

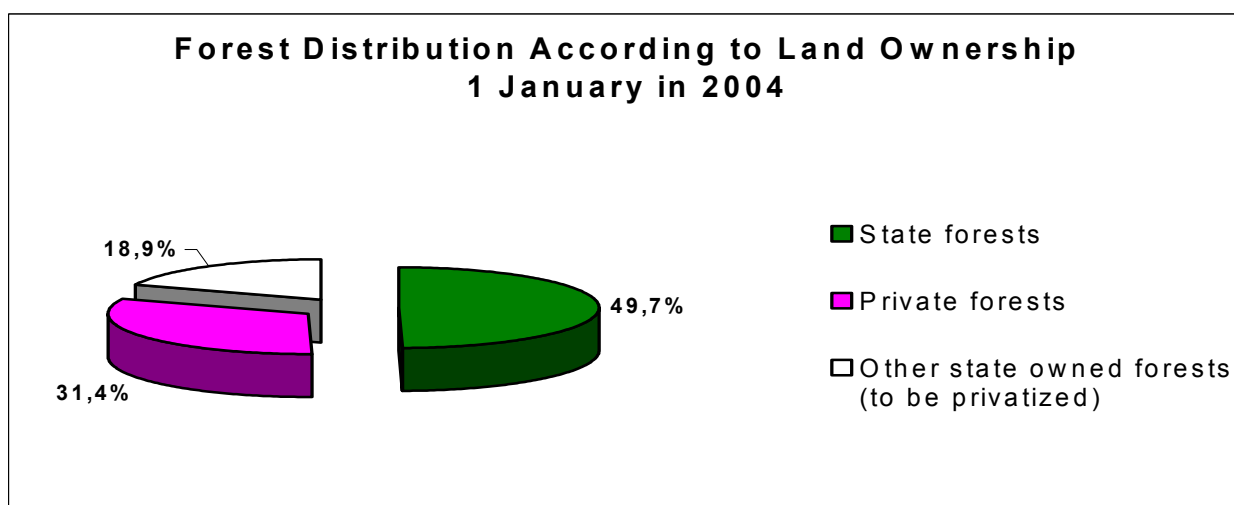


Forest Fires in Lithuania

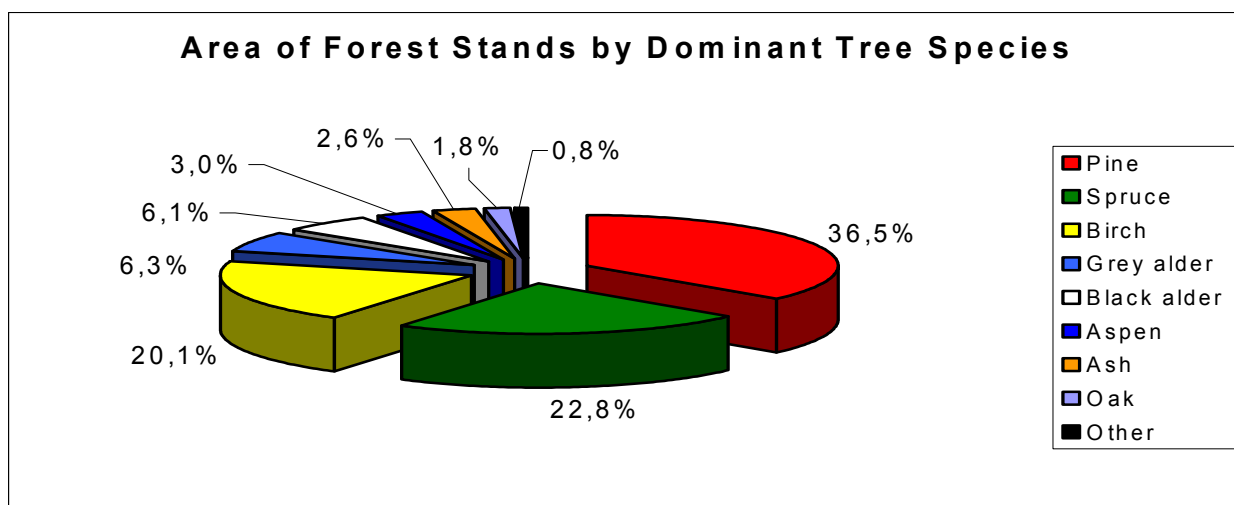
Lithuanian forests statistics

Forests cover up to 2.045 million ha or 31.3 % of the territory of Lithuania. In average 0.59 ha of forestland falls to one inhabitant of the Republic. The average age of forests stands is 53 years.

State forests occupy 49.7 %, private forests 31.4 %, and reserved for privatisation 18.9 % of the total forested area of Lithuania. The number of private forest owners 209,000, the average domain size is 4.5 ha.

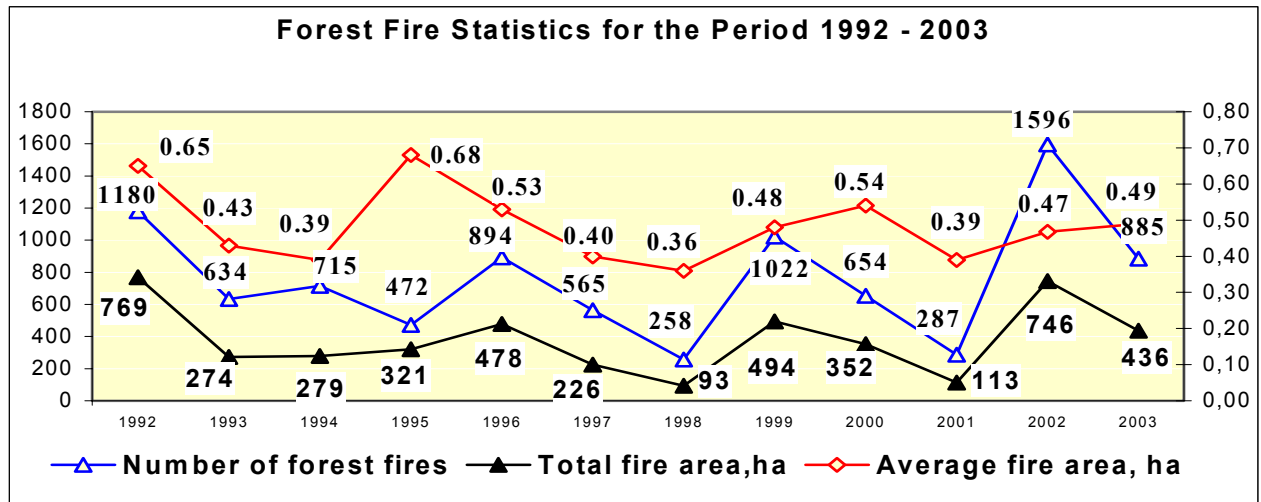


In Lithuania pine stands cover 42 %, spruce - 22.8 %, hard deciduous trees species - 4.5 % of the total forest area. In state forests coniferous tree species occupy 67 %, deciduous - 33 %. In private forests and in the reserved for privatisation forests coniferous tree species stands cover 52 %, deciduous - 48 %.



Forest fires statistics

On average every year in Lithuania more than 750 forest fires are registered, during which more than 350 ha of forests are damaged. It corresponds about 0.5 million Litass (about € 150,000) of loss. The number of forest fires significantly increases during hot and dry meteorological conditions (for example, in 1992, 1999, 2002). The main causes of forest fires include: negligence of forest visitors and burning of dry grass in spring time. On average every year 70 % of forest fires are ignited by forest visitors, 14 % by grass burners and 16 % by intentionally set fires.



The registration of forest fires is performed by Directorate General of State Forests. Detailed statistical figures are processed in a database. These statistical data can be accessed on the web site www.gmu.lt.

Natural fire hazard of Lithuanian forests

In accordance with Forest Fire Prevention Regulations, the Lithuanian forests fall into three fire hazard classes (high, medium, low) with reference to the dominant tree species (coniferous or deciduous), age (older or younger than 40 years), forest site types (soil humidity and nutrient status). About 40% of Lithuania's forests are in the high fire hazard class, 23% medium, and 37 % low. Forests of mixed fire hazard are distributed unevenly and often are included in large forest areas of high fire hazard.

In terms of the fire hazard the forest massifs mostly endangered by wildfires are Druskininkai-Varėna (145,000 ha), Labanoras-Pabradė (91,000 ha) and Kazlų Rūda (59,000 ha).

Integral state system of fire prevention measures

Pursuant to the Law of Forestry of the Republic of Lithuania, the integral state system of fire prevention measures is applied within the forest territories, not depending on type of ownership. This system includes the measures for forest fire surveillance (forecast and detection), prevention and fire protection. The main objectives of the system are: to reduce forest fires hazards, to improve their prevention, to increase forest stands' resistance to fires, to forecast, watch, detect and extinguish fires. The Lithuanian Directorate General of State Forests is a founder of 42 state forest enterprises, and coordinates the implementation of the integral state system of fire prevention measures.

Forest managers and owners are responsible for the state fire protection status within their forest territories. Mostly the implementation of integral state system of fire prevention measures is financed by the funds of 42 state forest enterprises and national budget.

In the territory of Lithuanian forests the integral state system of fire prevention measures is applied, not depending on property forms. These measures include:

- Forest fire surveillance (forecast and watch)
- Forest fire prevention

- Forest fire protection

Forest fire forecast and detection

The probability of forest fires occurrence is forecasted by complex of figures of meteorological conditions (complex fire danger rating index), which determine the class of fire rate. Totally there is 5 classes of fire rate: the first - lowest and the fifth - highest. Directorate General of State Forests every day updates the map with classes of fire rates within territories of state forest enterprises in the web page www.gmu.lt. Depending on classes of fire rates, in state forest enterprises there is organized the duty on fire watchtowers and in forestries. The duration of duty is determined depending on classes of fire rates. The society is informed about forest fire danger through Lithuanian radio every day.

In Lithuanian forests there are more than 100 fire watchtowers for forest fire detection and identification of their location. In fire watchtowers those who are on duty, are supplied with detection equipment and radios. Video cameras are very rare in the fire watchtower because of their high price. When the view from the watchtowers is bad, and during the highly critical fire risk period, state forest enterprises conduct ground patrolling.

A new plan of fire watchtower distribution is being prepared this year. Also a special radio system will be set up this year. This will be an effective measure for a good radio connection between administration of state forest enterprises and forestries, also with fire brigades and other fire protection and rescue services as well as with neighbouring state forest enterprises.

Forest fire prevention measures

State forest enterprises pay a lot of attention at forest fire prevention measures and at forest management activities. In the territories of high forest fire hazard special measures are projected and implemented. Forests are divided into blocks and firebreaks, mineral fire break lines are renewed or established, especially along peat-bogs and railway routes). Fuel breaks consisting of belts of broadleaved trees are also set up. Fire places that correspond to the fire safety requirements are constructed in recreation areas. Fire watch towers are repaired and fire equipment is checked before the beginning of the critical fire period; warning signs and stands are put up, and forest roads are cleaned. Lithuanian forests encompass 28,500 km of roads that make up approximately 14.4 km per 1000 ha of forests. Such network of forest roads enables to define the sites of forest fire breakout and effectively organize their extinguishing. Not less than 10,000 km of mineral fire breaks lines are renewed and established every year.

During the critical fire season strict control measures of forests and especially in peat-bog areas are applied. During the critical fire-break out periods these peat bogs, once ignited, may result in large and long lasting forest fires. The state forest enterprises have to deal with complicated tasks in extinguishing peat fires due to the lack of special fire equipment. Large quantities of water are needed to fight peat fires. The Fire and Rescue Department carries the main workload of putting out peat fires. Practically all peat fires are stopped by nature - only after long lasting rains.

Constant information of the public about forest fire prevention issues is implemented through press, radio and TV. The press is reporting about the damages of ecosystems caused by fire, TV is translating and broadcasting video clips about forest fire prevention themes, and radio remembers about careful behaviour with fire. Printing and distributing of short informative publications is organized.

The fire service training centre has established a programme for the education of forest fires safety leaders. These training courses are organized for those officials of the state forest enterprises who are responsible for forest protection, as well as for foresters.

Forest fire protection measures

State forest enterprises are responsible for establishing forest fire brigades. Their size, tasks and equipment is determined by the fire hazard class. There are minimal technical equipment requirements for basic and reserve fire brigades. Such teams must be provided with the fire extinguishing, transport and communication means. All forestries have implemented the primary measures for forest fire suppression. State forest enterprises responsible for forests rated in the first fire hazard class, form 2-4 basic fire brigades and 2-3 reserve fire brigades. Basic fire brigades are

provided with fire trucks and water cisterns. Reserve brigades are equipped with trucks for transportation of personnel. State forest enterprises responsible for the second forest fire hazard class establish 1-2 basic fire brigades and 1-2 reserve fire brigades. A basic fire brigade consists of 4-6 members, reserve brigades not less than 10. Fire teams must be on duty during periods of high fire danger.

Every year state forest enterprises prepare specific operative forest fire suppression plans. They are coordinated with the forest fire rescue and civil protection services of the municipalities. In such plans there are established special measures of reciprocity and the co-ordination of actions among the fire extinguishing bodies.

The fire brigades of the state forest enterprises are responsible for extinguishing all forest fires that occur in Lithuania. Only in the cases of limited capabilities to put out large forest fires, the city and county fire and rescue units are called up for assistance.

Financing

Annually 500,000 Litas (about € 150,000) are distributed to state forest enterprises from the national budget to compensate the expenditures for forest fire prevention and control. Expenses eligible for compensation include: construction and restoration of fire towers, additional radios, fire trucks and other equipment for forest fire prevention and suppression.

State forest enterprises invest about 3-4 million Litas (about € 0.85-1.15 million) for forest fire protection every year.

In 2003 the Lithuanian Forest Research Institute has very successfully performed the task of classifying the forests of the state forest enterprises by forest hazard classes. The institute also analysed the forest fire occurrence, evaluated the status and effectiveness of the forest fire protection system in the context of the European Union system and gave recommendations to improve the national system. The classification of forests by fire hazard classes will serve for receiving financial support from the structural funds of European Union for forest fires prevention measures and for regeneration fire-damaged forests. It is planned, that such financial support would be distributed for those state forest enterprises, which manage forests of first and second fire hazard classes (corresponding to the middle fire hazard class).

Basic problems in forest fire management

The reasons which complicate effectively organise forest fire extinguishing, to implement prevent work and to control the implementation of fire protection requirements are as follows:

1. Carelessness of people: The acute issue is the burning of dry grass in spring. This habit has a long-lasting tradition. People in the cities and villages fail to understand that the grass burning can be dangerous and lead to a forest fire. In dry and hot summers forest visitors in many cases do not observe main fire protection requirements and cause forest fires.
2. Limited financed to procure new and Innovative technologies: There are not sufficient finances for purchasing new technologies, particularly forest fire suppression equipment, and to renew the fire trucks park.
3. Slow implementation of forest fire prevention measures in private forests: The process of forest restitution is still going on and many private forest owners are taking back their property. Nevertheless, the number of forest fires in private forests is increasing as well.

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