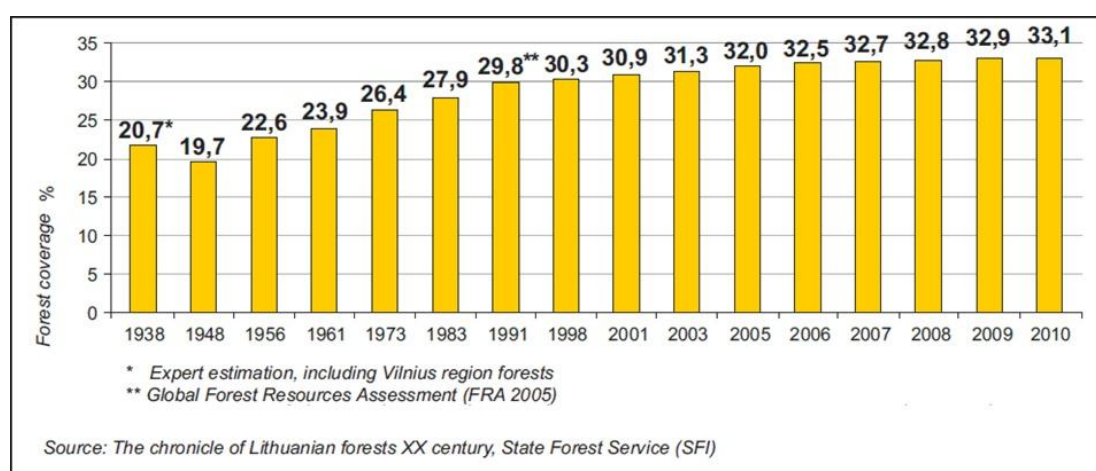


## Forest characteristics and forest types - Lithuania

According to the data of 1914 woodland in Lithuania amounted to 19.5 percent. During World War II in 1941-1944 due to the rise in cuttings and low planting the number of coniferous decreased and the woodland of Lithuania totalled only 16.5 percent in 1945. After World War II, forest administration began to take care of forests. A special attention was given to forest protection and forest planting in 1944-1990. Due to forests planting by 6-8 thousand ha annually woodland in Lithuania started to increase: in 1948 it was 19.7 percent, in 1961 – 23.9, in 1983 – 27.9 and in 1998 – 30.3 percent (Fig. 1). Following Lithuanian Republic afforestation program approved in 2003 it is foreseen to increase the woodland area by 3 % in the nearest 20 years. While implementing the program woodland in Lithuania amounted to 31.3 percent in 2003, 31,7 in 2004 and 32 percent in 2005. According to 1st January 2010 data, the total forest land area was 2 159 800 ha, covering 33.1 % of the country's territory.



### Forest coverage in Lithuania (1938-2010)

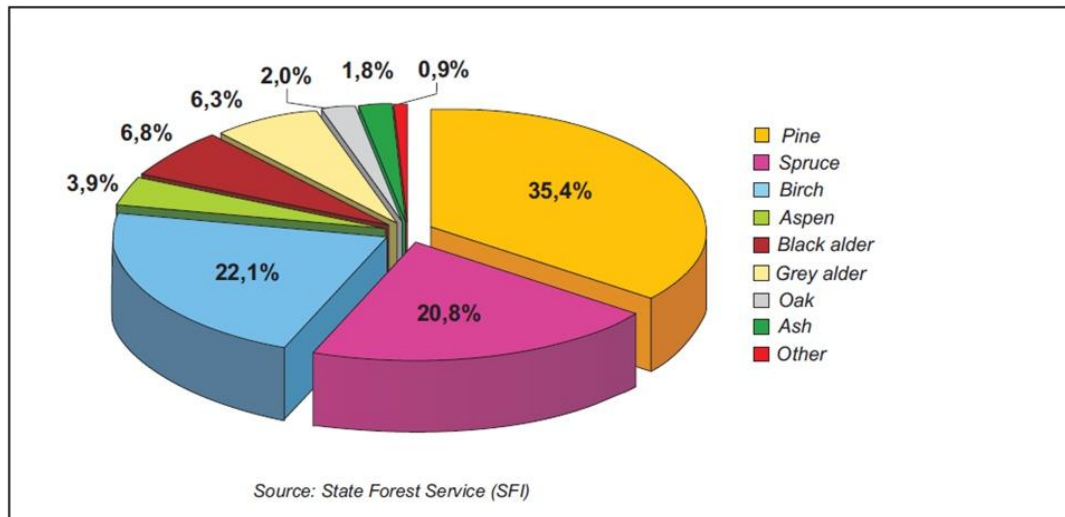
The average forest area per capita increased from 0.57 ha (in 2003) to 0.65 (in 2010) ha.

### General characteristics of Lithuanian forests

Characteristic	2010 01 01
Forest land area according to land assessment, 1000 ha	2126
Forest land area according to Forest assessment, 1000 ha (SFI)	2160
forest area covered by stands, 1000 ha (SFI)	2051
of which planted forest, 1000 ha (SFI)	499
Mean growing stock volume, m <sup>3</sup> /ha (NFI)	234
Mean growing stock volume of mature stands of III-IV groups, m <sup>3</sup> /ha (NFI)	302
Gross annual increment, m <sup>3</sup> /ha (NFI)	7,9
Accumulation, m <sup>3</sup> /ha (NFI)	1,6
Forest coverage, % (SFI)	33,1
Forest area per capita, ha (SFI)	0,65
Growing stock volume per capita, m <sup>3</sup> (NFI)	144

State Forest Service (SFI – stand based forest inventory; NFI – national forest inventory); Land Fund of the Republic of Lithuania

Occupying 1 155 100 ha, coniferous stands prevail in Lithuania, covering 56.3 % of the forest area (Fig. 2) and they are followed by softwood deciduous forests (812 300 ha; 39.6 %). Hardwood deciduous forests occupy 83 500 ha (4.1 %).



*Forest stands area by dominant tree species (01.01.2010)*

In the beginning of 2010, the distribution of forests by functional groups was as follow:

- group I (strict nature reserves): 26 200 ha (1.2 %);
- group II (ecosystem protection and recreational): 263,600 ha (12.2 %);
- group III (protection): 335 100 ha (15.5 %);
- group IV (commercial): 1 535 000 ha (71.1 %).

## **Typical and exceptional fauna and flora species in forests - Lithuania**

Natural and semi natural flora occupy one third of Lithuanian territory. Together 1795 flora species were inventoried in Lithuania. Most flora species grow (713 species) in forests. More than 4000 species of fungus are founded in forests. There are 321 bird species, 213 of them bred or used to breed in Lithuania.



White Stork (*Ciconia ciconia*)

The white stork (*Ciconia ciconia*) was declared the national bird of Lithuania in 1973. Lithuanians believe that storks bring harmony to the families on whose property they nest; they have also kept up the tradition of telling their children that storks bring babies. Stork Day is celebrated on March 25. Notably, Lithuania is a beneficial and important habitat for these birds: it has the highest known nesting density in the world.

The Red Data Book of Lithuania serves as a legal document on which the protection of rare and endangered plant, fungi and animal species is based. The Red Data Book contains descriptions of 767 species of animals, plants, lichens and fungi.

Typical tree and bushes species in Lithuanian forests are presented in table 2.

*Main tree and bushes species in forest stands*

10 main tree species in stands	The share of tree species per growing stock volume, %	10 main bushes species in	The share of number of stems, %
	2010 01 01		2010 01 01
Scots pine ( <i>Pinus sylvestris</i> ).	37,30	Alder Buckthorn ( <i>Frangula alnus</i> Mill).	23,58
Norway spruce ( <i>Picea abies</i> )	20,15	Bird Cherry ( <i>Padus avium</i> Mill.)	19,41
Silver Birch ( <i>Betula pendula</i> Roth).	16,65	Rowan ( <i>Sorbus aucuparia</i> L.)	16,81
Black Alder ( <i>Alnus glutinosa</i> (L.)	8,24	Hazel ( <i>Corylus avellana</i> L.)	15,19
Aspen ( <i>Populus tremula</i> L.)	6,24	Gray Willow ( <i>Salix cinerea</i> L.)	7,14
Grey Alder ( <i>Alnus incana</i> (L.)	4,30	Common Juniper ( <i>Juniperus communis</i> L.)	3,10
Pedunculate Oak ( <i>Quercus robur</i> L.)	2,71	Fly Honeysuckle ( <i>Lonicera xylosteum</i> L.)	3,69
Ash ( <i>Fraxinus excelsior</i> L.)	1,91	Black Currant ( <i>Rubus nigrum</i> L.)	2,83
Small-leaved Lime ( <i>Tilia cordata</i> )	0,85	<i>Euonymus verrucosa</i> Scop.	2,15
Goat Willow ( <i>Salix caprea</i> L.)	0,44	Guelder Rose ( <i>Viburnum opulus</i> L.)	1,21

State forest Service (NFI)

Among trees there are exceptional trees in forests. Oak stands occupy 2 % of forests areas in Lithuania. Oak is treated as a symbol of strength. Down the ages Oak was respectfully protected. The felling of old oaks was forbidden since 1420. **Stelmuze Oak** is the thickest in Lithuania and one of the most aged oaks in whole Europe. Stelmuze Oak age is about 1500 years, diameter is 3.5 m, perimeter close to ground is 13 m, height is 23 m. Just 8-9 men can to clasp in arms the stem of Stelmuze Oak.



*Stelmuze Oak*



*Larch - the tallest tree in Lithuania*



*Witches Spruce*



*Dubrava Twins – Oak and Pine*

**The tallest tree in Lithuania** is 46 m height 150 years age larch in Dėgėsnė botanical reserve.

**Witches Spruce** is among the most visited nature monument.

In the past Lithuanians believed, that rowan (*Sorbus aucuparia*) protects against the witches and devils, and was used to plant rowan at entrance to homestead.

In Dubrava experimental and training forest enterprise forests grows nature monument - Dubrava Twins demonstrating the friendship between Oak and Pine.

The largest animal in Lithuanian forests is wisent (*Bison bonasus*). The reintroduction of Wisents started in 1969. There are about 45 wisents nowadays.



*Wisent (Bison bonasus)*

Among game animals roe deer predominate in Lithuanian forests and open countryside. One of the most popular game animals to hunt is wild boar, not just because of the taste of their meat, but also because they can cause a variety of damage. The most common complaint is rooting resulting in the destruction of crops and pastures.



*Female Wild boar*



*Roe deer*

Fallow deer were brought to Lithuania in the 16-17th centuries. They were raised in enclosures and served as decoration for parks. Later on fallow deer disappeared. The present population was raised from fallow deer which were brought from Czechoslovakia and Soviet Union in 1976-77.

Beavers are a keystone species helping support the ecosystem of which they are a part.



*Beaver*



*Young fallow deer*

They create wetlands which increase biodiversity and provide habitat for many rare species such as water voles, otters and water shrews. They were almost extinct at the beginning of 20th century, then the reacclimatization of beavers started, and as a result of which these animals became common on the whole territory of the country, bringing more and more damage to the forests, flooding farming land. A beaver family can fell as many as 300 trees in a single winter. The newest estimates of beaver abundance in Lithuania range from 100 000 to 150 000.

### Game animals' population

	Game population assessment 2009-2010 hunting season
Elk ( <i>Alces alces</i> )	6757
Red deer ( <i>Cervus elaphus</i> )	21303
Fallow-deer ( <i>Dama dama</i> )	1089
Roe deer ( <i>Capreolus capreolus</i> )	117727
Wild board ( <i>Sus scrofa</i> )	54608
Badger ( <i>Meles meles</i> )	5160
Wolf ( <i>Canis lupus</i> )	739

Environmental Protection Department Source: Ministry of Environment

Jay helps forester in planting Oak, while Cormorants make huge damages in forests, especially protected ones.



[http://nerija.am.lt/VI/files/Image/DSC\\_0437kolonija\(1\).jpg](http://nerija.am.lt/VI/files/Image/DSC_0437kolonija(1).jpg)

*Huge areas of valuable old forests in Curonian Spit National Park damaged by Great Cormorant (Phalacrocorax carbo)*

In Lithuanian forests some rare bird species are used to make nests.

### Nests of rare birds in Lithuania

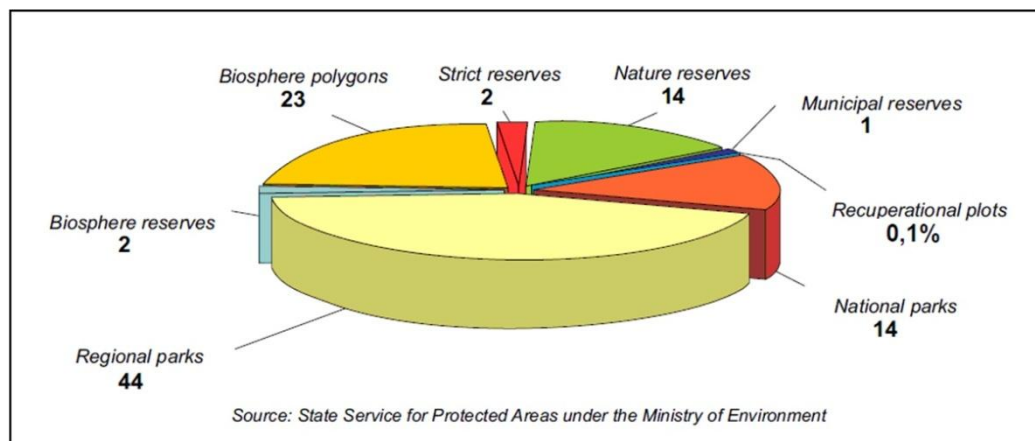
	Nests of rare birds, 2010
Black Stork ( <i>Ciconia nigra</i> )	470
Lesser Spotted Eagle ( <i>Aquila pomarina</i> )	536
White-tailed Eagle ( <i>Haliaeetus albicilla</i> )	164
Osprey ( <i>Pandion haliaetus</i> )	24
Black Kite ( <i>Milvus migrans</i> )	28
Honey Buzzard ( <i>Pernis apivorus</i> )	50
Northem Goshawk ( <i>Accipiter gentilis</i> )	266
Eurasian Hobby ( <i>Falco subbuteo</i> )	75
Common Kestrel ( <i>Falco tinnunculus</i> )	5
Common Crane ( <i>Grus grus</i> )	412

Environmental Protection Department Source: Ministry of Environment\*

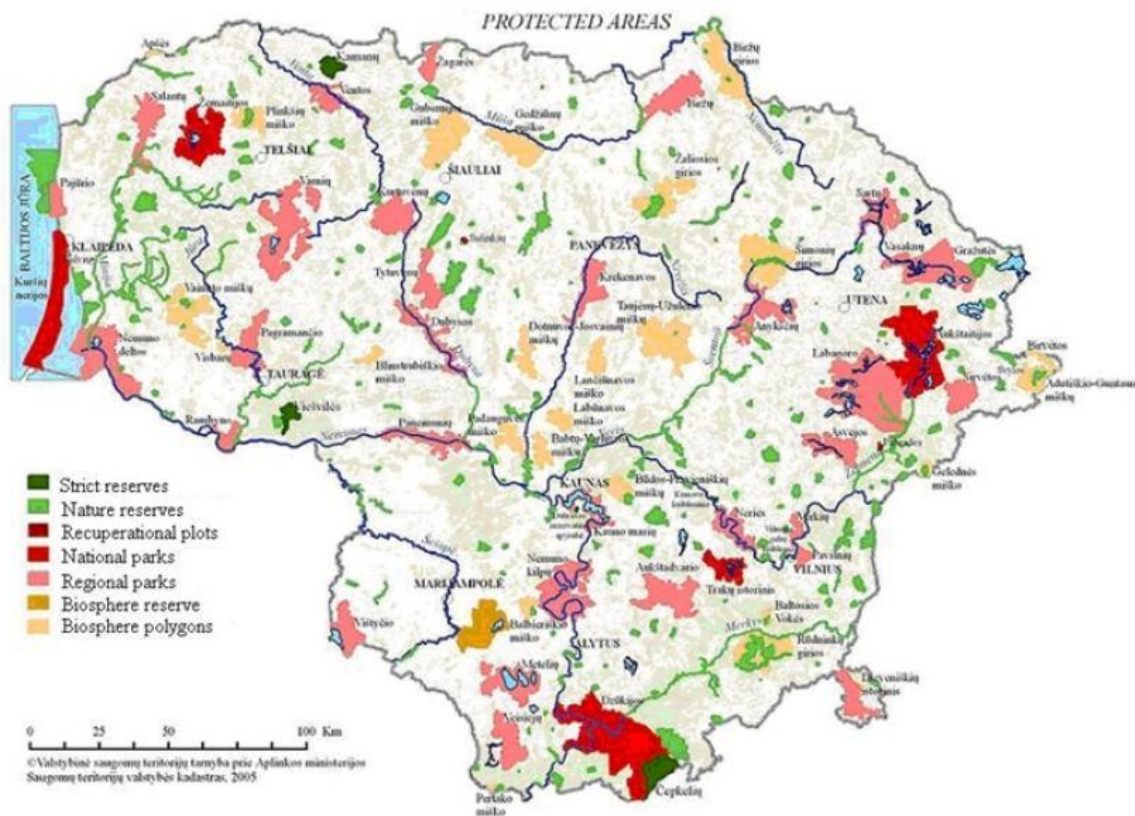
## Forms of nature protection such as national parks and Natura 2000 sites - Lithuania

By 1st January 2010, the national network of protected areas covered 1 020 500 ha or 15,6 % of the total Lithuanian territory (Fig. 14, Fig. 15). General system of protected areas is made up of the following:

- **Protected areas of conservational priority**, which protect unique or typical complexes and objects of natural and cultural landscape. Strict reserves (natural and cultural), reserves and objects of natural and cultural heritage are attributed to this category.
- **Protected areas of ecological protection priority**, which are singled out in order to escape a negative effect on protected complexes and objects of natural and cultural heritage or negative impact of anthropogenic objects on the environment. Zones of ecological protection are attributed to this category.
- **Protected areas of recuperational protection**, which are designated for restoration, augmentation and protection of natural resources and genetic plots are attributed to this category.
- **Integrated protected areas**, which include conservational, ecological protection, recreational and economic zones according to the general programme for protection, management and use. National and regional parks and biosphere monitoring areas (biosphere reserves and biosphere polygons) are attributed to this category.



*Proportion of Protected Areas by categories (01.01.2010)*



### Distribution of Protected Areas in Lithuania

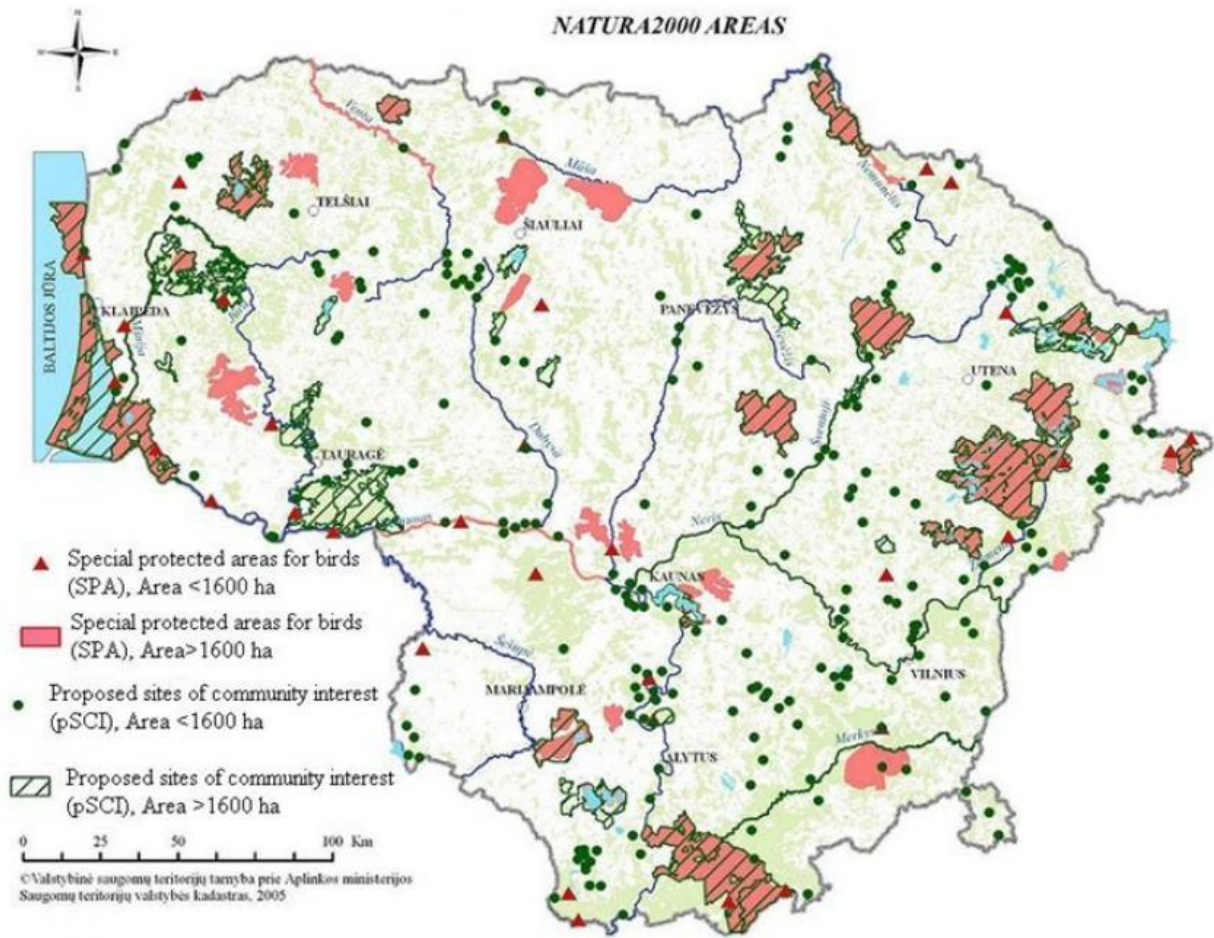
At the beginning of 2010, the Natura 2000 network covered 810 000 ha or 12.4 % of the country's territory.

### Natura 2000 areas in Lithuania (01.01.2010)

Category	Number	Area 1000 ha		Overlapping area 1000 ha	% from territory of country
		Total	Marine areas		
Special Protected Areas (SPA)	77	516,7	29,6	373,2	7,9
Proposed Sites of Community Interest (pSCI)	406	651,6	15,0		10,0
<b>Total *</b>	<b>483</b>	<b>810,1</b>	<b>29,6</b>		<b>12,4</b>

\* Area and percentage excluding overlapping SPA and pSCI areas

Source: State Service of Protected Areas under the Ministry of Environment



### Distribution of Natura 2000 areas in Lithuania

Bog woodland and Western taiga forest habitat types predominate among proposed sites of community interest in Lithuania.

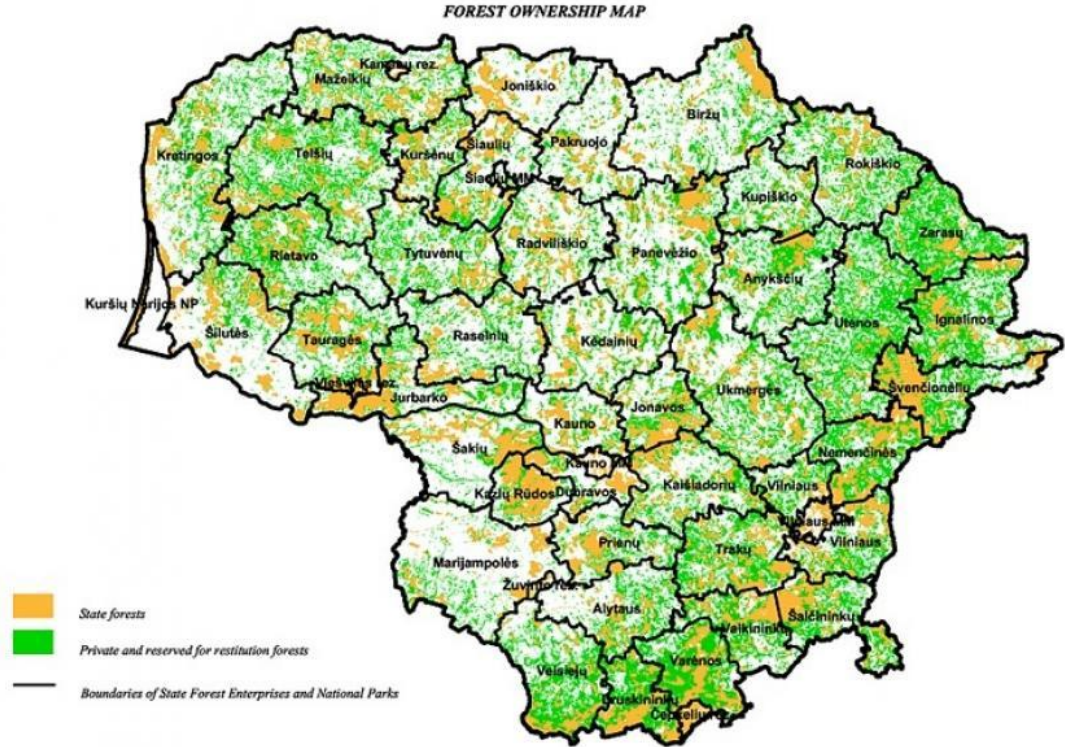
### Forest habitat types and areas protected under Directive 92/43/EEB (on current pSCI list)

Code	Forest habitat type	Area
2180	Wooded dunes	515 ha
9010	Western taiga	7543 ha
9020	Old broad-leaved deciduous and mixed forests	2097 ha
9050	Fenn. herb-rich forests with <i>Picea abies</i>	1178 ha
9060	Coniferous forests on, or connected to, eskers	-
9070	Fenn. wooded pastures (together with 6530 Fenn. Wooded meadows)	93 ha
9080	Fenn. deciduous swamp woods	3619 ha
9160	Oak or oak-hornbeam forests of the <i>Carpinus betula</i>	4252 ha
9180	<i>Tilio-Acerion</i> forests of slopes, screes and ravines	760 ha
9190	Oak woods with <i>Quercus robur</i> on sandy plains	187 ha
91D0	Bog woodland	17010 ha
91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>	1573 ha
91F0	Riparian mixed forests along the great rivers	105 ha
91T0	Central European lichen Scots pine forests	500 ha
Total:		39 430 ha

Source: [http://www.gmu.lt/overview\\_of\\_the\\_natura\\_2000\\_network/](http://www.gmu.lt/overview_of_the_natura_2000_network/)

# Organization of Forestry - Lithuania

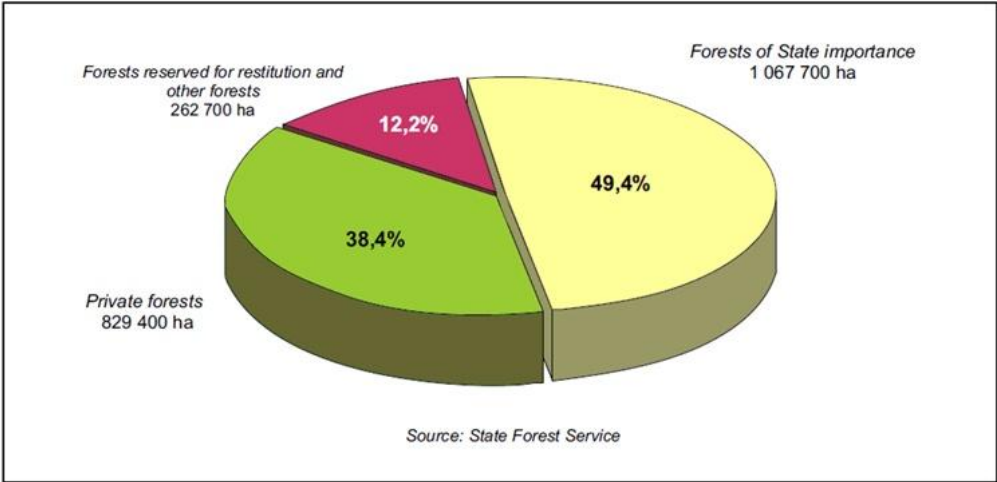
By 1<sup>st</sup> January 2010, around a half of all forest area in Lithuania was of State importance.



Source: Forest cadastre of the Republic of Lithuania, © Valstybinė miškų tarnyba

## Forest ownership map in Lithuania

42 State forest enterprises and 1 national park, under subordination of the Ministry of Environment, managed 1 028 000 ha of forest land (Fig. 18). The number of forest districts during the last year decreased from 361 to 357 reaching the average size of 3 000 ha.



Forest land by ownership (01.01.2010)

Forestry policy and strategy, their implementation is under responsibility of Forest Department at the Ministry of Environment.

Reforestation, improvement, protection and utilization of forest resources of state-owned forests attributed to forest enterprises is organized and coordinated by the Directorate General of State Forests under the Ministry of Environment.

Directorate General of State Forests under the Ministry of Environment is institution, designated for economic management of state forests, which are attributed to 42 state forest enterprises. The Directorate General of State Forests establishes the mandatory norms for forest enterprises regarding reforestation, protection and management of forests; organizes and co-ordinates the application of advances technologies in reforestation, protection, improvement and utilization of forests and forest resources.

The uniform system of state fire prevention measures, comprising monitoring, preventive and fire control measures, is established and maintained in forests irrespective of the forest ownership type. This uniform state system of fire prevention measures is implemented and organized by the Directorate General of State Forests under the Ministry of Environment and state forest authorities and directorates of national parks together with town (regional) municipalities.

By 1st January 2010, the number of private forest owners amounted to almost 242 000, a forest estate averaging 3.3 ha.