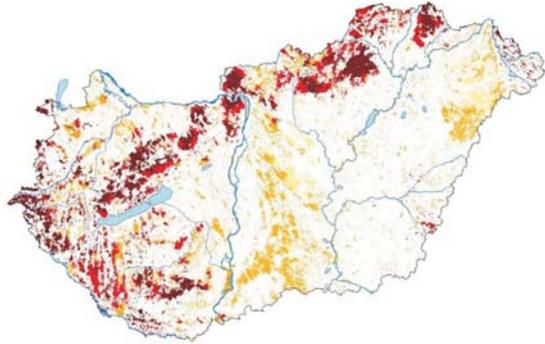


● Naturalness and nature conservation

Distribution of forest area according to naturalness categories

	Area (ha)	Color
Near-natural forests	477944	
Semi-natural forests	544735	
Far-from-natural forests	122044	
Artificial forests	654119	
Plantations	128860	
Total	1927702	

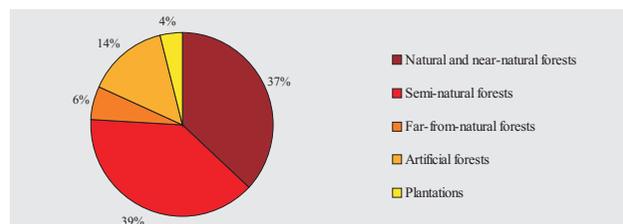


Classification of forest subcompartments into naturalness categories is based mainly on the proportion of non-indigenous and invasive tree species.

Protected and Natura 2000 forests

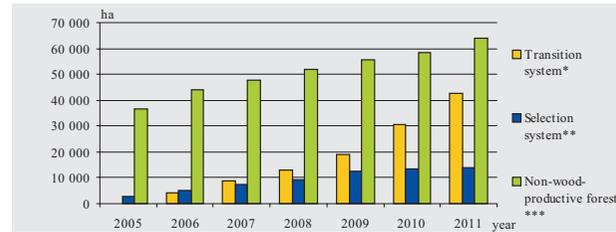
	Forest sub-compartment	Other type of subcompartment	Total
Protected area			
Strictly protected	66191	6026	72217
Protected	355661	25807	381468
Total	421852	31833	453685
Natura 2000 sites			
Protected and strictly protected	383264	28919	412183
Not protected	385773	34204	419977
Total	769037	63123	832160
Birds sites and habitats sites			
Special protection area	465567	32431	497998
Special area of conservation	626414	55721	682135

Naturalness of the Natura 2000 forests



Source: NFCSO Database, data of 1st Jan. 2012

● Nature-oriented forest management



Source: NFCSO Database, data of 1st Jan. 2012

* The goal is to reach the selection system.

** Individual trees or groups are harvested periodically and frequently.

*** The aim is to let natural processes to take their course. Fellings are possible only for scientific, protection or regeneration purposes.

● Forestation (regeneration and afforestation)

Achievements in the growing year 2010-2011

	State sector	Other forms of management	Total
	(ha)		
Successful initial stand establishment			
Regeneration after clear-cutting	6196	6286	12482
Initial planting			
In afforestation	143	2660	2803
Beating up			
In regeneration	2065	465	2530
In afforestation	76	581	657
Established forestations			
In regeneration, after clear-cutting	6716	6837	13553
In regeneration, after shelterwood cutting	2134	223	2357
In regeneration, total	8850	7060	15910
In afforestation	426	8064	8490
Lead time	(year)		
In regeneration	8.8	6.5	7.8
In afforestation	6.0	5.5	5.6

Source: NFCSO "Report on Forestation and Fellings in 2011"

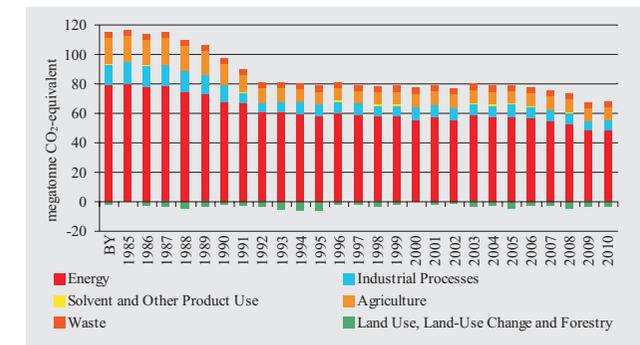
Forest types to be reached (through forest management)

	Successful initial stand establishment	Initial planting in afforestation
	(ha)	
Oak	1364	629
T. oak, other hard broadleaved	464	182
Beech	58	0
Black locust	6642	1270
Hybrid poplar and white willow	1603	209
Native poplar, other soft broadl.	1690	499
Coniferous	661	14
Total	12482	2803

Source: NFCSO "Report on Forestations and Fellings in 2011"

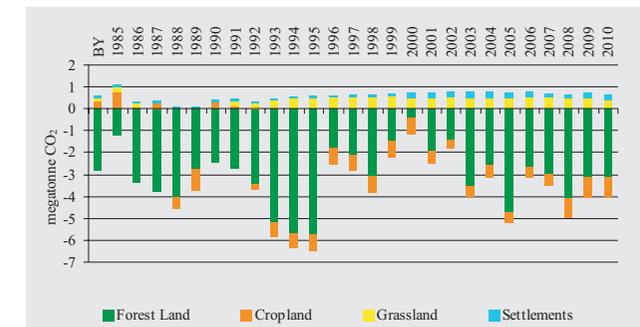
● The Kyoto Protocol and the forests

GHG emissions and removals by sectors



By ratifying the Kyoto Protocol (KP, 1997), Hungary committed to reducing its GHG emissions by 6% compared to the base year (BY – the average of 1985-87). The country's emission reductions are mainly due to the decrease of the emissions in the energy, industry and agriculture sectors. Actual removals are produced only by the land use, land-use change and forestry (LULUCF) sector. (The positive values mean emission and the negative values mean removal.)

GHG emissions and removals in the LULUCF sector



Forest management is the only major sink in the GHG-balance sheet of the country.

CO₂ emissions and removals in the forestry sector in 2010

	Area	Co ₂	CO ₂ per hectare
	(ha)	(1000 tonnes)	(tonne)
Afforestation, reforestation (AR) since 1990	168400	-1260	-7.48
Deforestation (D) since 1990	9086	45	4.93
Forest management (FM)	1656470	-1680	-1.01

Forest management activities (afforestation, reforestation and deforestation since 1990) under Article 3.3 of the KP represented a net sink of 1.26 million tonnes CO₂, while the activity under Article 3.4, i.e. forest management (FM), was also a net sink of 1.68 million tonnes CO₂. The most efficient carbon sequestration can be reached by afforestation.

Source: NIR Hungary 2012. National Inventory Report for 1985-2010 Hungary, Hungarian Meteorological Service

● Wood products and timber trade

Wood products output in 2011¹

	Removals	
	total (m ³)	ratio in assortment composition (%)
Logs for panel products	124317	1.8
Sawlogs	1107326	16.0
Other raw material for sawmilling	557853	8.0
Pitwood	6415	0.1
Pulpwood	532313	7.7
Bolt for panels	426358	6.1
Other industrial wood	253190	3.6
Technological chips	9822	0.1
Total industrial wood	3017594	43.4
Fuelwood	3932626	56.6
Total removals	6950220	100.0

¹ National distribution calculated on the basis of a statistical sample. Source: NFCSO

Output of selected products in 2011¹

	Unit	Quantity
Coniferous sawnwood	1000 m ³	121.6
Broadleaved sawnwood	"	99.9
Parquet frieze	"	4.2
Furniture strips and parts	"	4.9
Pallets	"	91.6
Wood particle board	"	243.3
Laminated particle board	"	141.5
Cement-bonded particle board	"	29.0
Fibreboard	"	167.4
Surface-treated fibreboard	"	89.3
Flat-pressed, moulded, laminated board	"	37.8
Veneer sheets	"	95.4
Parquet	1000 m ²	1628.1
Wooden barrel	1000 l	3550.0
Industrial wood residues for industrial purposes	1000 m ³	137.7
Industrial wood residues for woodfuel	"	106.1

¹ Based on data from large-scale and medium industries appointed for contributing data. Source: NFCSO

Timber trade in 2011

	Export	Import	Balance
	(million HUF)		
Primary wood products	23116	7427	15689
Sawn wood products	17747	23765	- 6018
Panel products	37043	36649	394
Miscellaneous wood products	54152	22494	31658
Total wood products	132058	90335	41723
Pulp and paper products	138174	203053	- 64879
Total	270232	293388	- 23156

Source: NFCSO

● International Year of Forests - 2011

The UN declared the campaign of International Year of Forests in order to draw attention to the role of forests in environmental conservation worldwide and in fighting poverty and climate change. It also pointed out the importance of protecting, conserving and planting of forests. In an effort to join the campaign, lots of initiatives (professional and scientific conferences, documentary lectures, school programs, photo competitions, exhibitions and brochures) dealt with educating about forests, and raising awareness of their impact on society and economics in Hungary. Presentations in the Museum of Hungarian Agriculture on the Long Night of Museums (June 24, 2011) was one of such events.



● Hungarian presidency in the EU Council

The 9th session of the UN's Forum on Forests (UNFF), titled "Forests for People, Livelihoods and Poverty Eradication", was held between January 24 and February 4 in 2011 in New York. Hungary was present on the session as incumbent, and led the negotiations. The forum ended with the adoption of the closing document and the joint statement of cooperation of ministers which deals with the role of sustainable forestry.

The Hungarian presidency was responsible for establishing rapport among EU member states which was vital for the opening of the negotiations of the Legally Binding Agreement on Forests in Europe. The presidency succeeded in persuading reluctant countries for the need of such agreement. The provisional agreement will have a legal effect, and is planned to be binding on all parties. It will have power to ensure sustainable forestry, decrease the effects of climate change and fight illegal logging.

● Organisational structure

Forest administration:

Ministry of Rural Development (MRD)	Ministry of Public Administration and Justice	Other organizations concerned with forestry:
Department of Forestry, Fishing and Hunting		- National Food Chain Safety Office, Directorate of Plant Production and Horticultural, Department of Forestry and Energy Reproduction Materials Inspectorate of propagation materials
Forestry Department		
NFCSO		
Forestry Directorate		
County Government Offices Forestry Directorates (10)		- Ministry of Rural Development (MRD), Department of National Park and Landscape Protection Protection of the natural assets in forests on protected natural areas.
Forest management planning, official supervision of forest management		

Forest research:

Forest Research Institute (FRI), Sárvár
University of West Hungary (UWH), Sopron

Professional training:

Higher education: University of West Hungary, Sopron
Professional secondary schools: Barcs, Mátrafüred, Sopron, Szeged
Trade schools: Ásotthalom, Miskolc, Piliscsaba, Somogyzsitfa-Szócénypuszta

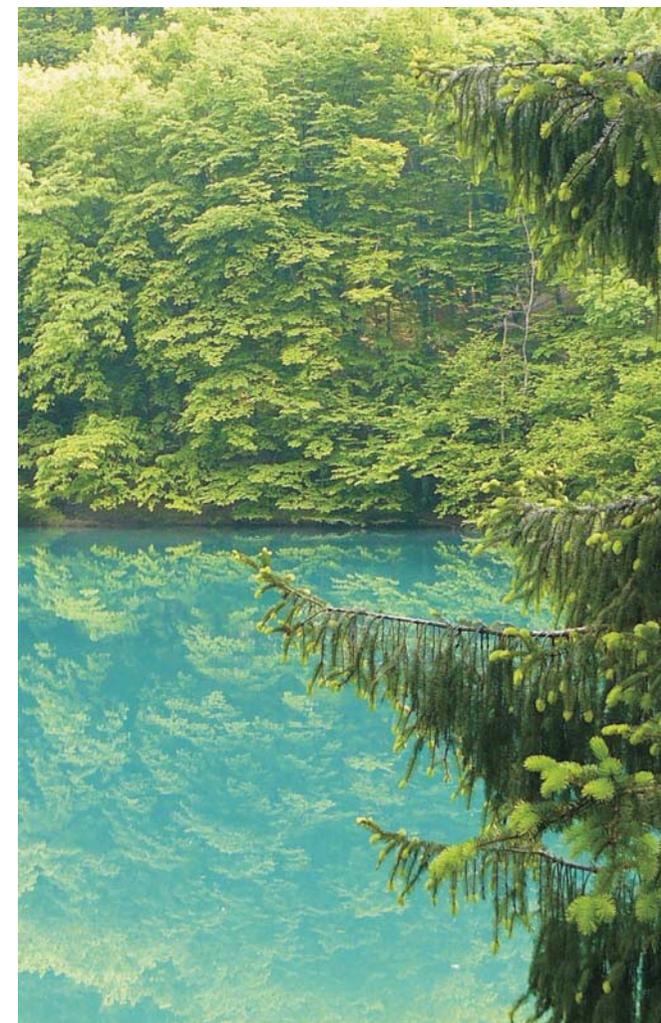
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NFCSO

National Food Chain Safety Office

Forest resources, forestry and wood management in Hungary



Published by

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Forestry Directorate

Budapest, 2012

● Notable milestones in the history of modern Hungarian forestry

1791	The Parliament enacted the first feudal forest act.
1879	Enactment of the first modern civil forest act.
1920	As a result of the peace-treaty closing the First World War, Hungary lost 84 % of its forests, and forest cover decreased from 26 % to 12 %.
1935	The Act IV of 1935 was not just a forest act adjusted to the new geographical conditions of the country, but also the first Hungarian law on nature conservation to be promulgated.
1936	Hungary hosted the second World Forestry Congress and the 9th Congress of IUFRO.
1945	Private forest holdings exceeding 58 hectares were nationalized, properties of 6 to 58 hectares were taken into state management.
1959	Forest joint tenures were cut back, about 30 % of the forests were assigned to agricultural cooperatives.
1961	Enactment of the Act VII of 1961 on forests and wildlife management based on the socialist ownership structure.
1996	As a result of the change of political system, about 40 % of forests were privatised. The legislative control for multiple-use and sustainable forestry is provided in Act LIV of 1996 on forests and protection of forests.
2009	One main aim of the Act XXXVII of 2009 is to move forests closer to their natural states. On one hand, the act defines the 'quantitative naturalness' and prescribes that it must not decrease due to management activities. On the other hand, the act makes it obligatory to apply continuous cover forestry methods on a predetermined area of state-owned forests. Furthermore, it ensures that the civil sphere can take part in forest planning to a greater extent than before.

● Main objectives of the current Hungarian forest policy

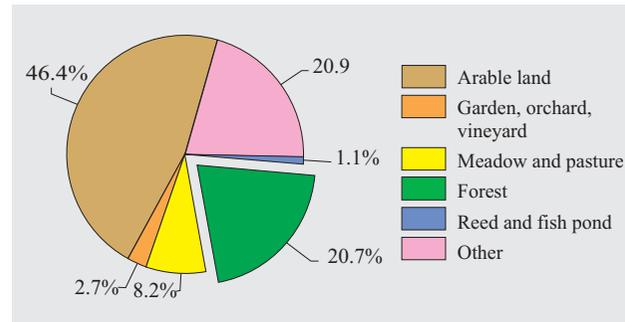
- To ensure long-term environmental, economic and social services of forests with sustainable multiple-use forest management.
- To harmonize the interest of the society in sustainable forest management with the interests of owners and managements.
- To maintain natural or close-to-natural forest stands composed by indigenous tree species and extend their area in accordance with prevailing site conditions.
- To increase the forested lands with afforestation up to the forest ratio of approximately 26-27 %.

● Comprehensive facts

Forest land area (in database)	1000 ha	1927.7
Forest ratio	%	20.7
Forest area per 1,000 inhabitants	ha/1000 cap.	194
Area of land in forestry use	1000 ha	2050.7
Growing stock	million gr. m ³	362.2
Gross annual increment	million m ³ /year	13.1
Total fellings	million gr. m ³	8.1
Final cutting	million gr. m ³	5.7
Regeneration (initial planting) per year	1000 ha	12.6
Afforestation (initial planting) per year	1000 ha	2.8
Ratio of forests under management	%	100.0

Sources: Hungarian Central Statistical Office (HCSO) 2011
NFCSO Database, data of 1st Jan. 2012
NFCSO "Report on Forestations and Fellings in 2011"

● Area by land use categories



Source: HCSO, data of 31st May 2012

● Forest land according to the National Forestry Database

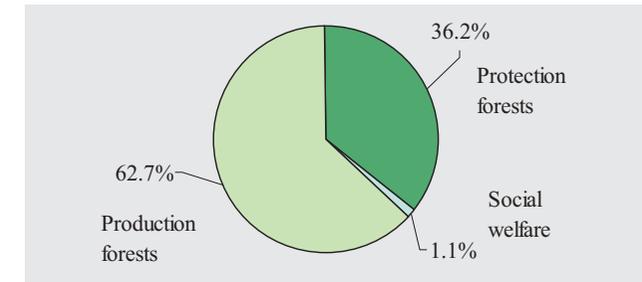
data of 1st Jan. 2012	(1000 ha)	ratio (%)
Forest land (covered by tree stands or earmarked for plantation)	1927.7	20.7
Other wooded lands (nurseries, rides, permanent clearings, roads)	123.0	1.3
Total area of land in forestry use	2050.7	22.0

● Forest land area and ownership categories in the counties

County	Area (km ²)	Forest l. area (km ²)	Forest ratio (%)	In forestry use (km ²)	State (%)	Com-munal (%)	Private (%)	Mixed (%)
Pest incl. Budapest	6918	1699	24.6	1796	61.0	2.7	35.1	1.2
Közép-Magyarország	6918	1699	24.6	1796	61.0	2.7	35.1	1.2
Fejér	4359	543	12.5	607	75.2	2.8	21.2	0.8
Komárom-Esztergom	2265	616	27.2	660	81.5	1.1	17.2	0.2
Veszprém	4493	1349	30.0	1543	65.6	0.4	33.3	0.7
Közép-Dunántúl	11116	2508	22.6	2811	71.4	1.1	26.9	0.6
Győr-Moson-Sopron	4208	814	19.3	900	71.0	0.5	28.4	0.1
Vas	3336	940	28.2	987	51.3	0.4	48.3	0.0
Zala	3784	1189	31.4	1257	53.2	0.6	43.1	3.1
Nyugat-Dunántúl	11328	2944	26.0	3144	57.7	0.5	40.5	1.3
Baranya	4429	1113	25.1	1166	55.0	1.3	42.5	1.2
Somogy	6036	1785	29.6	1906	56.6	0.8	41.3	1.3
Tolna	3704	663	17.9	711	57.7	0.8	40.8	0.7
Dél-Dunántúl	14169	3562	25.1	3783	56.2	1.0	41.6	1.2
Borsod-Abaúj-Zemplén	7250	2075	28.6	2162	60.2	1.4	37.6	0.8
Heves	3637	880	24.2	912	60.0	0.4	39.3	0.4
Nógrád	2546	988	38.8	1024	55.6	0.2	43.8	0.4
Észak-Magyarország	13433	3943	29.4	4098	59.0	0.8	39.5	0.6
Hajdú-Bihar	6210	686	11.0	727	47.5	0.6	51.3	0.6
Jász-Nagykun-Szolnok	5582	325	5.8	352	45.5	2.4	51.7	0.4
Szabolcs-Szatmár-B.	5937	1227	20.7	1270	27.3	1.2	71.3	0.2
Észak-Alföld	17729	2239	12.6	2349	36.2	1.2	62.2	0.4
Bács-Kiskun	8444	1753	20.8	1854	47.6	0.6	50.7	1.1
Békés	5630	255	4.5	278	62.7	3.7	31.9	1.7
Csongrád	4263	375	8.8	395	49.8	1.4	48.7	0.1
Dél-Alföld	18337	2382	13.0	2526	49.6	1.1	48.3	1.0
Total	93030	19277	20.7	20507	56.4	1.1	41.6	0.9

Source: NFCSO Database, data of 1st Jan. 2012
Mixed means the forest property is divided among state, private and community.
Before the transition of the political system the ratio of private forest was below 1 %.

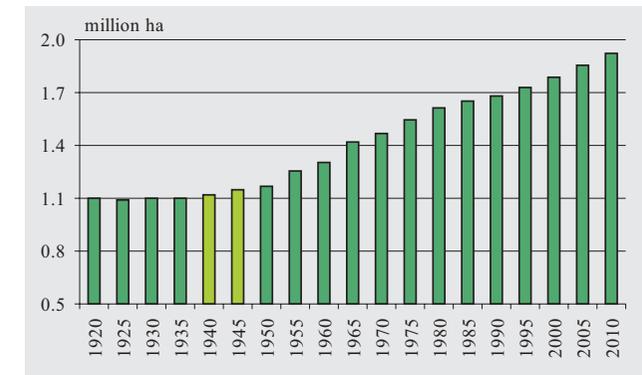
● Distribution of forests by primary function



Source: NFCSO Database, data of 1st Jan. 2012

Protection forests include protective forests (soil, water, settlement protection, etc.) and protected forests (i.e. in protected natural areas). Their area and ratio have been increasing for decades.

● Changes of the forest area (1920-2010)



Source: NFCSO Database

Data of 1940 and 1945 are missing. The light green columns show estimated data.

The ratio of the forest area between 1920 and 2010 increased from 11.8% to 20.7%, due to the afforestation programs subsidized by the state and mainly implemented by private forest owners.

Afforestations in the past decade (initial plantings)

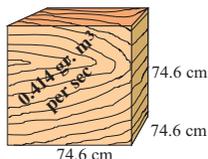
Growing year	State sector	Other forms of management	Total
	(ha)		
2001-2002	755	14075	14830
2002-2003	899	11116	12015
2003-2004	437	7137	7574
2004-2005	628	7029	7657
2005-2006	770	13219	13989
2006-2007	512	18436	18948
2007-2008	391	6941	7332
2008-2009	791	4377	5168
2009-2010	1084	4012	5096
2010-2011	143	2660	2803

Source: NFCSO "Report on Forestations and Fellings in 2011"

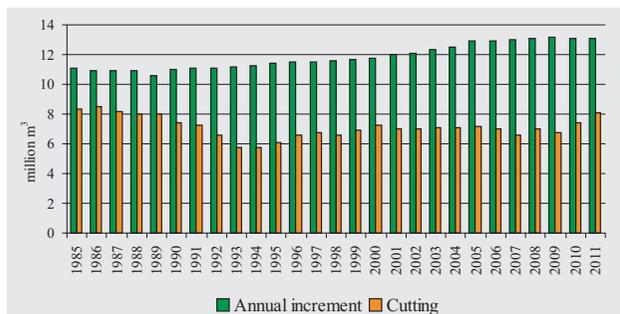
● Current annual increment, fellings and growing stock

Current increment by species (%)	
Oak	20.4
Turkey oak	8.1
Beech	6.8
Black locust	24.8
Other hard broadleaved	9.0
Poplar	13.1
Other soft broadleaved	5.9
Coniferous	11.9

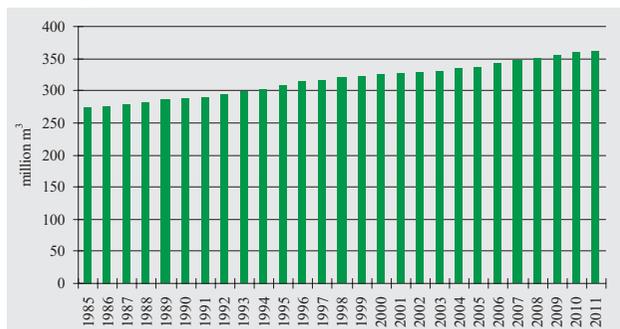
Gross annual increment in Hungarian forests:
13.1 million gr. m³/year



Cutting and annual increment between 1985 and 2011



Growing stock between 1985 and 2011



Growing stock has been steadily increasing since in each year annual increment has been higher than volume of the removed and died trees.

Source: NFCSO "Report on Forestations and Fellings in 2011"

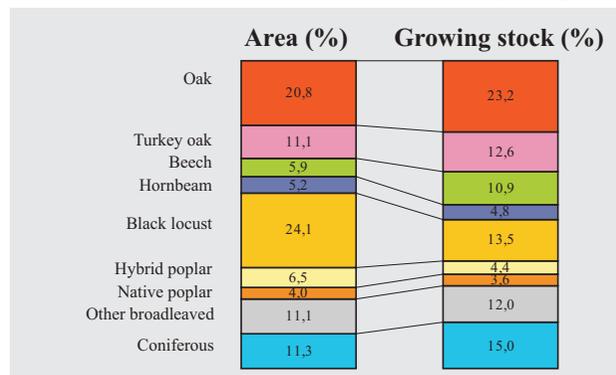
● Forest fires

	Surface fires	Ground fires	Crown fires
	(ha)		
2008	43	325	29
2009	0	785	60
2010	0	239	0
2011	0	1085	112

Source: NFCSO Forest Fire Information System 2011

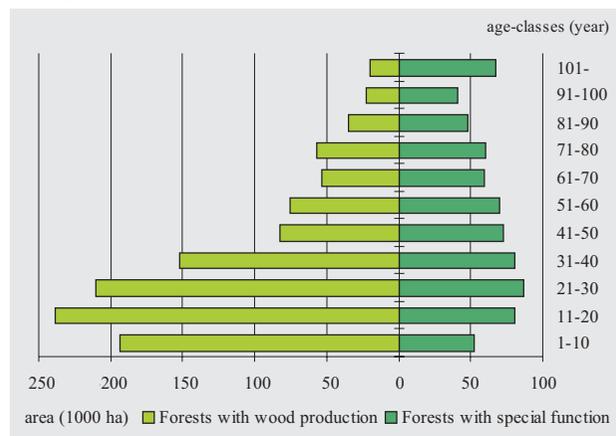
● Tree species and age-class distribution

Tree species distribution of the forest area and the growing stock

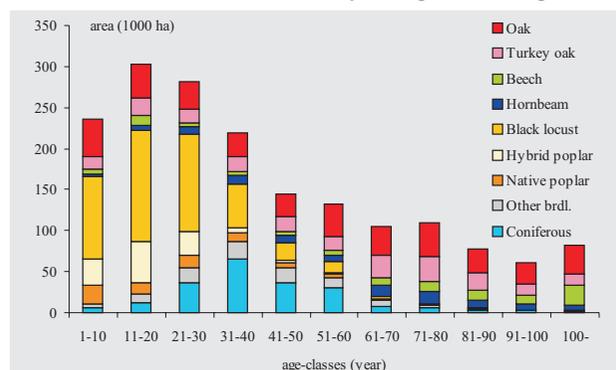


63% of the forest area is covered by indigenous species and 37% by alien or naturalized (black locust, red oak, coniferous), or cloned species (hybrid poplar).

The age-class distribution of the forest area by function



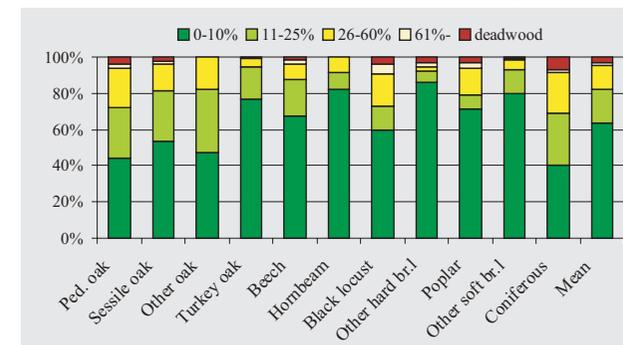
The distribution of the forest area by tree species and age



Source: NFCSO Database, data of 1st Jan. 2012

● Health condition in 2011

Defoliation measured by the ICP Forests Monitoring System



Source: NFCSO Health Conditions Database, data of 1st Jan. 2012

Forest health condition was considerably better in 2011 than in 2010 according to the results of crown condition analyses. Average level of defoliation decreased from 22% to 16%. Proportion of the asymptomatic trees increased by 12% as well as slightly damaged trees proportion decreased roughly to the same extent. Recovery of hornbeam and Turkey oak was the most outstanding. Besides the overall improvement of health condition, ratio of trees died in the sampling year changed from 0.3 % to its usual value of 1 %.

● Annual gross felling volume in 2011

	State sector	Other forms of management	Total
By felling types (1000 gr. m ³)			
Cleaning	181	131	312
Pre-commercial thinning	425	393	818
Commercial thinning	533	155	688
Final cutting	3156	2588	5744
Selection cutting	46	2	48
'Selection-like' thinning	2	9	11
Sanitary cutting	308	86	394
Other types of fellings	39	26	65
Total	4690	3390	8080
By tree species groups (1000 gr. m ³)			
Noble oaks	856	248	1104
Turkey oak	756	190	946
Beech	677	103	780
Hornbeam	223	99	322
Black locust	571	1286	1857
Other hard broadleaveds	176	73	249
Hybrid poplar	444	768	1212
Native poplar	123	119	242
Other soft broadleaved	182	168	350
Coniferous	682	336	1018
Total	4690	3390	8080

Source: NFCSO "Report on Forestations and Fellings in 2011"