 115 abundance, migration time and direction of particular type of animal populations are noticeable and may be related to climate change.

The impact on ecosystems will come out through eutrofication, dryness, change of habitat, acceleration of natural succession of changes, loss of balance of the ecosystem inside communications (i.e. the ecosystem itself). The researches show that the global warming can influence some of the species of the northern part of Lithuania more than the direct anthropogenic effect.

Global climate change has impact to bird's species hatching in Lithuania. Dr habit. M. Ţalakevičius, Head of the Laboratory of Avian Ecology in the Institute of Ecology of Nature presents material in his articles, providing the impact of global climate change on various bird species: change of habitat, population state, and change of migration characteristics. One of the last articles presented together with the other scientists and published in 2012 is “The importance of potential impact of climate change on bird species composition in designing effective ways of bird protection and management: a case study from the eastern Baltic region”.

A list is presented, stating the species that are caused to north-east-east in the Baltic region. Climate is determined to be more important for the land and wet complex birds, and less - for the waterfowl and bog birds.

Impact on forest ecosystems

Forest state is permanently observed in Lithuania since 1987 by Lithuanian University of Agriculture and Institute of Forest Management. Following main impacts are observed or could be predicted:

Droughts of different intensity occur more frequently leading to decreased soil humidity and consequently causing more intensive defoliation of trees. Frequent droughts negatively influence chemical composition of the soil and the amount of microorganisms resulting in poorer growth of living cover of soil, especially moss and increased amount of fallen trees accordingly. Due to geographical location, meteorological factors, structure of wood, forests in Lithuania are more combustible than an average level, so every year there is an increasing number of fires that are managed by organized fire protection system.

During last two decades fir groves get weaker and drier, defoliation of trees gets bigger, productivity of forests changes, etc. This might be attributed to a climate warming impact.

Increased the amount of storms and squalls, especially in the western part of Lithuania, is causing a greater amount of slash (trees fallen because of strong wind).

The climate impact on genetic diversity stays very problematic. It is likely that the impact of climate warming on forest ecosystems is differenced, meaning that different species of trees will have different reactions to the same climate factor. Some species may migrate via seed dispersal to cooler climates. Also the reaction may be opposite: species may remain in their territories, but warmer climate may speed-up a lifecycle of forests.

Climate change, especially warmer climate, warmer winters, may predetermine a raise an activity of pests and massive diseases, which can cause a great harm to the 126 tree species currently found in the forests of Lithuania. Also new species may anchor in the territory of Lithuania, interacting with the present species. These problems will increase the forest protection costs.

PART II: THE NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN, ITS IMPLEMENTATION, AND MAINSTREAMING OF BIODIVERSITY

Q5: What are the biodiversity targets set by your country?

The National Sustainable Development Strategy (*approved by Resolution No 1160 of the Government on 11.9.2003, as last amended on 16.9.2009*) and the National Environmental Protection Strategy (*approved by Resolution No XII-1626 of the Parliament on 16.4.2015*) are the main horizontal strategies that foresee targets for the conservation and sustainable use of biodiversity.

The National Sustainable Development Strategy promotes economic development that takes into consideration environmental and social development. Integration of environmental aspects into other policy areas ensures consistency of sectoral policies with biodiversity objectives, prevention from environmental pollution and other negative environmental impacts, rather than focusing efforts on dealing with the negative consequences of economic activities. This Strategy sets the following objectives in the area of biodiversity that have to be achieved by 2020: 1) to preserve biodiversity and to ensure its rational use; 2) to minimize the negative effect of agricultural activities on biodiversity; 3) to develop the network of protected areas and the natural frame, to incorporate them into the European ecological networks and to increase the coverage of protected areas in Lithuania to 14-18 % of the country's territory; 4) to increase the Lithuanian forest area by 3 %, to expand other areas of natural perennial vegetation and to reduce the inequality of forest layouts, paying special attention to the afforestation in the districts with the smallest forest cover; 5) to improve the biodiversity protection methods and research into biodiversity, impacts of economic activities and efficiency of the protected area regime.

The **National Environmental Protection Strategy** defines the country's environmental vision for 2050 and the priority directions and areas for policy implementation by 2030. The document provides as a strategic objective: 'to attain a healthy, clean and safe environment in Lithuania that addresses the needs of society, environmental protection and the economy in a sustainable way'.

The National Environmental Protection Strategy seeks to sustain a healthy, clean and safe environment in Lithuania. The strategy outlines key principles of the environmental protection policy: eco-efficiency, pollution prevention, responsibility ('Polluter-Pays' principle), rectification at source, integration of the environmental protection policy, use of the best available technologies, precaution, substitution, subsidiarity, partnership and shared responsibility, public participation and information. The strategy emphasizes four priority areas: 1) the sustainable use of natural resources and waste management; 2) the improvement of the quality of the environment; 3) the maintenance of the stability of ecosystems; 4) mitigation and adaptation to climate change. Strategy is implemented through measures such as: 1) legal regulation on environmental protection; 2) environmental standards; 3) environmental monitoring; 4) state control of environmental protection; 5) sustainable territorial planning; 6) strategic assessment of effects on the environment; 7) environmental impact assessment; 8) environmental labelling; 9) environmental management and audit systems; 10) integrated pollution prevention and control system; 11) environmental research; 12) public participation and education on environmental protection issues; 13) international cooperation, and economic measures: environmental taxes and use of revenues, emission allowances, green public procurement, loans and other.

Maintenance of ecosystem stability as well as conservation and sustainable use of biodiversity are among the main priority areas of the National Environmental Protection Strategy. Integration of

the environmental protection policy in other sectors of the national economy (including transport, industry, energy, construction, agriculture, housing, tourism and healthcare) is the key principle of environmental policy implementation. An integrated approach is used to minimise any adverse environmental impacts and maximise eco-efficiency of these sectors by including environmental measures into strategic documents for the development of these sectors. The Strategy stipulates the objective to halt the loss of biodiversity, the degradation of ecosystems and their services and, when possible, to restore them. The key directions implementing the policy are the following: 1) designation and provision of legal protection and maintenance of areas featuring the most valuable landscapes and major accumulations of biodiversity values; 2) conservation of protected flora and fauna species and habitats; 3) management of invasive alien flora and fauna species; 4) reduction of direct threats to biodiversity; 5) adaptation of landscape, ecosystems and biodiversity to climate change; 6) preservation of genetic resources of flora, fauna and microorganisms.

Environmental impact assessments of the proposed economic activity and the strategic environmental assessment are the key tools to prevent environmental deteriorations and ensure policy coherence.

Monitoring

The Law on Environmental Monitoring (*No VIII-529 adopted by the Parliament on 20.11.1997, as last amended on 4.5.2006*) sets the basic requirements for environmental monitoring to protect natural objects, including the monitoring of the state and changes of the natural environment, its individual objects (land and its depths, air, water, fauna and flora, ecosystems, habitats, forests and others, especially in valuable localities); the assessment and forecasts of the anthropogenic impact on these objects; their rational use; the implementation of various legal, biological, technical and other measures. Environmental monitoring is one of the tools used to halt the loss of biodiversity and the irrational use of natural resources by providing information about the state of the environment, including biodiversity, to public institutions. The major part of measures of **the State Environment Monitoring Programme for 2011–2017** (*approved by Resolution No 315 of the Government on 2.3.2011*) designated for the evaluation of the state of nature includes monitoring intended for the evaluation of the Natura 2000 areas, game species, managed fish resources, invasive species as well as the state of forests and other ecosystems. The Programme of State Environmental Monitoring 2011-2017 foresees the monitoring of composition and abundance of bacterioplankton, zooplacton, phytoplankton, zoobenthos and others in the seas near the shore zone and territorial sea. Environmental monitoring is coordinated and performed by the Environmental Protection Agency. The State Service for Protected Areas is responsible for the monitoring in protected areas. The entities performing economic activities are obliged to carry out biodiversity monitoring if such a requirement is set out in the report of the Environmental Impact Assessment of the proposed economic activity.

Agriculture

The **National Rural Development Programme** foresees payments for measures aimed to agri-environmental protection and climate, protection of forest ecosystems and compensations for restrictions of agricultural and forestry activities in protected areas (Natura 2000). Extensive use of meadows by grazing cattle, extensive use of wetlands, restoration of natural habitats and of habitats of protected species in forests, replacement of alien trees by planting native trees are activities that are financed. Losses and additional expenses of land managers due to restrictions of agricultural and forestry activities in protected areas are compensated from funding from European Agricultural Fund for Rural Development and from the State Budget.

Coastal management

The Law on Environmental Protection sets general policy principles for the development and sustainable use of resources common to the whole Lithuanian territory, including the coastal zone of Lithuania. The main policy principles are the following: 1) environmental protection is a concern and duty of the State and of each of its inhabitants; 2) the environmental protection policy and practice have to direct public and private interests towards the improvement of environmental quality, encourage the users of natural resources to seek ways and means to avoid or diminish hazardous impact on the environment and to make technological processes ecologically safe; 3) natural resources must be utilized in a rational way taking into account the possibility of preserving and recovering natural resources; 4) environmental protection has to be based on comprehensive, correct and timely gathered information about the environment.

The Law on the Coastal Zone defines policy objectives specific to the coastal zone and its resources and ensures the integration and harmonization of sectoral policies. Through the Law, the Government regulates all kind of activities in the coastal zone, starting from the state level and finishing with the municipal level. The Law defines the following objectives of the coastal zone: the sustainable use, preservation and protection of landscapes and habitats of rare species of the Curonian Spit and the Lithuanian mainland coast; the sustainable use of the coastal zone for the public and State's needs; the conservation of coastal nature and cultural heritage; the facilitation of public access coastal amenities for leisure purposes. The land and sea within the coastal zone are the exclusive public property and belong to the State, except those private lots of land, which have been established before the Law came into force. However, these private lots should not be fragmented for sale, lease, mortgage or any other commercial use. The State has a priority right to buy those lots from the private owners.

The main principles for the integrated coastal zone management are set out in **the Coastal Zone Management Programme for 2014-2020** (*approved by Order No D1-360 of the Minister of Environment on 16.4.2014*) and are the following: conservation of natural coastal landscapes and coastal processes; integration of coastal conservation and coastal use objectives; littoral cells approach, e.g. coastal protection measures implemented in one section of the coast cannot harm another section of the coast; differentiation of coastal management measures according to specific priorities for coastal conservation and wise use on a particular coastal strip; monitoring and coastal development. Different bodies implement the Programme. For example, the Directorate of Kuršių Nerija National Park is responsible for the implementation of the Programme in the Curonian Spit, whereas Klaipėda city and Palanga city municipalities are responsible for the Programme in the rest of the coastal zone.

The Recommendation of the European Parliament and of the Council of 30 May 2002 concerning the implementation of Integrated Coastal Zone Management in Europe also sets the scene for the effective and cross-sectoral management of the land-sea interface, and puts forward principles for the effective management of the coast.

At state level, the Ministry of Environment, the Ministry of Transport and Communications, the Ministry of Agriculture, the Ministry of National Defence, the State Service for Protected Areas and other authorities, ensure integrated coastal zone management.

Q6: How has your national biodiversity strategy and action plan been updated to incorporate these targets and to serve as an effective instrument to mainstream biodiversity?

6.1. Action Plan on Conservation of Landscape and Biodiversity for the period of 2015–2020

In January, 2015 Action Plan on Conservation of Landscape and Biodiversity for the period of 2015–2020 was adopted. This Plan mainly focuses on conservation of protected species and habitats, management of invasive species, sustainable use of fauna, flora and genetic resources, as well as on mapping and economic evaluation of ecosystems and their services, development of green infrastructure.

Action Plan on Conservation of Landscape and Biodiversity for the period of 2015-2020 sets a strategic goal to halt biodiversity loss and degradation of ecosystems and their services and, where possible, to restore them. The actions indicated in this Plan focuses on protection of ecosystems and natural habitats and maintenance of viable populations of species in the natural environment, restoration of degraded ecosystems and habitats and support for the restoration of the populations of threatened species; initiation of mapping of ecosystems and their services, promotion of green infrastructure.

Process of preparation and implementation of management plans for protected areas as well as action plans for protected species is ongoing.

The backbone of green infrastructure in Lithuania is the national legislation on ecological network (nature carcass), which requires to incorporate protected areas and other ecologically and biologically valuable areas into spatial planning processes with the aims to protect biodiversity, landscape and natural recreational resources, to make interlinkages among the most ecologically valuable habitats, to form migration corridors, to enhance areas of forests, to regulate development of urbanization and agriculture.

Action Plan on Conservation of Landscape and Biodiversity for the 2015–2020	
Objectives	**Tasks to be implemented for achieving objectives**
LANDSCAPE PROTECTION, PLANNING, MANAGEMENT AND USE	
The strategic objective of landscape protection, planning, management and use shall be to conserve landscape areas of various territorial levels and their ecological potential by ensuring their adequate planning, management, use and sustainable development.	
The first objective – ensuring targeted and sustainable landscape formation.	1. Integrating the provisions of the landscape policy in other policies related to landscape protection, management, use and planning
	2. Enhancing the quality of landscape planning
	3. Managing the heritage of cultural landscape and increasing the aesthetic potential of landscape
	4. Building eco-awareness through the promotion of public awareness of the value and role of landscape and the development of professionals' competences in the fields of landscape protection, management, use and planning
The second objective – is maintaining and enhancing the ecological stability of landscape.	1. Providing conditions for the maintenance of the structural integrity of the nature frame

	2. Improving the state of the coasts of the Baltic Sea (the terrestrial part and the Curonian Spit) and the Curonian Lagoon.
CONSERVATION OF BIOLOGICAL DIVERSITY	
The strategic objective of the conservation of biological diversity is to halt the loss of biodiversity and the deterioration of the quality of ecosystems and their services, and where possible to restore them.	
The first objective – to achieve a favourable conservation status of protected fauna, flora and fungi species and habitat types.	1. Improving the legal regulation in the field of conservation of protected species
	2. Improving and maintaining adequate natural conditions in habitats of protected species
The second objective – to develop research on biological diversity and ecosystems and use the data from this research for integrating aspects of ecosystems and biological diversity in the public policy sectors.	1. Developing the knowledge base on the state and services of ecosystems, by formulating data information prerequisites for the maintenance, restoration and improvement of ecosystems and the quality of their services
	2. Increasing the effectiveness of wild life monitoring and data collection
The third objective – to slow down and/or halt the spread of invasive species.	Enhancing the effectiveness of regulation of the abundance of invasive species
The fourth objective – to ensure the proper conservation, restoration and use of wild flora and fauna.	1. Creating legal prerequisites for the proper conservation, restoration and use of wild flora
	2. Increasing the fish stocks in inland water bodies through favourable conditions for their reproduction, migration and spanning, and stocking some of the fish species
	3. Providing adequate help and care for injured and distressed wild animals, those in an unsuitable environment or confiscated wild animals
The fifth objective – to preserve the genetic resources and their diversity by providing conditions for the use of the collected gene pool and its results in selection, research and production.	1. Creating legal and technical conditions for the conservation of genetic resources and the wild counterparts of national cultured plants
	2. Ensuring the fair and correct use of genetic resources
The sixth objective – to ensure safe performance of activities that involve the use of living modified organisms (genetically modified organisms) (hereinafter "GMOs"), and to prevent GMOs from spreading in the environment or damaging ecosystems.	1. Enhancing the environmental risk assessment, management, risk monitoring and control of GMOs;
	2. Raising public awareness on the safe use of GMOs by encouraging the public to participate in decision making on the use of GMOs and their release to the environment;
	3. Integrating biosafety provisions in the policies of other sectors.

PROTECTED AREAS	
The objective for protected areas is to ensure good status and proper use and management of landscape and biodiversity as well as of natural and cultural values, and adapt them to visiting (especially in state parks).	1. Creating prerequisites for the conservation of landscape, biological diversity and natural and cultural values of protected areas, primarily of state parks
	2. Maintaining the most valuable parts and sites of protected areas, and adapting protected areas to environmental education and training and the dissemination of information on protected areas
	3. Enhancing the effectiveness of the monitoring and evaluation of the importance and state of valuable sites in protected areas, and ensuring high-quality data collection

6.2. Financing environmental protection

General economic instruments (measures) are set out and approved by the Law on Environmental Protection. Article 28 of the Law states that Ecological and economic interests of the State shall be co-ordinated by the economic mechanism of environmental protection as set forth in the laws and other legal acts of the Republic of Lithuania. The mechanism consists of: 1) taxes for the utilisation of natural resources; 2) taxes for environmental pollution; 3) regulation of crediting; 4) state subsidies; 5) the pricing policy; 6) economic sanctions and compensation for damages; 7) other ecological taxes and measures. Article 29 sets out the implementation methods of economic instruments (measures) of environmental protection; the introduction of low-waste technology and the manufacturing of ecological products shall be promoted by tax reduction, credit privileges, and state subsidies. The general economic instruments are applied for the coastal zone management too.

As regards financial resources to fund environmental protection measures, Article 30 of the above-mentioned Law states that users of natural resources, the State and municipalities, in accordance with appropriate regulatory acts, finance environmental protection measures. The State funds allocated to environmental protection are used in accordance with the priority directions and programmes specified by the Government of the Republic of Lithuania. The funds of Environmental Protection Support Programme and funds of the Special Municipal Environmental Protection Support Programme are supplementary sources of funding for environmental protection measures. The funds of the Environmental Protection Support Programme, and the procedure for utilising these funds, are specified by the Law on the Environmental Protection Support Programme (*No VIII-2025 adopted by the Parliament on 12.10.2000, as last amended on 14.4.2016*). Pursuant to the above-mentioned Law, the specific measures to be financed are approved by Order of the Minister of Environment and utilized for the implementation of the Programme by the Ministry of Environment. Foreign credits may be used as an additional source of funding.

6.3. Fisheries sector

Environmentally sustainable, resource-efficient, innovative, competitive and knowledge-based fishery is one of the most important priorities in the fishery sector. Responsible and long-term sustainable management of fishery calls for decisions based on sound scientific data, therefore data

collection and control are critical aspects. The main body responsible for implementing the control, inspection and enforcement system is the Fisheries Service, under the Ministry of Agriculture of the Republic of Lithuania, which is also responsible for the collection of biological data under the Data Collection Framework. The Centre for Agriculture Information and Rural Business is responsible for the collection of social and economic data. The data collection coordinator works under the Ministry of Agriculture.

Special requirements for commercial fishing in the Territorial Sea of the Republic of Lithuania and the fishing in the coastal zone were approved by Order No 3D-20 of the Minister of Agriculture on 12.1.2005. Those requirements define periods when fishing activities of particular species are prohibited, and set specific restrictions concerning technical measures used for fishing (maximum fishing capacity, maximum length of the boat, parameters of fishing gears) which aims at promoting responsible management of coastal waters, including coastal fishery resources.

6.4. Tourism

Strategic tourism development trends are set out in the Lithuanian **Tourism Development Programme for 2014-2020** (*approved by Resolution No 238 of the Government of the Republic of Lithuania on 12.3.2014*).

The National Tourism Development Programme for 2014-2020 (*approved by Resolution No 238 of the Government 12.3.2014*) is implemented in four areas: cultural tourism, business tourism, health tourism and ecotourism. It confirms that tourism has created new business, developed competitive tourism products for foreign and domestic markets, shows that natural and cultural resources are used rationally and that landscape values are protected. The Law on Environmental Protection (*No I-222, adopted by the Parliament on 21.1.1992, as last amended on 14.5.2015*) determines public relations in the field of environmental protection and the rights and duties of legal, natural persons in preserving the typical biodiversity, ecological systems and landscape while ensuring the rational use of natural resources.

Tourism Development Programme for 2014-2020 attributes the Seaside region as the area of the greatest tourism potential in Lithuania and gives priority to the development of green (eco) tourism. Municipalities falling within the Seaside region have approved development plans/strategies, and they have been developing joint tourism routes and conducting joint marketing activities.

The National Sustainable Development Strategy (*approved by Resolution No 1160 of the Government 11.9.2003, as last amended on 30.3.2011*) promotes sustainable development of the tourism sector. Sustainable development principles are applied while planning and performing territorial tourism and establishing the tourism infrastructure at national and municipal levels. Integration of cultural heritage into tourism and recreational development programmes allows the implementation of decisions on protection and the use of environmental and cultural values and provides conditions for accumulating financing. The National Strategy for Environmental Protection (*approved by Resolution No XII-1626 of the Parliament 16.4.2015*) emphasizes the development of tourism as a sectoral economy with a minimal environmental impact. The Strategic Environmental Assessment (hereinafter – SEA) is carried out when preparing plans, programmes and spatial planning documents for tourism development activities which may have significant effects on environment. The Law on Environmental Impact Assessment of the Proposed Economic Activity (*No I-1495 adopted by the Parliament on 15.8.1996, as last amended on 14.4.2016*) establishes the list of proposed economic activities whose Environmental Impact Assessment (hereinafter – EIA) is performed. The list includes tourism, for example, the intensive construction of sports and fitness complex, the development of other tourism and recreation facilities, especially when the proposed activity may have an impact on European ecological network areas Natura 2000.

Q7: What actions has your country taken to implement the Convention since the Fourth Report and what have been the outcomes of these actions?

7.1. Strategic documents

In January, 2015 Action Plan on Conservation of Landscape and Biodiversity for the period of 2015–2020 was adopted. This Plan mainly focuses on conservation of protected species and habitats, management of invasive species, sustainable use of fauna, flora and genetic resources, as well as on mapping and economic evaluation of ecosystems and their services, development of green infrastructure.

Several horizontal strategies and development programmes relating to the objectives of the EU biodiversity strategy as well as to Aichi targets were renewed or being renewed for the financial period of 2014-2020, including the most important: National Progress Programme (adopted in November, 2012), Rural Development Programme (adopted in February, 2015), Operational Programme of the Fisheries Sector for 2015-2020 (adopted in August, 2015), National Forestry Development Programme (adopted in May, 2012), National Renewable Energy Development Programme, National Transport Development Programme (adopted in December, 2014), National Climate Change Strategy (adopted in May, 2013), National Tourism Development Programme (adopted in March, 2014), Baltic Sea Environmental Protection Strategy (adopted in August, 2010) and etc. Considerations of biodiversity is also integrated in national legal acts with respect to planning of economic and others activities, for example, requirements for environmental impact assessment are renewed.

7.2. Protected areas and protected species

Legal requirements for Natura 2000 network protection and management stemming from Habitats and Birds directives are mainly set in following legal acts (not a comprehensive list):

Law on Protected Areas (1992, 2001, with last amendment in 2010);

Law on Environmental Impact Assessment of the Proposed Economic Activity (1996, 2005, with last amendment in 2011);

Governmental Regulation on Strategic Assessment of the Impacts on the Environment of the Plans and Programmes (2004, with last amendment in 2011);

Governmental Resolution on Common Statutes of Habitats and Birds Protection Areas (2004, with last amendment in 2011).

According Law on Protected Areas and Governmental Resolution on its implementation Ministry of Environment is empowered to adopt lists of Natura 2000 sites: list of sites to be proposed as Sites of Community Importance (SCIs), list of Special Areas of Conservation (SACs) and list of Special Protection Areas (SPAs).

Necessary conservation measures for Natura 2000 sites can be implemented in various forms, involving but not limited to establishment of protected areas, conclusion of conservation agreements with private land owners or state land managers or preparation and implementation of management plans or other equivalent documents on site management.

Dedicated governmental resolutions lay the mechanisms for preparation of management plans for protected areas and Natura 2000 sites as well as for conclusion of conservation agreements with land owners and managers.

Requirements for Environmental Impact Assessment (EIA) and Strategic Impact Assessment (SIA) in relation to Natura 2000 sites are in place on law level. Practical implementation rules are set by series of Governmental Resolutions and acts adopted by the Minister of Environment.

Requirement for an appropriate EIA or SIA for plans and programmes with possible impacts on Natura 2000 sites is applicable from the moment of site inclusion into the list of SPAs or SCIs. Accurate wordings of Articles 6.3 and 6.4 of the Habitats directive are transposed to Law on Protected Areas. Decisions on adoption of plans and programmes are taken after appropriate assessments following the rules on exceptionality of permitted negative impact.

Conservation objectives for individual sites are indicated in decisions on adoption of lists of SPAs, SCIs or SACs. More precise and qualitatively advanced conservation objectives for individual sites are formulated in documents on management of the sites. According national practice, several types of documents can be used for Natura 2000 site management planning: management plans (planning schemes) are compulsory for several types of national protected areas and will be prepared according requirements on territorial planning, while nature management plans and management programs for individual sites will be prepared as strategic planning documents. Normally, requirements from several management documents have to be kept in mind while planning management or making any other decision.

State Environmental Monitoring Programme was renewed by the Government in 2011. It is regularly reviewed in 5 year cycle and stipulates for systematic surveillance of the species conservation status. Surveillance has to be conducted inside Natura 2000 network as well as outside of the network for the reasons of data comparison and conservation status evaluation on country level.

Between 2011-2015 Lithuania carried out a national habitat inventory with a view to determine the exact localization of natural habitats and also to collect the necessary data needed for establishing favourable reference values and the relevant conservation objectives for each habitat type. Preliminary results of the exercise strongly suggest that the information on the present SCI's will have to be substantially reviewed as to reflect the current reality. Furthermore, it also points to the idea that the current SCI network might be incomplete for some habitat types and species.

Nevertheless, despite the uncertainties, species conservation plans and management plans of protected areas continue being developed in Lithuania according to the requirements of the European legislation. At present, there are 82 management plans for Natura 2000 sites adopted, and 143 in preparation at different stages of development. As pointed out in the last Habitat Directive Article 17 Report, the main identified difficulties for implementation of the required nature management activities over the Natura 2000 network in Lithuania are the lack of financial resources for the funding of surveillance of species and habitats as well as for activities related to habitat restoration and maintenance.

Conflicts between commercial agricultural or forestry activities and the particular management of the land for nature protection needs represent a serious limiting factor. This is especially where specific agricultural practices as pastures or forest conditions are no longer economically profitable. The grassland habitats in need of protection under Natura 2000 are the weakest links of the network in Lithuania.

The Prioritised Action Framework (PAF) is expected to provide tools to mitigate some of those critical cases of deterioration of habitats generated by now obsolete agricultural practices through a better focused allocation of financial resources. Nevertheless, it is unlikely that the PAF alone will solve the sustainability concerns of the grassland habitats.

In 2014-2020 financing period 50 million EUR of The European structural and investment *funds* (ESI) funds are earmarked for nature protection, biodiversity, Natura 2000 and green infrastructure. It will help to restore favourable conservation status in 1,150 hectares surface area of habitats.

Preparation of management plans or equivalent instruments for protected areas

In 2015 the list of special protection areas (SPAs) under EU Birds directive 2009/147/EC comprises 83 sites (including 3 marine sites) of the total area over 626 000 ha or 9 % of the territory of Lithuania. The list of proposed sites of community importance (SCIs) under the EU Habitats directive 92/43/EEC consists of 410 areas (including 2 marine sites) covering 667 000 ha or 10% of the territory of Lithuania. The established SPAs and proposed SCIs overlap to a great extent. The area of overlapping is about 385 000 ha.

With establishment of last marine SPA in July 2015 Lithuanian network of SPAs is being considered as completed.

Lithuania has made a huge progress in designation of marine protected areas and is focusing now on strengthening implementation of management measures. Appropriate monitoring programme for Natura 2000 sites was developed and is being implemented; species conservation plans and management plans of protected territories have been and are being developed constantly. There are 82 management plans for Natura 2000 sites adopted and 143 management plans are in preparation process. Since the start of implementation of Natura 2000 network in Lithuania in 2004, Lithuanian public institutions implemented more than 400 individual nature management actions covering more than 14 thousand ha of natural habitats or habitats of the species.

In addition, action plans for 29 protected species, including those protected under Habitats or Birds Directives were adopted. In 2013-2015 conservation measures for 23 protected species were implemented in 129 localities.

Lithuania uses integrated management planning approach which means that appropriate management measures might be integrated in various types of documents which are necessary for site management.

In the country three documents for site management planning are mainly applied: nature management plan, management program and management plan (planning scheme).

Nature management plan and management program are strategic planning documents. Nature management plan is more comprehensive compared to the management program. Alongside thorough examination and description of the site conservation status preparation of a nature management plan requires also a review of socio-economic conditions and involvement of relevant stakeholders. On the other hand, management program is more operational and is applied in situations where rapid solutions or small scale management with limited or no involvement of other stakeholders is required.

Both nature management plan and management program are mandatory only for the implementing agencies acting under the supervision of Ministry of Environment: protected area directorate, state forest enterprise, etc.

According the law, management plan (planning scheme) as a territorial planning document is obligatory for national and regional parks and strict nature reserves. In case the Natura 2000 area overlaps with national or regional park or strict nature reserve, management of the site is being planned in planning scheme of the national protected area. Preparation of a planning scheme is being done according to the standard procedures of spatial planning. It may set new restrictions on land use, which are also obligatory for land users and managers.

According national legislation, forest management plan is mandatory for most of the forestry operations. Forest management plan takes into account protected area requirements and may integrate other nature protection conditions.

Other management instruments (eg. conservation contracts with land owners or managers) are less frequent applied, play rather supplementary role in Natura 2000 network management planning. Practise of application of these contractual management instruments have to be further strengthened.

Sharing of experience and cross-border collaboration on protected areas

Lithuania has participated in the boreal biogeographical process initiated by European Commission and Finland since 2012. Regular exchange of experience in Natura 2000 network management is taking place and network of Natura 2000 specialists is constantly growing.

Financing of protected areas and biodiversity protection

Financing of the protected areas management from the state budget decreased in 2010 and remained stable in 2011-2015. Financial sustainability is ensured in the proposed national budget for 2016-2018, though some cuts from present level are foreseen.

Substantial financial flows for biodiversity conservation come from European Structural Funds (mainly for one-off investments) and European Rural Development Fund (for one-off investments, as well as for recurring management activities and compensations for land managers in Natura 2000 areas for their income foregone due to restrictions set on the land use). Lithuanian Rural Development Programme from 2014 to 2020 sets priority "Restoring, preserving and enhancing ecosystems related to agriculture and forestry" and allocates 28.9 % of total public expenditure of the programme to this priority area or 571 535 thousand Eur for this programming period.

Preservation of biodiversity is also funded through other funds, such as LIFE, LIFE+ and etc.National co-financing for best LIFE project ideas is being granted on project ideas competition base.

Rather considerable part of income comes from Hunting and Fisheries Licence fees (about 3 Mio euros)

Law on Charge of State Nature Resources was adopted in 1991. The aim of this Law is – by economical means enhance users of natural resources sustainably and efficiently use State natural resources, to compensate State expenditures on research of natural resources and implemented measures for preservation of quality and quantity of natural resources.

Currently protected areas administrations collect voluntary entrance fees.
Lithuania has recently introduced a voluntary visitor entrance fee to national parks and protected areas. Its purpose is the collection of revenues necessary for the management of recreational, tourist sites and protected areas. An entrance fee to the UNESCO heritage area, Curonian Spit Peninsula National Park, is mandatory. The relevant municipality sets this fee and the revenues generated are used for its own needs.

7.3. Combat invasive alien species

The national list of invasive species contains 39 species (plants and animals). The list is constantly reviewed and complemented by new invasive species. The Invasive Species Control Council which consists of representatives of public and scientific institutions has constative role on the invasive species issues. There are general recommendations for eradication of invasive species adopted.

Measures for control of invasive alien species have to be planned and undertaken in order to minimise their impact on species and habitats of Community interest. 7 invasive alien species are in focus of current project under implementation with assistance of EU structural funds: 2 mammal species (*Nyctereutes procyonoides, Mustela vison*), 1 fish species (*Perccottus glenii*), 1 crustacean species (*Orconectes limosus*) and 3 plant species (*Acer negundo, Heracleum sosnovskyi, Lupinus polyphyllus*). 660 ha occupied by plant invasive species were managed.

At the moment Lithuania is working on proper implementation of EU Invasive Species regulation by improving national legislation.

7.4. Communication, awareness raising and research

Overall environmental education and education for sustainable development are parts of school and universities programmes.

Protected areas administrations, nature education centres, museums, national funds for nature projects and NGO ensure a large part of the general nature protection awareness of the public. Network of visitor centres and of nature schools in 35 protected areas administrations is under constant development. In 2015 new package of 25 different nature education programmes for nature schools will be prepared.

A special event for International Biodiversity Day is organised by Vilnius University Botanic Garden annually.

Most of the European funds projects have an awareness raising component.

Projects aimed at raising public awareness on environmental issues are being implemented in Lithuania. This involves special radio and TV broadcasts, documentaries, articles in newspapers and on the internet. In part due to those public information activities, environmental awareness of Lithuanian citizens has risen from 35 % in 2008 to 55 % in 2011.

Furthermore, more long-term actions in the form of environmental education are constantly being carried out. Environmental education is one of the priority objectives of sustainable development listed in the National Sustainable Development Strategy. Provisions on the promotion of environmental education and environmental awareness among the public are enshrined in national legislation. Public authorities have a binding obligation to organise environmental education and adopt environmental education measures. Ways and means of education are set out in national legislation.

Lithuania has created a system of tourist information centres that is located in municipalities. Visitor centres have been established in national and regional parks and provide information to the public about protected areas, natural and cultural resources, travelling possibilities and more.

The Research Council of Lithuania funded various research projects through the National Education Programme “Ecosystems of Lithuania: climate change and human impact” (2010-2014). In 2015 the new funding programme ‘Sustainability of agro-, forestry and water ecosystems’ was launched. The main goal of this programme is by using complex scientific research methods to obtain, analyse and summarise new scientific knowledge about impacts of climate change on Lithuanian ecosystems, evaluate economical resource aspects, possible threats and opportunities.

Lithuanian academic and research institutions such as Vilnius University, Vilnius Gediminas Technical University, Šiauliai University, Vilnius University Centre for Ecology and Environmental Research, Lithuanian Research Centre for Agriculture and Forestry have been actively involved in carrying studies and research projects related to environmental impact and resource management.

Many studies have been carried out to assess climate change and renewable energy sources, particularly biofuel resource potential and the use, influence from the environmental and economic point of view. These are studies on: „The use of stumps for biofuel research: resources, technological, economic and ecological assessment“; „Assessment of underbrush resources suitable for biofuels considering technological needs for logging and preparation of recommendations on the use; on complex (technological, economic, social and environmental) assessment of development of the forest harvesting by machines and preparation of recommendations on the efficient use of

harvesting machines“. More attention has been given to the analysis of non-timber resources while implementing the research study „Economic benefit analysis and assessment of Lithuanian non-timber forest resources and functions“.

Since 2010, Forest Research Institute of the Lithuanian Research Centre for Agriculture and Forestry carries out a long-term research program „Sustainable forestry and global changes“. One of its tasks is to create forest growing and forming methods in order to increase productivity and preserve the environmental and nature protection functions of forests and to explore impact of the economic and social changes on sustainable forest management development and sustainable use of resources. Results of the program are reflected in scientific articles, recommendations and presented at international conferences. Another successfully implemented project is ‘Economic evaluation of forest management sustainability’.

Recently the Lithuanian Research Council has approved and started to implement a national research program called ‘Sustainability of Agro-, Forest and Water Ecosystems’. Under this programme the complex scientific research will focus on the effects of climate change and the use of ecosystems resources. The impact on Lithuanian ecosystems will be evaluated and ecosystems possibilities to adapt to climate change and environmental conditions will be analysed and summarized. The findings will enable to propose measures to avoid threats and minimize associated risks and to develop guidelines for control and restoration of sustainability of ecosystems.

7.5. Improvement and streamlining monitoring and reporting

Environmental Protection Agency ensures continuous and complex environmental monitoring, evaluation, forecast of and information on environmental quality and nature resources use in accordance with State Programme on Environmental Monitoring in 2011-2017. The State Service for Protected Areas under the Ministry of Environment coordinates activities of protected areas administrations in protected areas, including in Natura 2000 sites.

Essential element of Natura 2000 site management plan is a monitoring scheme.

Incomplete individual monitoring schemes exist for 173 sites. Incompleteness is mainly due to lack of monitoring elements for some of the species present on the site. 299 is the total number of Natura 2000 sites where species are among conservation objectives.

National monitoring methodologies exist for 62 species of Community interest. 101 is the total number of species of Community interest, which conservation status needs to be evaluated and monitoring methodologies created.

In 2015 monitoring guidance documents for species of Community interest will be either developed or improved depending on documents current status. Development or/and improvement of monitoring guidance documents includes training of specialists as well.

Since 2009 series of projects on inventory of natural habitats of Community interest in terrestrial part and in marine environment of Lithuania and on development of their monitoring programme has been implemented. Methodological base for monitoring of natural habitats of Community interest will be fully developed by the end of 2015.

7.6. Documents and actions with respect to fisheries

Cormorant Management Action Plan was approved in 2013, and its objective was the prevention and reduction of damage caused by cormorants in fish farms as well as for forestry, without endangering the cormorant population in the nature

Lithuanian aquaculture sector development plan for 2014-2020.

Eel Resources Management Plan, in the period of recent 4 years about 2 Mio 154 thousand glass eels were introduced into more than 110 inland water bodies.

National Atlantic Sturgeon Population Restoration Programme for 2012-2020 was started to implement in 2011.

Lithuanian water bodies are populated every year with salmon, eel, sea trout, carp, pike, zander, tench, cray fish juveniles.

Fines for illegal fishing are considerable.

Restoration of spawning areas and opening up of fish migration routes has been started in watercourses, which is the basis and prerequisite for the restoration of fish resources.

7.7. Green Infrastructure

Green Infrastructure provides ecological, economic and social benefits through natural solutions. It helps to understand the value of the benefits that nature provides to human society and to mobilise investments to sustain and enhance them.

The backbone of green infrastructure in Lithuania is the national legislation on ecological network, which requires incorporating protected areas and other ecologically and biologically valuable areas into spatial planning processes with the aims to:

- protect biodiversity, landscape and natural recreational resources;
- to make interlinkages among the most ecologically valuable habitats;
- to form migration corridors;
- to enhance areas of forests; and
- to regulate development of urbanization and agriculture.

The Action Plan on Conservation of Landscape and Biodiversity for the period of 2015–2020 sets a strategic goal for Lithuania to halt biodiversity loss and degradation of ecosystems and their services and, where possible, to restore them.

The Process of preparation and implementation of management plans for protected areas as well as action plans for protected species is ongoing.

Nine border municipalities in Latvia and Lithuania are cooperating under the motto “Let’s make our cities greener” in order to restore urban parks and green infrastructure; improve the wellbeing, awareness and engagement of citizens to maintain green areas in their neighbourhood; and enable city planners to integrate green infrastructure in urban space.

A LIFE+ project for the establishment of a pilot ecological network in South Lithuania, completed in 2015, carried out activities for the protection of target species, the restoration of their habitats, the creation of an ecological network and education of local communities. The ecological network model is intended for replication to the entire territory of Lithuania. The project further raised local awareness of the importance of ecological networks for nature and for people.

7.8. Soil

Intensified remediation of contaminated sites is promoted by National Environment Protection Strategy (2015) and Management Plan of Contaminated sites for 2013-2023 approved by the Minister of Environment.

An updated inventory and assessment of soil protection policy instruments in Lithuania and other EU Member States is being performed by the EU Expert Group on Soil Protection.

7.9. Eco-Innovation

The composite eco-innovation index for Lithuania rose from 66 in 2013 to 72.9 in 2015. A

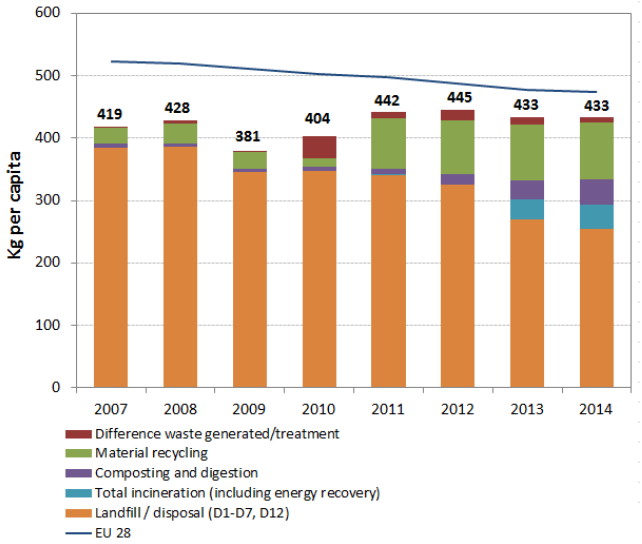
major economic driver for eco-innovation is the funding support from EU measures and a continuing partnership between Lithuania and Norway. This partnership in particular has led to the establishment of the Green Industry Innovation Programme based on the Norwegian Financial Mechanism 2009-2014. The programme has helped fund many new innovations and has been a great contributing force towards moving Lithuania in the direction of eco-innovation.

The partnership with Norway also acts as a driver of cultural change for Lithuanian businesses. Though the last call for the Green Industry Innovation Programme was issued in 2015, the partnership has continued in other aspects. In particular matchmaking events between Lithuanian and Norwegian businesses have been planned for 2016 and 2017 to continue spreading good practice of eco-innovation in Lithuania (waste management in particular).

Since 2013, the policy framework for eco-innovation has been significantly improved, especially with two major programmes and strategies that cover national actions for eco-innovation – Lithuanian Innovation Development Programme for 2014-2020 and Lithuanian Smart Specialisation Strategy. The promotion of eco-innovation in Lithuania is covered under the general innovation policy agenda – Lithuanian Innovation Development Programme for 2014-2020, the strategic aim of which is to promote Lithuania's global competitiveness by establishing an effective innovation system. Growing potential in eco-innovation is expected in construction, solar energy, waste management and green transport.

7.10. Waste management

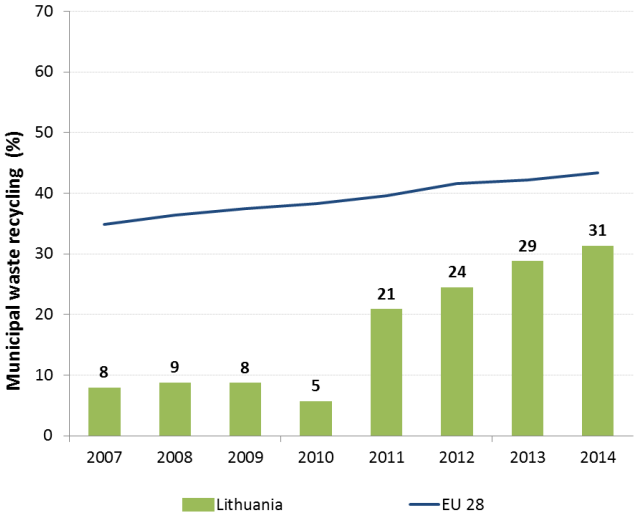
Municipal waste by treatment in Lithuania 2007-2014



Although in 2014, Lithuania decreased the amounts of municipal waste landfilled compared to 2013 (64% in 2013, 60% in 2014), it was still significantly above the EU average of 28%. Disposal in landfills remained Lithuania's main treatment option of municipal waste. Composting has increased from 8% in 2013 to 10% in 2014 (EU average 16% in 2014).

Even though in 2014 recycling of municipal waste at 31% has slightly increased compared to the year before (EU average 44% in 2014), this stagnation puts Lithuania at risk of not meeting the 50% recycling target by 2020 as shown in the Figure below.

Recycling rate of municipal waste 2007-2014



Managing waste efficiently and reaching the 2020 recycling target of 50% remains a challenge in Lithuania. Comparing to the previous year, waste management has improved; however, further investments in separate collection and recycling will be needed in Lithuania in order to reach the 2020 recycling target.

In 2014, Lithuania adopted its National Waste Management Plan 2014-2020 (last amendment in June 2016) and in 2013 the National Waste Prevention Programme.

EU structural and investment funds are an important source of funding for improved waste management system in Lithuania. In 2007-2013 190 million EUR were invested into waste management projects, including construction of 9 regional mechanical and biological waste treatment plants, remediation of 340 old landfills/dumpsites, construction of numerous bulky waste collection and green waste composting sites, extension of separate waste collection system (210 000 containers for recyclable and biodegradable waste).

In the 2014-2020 period 87,2 million EUR investment from the Cohesion Fund is planned to support further development of the separate collection of waste, modernisation of capacities to prepare waste for recycling, reuse or other recovery (sorting lines, other equipment), and modernisation of the waste management information system and monitoring.

7.11. Water quality and management

River Basin Management Plans (RBMPs) are a requirement of the EU Water Framework Directive and a means of achieving the protection, improvement and sustainable use of the water environment across Europe. This includes surface freshwaters such as lakes and rivers, groundwater, estuaries and coastal waters up to one nautical mile.

In its first generation of RBMPs Lithuania reported the status of 832 rivers, 354 lakes, 4 transitional, 2 coastal and 20 groundwater bodies. 50% of natural surface water bodies achieve a good or high ecological status and only 37% of heavily modified or artificial water bodies achieve a good or high ecological potential. Almost 100% of surface water bodies, almost 100% of heavily modified and artificial water bodies and 100% of groundwater bodies achieve good chemical status. Though 100% of groundwater bodies are in good quantitative and chemical status, and 5 groundwater bodies are classified as “groundwater bodies at risk” because of mineral water intrusion to drinking water aquifers.

The main pressure for the Lithuanian surface water is diffuse pollution mainly from agriculture that affects 26% of water bodies on average.

The Lithuanian RBMPs have a number of deficiencies that result in uncertainties about the

status, pressures and effectiveness of Programmes of Measures. In particular there were weaknesses in monitoring and methods for assessment and classification of both the ecological and chemical status. A high number of exemptions were applied without transparent justification. The planned measures are expected to result in significant improvement of ecological potential of artificial and heavily modified water bodies by 24% and improvement of ecological status by 7% for natural water bodies.

Lithuania applies its Nitrates Action Programme (NAP) throughout its territory which provides a basic level of protection for all waters. The current Action Programme expired on 1 May 2016. According to the last report on the implementation of the Nitrates Directive (referring to the period 2008-2011), there are low levels of nitrate in surface water and groundwater but high levels of eutrophication in rivers. Protection of the Baltic Sea is also an issue (all saline waters were reported as eutrophic).

As regards drinking water, Lithuania reaches very high compliance rates of 99-100% for microbiological, chemical and indicator parameters laid down in the EU Drinking Water Directive.

On the basis of the latest data available (2011), Lithuania demonstrates very high compliance rates with the Urban Waste Water Treatment Directive (with rates of 100% for both collection (Article 3 UWWTD) and secondary treatment (Article 4 UWWTD) and 96.6% of the waste water load collected subject to more stringent treatment in accordance with Article 5 of the UWWTD.

EU structural and investment funds are an important source of funding for water sector in Lithuania. In 2007-2013 around 570 million EUR were invested into the waste water collection and treatment system.

In 2014-2020, around 125 million EUR are planned for water management measures that will help to further develop waste water collection and treatment systems and improve environmental status of at least 20 surface water bodies.

Diffuse source agricultural pollution can account for 45-80% of all the load of nitrogen pollution washed to waterbodies. In Lithuania, due to non-point source pollution 222 surface water bodies out of 1177 do not meet the criteria of good ecological status. This accounts for 19% of the total number of all water bodies.

In 2007, the society was introduced with the main water protection issues in Nemunas, Venta, Lielupė and Dauguva river basin districts. Later the management plans and action programmes of measures were prepared for the aforementioned river basin districts. These documents were approved by the resolutions of the Government of the Republic of Lithuania in 2010. The river basin districts management plans are updated every six years. The first management plans will be implemented during the period from 2010 to 2015.

Based on the information submitted in the first river basin districts management plans during the period from 2005 to 2009, 17% of 832 river waters bodies were of high ecological status, 24% – of good, 50% – of moderate status, 8% – of poor and 1% of bad ecological status. In 2015, the renewed management plans for Nemunas, Venta, Lielupė and Dauguva river basin districts will be finally drafted and it will include the assessment of the ecological status of rivers and its change during the period from 2010 to 2014.

In 2006–2011, high and good ecological status was determined for 79–89% of all examined water bodies in terms of total phosphorus. Based on the total nitrogen, approx. 82% of lakes and reservoirs that were examined during the period from 2004 to 2011 have met the requirements of high or good ecological status.

When summarising the results obtained in 2004–2011, no essential tendencies of the changes of average concentrations of total phosphorus and total nitrogen, salinity, oil hydrocarbons were observed.

7.12. Air quality

In general, Lithuania meets air quality requirements and air quality could be assessed as satisfactory or good. The limits of air pollutants are not exceeded with some exceptions in bigger cities, where the limits of particular matters are exceed several days per year.

The emission of several air pollutants has decreased significantly in Lithuania. Reductions between 1990 and 2014 for sulphur oxides (-89%), nitrogen oxides (-60%), ammonia (-52%) as well as volatile organic compounds (-52%) ensure air emissions for these pollutants are within the currently applicable national emission ceilings.

At the same time, air quality in Lithuania continues to give cause for concern. For the year 2013, the European Environment Agency estimated that about 3 170 premature deaths were attributable to fine particulate matter concentrations and 90 to ozone concentrations. This is due also to exceedances above the EU air quality standards.

For 2014, exceedances above the EU air quality standards have been registered for particulate matter in one air quality zone (Vilnius). Furthermore, exceedances have been registered for long-term objectives regarding ozone concentration in three air quality zones for daily concentration and in one air quality zone for annual mean concentration.

It has been estimated that the health-related external costs from air pollution in Lithuania are above EUR 1 billion/year (income adjusted, 2010), which include not only the intrinsic value of living a full health life but also direct costs to the economy. These direct economic costs relate to 488 thousand workdays lost each year due to sickness related to air pollution, with associated costs for employers of EUR 37 million/year (income adjusted, 2010), for healthcare of above EUR 5 million/year (income adjusted, 2010), and for agriculture (crop losses) of EUR 17 million/year (2010).

In 2014-2020, EUR 20 million of ESI funds are planned for actions ensuring better air quality and integrated pollution prevention and control.

7.13. Green taxation and environmentally harmful subsidies

In 2014, the ratio of tax revenues to GDP in Lithuania is the lowest in the EU, while at the same time environmental taxes, as a potential source of revenues, remain unexploited. After a large drop in the share of environmental taxes from 2.8% of GDP in 2004 to 1.7% in 2011, it remained stagnant in 2014. In the same year environmental tax revenues accounted for 6.13% of total revenues from taxes and social-security contributions (EU 28 average: 6.35%).

The largest proportion of the revenue derived from environmentally-related taxation is obtained through energy taxes. Pollution/resource and transport taxes (excluding transport fuels) have produced smaller revenue streams with each group of taxes constituting around 3% of environmental taxes. Taxes on transport in Lithuania are the lowest in the EU, and besides a low level, they do not take into account the environmental performance of vehicles.

Q8: How effectively has biodiversity been mainstreamed into relevant sectoral and cross-sectoral strategies, plans and programmes?

8.1. Coordination and integration

Lithuania adopted its National Sustainable development strategy in 2009 and National Environment Protection Strategy in 2015 and National Environment Protection Strategy in 2015.

Environmental issues fall within the area of governance of the Ministry of Environment. There are a number of subordinate institutions: five agencies, eight regional departments, the State

Territorial Planning and Construction Inspectorate, three enterprises (e.g. Construction production Certification Centre) and a number of directorates and services.

Governmental institutions, such as the Ministries of Environment, Economy, Health Protection, Energy, Transport and Communications and Agriculture consistently and effectively coordinate their actions in order to increase awareness and ensure the integration of environmental aspects into the implementation measures of other policies.

Integration of sectoral policies is ensured through complex territorial planning. Pursuant to the Law on Territorial Planning, there is a set of obligatory complex territorial planning documents. As an example for coastal zone: at national level: Comprehensive Plan of the Territory of the Republic of Lithuania (*approved by Resolution No IX-1154 of the Parliament on 29.10.2002, as last amended on 12.10.2006*) (hereinafter – Comprehensive plan), which comprises both terrestrial and maritime territories in one document. At regional level: Regional Comprehensive Plan of the Territory of Klaipėda apskritis (county) (the only one), located at the rim of the Baltic Sea in Lithuania, which is under finalisation. At local level: Comprehensive Plans of the Territories of Local Municipalities (Neringa, Klaipėda city, Klaipėda administrative district, Palanga city) and Comprehensive Plans of the Territories or Parts of those of Local Municipalities. The detailed planning solutions are elaborated in the detailed plans, which are also attributed to the complex territorial planning documents of local level.

It is important to mention the Special Plan of the Continental part of Coastal Strip (*approved by Order No D1-601 of the Minister of Environment on 28.7.2011*). It introduces zoning of the territories under environmental protection priorities. The territory of the Plan covers 100-858 m landwards from the mean waterline, whereas the length of the Coastal strip covers 39 km.

It should be noted that four municipalities have access to the coast and thus have the right to develop comprehensive and detailed plans for their territory, which legally permit sectoral or integrated development in the coastal zone. However, these territorial plans have to be set in accordance with the State's interests.

The complex territorial planning documents are obligatory to implement and include planning solutions for all sectors, which use the territory embraced by the Comprehensive plan. While preparing the Comprehensive plan, sectoral planning documents (including policies, strategies and special territorial plans) are scrutinized for their relevance to the planned territory of the Comprehensive plan and taken into account while formulating its planning solutions. Administrative authorities relevant to the planned territory and level of planning issue the planning conditions for the intended territorial planning document. When planning solutions of the territorial planning document are ready, they get the project of the plan for consideration before the plan is adopted. During preparation of the territorial plan, relevant sectoral authorities take part in the assessment of its planning solutions with regard to their likely significant impact on the environment.

The Programme of implementation of the Comprehensive plan is elaborated after the approval of the Comprehensive plan. It includes measures for the implementation of all sections of the Comprehensive plan and indicates sectoral authorities responsible for the implementation of those measures. Solutions of higher-level plans are obligatory for the lower-level plans. Planning solutions of the Comprehensive plans are obligatory for the special (e.g. sectoral territorial planning documents of the same and lower level).

Thus integration of sectoral policies is achieved through issuing planning conditions, integrating sectoral parts into a comprehensive set of solutions in the Comprehensive plans, participating in strategic environmental assessment of their impact, taking part in consideration procedures and in subsequent implementation of the adopted plans. Moreover, non-territorial plans and programmes, prepared by the governmental or municipal institutions the implementation of which may lead to significant effects on the environment of the coastal zone, would also undergo strategic environmental assessment according to the Law on Environmental Protection and legal

acts governing the strategic environmental assessment (*Regulations on Strategic Assessment of the Effects of Plans and Programs on the Environment approved by Resolution No 967 of the Government on 18.8.2004, as last amended on 23.12.2014*) and the Law on Environmental Monitoring (*No VIII-529, adopted by the Parliament on 20.11.1997, as last amended on 4.5.2006*).

It should be noted that proposed public and private projects in the coastal zone falling under the scope of the Law on Environmental Impact Assessment of the Proposed Economic Activity would undergo the determination, description and assessment of the potential impacts on the environment, including the coastline, envisaging measures to minimise or avoid the adverse impacts of the project on the coastline and components of the environment.

The above-mentioned national legislation ensures compliance with the principles concerning coastal zone management; in particular the potential impact on the coastal zone of projects is assessed prior to their development, giving one of major priorities to environmental protection. Public participation in decision-making at an early stage of policy formulation and project assessment is ensured through the process of strategic environmental assessment and environmental impact assessment. Public participation during the whole territorial planning process, except in some cases concerning confidential information, is also ensured by the Law on Territorial Planning and by the Regulations on Public information, Consultation and Participation on Decision-Making in Territorial Planning (*approved by Resolution No 1079 of the Government 18.9.1996, as last amended on 18.12.2013*). Pursuant to the above-mentioned legislation, the organiser of territorial planning ensures publicity of territorial planning. Public participation procedures for non-territorial plans and programmes are defined by Order No D1-455 of the Minister of Environment on 27-08-2004.

8.2. Increasing the contribution of agriculture and enhancing biodiversity

There are 1,52 Mio hectares of high nature value areas, including protected areas, natural grasslands, protected areas, various types of wetlands in Lithuania. That comprises ~23 percent of the whole territory.

Farmland Bird index shows common decrease of wild birds population on farmland from 2000. Nevertheless, from 2006 until 2013 (in shorter period) Farmland Bird Index remained stable.

Participation of farmers in biological diversity conservation schemes proposed by national rural development programme is considered as not sufficient. In 2007-2013 only 7.5 percent of whole farmland was covered by rural development measures designed for biodiversity conservation.

New Rural Development Programme for 2014-2020 continues supporting broad measures of landscape and biodiversity conservation, water and soil protection, including conservation of Natura 2000 areas and areas with natural constraints or with high nature value farming. Programme addresses the problem of land abandonment in areas with natural and other specific constraints by supporting maintenance of farming in these areas. Programme also supports restoration and yearly specific management of habitats of globally endangered bird species Aquatic warbler. Further more specific species and habitats conservation schemes are still needed and are under development.

The Programme foresees measures in arable land to protect waterbodies and/or avoid soil erosion.

8.3. Conservation of agricultural genetic diversity

Lithuania has ratified the FAO's international treaty on genetic plant resources for agriculture

Plant genetic resources and domesticated animals genetic resources are regulated separately in national legal acts in Lithuania.

Two national institutions are coordinating and harmonizing the relevant technical activities with respect to genetic resources: Plant Gene Bank and National Farm Animal Genetic Resources

Coordinating Centre. There are several other institutes dealing with plant genetic resources conservation activities in the country.

The general principle is that plant genetic resources can be freely accessed for plant selection and other *bona fide* targets as scientific research, seed collecting, reproduction, exchange of plant genetic resources, for human needs (food, medicines). The plant genetic resources should be used in a way that genetic resources are not damaged or destroyed and biodiversity is conserved. Regulations on protected species and other relevant legal acts on biodiversity conservation should be followed.

At the moment there are about 4000 objects that are treated as plant genetic resources. The number is increasing every year.

Every year the Ministry of Environment allocates some funds for preservation of collections of plant genetic resources.

The principles of conservation of Lithuanian farm animal genetic resources and evaluation of Lithuanian breed status are based on the experience of animal breeding in small conserved herds and on the criteria of global strategy of FAO for the management of farm animal genetic resources. The minimal size of the conserved population was determined according to the breeding possibility of isolated animals without considerable inbreeding increase and regarding to the evaluation standards for breeding animals. The numbers of animals from native breeds were stabilized and even had increased for some breeds. After restoration and conservation of Lithuanian old native breeds' it seems that Lithuanian animal breeds could experience bottleneck effect. Effective population size for many Lithuanian breeds is below 50 till now, there is driftless reproduction and, therefore, the survival of the population is uncertain. The inbreeding can be minimized by having a larger effective population size (more than 50) and by using special mating schemes to maintain genealogical structure. The first decision in setting up conservation schemes was to carry forward the existing variability in the breeds. This is mainly concerned with the size of available resources, which could be adjusted by choosing individuals for conservation action from different lines and by carrying out planned mating between the chosen animals. Although the establishment of isolated herds with four non-related groups based on founders generation and implementation of special mating schemes had prevented the total disappearing of Lithuanian old animal breeds, the amounts of the compensatory payments are not sufficient for successful conservation of Lithuanian farm animal breeds. Despite the numbers of animals from rare Lithuanian breeds were stabilized and even have increased for some breeds, the numbers of sires should be increased and higher requirements for pure breeding and participation in the programme must also be considered.

8.4. Increasing the contribution of forestry and enhancing biodiversity

National Forestry Development Programme among other objectives aims at protection and enhancement of sustainability of forest ecosystems.

National legislation requires a forest management plan for each forest holding. Only limited activity is allowed without forest management plan. Requirements for forest management plan content and its preparation procedure oblige to take duly account of biodiversity features in the area when forest management measures are planned.

There are some restrictions for forest fellings related to protection of birds of prey. A distance from the nesting sites of different bird species where the final fellings are prohibited are set in the Rules of Forest Fellings.

In these protection zones arround the nests other types of fellings are prohibited from 1 April until 1 September, and arround the nests of White tailed Sea Eagle and Golden Eagle – from 1 February until 1 September . In Protected Areas all fellings prohubited from 15 March to 1 August.

The compensation for fellings closer to the bird nests than defined in the Rules of Forest Fellings varies from 120 to1 060 Eur for 1 m^3 (depending on forest type).

In order to protect biodiversity of forests and prevent the reduction of forestland because of land-use changes, Lithuania has introduced specific forestry legislation. In cases of land-use change, all forest owners must plant new forest on their own land or pay compensation, used to plant and maintain new forests.

8.5. Improvement of management of fished stocks and elimination of adverse impacts on fish stocks, species, habitats and ecosystems

Operational Programme of the Fisheries Sector for 2015-2020 identifies the need for reduction of the fishing effects on marine environment, including the avoidance and reduction, as far as possible, of unwanted catches:

- using innovations related to marine biological resources;
- improving, adapting and implementing new fishing gears and methods;
- adapting fishing ports and landing sites to facilitate the compliance with the obligation to land all catches;
- implementing conservation measures;
- supporting collection of waste from the sea;
- The protection and restoration of aquatic biodiversity and ecosystems by implementing measures aimed at protection and enhancement of inland fauna and flora.

It is envisaged that about one-fifth of European Maritime and Fisheries Fund investments for Lithuania will be allocated for achieving a greater resource-efficiency and minimising the environmental impact. During the period of 2014−2020 it is planned to adapt in the Lithuanian fisheries the fishing gears that increase selectivity or that minimise the negative impact of fishing activities on the marine and inland waters ecosystems, to provide the infrastructure for landing or processing of unwanted catches, and marine litter collection from the sea. Measures of such type are targeted towards a greater resource-efficiency, by reducing unwanted by-catches and discards of fish as well as negative impact on the environment and stocks. This will directly contribute to the implementation of the objective to ensure efficient use of resources set in the Europe 2020 strategy.

Special attention should be devoted to the fact that pond aquaculture farms are the sites where many rare species of birds nest, settle and stay during migration and habitats of rare species of amphibians and therefore it is important to ensure the continuity of activities of such farms. Sometimes the change in fish growing techniques in such farms can have significant impact on animal species finding shelter within such farms and on Natura 2000 sites located in the same river basin. Therefore, support will be provided to pond aquaculture farms that have to adapt in Natura 2000 sites to higher standards of operation or incur losses due to established additional requirements for the activities of such farms. According to the data of 2013, in Lithuania three pond aquaculture farms fall within the bird habitat protection sites under Natura 2000.

The Operational Programme of the Fisheries Sector for 2015-2020 will contribute to the implementation of the sustainable development objective, which also aims at the climate change mitigation and adaptation policy in the following main areas:

- implementing sustainable principles in business: supporting the development, adaptation and implementation of energy and resource efficient processes (e.g., management systems or energy audits) and technologies in fisheries enterprises and fish landing sites;
- promoting the coherent use of resources: implementing precautionary measures provided for in the Common Fisheries Policy regulation, supporting investments in more selective fishing techniques and gears reducing physical and biological impact

on the environment, ensuring the conservation of landscape and biodiversity and improvement of condition, including aqua-biodiversity and functioning of ecosystems; and ensuring effective collection of data and fishing control;
- consulting fisheries enterprises on the matters of environmental sustainability.

Licence fees on recreational fishing generated EUR 1.7 million in 2015 and revenues are allocated to Environment Protection Support Programme. The income of these fees is increasing (EUR 0.75 million in 2012; EUR 1.45 million in 2013; EUR 1.7 million in 2015).

Payments for commercial fishing (EUR 150 thousand per year) are allocated to special account of Fisheries Development and Competition Programme and are administered by the Service of Fisheries under the Ministry of Agriculture. Revenues collected from the auctioning of fishing quotas for commercial fishing and for the right to use fishing areas for recreational fishing are used to finance fishery related measures, restore fish stocks etc. In 2015 research in inland water bodies proved that status of fish resources is good or even very good, the population of certain fish species increased.

8.6. Marine protection

Lithuanian marine waters are part of the Baltic Sea marine region. Lithuania is therefore party to the Convention on the Protection of the Marine Environment of the Baltic Sea (HELCOM). In the Baltic Sea, main risks for biodiversity relate to eutrophication, overfishing and bycatch, pollution by contaminants and oil, and introduction of non-indigenous species.

The use and protection of marine areas of Lithuania are regulated by the Upgrading of the Comprehensive Plan of the Republic of Lithuania by Marine Areas, approved by the Parliament of the Republic of Lithuania by the Resolution No. XII-1781 on 11th of June, 2015.

Eutrophication is a matter of concern in the Baltic Sea. Requirements to achieve and maintain a good status of marine waters are set and applied according to the Law on Marine Environment Protection (*No. VIII-512 adopted by the Parliament on 13.11.1997, as last amended on 14.4.2016*). The pollution load to the marine environment and negative impact on marine ecosystems, biodiversity and human health is reduced through implementing the Programme of measures, including measures aimed at reducing eutrophication. The Ministry of Environment coordinates the implementation of the Programme of measures. Municipalities, the State and other institutions including military forces perform concrete measures. Lithuania ratified the Helsinki Convention in 1997 (*No. VIII-139 adopted by the Parliament on 25.2.1997*) and the Minister of Environment signed the Baltic Marine Environment Protection Commission (HELCOM) Action plan.

8.7. The Polluter Pays principle

The Polluter Pays principle is a fundamental principle of environmental policy in Lithuania. This principle is included in many core environmental legal acts – the National Environmental Protection Strategy, the Law on Environmental Protection, the Law on Waste Management, the Law on Packaging and Packaging Waste Management, the Law on Drinking Water Supply and Waste Water Management and etc. The Polluter Pays principle has been implemented through the Law on Environmental Pollution Tax, the Law on State Natural Resource Tax, the Law on Hydrocarbons Resource Tax, the Law on Excise Duty, the Law on Financial Instruments for Climate Change Management and other governmental resolutions and ministerial orders.

National Sustainable Development Strategy promotes economic development that takes into consideration environmental and social development. Lithuania aims to decuple economic growth from environmental degradation. One of the National Sustainable Development Strategy

implementing principles is Polluter Pays principle, ensuring the prevention of environmental pollution and other negative environmental impact, rather than focusing efforts on dealing with the negative consequences of economic activities.

According to the provisions of the Law on Environmental Protection, implementing the Polluter Pays principle, users of natural resources as well as persons pursuing economic activities must take all the necessary measures to prevent causing damage to the environment, human health and life, property and interests of other persons. Persons responsible for the damage done must restore the state of the environment, where possible, to the baseline condition as it was prior to the damage and compensate all the losses. The baseline condition is determined on the basis of the information available on the best state of the environment.

The Law on Environmental Protection encourages introduction of a low-waste technology and the manufacturing of ecological products by tax reduction, credit privileges and state subsidies. Implementing the provisions the Programme of the Lithuanian Environmental Investment Fund has been established.

According to the Rules on granting, updating and cancelation of the Integrated Pollution Prevention and control Permits, when the permit is not needed if the purpose of an activity is scientific research and development, or stimulating experimentation with new pollution-control technologies and development of new pollution-abatement equipment, such situation is incompatible with the Polluter-Pays Principle.

The Law on Environmental Protection lays down the general rule that the entire cost of environmental damage shall be borne by an economic entity that has caused environmental damage, or an imminent threat, with the exception being cases provided for by this law: 1) when the environmental damage or imminent threat of such damage occurred due to force majeure; 2) when an economic entity proves that the environmental damage or imminent threat of such damage was caused by the actions of a third party, despite the fact that appropriate safety measures were in place; 3) when the environmental damage or imminent threat of such damage resulted from strict compliance with a compulsory instruction emanating from an institution authorised by law other than an instruction consequent upon contamination or incident caused by the economic entity's own activities. Exception also applies in cases when the appropriate measures have been implemented by institutions authorised by a municipality or the State. Government authority must implement the appropriate measures if the persons who have caused environmental damage or imminent threat have not been identified or if these persons are identified, but they fail to implement the necessary measures (in which case they shall reimburse the full costs by judicial procedure).

The Law on Environmental Protection lays down the general rule that legal and natural persons must (while operating the objects of economic activities whose operation is related to a harmful effect on the environment), at their own expense: 1) develop and perform preventive measures; 2) monitor the degree of environmental pollution and its impact on the environment; 3) guarantee that information thereon be made available to the public; 4) provide conditions for control of pollution.

The Law of Environmental Protection encourages introduction of a low-waste technology and the manufacturing of ecological products by tax reduction, credit privileges and state subsidies. One of the encouraging measures is the Programme of the Lithuanian Environmental Investment Fund. Pursuant to the above-mentioned Programme, revenues generated from pollution taxes are used for the purpose of financing environmental investment projects to reduce pollution when new technologies are implemented. Therefore, this measure is in compliance with a general rule of the Polluter-Pays principle: the State should not assist the polluters in bearing the cost of pollution control, whether by means of subsidies, tax advantages or other measures. A polluter should pay the taxes every time, but is able to get a subsidy from the Environmental Investment Fund. This subsidy must only be used for new technologies that reduce environmental pollution or waste generation.

There have been other different funds established for the financing and implementation of specific environmental objectives: the Special Programme for Climate Change, the Programme on Waste Management, the Environment Protection Support Programme and the Special Programme for Financing General Forestry Needs.

The guiding principles concerning the international economic aspects of environmental policies are applied through the National Strategy for Sustainable Development (*approved by Resolution No 1160 of the Government on 11.9.2003, as last amended on 30.3.2011*), the National Environmental Protection Strategy and the Law on Environmental Protection, which establishes the national environmental policy framework. The Law on Environmental Protection states that national provisions shall be in compliance with international environmental agreements already ratified by Lithuania.

Lithuania, as a member of the international community, participates in different international and regional organisations and networks, and applies international policy frameworks, agreements and recommendations in its national policy. Ratified Multilateral Environmental Agreements are a part of the overall framework of national environmental legislation. According to international practice, environmental charges and taxes are applied to reflect the environmental impact on the price of goods and services, and no exemptions are granted for local producers.

The long-term environmental goals and objectives are set in the National Environmental Protection Strategy. The Ministry of Environment together with other ministries (e.g. the Ministry of Health Care, the Ministry of Energy) approves the necessary norms, normative standards and rules as a means to achieving the environmental objectives.

Lithuania has introduced the Polluter-Pays principle in the various policy fields (water, air pollution, waste management and others) to achieve the environmental goals and targets in the most appropriate and cost-effective way. In accordance with the Polluter-Pays principle, the operator of an installation is responsible for all prevention, reduction and assessment measures, as well as the elimination of their consequences. The operator of an installation is liable to cover the expenses to a full extent – the state does not assist in paying the costs of pollution control, whether by means of subsidies, tax advantages or other measures, which should be in compliance with the state aid requirements anyway.

Following this principle the Law on Environmental Monitoring establishes the obligation for entities to prepare monitoring programme by themselves, the Law on Environmental Protection – the obligation for entities to conduct monitoring using their own means.

The process of preparation and approval of Monitoring programme is regulated by the Regulations on the Environmental Monitoring of Entities approved by Order of the Minister of Environment No D1-546 of 16 September 2009. These Regulations state that monitoring is to be conducted by entities according to the monitoring programme, approved by the Environmental Protection Agency.

These Regulations also specify that implementation of monitoring by entities, quality of monitoring data and conformity of monitoring methods to legal acts are controlled by Regional Environmental Protection Departments.

8.8. Assessment of Projects with Significant Impact on the Environment

The Law on Environmental Impact Assessment of the Proposed Economic Activity (hereinafter – the Law on EIA) (*No I-1495 adopted by the Parliament on 15.8.1996, as last amended 27.6.2013*)**,** is the framework law establishing the environmental impact assessment (hereinafter – EIA) system in Lithuania and through the Regulations on Strategic Assessment of the Effects of Plans and Programs on the Environment (hereinafter – Regulations on SEA) (*approved*

by Resolution No 967 of the Government on 18.8.2004, as last amended on 23.12.2014), which stipulate the process of strategic assessment of the effects of plans and programmes on the environment and the relationships between the participants in this process.

The Law on EIA provides the following key elements for the EIA system: 1) it defines the main terms (definitions) and stakeholders for the EIA process and the main functions; 2) it establishes the screening requirements for an EIA; 3) it provides the general requirements for the EIA process, including time frames for each stage; 4) it defines the minimal contents of an EIA programme and report; 5) it establishes the requirements for consideration of project alternatives; 6) it provides the requirements for public information and ground for public participation; 7) it establishes the requirements for transboundary EIA; 8) it provides an EIA decision-making process; 9) it lists the Proposed Economic Activities that are subject to an EIA; 10) it lists the proposed economic activities that are subject to screening for an EIA.

The EIA for the proposed activity is performed in such cases: 1) the proposed economic activity is on the List of the Proposed Economic Activities Subject to an EIA (power stations and other combustion installations, including industrial installations for the production of electricity, steam and hot water or the construction of main or national roads); 2) it is determined during the screening that an EIA is mandatory for the proposed activity; 3) or implementation of the proposed activity may have an adverse impact upon the areas of European ecological network of protected sites Natura 2000. The EIA is carried out at an early stage, ensuring consideration of measures for mitigating any environmental impacts.

The Environmental Protection Agency (hereinafter – the EPA), as a competent authority that coordinates the EIA process and carries out screening: 1) examines and approves EIA programs; 2) examines the motivated evaluation of public comments and its requests; 3) examines the conclusions drawn by the relevant institutions; 4) analyses EIA reports; 5) adopts substantiated decisions on the permissibility of the proposed activity in the selected site, taking into account conclusions of the relevant institutions and public opinion (during 2010-2015, the EPA adopted 149 EIA decisions. Three of them, in principle, rejected the proposed economic activity). State institutions in charge of health care, fire protection, protection of cultural properties and municipal institutions participate in the EIA, examine the programmes and reports, and submit conclusions. The Ministry of Environment coordinates transboundary EIA procedures. The developer of the proposed activity carries out the EIA procedures assigned by the Law on EIA at its own expense. The preparer of the EIA documents, obliged by the developer of proposed activity, determines, describes and evaluates the potential environmental and health impacts of the proposed activity, prepares the EIA programme and the EIA report and performs EIA procedures. The public, as well as NGO's and community-based organisations, are involved in the EIA process and provide proposals and comments concerning the EIA of proposed activities and their potential environmental and health impacts.

For proposed activities that fall outside of the scope of a mandatory EIA, the screening procedure is carried out in order to determine if the proposed activity is likely to have a significant impact on the environment. Specific requirements on the screening are defined in the Methodological Regulations on the Screening of the Proposed Economic Activity (*approved by Order No D1-665 of the Minister of Environment on 30.12.2005, as last amended 16.12.2014*). It provides requirements for the competent authority for carrying out screening based on initial information provided by the developer or preparer of the EIA documents on his behalf as well as the content of the initial information.

8.9. Environmental information

An effective system of collecting, processing and disseminating environmental information is established on national, municipal and institutional levels. Environmental information is gathered

by means of State monitoring, economic entities' environmental monitoring, reports submitted by enterprises on their environmental pressures and emission calculations on the basis of activity data and emission factors. The Environmental Protection Agency (hereinafter – EPA) collects most of such information. The EPA possesses the information on: 1) the status of marine and inland water bodies; 2) ambient air quality; 3) waste water discharges and treatment; 4) water abstraction; 5) greenhouse gas emissions; 6) air pollution; 7) waste generation and handling; 8) the state of protected habitats and species; 9) the state of game animals; 10) invasive species abundance; 11) radiological status of the environment; 12) use of chemical substances and mixtures.

The Lithuanian Geological Survey, under the Ministry of Environment, collects information including on polluted land areas, the state of groundwater bodies and the use and availability of mineral resources. The Lithuanian Hydro meteorological Service, under the Ministry of Environment, collects data including on climate, meteorology, hydrology and water abundance in surface water bodies. The State Forest Service possesses information on forest resources, their use and state. The State Service for Protected Areas, under the Ministry of Environment, administers the Cadastre of State Protected Areas, which stores information on spatial planning documents for protected areas and nature management plans.

The above-mentioned institutions provide part of their possessed information to the Department of Statistics (hereinafter – Statistics Lithuania). Statistics Lithuania is a public authority coordinating national official statistics and is responsible for the collection of data concerning: 1) environmental protection expenditure; 2) waste generation and management in agriculture; 3) forestry and fishing economic activities; 4) the management of green areas in municipalities. Environmental information is disseminated through the Official Statistic Portal (OSP).

A group of national environmental indicators is set in order to measure the attainment of concrete policy objectives. Key environmental indicators (approximately 40) cover issues that reflect the main environmental concerns in Lithuania, help track environmental progress and analyse environmental policies. They are set in the National Environmental Protection Strategy (*approved by Resolution No XII-1626 of the Parliament on 16.4.2015*). The main indicators are grouped into three broad categories (priority areas). Key indicators for the category 'Sustainable Use of Natural Resources and Waste Management' include: 1) forest coverage; 2) fish stock sustainability index; 3) drinking water loss in networks; 4) share of total industrial and other economic activity waste (except phosphogypsum waste) that is recycled or otherwise reused; 5) share of municipal waste disposed in landfills out of total annual municipal waste generated. Key indicators for the category 'Improvement of the Quality of the Environment' list the following indicators: 1) share of water bodies with good status; 2) share of dwellings connected to the drinking water supply and sewage systems; 3) total organic matter of soil; 4) change in sulphur dioxide (SO_2), nitrogen oxides (NO_x), particulate matter ($PM_{2.5}$), non-methane volatile organic compounds, ammonia (NH_3) emissions compared to 2005 emissions; 5) activity concentration of radionuclide ^{137}Cs in the Baltic Sea water; 6) share of people within agglomerations exposed to high-level (above 65 $dBAL_{den}$) road traffic noise. Key indicators for the category 'Maintenance of Ecosystem Stability' are the following: 1) ratio of the natural frame area to the total land area; 2) share of wild fauna and flora species of Community interest in Lithuania with favourable conservation status; 3) share of natural habitats of Community interest in Lithuania with favourable conservation status; 4) share of terrestrial area of Lithuania designated as protected areas and/or areas of Natura 2000 network. Annual reports on the implementation of key environmental indicators are announced on the website of the Ministry of Environment.

Q9: How fully has your national biodiversity strategy and action plan been implemented?

9.1. Implementation of National Biodiversity Conservation Strategy and Action Plan

National Biodiversity Conservation Strategy and Action Plan of the Republic of Lithuania (NBCSAP) was approved by the joint order of the Minister of Environment and the Minister of Agriculture on 21 January 1998 (No. 9/27). This NBCSAP has been prepared to cover a 20 years period although most of the actions are meant to be implemented within 5 years. So it was foreseen that the Action Plan should be revised in five years but unfortunately it was not done.

Lithuanian NBCSAP was rather general and it is hard to assess its implementation in details. The assessment of implementation of the obligations under the articles and thematic programmes of the Convention should be done assessing the implementation of the Action Plan, which was prepared for the implementation of the Biodiversity Conservation Strategy.

In the 4th National Report of Lithuania were presented some examples how activities under the Action Plan contribute to the implementation of the obligations under the CBD and overview of progress made in implementation of priority activities or actions, focusing on concrete results achieved.

The new Action Plan on Conservation of Landscape and Biodiversity for the period of 2015–2020 was adopted only in January 2015. Its implementation has not been evaluated yet.

9.2. Challenges, problems and obstacles in biodiversity protection

9.2.1. Species and ecosystem protection

The national laws on the conservation of protected species and measures available (breeding, reintroduction, management of habitats) are inadequate for the protection of species. Lithuania has about 20 protected species that require immediate special measures for their conservation. Plans and documents on the conservation of protected species for implementing measures to conserve specific protected species are not in place. In addition, in the decision making process on economic activities Lithuania makes insufficient use of the Protected Species Information System. Regulations on the conservation of location and habitat sites of strictly protected species have not been drawn up, and the evaluation of protected species in accordance with the categories established by the International Union for Conservation of Nature (IUCN) has not been carried out.

There still remains a great threat of losing the living environment of protected species, in particular their habitats, and factors favourable to these species are deteriorating in the habitats. The process of habitat loss has especially intensified due to changes in forestry and agricultural technologies, the disappearance or change of traditional land use forms in agriculture, the disturbance of the natural hydrological regime, the development of urban infrastructure, the urbanisation of shores of water bodies and the growth of tourism infrastructure. Passive protection of habitats of species (where species are protected against direct physical destruction by means of hunting, fishing, plucking, picking etc.) is insufficient as various species are not only lost through physical destruction but they also withdraw or are eliminated or are threatened by extinction in the face of the natural change of habitats and ecosystems where conditions develop that better meet the needs of species other than protected species (e.g. due to the disruption of the natural hydrological regime, an open wetland habitat is replaced by shrubbery that is inappropriate for the breeding of protected species).

The formation of a conservation policy for biological diversity and the adoption of national legislation lack systematic research (especially long-term research) and data on biological diversity and ecosystems. The traditional method of conservation of biological diversity often applied in practice, i.e. conservation of separate species or individual areas valuable in terms of biodiversity, is not effective enough. Lithuania has legally and spatially formalised a system of the nature frame, but the development of this frame and the enhancement or restoration of its ecological functions

may be limited due to the insufficient scientific knowledge on biological diversity, the causes of loss, conservation practices and their effectiveness, and services delivered by ecosystems. In this respect, it is important to evaluate the state of ecosystems, their capacity to deliver services and the quality of ecosystem services provided, and to establish and maintain a system for collecting and updating scientific information on important biodiversity and the state of ecosystems.

9.2.2. Invasive species

At present Lithuania has no accurate data on the number, spread, abundance, the speed and pathways of the spread of invasive species, and pathways of their entry into the territory of the Republic of Lithuania. Research on invasive species in Lithuania is very much dispersed, exclusively fundamental and rarely applicable in practice. A shortage of scientists and scientific knowledge is felt when assessing the impact of invasive species on biological diversity, ecosystems and human health. There are at least eight invasive species that require special measures to regulate their abundance. To take such actions, appropriate documentation needs to be prepared first, i.e. action plans for the regulation of invasive species (their entry and spread, prevention of entry, regulation of abundance and destruction).

9.2.3. Genetic resources

Genetic resources are an important part of biological diversity and a great national asset, the conservation of which for the future generations is vital. The existing equipment and tools for the restoration and conservation of plant genetic resources are depreciated, which may lead to problems with their functionality and effectiveness and with ensuring conditions appropriate for the storage of plant genetic resources in the future. Lithuania has no research on the establishment of the genetic identity of plant genetic resources as technological means need to be acquired for this purpose.

9.2.4. Protected areas

The emergence of private ownership reduced the need for farming, especially in small areas. The survival of open habitats (grassland, wetland and sand) has come under a great threat as Lithuania is in the forest zone. Following the cessation of agricultural activities, open spaces grow over with forest quickly. To safeguard open grassland and wetland, immediate specific management measures need to be implemented.

The protected areas have some sites where the state is deteriorating due to the inadequate use, extensive farming (grazing, haymaking), natural successive processes in nature, spread of invasive species, non-regulated visiting and lack of an outdoor information system (people come to places where visiting is prohibited or restricted), absence of nature management operations etc.

Due to the lasting unavailability of possibilities for managing natural and cultural valuable sites and landscape complexes that see intensive flows of visitors, the state of some of them has become unsatisfactory. Moreover, after taking the public needs and the purposes of designating protected areas into consideration, these areas have to be adapted to visiting.

The public lacks information on the landscape and biological diversity and natural and cultural values of protected areas, their exceptional value, visiting and activity possibilities. Furthermore, there is no active participation of communities and the local population in protected areas. The use of information technologies that need to ensure continuous and high-quality dissemination of information on protected areas to Lithuanian and foreign visitors is ineffective.

Most of the state reserves were established more than a decade ago, but no detailed evaluation of changes in the state of protected values has been carried out since then. In addition, the Lithuanian state has assumed new international obligations, and the form of ownership and the

natural and economic environment have undergone changes. Therefore it is necessary to update the information on the values protected in reserves, evaluate their state and, where appropriate, modify the boundaries and/or regulations of reserves.

The existing methodologies, measures and equipment are not sufficient for the effective evaluation of the state of protected areas and the importance of their values, and for monitoring.

The state parks safeguard the country's most valuable landscape complexes, but they lack a systematic assessment of the state of landscape that would build the basis for the preparation of new planning documents of better quality for state parks and the planning of landscape management operations. This problem arises when designating new protected areas or natural heritage sites.

There is a shortage of tools and equipment for effective and quality monitoring of landscape, biological diversity, visitor flows and implementation of nature management plans; therefore substantiating, analysing and systematising data and providing the results to the public are made difficult.

9.2.5. Landscape protection

The landscape policy implementation and integration in other sectors is greatly affected by local-level decisions. Analysis of the information on the implementation of landscape policy measures provided by the municipalities in 2012 and 2013 shows that the municipalities have a weak perception of the systematic to the benefit of landscape protection and management and are inadequately guided by the provisions of the European Landscape Convention and the Lithuanian landscape policy in their actions performed in the landscape sector. Master plans and strategic documents at municipal level often lack a clear vision on the direction in which landscape should be developed and fail to provide for the landscape features, characteristics and elements that should be subject to protection and management measures, the aims of their development or to formulate provisions on the involvement of the public in the landscape policy formation process. Formalising the local-level landscape policy would help to improve the coordination of municipal actions in the landscape sector. This would provide conditions for conserving local-level landscape areas and their ecological, aesthetic and cultural values, functions and character, restore landscape sites and values important in terms of ecology or history and degraded landscapes, and ensure rational management and consistent planning of territories, education of the public and professionals and the implementation of the provisions of the national landscape policy and the European Landscape Convention at local level.

Another important aspect is the implementation of planning solutions and the development of particular landscape management projects. The financial capability of the state and municipalities has a great influence in this sphere. The lack of funds often prevents the implementation of regional-level planning solutions and valuable landscape complexes do not undergo any maintenance, leading to the deteriorating aesthetic value of landscape.

9.2.6. Climate change

Climate change is posing a threat to services provided by ecosystems and biological diversity. Identifying the impact of climate change in Lithuania is made difficult by the insufficient research on the impact on landscape, ecosystems and biological diversity. One of the reasons is that studies have to be long-term and span more than a few years, so that multiannual data and observations would allow identifying the impact of climate change on biological diversity and ecosystems.

The existing wild life monitoring system operates in accordance with approved programmes and methodologies, but it is unstable in the long-term perspective and is highly dependent on funding.

PART III: PROGRESS TOWARDS THE 2020 AICHI BIODIVERSITY TARGETS AND CONTRIBUTIONS TO THE RELEVANT 2015 TARGETS OF THE MILLENNIUM DEVELOPMENT GOALS

Q10: What progress has been made by the country towards the implementation of the Strategic Plan for Biodiversity 2011–2020 and its Aichi Biodiversity Targets?

Strategic goal A. Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Target 1:**By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.**

Overall environmental education and education for sustainable development are parts of school and universities programmes.

Protected areas administrations, nature education centres, museums, national funds for nature projects and NGO ensure a large part of the general nature protection awareness of the public. Network of visitor centres and of nature schools in 35 protected areas administrations is under constant development. In 2015 new package of 25 different nature education programmes for nature schools will be prepared.

Most of the European funds projects have an awareness raising component.

Projects aimed at raising public awareness on environmental issues are being implemented in Lithuania. This involves special radio and TV broadcasts, documentaries, articles in newspapers and on the internet. In part due to those public information activities, environmental awareness of Lithuanian citizens has risen from 35 % in 2008 to 55 % in 2011.

Furthermore, more long-term actions in the form of environmental education are constantly being carried out. Environmental education is one of the priority objectives of sustainable development listed in the National Sustainable Development Strategy. Provisions on the promotion of environmental education and environmental awareness among the public are enshrined in national legislation. Public authorities have a binding obligation to organise environmental education and adopt environmental education measures. Ways and means of education are set out in national legislation.

Target 2:**By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.**

When preparing strategies, development plans and planning documents biodiversity, and conservation requirements are taken into account.

The Law on Environmental Impact Assessment of the Proposed Economic Activity is the framework law establishing the environmental impact assessment system in Lithuania and through the Regulations on Strategic Assessment of the Effects of Plans and Programs on the Environment, which stipulate the process of strategic assessment of the effects of plans and programmes on the environment.

According to the provisions of the Law on Environmental Protection, users of natural resources as well as persons pursuing economic activities must take all the necessary measures to prevent causing damage to the environment, including biodiversity values.

For additional information see sections 5 ,6, 8.7. and 8.8.

Target 3:**By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.**

The National Environmental Protection Strategy (adopted in 2016) among implementing measures includes measure related to environmentally harmful subsidies – a transition from environmentally harmful subsidies (subsidies provided by the state that create conditions (preconditions) for consumers or producers to increase income or reduce costs, which the result in the degradation of the environmental status) to subsidies promoting sustainable development is encouraged.

In 2014, a study on the "Naming of environmentally harmful subsidies, and determination of their common values in the tax system setting. Methodology for evaluation of environmentally harmful subsidies" was carried out in Lithuania. The study has identified 37 environmentally harmful subsidies in Lithuania, composing of 79% of the National budget subsidies and 22% of EU support subsidies. The study proposed to review the tax subsidy incentives, which are related to natural resources, mobile pollution sources and energy products gradually abandoning them.

The Law on Environmental Protection lays down the general rule that the entire cost of environmental damage shall be borne by an economic entity that has caused environmental damage, or an imminent threat.

Lithuania has introduced the Polluter-Pays principle in the various policy fields (water, air pollution, waste management and others) to achieve the environmental goals and targets in the most appropriate and cost-effective way. In accordance with the Polluter-Pays principle, the operator of an installation is responsible for all prevention, reduction and assessment measures, as well as the elimination of their consequences. The operator of an installation is liable to cover the expenses to a full extent – the state does not assist in paying the costs of pollution control, whether by means of subsidies, tax advantages or other measures, which should be in compliance with the state aid requirements anyway.

Target 4:**By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.**

The Law of Environmental Protection encourages introduction of a low-waste technology and the manufacturing of ecological products by tax reduction, credit privileges and state subsidies. One of the encouraging measures is the Programme of the Lithuanian Environmental Investment Fund. Pursuant to the above-mentioned Programme, revenues generated from pollution taxes are used for the purpose of financing environmental investment projects to reduce pollution when new technologies are implemented. Therefore, this measure is in compliance with a general rule of the Polluter-Pays principle: the State should not assist the polluters in bearing the cost of pollution control, whether by means of subsidies, tax advantages or other measures. A polluter should pay the taxes every time, but is able to get a subsidy from the Environmental Investment Fund. This subsidy must only be used for new technologies that reduce environmental pollution or waste generation.

Through the National Sustainable Development Strategy Lithuania has promoted economic development that, since 2003, takes into consideration environmental and social development. The Strategy promotes economic growth that is not linked to the pollution of environment and is less dependent on the use of natural resources. It aims to increase the eco-efficiency of various branches of economy so that the growth of the consumption of natural resources would be twice slower compared to the growth of production and services.

Regarding the game management – before each hunting season maximum permitted hunting limits are set for number of species.

Regarding the sustainable production and consumption of fish stocks, see target 6.

Regarding sustainable forest management, see target 7.

Strategic goal B. Reduce the direct pressures on biodiversity and promote sustainable use

Target 5:**By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.**

Since 2009 the forestland increased from 2,150,300 ha, covering 32.9% of the country's territory to 2177 000 ha covering 33,3% of the country's territory in 2014.

Comparing the national network of protected areas in 2009 and 2014 it increased from 968,100 ha or 14.8% of the total Lithuanian territory in 2009 to 1 026 100 ha or 15.7 % of the total Lithuanian territory in 2014.

Progress in establishing conservation objectives	Conservation objectives for Natura 2000 sites are set in various documents: legal acts on adoption of lists of SPAs, SCIs and SACs, nature management plans, management plans (planning schemes) and management programs for individual sites.
% of sites with plans completed.	14 % (percentage includes all sites with prepared nature management plan, management plan (planning scheme) or management program).
% of sites with plans in preparation.	30,4 % (percentage includes all sites for which nature management plans are in preparation stage).
% of sites with no plans.	55,6 %

For additional information see sections 2.2 and 7.2.

Target 6:**By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.**

Environmentally sustainable, resource-efficient, innovative, competitive and knowledge-based fishery is one of the most important priorities in the fishery sector. Responsible and long-term sustainable management of fishery calls for decisions based on sound scientific data, therefore data collection and control are critical aspects.

Operational Programme of the Fisheries Sector for 2015-2020 identifies the need for reduction of the fishing effects on marine environment, including the avoidance and reduction, as far as possible, of unwanted catches:

Special requirements for commercial fishing in the Territorial Sea of the Republic of Lithuania and the fishing in the coastal zone were approved by Order No 3D-20 of the Minister of Agriculture on 12.1.2005. Those requirements define periods when fishing activities of particular species are prohibited, and set specific restrictions concerning technical measures used for fishing (maximum fishing capacity, maximum length of the boat, parameters of fishing gears) which aims at promoting responsible management of coastal waters, including coastal fishery resources.

Payments for commercial fishing (EUR 150 thousand per year) are allocated to special account of Fisheries Development and Competition Programme and are administered by the Service of Fisheries under the Ministry of Agriculture. Revenues collected from the auctioning of fishing quotas for commercial fishing and for the right to use fishing areas for recreational fishing are used to finance fishery related measures, restore fish stocks etc. In 2015 research in inland water bodies proved that status of fish resources is good or even very good, the population of certain fish species increased.

Lithuania applies other economic instruments for sustainable use of limited resources. These include payments for commercial fishing quotas and licences fees on recreational fishing. These instruments are imposed to protect and restore the wild animal population, prevent fish stocks from depleting and to promote efficient use of limited resources. Revenues collected from commercial fishing for the auctioning of fishing quotas, and for the right to use fishing areas for recreational fishing, are used to finance fishery related measures such as restoring fish stocks.

Target 7:**By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.**

New Rural Development Programme for 2014-2020 continues supporting broad measures of landscape and biodiversity conservation, water and soil protection, including conservation of Natura 2000 areas and areas with natural constraints or with high nature value farming. Programme addresses the problem of land abandonment in areas with natural and other specific constraints by supporting maintenance of farming in these areas. Programme also supports restoration and yearly specific management of habitats of globally endangered bird species Aquatic warbler. Further more specific species and habitats conservation schemes are still needed and are under development.

The Programme foresees measures in arable land to protect waterbodies and/or avoid soil erosion.

Farmland Bird index shows common decrease of wild birds population on farmland from 2000. Nevertheless, from 2006 until 2013 (in shorter period) Farmland Bird Index remained stable.

National Forestry Development Programme among other objectives aims at protection and enhancement of sustainability of forest ecosystems.

National legislation requires a forest management plan for each forest holding. Only limited activity is allowed without forest management plan. Requirements for forest management plan content and its preparation procedure oblige to take duly account of biodiversity features in the area when forest management measures are planned.

Natura 2000 related measures being undertaken under European Fisheries Fund (EFF) – On the basis of the Lithuanian Fisheries Sector Action Programme for 2007-2013 of the second priority axis "*Aquaculture, inland fishing and processing and marketing of aquaculture and fishery products*" measure "*Aquaculture*" activity "*Water-environmental measures*" implementation rules (approved by the Minister of Agriculture in 2009 (Order No. 3D-70)), was planned to provide support to 19 aquaculture enterprises for the implementation of environmental protection measures on their farms, which are important for the for bird species of European Community importance,

and to give the support for the implementation of two programs: "*Nature management of aquaculture farms*" and "*Water conservation measures in aquaculture farms*". The support was provided for the management of habitats which are important for birds (nature restoration works) and to compensate injury done by birds to fish stock. Thus, implemented habitat management measures also contributed to the maintenance of their favourable conservation status in the country. The most of the implemented measures showed high effectiveness in terms of the restoration and maintenance of the important habitats for breeding and migratory waterbirds. However, some of the implemented measures such as creation of the islands by using the fertile soil from the fishponds, showed rather short positive impact because of natural succession.

Target 8:**By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.**

Diffuse source agricultural pollution can account for 45-80% of all the load of nitrogen pollution washed to waterbodies. In Lithuania, due to non-point source pollution 222 surface water bodies out of 1177 do not meet the criteria of good ecological status. This accounts for 19% of the total number of all water bodies.

Based on the information submitted in the first river basin districts management plans during the period from 2005 to 2009, 17% of 832 river waters bodies were of high ecological status, 24% – of good, 50% – of moderate status, 8% – of poor and 1% of bad ecological status.

In 2006–2011, high and good ecological status was determined for 79–89% of all examined water bodies in terms of total phosphorus. Based on the total nitrogen, approx. 82% of lakes and reservoirs that were examined during the period from 2004 to 2011 have met the requirements of high or good ecological status.

For additional information see section 7.11.

Target 9:**By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.**

The national list of invasive species contains 39 species (plants and animals). The list is constantly reviewed and complemented by new invasive species. There are general recommendations for eradication of invasive species adopted.

7 invasive alien species are in focus of current project under implementation with assistance of EU structural funds: 2 mammal species (*Nyctereutes procyonoides, Mustela vison*), 1 fish species (*Perccottus glenii*), 1 crustacean species (*Orconectes limosus*) and 3 plant species (*Acer negundo, Heracleum sosnovskyi, Lupinus polyphyllus*). 660 ha occupied by plant invasive species were managed.

At the moment Lithuania is working on proper implementation of EU Invasive Species regulation by improving national legislation.

Target 10:**By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.**

Adaptation to climate change is done be implementation of planning and management documents, legislation regulating and limiting the use of natural resources, protection of ecosystems, species and their habitats.

For additional information see sections 7.2., 7.3.,7.7., 8.4.-8.6.

Strategic goal C. Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Target 11:**By 2020, at least 17 per cent of terrestrial and inland water areas, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.**

By 1st January 2014, the national network of protected areas covered 1,026,100 ha1 or 15.7% of the total Lithuanian territory.

At present, there are 82 management plans for Natura 2000 sites adopted, and 143 in preparation at different stages of development. At present marine protected areas cover 18,2 % or Lithuanian marine area.

The National Environmental Protection Strategy (approved in 2015)identifies the long-term target for the area to be taken under nature conservation (national protected areas + sites of Natura2000 network) in the country – 17 % on terrestrial part and 10 % on the marine part of the country.

For additional information see sections 7.2. and 7.7.

Target 12:**By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.**

According to the latest report (2013) on the conservation status of habitats and species covered by the Habitats Directive for the species 26.5% of the assessments were favourable in 2013, 55% at unfavourable-inadequate and 10% unfavourable-bad status. 7 of the 14 (50%) amphibians and reptiles, 10 of the 15 (67%) of fish, 9 of the 28 (32%) invertebrates and 15 of the 23 (65%) mammals are in a favourable condition. 6 of the 28 (21%) and 19 of the 23 (83%) invertebrates and plants are in an unfavourable-inadequate condition, respectively. The conservation status of 5 of the 14 (36%) amphibians and reptiles and 6 of the 28 (21%) invertebrates was reported to be unfavourable-bad. The status of 2 of the 15 (13%) fish and mammals and 7 of the 28 (25%) invertebrates is unknown.

According to the reports of the Birds Directive (2013) the short-term trend of population of 115 breeding bird species is stable, for 50 species it is increasing, for 36 species it is decreasing, for 5 species it is fluctuating and for 8 unknown. For wintering species, the short-term trend of the population is stable for 9 species, fluctuating for 2 species, decreasing for 3 species and unknown for 2 species.

The long-term trend of population of 104 breeding bird species is stable, for 52 species it is increasing, for 41 species it is decreasing, for 4 species it is fluctuating and for 13 unknown. For wintering species, the long-term trend of the population is stable for 2 species, fluctuating for 1 species, decreasing for 3 species and unknown for 10 species.

For additional information see sections 2.1., 2.2. and 7.2.

Target 13:**By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.**

Two national institutions are coordinating and harmonizing the relevant technical activities with respect to genetic resources: Plant Gene Bank and National Farm Animal Genetic Resources

Coordinating Centre. There are several other institutes dealing with plant genetic resources conservation activities in the country.

The principles of conservation of Lithuanian farm animal genetic resources and evaluation of Lithuanian breed status are based on the experience of animal breeding in small conserved herds and on the criteria of global strategy of FAO for the management of farm animal genetic resources. The minimal size of the conserved population was determined according to the breeding possibility of isolated animals without considerable inbreeding increase and regarding to the evaluation standards for breeding animals. The numbers of animals from native breeds were stabilized and even had increased for some breeds.

Although the establishment of isolated herds with four non-related groups based on founders generation and implementation of special mating schemes had prevented the total disappearing of Lithuanian old animal breeds, the amounts of the compensatory payments are not sufficient for successful conservation of Lithuanian farm animal breeds. Despite the numbers of animals from rare Lithuanian breeds were stabilized and even have increased for some breeds, the numbers of sires should be increased and higher requirements for pure breeding and participation in the programme must also be considered.

The general principle is that plant genetic resources can be freely accessed for plant selection and other *bona fide* targets as scientific research, seed collecting, reproduction, exchange of plant genetic resources, for human needs (food, medicines). The plant genetic resources should be used in a way that genetic resources are not damaged or destroyed and biodiversity is conserved. Regulations on protected species and other relevant legal acts on biodiversity conservation should be followed.

At the moment there are about 4000 objects that are treated as plant genetic resources. The number is increasing every year.

In 2001 the law on National plant genetic resources was enacted by the Seimas (Parliament) of the Republic of Lithuania. Government of Lithuania adopted a resolution to establish Plant Gene Bank from the 1st of January 2004. The main goals of Plant Gene Bank is to coordinate activities on plant genetic resources, to secure long-term preservation and sustainable use of plant genetic resources, to secure accessibility, safety and particularity of information about plant genetic resources, manage database of plant genetic resources and implementation of the law on National plant genetic resources and other juridical acts on preservation of national plant genetic resources

Plant Gene Bank handles seeds following the procedures described in manual for seed handling (Rao et al., 2006). Seeds allocated for long-term storage first of all are cleaned from weed seeds.

Institute of Agriculture, as the main institution responsible for agricultural crop breeding and genetics, has numerous collections of different agricultural crops. This institute sent the largest number of seed accessions to long-term storage. Active programs for evaluation and selection of forest tree species (*Pinus Sylvestris, Picea abies, Betula pendula, Fraxinus excelsior, Alnus glutinosa*) are curried out at Forest Research Institute and seeds from superior phenotypes are collected for long-term storage.

Seeds of 2843 accessions were conserved in long-term storage in 2012. Seeds of old landraces and varieties of agricultural crops, advanced varieties and valuable breeding material, distinguished populations of wild relatives of cultivated plants and forest trees are already stored in the long-term seed storage of Plant Gene Bank.

Strategic goal D: Enhance the benefits to all from biodiversity and ecosystem services
Target 14:**By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded,**

taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

"Ecosystem services" is a new policy concept for national nature protection policy, some other Targets support this Target already by conserving nature and preventing pollution.

Regarding restoration of the ecosystems, see target 15; and regarding protected areas, see target 11.

Target 15:**By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.**

Many NGOs initiatives on implementation of management measures in series of Natura 2000 sites have been conducted or newly launched. In this process support from LIFE+ programme and other EU programmes, as well as from EEA Financial Mechanism is essential.

Peatland sustainable use strategy is currently under preparation; process is led by group of NGOs and scientific institutions.

Currently there is ongoing projects financed under the EEA Grants and Norway Grants, which are designed for implementation of the measures related to Natura 2000: preparation and restoration plans for wetland complexes, practical restoration of wetland and other open habitats; and development of mechanisms to maintain a good status of wetlands by involving local communities;

For additional information See Target 10.

Target 16:**By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.**

Lithuania signed Nagoya Protocol in 2011. At the moment preparation for implementation of EU ABS regulation and ratification of Nagoya Protocol is ongoing. Nagoya Protocol will be implemented according to respective regulation of the European Union.

Strategic goal E. Enhance implementation through participatory planning, knowledge management and capacity-building

Target 17:**By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.**

In January, 2015 Action Plan on Conservation of Landscape and Biodiversity for the period of 2015–2020 was adopted. This Plan mainly focuses on conservation of protected species and habitats, management of invasive species, sustainable use of fauna, flora and genetic resources, as well as on mapping and economic evaluation of ecosystems and their services, development of green infrastructure.

For additional information see section 6.1.

Target 18:**By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their**

customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

Lithuania has no indigenous and local communities as understood by the Convention. Traditional knowledge within the meaning of cultural heritage and agricultural knowledge is important for biodiversity in Lithuania. Traditional knowledge regarding the conservation and sustainable use of biodiversity in Lithuania is related to traditional extensive land-use practices which has positive effect on preserving and supporting semi-natural habitats of species.

Target 19:**By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.**

Enhancement of a scientific research role, more effective application of research results as well as design and implementation of environment-friendly production and information technologies stand out as other priorities of the National Sustainable Development Strategy. The Strategy sets the objective that have to be achieved by 2020 – to improve the biodiversity protection methods; to develop research into biodiversity; impacts of economic activities and efficiency of the protected area regime. Strategy is implemented through measures such as environmental research.

There were 3 projects implemented under 7th Framework Programme for Research (FP7) in which Lithuanian institutions have acted as participants. The projects were aimed at:

- promoting a strategy for biodiversity research, in partnership with other players in the field;
- providing the scientific and policy research needed to guide scale-dependent management actions securing the conservation of biodiversity;
- development of innovative tools for understanding marine biodiversity (ends in October, 2016).

Currently there are number of ongoing projects financed under the EEA Grants and Norway Grants and under Framework programmes for research related to biodiversity and ecosystems research.

Regarding the research of the effects of climate change and adaptation see section 7.4.

Target 20:**By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.**

Lithuania applies specific economic instruments for sustainable use of natural resources. These include tax on game resources, payments for commercial fishing quotas and licences fees on recreational fishing. These instruments are imposed in order to protect and restore the wild animal population, prevent fish stocks from depleting and to promote efficient use of limited resources.

The revenues accumulated from tax on game resources are allocated to state budget and to budgets of municipalities. In more detail, 30 percent (about EUR 345 thousand in 2015) of tax income is allocated to state budget and are used to finance measures of Environmental Protection Support Programme. 70 percent (about EUR 805 thousand in 2015) is allocated to budgets of municipalities and are used to finance measures of Special Municipal Environmental Protection Support Programme. These programmes grant support for measures on project base.

Revenues are used for conservation and restoration, scientific research, monitoring of game resources, implementation measures against poaching, compensation for damage caused by wild

animals. For example, recent census shows that these actions resulted in increment of populations of certain animal species in forests (for instance, ungulates, large carnivores) more effective prevention of offences in biodiversity area, minimisation of conflicts among certain species of animals (for example, wolves) and other interest groups (for example, farmers).

Licence fees on recreational fishing generated EUR 1.7 million in 2015 and revenues are allocated to Environment Protection Support Programme. The income of these fees is increasing (EUR 0.75 million in 2012; EUR 1.45 million in 2013; EUR 1.7 million in 2015).

General economic instruments (measures) are set out and approved by the Law on Environmental Protection. The Law states that Ecological and economic interests of the State shall be co-ordinated by the economic mechanism of environmental protection as set forth in the laws and other legal acts of the Republic of Lithuania. The mechanism consists of: 1) taxes for the utilisation of natural resources; 2) taxes for environmental pollution; 3) regulation of crediting; 4) state subsidies; 5) the pricing policy; 6) economic sanctions and compensation for damages; 7) other ecological taxes and measures. The Law sets out the implementation methods of economic instruments (measures) of environmental protection; the introduction of low-waste technology and the manufacturing of ecological products shall be promoted by tax reduction, credit privileges, and state subsidies. The general economic instruments are applied for the coastal zone management too.

Substantial financial flows for biodiversity conservation come from European Structural Funds (mainly for one-off investments) and European Agricultural Fund for Rural Development EAFRD). Preservation of biodiversity is also funded through other funds such as European Fisheries Fund (EFF), European Social Fund (ESF), LIFE, LIFE+, the EEA Grants and Norway Grants, Framework programmes for research.

European Agricultural Fund for Rural Development (EAFRD)

Provision	Level of Use
213 Natura 2000 payments	2,663 MEUR (2007-2015.12.31)
224 Forest Natura 2000 payments	4,155 MEUR (2007-2015.12.31)
214 Agri-environment	330,562 MEUR (2007—2015.12.31)
225 Forest-environment measures	2,189 MEUR (2007-2015.12.31)

Structural Funds and the Cohesion Fund (ERDF)

Fund	Provision	Level of Use
		Restoration of Natura 2000 sites, technical projects, ~ 4,9 MEUR
		Development of management plans for Natura 2000 sites, ~1 MEUR
		Development of planning documents for establishment of Natura 2000 sites, 0,5 MEUR
		Other measures, ~37 MEUR

European Social Fund (ESF)	Staff capacity building, ~0,016 MEUR

LIFE+

Provision	Level of Use
Nature and Biodiversity	Total budget: 3.936.315 €
Summary of key Natura 2000 related measures being undertaken under fund:	

Restoration, management and maintenance of EU importance habitats; Restoration of protected species habitats; Conservation of protected bird species; Inventory of marine species and habitats.

Q11: What has been the contribution of actions to implement the Convention towards the achievement of the relevant 2015 targets of the Millennium Development Goals in the country?

Regarding the implementation of the Convention the global target No. 7 has been in focus, which aims to ensure environmental sustainability. Regarding the achievement of target, see the answer to question 10.

Q12: What lessons have been learned from the implementation of the Convention in your country?

Payments under measure "224 Forest Natura 2000 payments" have helped to develop positive attitude of private forest owners. It was an effective tool to convince private forest owners to agree to necessary conservation measures in forest Natura 2000 sites. The objective of the measure is to compensate private forest owners' additional costs or income foregone due to implementation of Birds and Habitats directives. Level of participation in this measure was rather modest mainly because of high requirements for documents to be presented by the applicants also due to lack of awareness of Natura 2000 sites in private forests. The situation could be improved, if requirements for documentation were substantially simplified, new available schemes introduced and level of payments raised.

The most of the implemented measures under European Fisheries Fund (EFF)showed high effectiveness in terms of the restoration and maintenance of the important habitats for breeding and migratory waterbirds. However, some of the implemented measures such as creation of the islands by using the fertile soil from the fishponds, showed rather short positive impact because of natural succession. Extermination of the dense reed stand also were not effective enough because of lack of the proper surveillance during implementation of this measure. Thus, those measures will be not supported during the next programming period. However, maintenance of the open habitats on the dams of the fish ponds as well as installation of the artificial raft for breeding terns were extremely effective.

Lithuanian LIFE projects significantly improved conditions of the sites targeted. They are especially valuable tool for restoration of hydrological conditions in Lithuanian wetlands.

The major obstacles for Lithuanian environmental NGOs are finding of co-financing sources in order to be able to submit a LIFE project as well as the capacities of coordinating beneficiaries to manage projects. The lack of experienced project managers in some small NGOs prevents them from submitting projects which otherwise would be important for improving conditions for NATURA 2000 species and habitats. Accumulation of circulating means to finish project's activities in the period before submitting a LIFE project final report is also an important problem.

Use of funds like the EEA Grants and Norway Grants or Framework Programmes for Research in the area of management of Natura 2000 is crucial - Lithuania is a small country and is not able to allocate sufficient funds for the implementation of the requirements of Birds and Habitats Directives. However up until now use of external funds was fragmentary and sometimes

with minor result. This shows that a stronger programmatic and strategic approach at the national level is needed for better and more purposeful use of funding possibilities.

Regarding remaining challenges and actions, see section 9.2.

Appendix I

Information concerning reporting Party

Contracting Party	Lithuania
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Appendix II

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