

## Production of forest industry and the timber trade

Production of wood products in 2001

	rate of assortments within the removal <sup>1/</sup> %
Veneer log	1.9
Saw logs	22.7
Other raw material for sawmilling	8.4
Pitprops	1.0
Pulpwood	10.2
Bolt for panels	10.8
Other industrial timber	5.1
Total industrial wood	60.1
Fuelwood	39.9
<b>Total removal</b>	<b>100.0 = 5811.0 thousand m<sup>3</sup></b>

<sup>1/</sup> figures for the national distribution were calculated on the basis of a 71 % survey

Source: State Forest Service (ÁESZ)

Production of selected products in 2001

Product	measurement unit	quantity produced
Coniferous sawnwood	1,000 m <sup>3</sup>	75.1
Broadleaved sawnwood	1,000 m <sup>3</sup>	144.5
Parquet strips	1,000 m <sup>3</sup>	62.1
Furniture strips	1,000 m <sup>3</sup>	4.4
Pallets	1,000 m <sup>3</sup>	42.3
Parquet	1,000 m <sup>2</sup>	2763.5
Wood particle board	1,000 m <sup>3</sup>	485.2
Laminated particle board	1,000 m <sup>3</sup>	398.8
Cement-bonded wood particle board	1,000 m <sup>3</sup>	27.2
Fibreboard	1,000 m <sup>3</sup>	59.9
Fibreboard, coated and surface treated	1,000 m <sup>3</sup>	20.3
Plywood	1,000 m <sup>3</sup>	5.8
Veneer sheets	million m <sup>2</sup>	22.6
Match	million boxes	252

Source: ÁESZ

Timber trade in 2001

	Export	Import million HUF	Balance
Solid wood products	17037	5812	11225
Sawn wood products	18973	32815	-13842
Panel products	22854	26239	- 3385
Miscellaneous wood products	48277	19985	28292
<b>Total wood products</b>	<b>107141</b>	<b>84851</b>	<b>22290</b>
Pulp- and paper products	116890	224326	-107436
<b>Grand total</b>	<b>224031</b>	<b>309177</b>	<b>- 85146</b>

Source: ÁESZ 2001.12.31.

## Forest protection and conservation

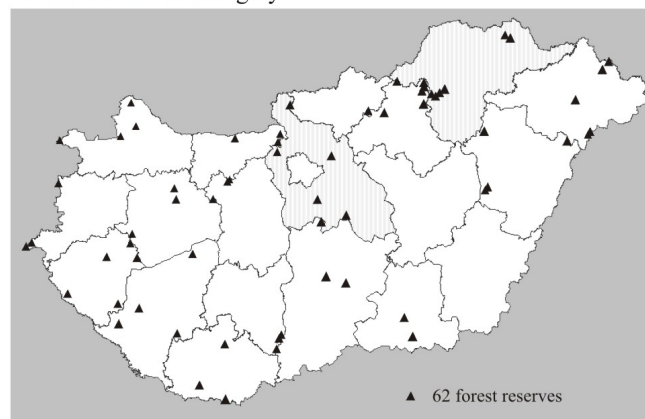
Protected natural areas

	Total area 1,000 hectare	Forest area
National parks (9)	440.8	173.4
Landscape protection districts (38)	349.3	191.3
Nature protection areas (142)	25.9	10.5
Protected land of National importance	816.0	375.2

Source: KÖM (Ministry for Environment), Office for Nature Conservation, 2001

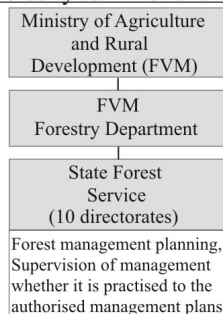
Actually 46 per cent of the protected lands of national importance are covered by forests. The limitations on the management of these lands are imposed by the LIII. Act of 1996 on Conservation.

Forest reserves in Hungary



## Organisational structure

Forestry administration:



Further higher authorities with certain responsibilities in matters of forestry:

- FVM OMMI, Forestry Department  
Inspectorate on propagative materials
- FVM Department for Fishery and Hunting  
Authoritative control on game management
- KvVM Office for Nature Conservation  
9 Directorates of National Parks  
Authoritative supervision on the forests situated in protected natural area

Forest research: Forest Research Institution (ERTI),  
University of West Hungary

Professional training:

higher education: University of West Hungary  
professional secondary schools: in towns Szeged, Sopron, Mátfaűred, Barcs  
trade schools for skilled forestry workers: in towns Ásotthalom,  
Szócsénypuszta, Piliscsaba,  
Miskolc

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# FOREST RESOURCES, FORESTRY AND WOOD MANAGEMENT

I N H U N G A R Y



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2002

## • Notable milestones in the history of modern Hungarian Forestry

1791	The parliament enacted the first forest act of feudal type.
1879	The first modern forest act of bourgeois type was issued.
1920	As a result of the peace pact closing First World War Hungary lost 84 % of her forests; the rate of forested land decreased from 26 % to 12 %.
1935	With the announcement of the IV. Act of 1935, a forest act corresponding to the new geographical conditions of the country, as well as the first Hungarian law on nature conservation was promulgated.
1936	Hungary hosted the second World Forestry Congress and the 9th Congress of IUFRO.
1945	Private forest holdings exceeding 58 hectare were nationalised; properties of 6 to 58 hectare were taken into state management.
1959-60	Forest joint tenures were cut back; about 30 % of the forests were assigned to agriculture co-operatives.
1961	Enactment of the VII. Act of 1961 on the forests and wildlife management based on the socialist ownership structure.
1996	As one of the results of the general system transition in Hungary, about 40 % of the forests was privatised. In order to control the multiple-used and sustainable forestry with legislative tool, the Parliament passed the LIV. Act of 1996 on the forests and protection of the forests.

## • Major goals of the current forest policy

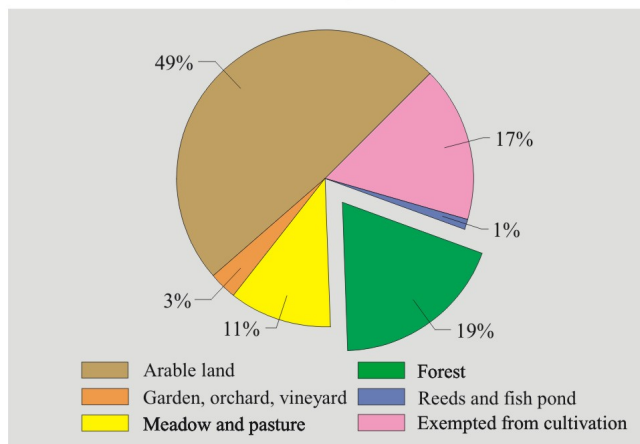
- ◆ To ensure the environmental, economic and social services of the forests for a long term with sustainable management based on multiple-use of the forests.
- ◆ To orchestrate the harmony between the interests of the management and owners on the one hand, and those of the society in running forestry on a sustainable way, on the other.
- ◆ To maintain the current rate of natural and close-to-nature types of forest stands composed by indigenous tree species, as well as to extend their rate in accordance with the prevailing site conditions.
- ◆ To increase the forested lands with afforestation up to the forest ratio of appr. 25-26 %.

## • Some comprehensive facts about Hungary

Total area of the country	in 1,000 hectare	9,303.0
Population	capita in millions	10.17
Forest area	in 1,000 hectare	1,803.9
Forest ratio	%	19.4
Forests for 1,000 inhabitants	ha/1,000 capita	177
Lands assigned for forestry use	in 1,000 hectare	1,936.9
Growing stock	in million gross m <sup>3</sup>	328.8
Gross annual increment	in million m <sup>3</sup> /year	12.1
Total fellings	in million gross m <sup>3</sup>	7.0
Final cut, volume	in million gross m <sup>3</sup>	5.0
Final cut, area equivalence	in 1,000 hectare	21.0
Regeneration (initial stand establishment)	in 1,000 hectare	21.9
Afforestation (initial stand establishment)	in 1,000 hectare	13.1
Rate of forest treated on management plans	%	100

Sources: Central Statistical Office (KSH) 2002.01.01.  
State Forest Service (ÁESZ) 2002.01.01.  
ÁESZ National summary of the annual reports of forest inspectorates 2001.

## • Total area of the country by land use



Source: KSH 2001.05.31.

## • Forest area according to actual figures of the National Forestry Data Base

	in 1,000 hectare	in per cent of the national territory
Forest area (lands covered by stand + earmarked lands which have to be forested)	1,803.9	19.4
Other lands supporting forestry (nurseries, alleys, forest access roads, permanent clearings, etc.)	133.0	1.4
Total area assigned for forestry use	1,936.9	20.8

## • Changes in forest area, afforestations

Changes in forest area, 1938 - 2002

	1938		1965		2002	
	forest area in 1000 ha	rate of forest in %	forest area in 1000 ha	rate of forest in %	forest area in 1000 ha	rate of forest in %
Trans-Danubia	599.4	16.2	731.9	20.0	864.1	23.6
Northern Hu.	318.4	22.6	329.4	24.5	373.6	27.8
The Plain	189.1	4.5	360.2	8.4	566.2	13.2
Total	1106.9	11.9	1421.5	15.3	1803.9	19.4

Source: KSH Repertory, ÁESZ

Afforestation in selected years<sup>1/</sup>

Growing season	State forest companies	Other forms of management in 1,000 hectare	Total for the country
1994/95	0.3	3.9	4.2
1995/96	0.4	6.2	6.6
1996/97	0.4	7.9	8.3
1997/98	0.4	7.8	8.2
1998/99	0.4	8.3	8.7
1999/2000	0.4	9.4	9.8
2000/2001	0.3	12.8	13.1

<sup>1/</sup>Initial stand establishment

Source: National summary of the annual reports of forest inspectorates

## • Forested lands and ownership conditions in the counties

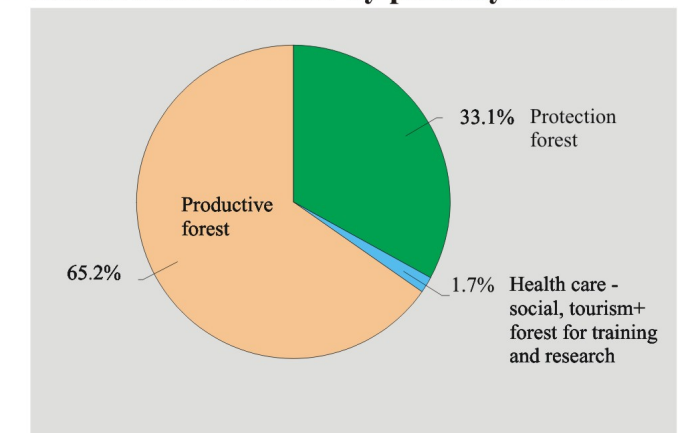
County	Total land ha	Forested land ha	Forest ratio %	Assign. for forestry use ha	State %	Com-mon %	Private %	Un-known yet %
Baranya	442951	105822	23.9	111887	55.3	1.1	24.5	19.1
Bács-Kiskun	844515	155673	18.4	165896	51.6	0.5	31.1	16.7
Békés	563105	23987	4.3	26449	59.4	2.2	8.2	30.2
Borsod-A.-Z.	724717	194836	26.9	204843	63.4	1.2	25.2	10.2
Csongrád	426268	31887	7.5	33816	53.9	0.9	14.6	30.6
Fejér	435876	53801	12.3	62216	74.9	1.6	7.0	16.5
Győr-M.-Sop.	408870	73678	18.0	82111	71.0	0.3	28.4	0.3
Hajdú-Bihar	621056	62708	10.1	66675	49.9	0.9	32.2	17.0
Heves	363741	84194	23.1	87968	62.3	0.4	21.0	16.3
Komárom-E.	226508	60262	26.6	65107	83.0	0.7	8.6	7.7
Nógrád	254418	94594	37.2	97928	58.9	0.3	29.3	11.5
Pest+Budap.	691867	162184	23.4	174365	63.1	1.3	21.0	14.6
Somogy	603586	166893	27.7	179039	59.5	0.7	27.8	12.0
Szabolcs-Sz.-B.	593645	98778	16.6	102913	32.5	1.4	46.0	20.1
Jász-N.-Szoln.	558171	30962	5.5	33166	40.5	2.3	46.6	10.6
Tolna	370331	63781	17.2	68752	57.4	1.0	21.0	20.6
Vas	333620	92651	27.8	97777	51.3	0.4	44.2	4.1
Veszprém	461259	135151	29.3	156063	68.6	0.4	24.5	6.5
Zala	378411	112080	29.6	119973	55.3	0.3	21.6	22.8
Total	9302915	1803922	19.4	1936944	59.0	0.8	26.4	13.8

Source: ÁESZ 2002.01.01.

The class "unknown yet" covers new forest owners not yet registered as forest managers, who have become owners during the transition period as a result of the privatisation.

Before the transition the rate of private forest did not exceed 1%.

## • Distribution of forests by primary function



Source: ÁESZ 2002.01.01.

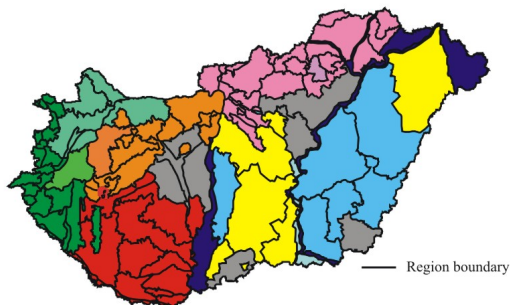
Protection forest includes protective forest (soil, wildlife, water, settlement protection, etc.) and protected forest (e.g. in protected natural areas). Their share tends to be increased for some decades.

## • Site conditions

Distribution by elevation height above the sea level	
area	%
- 150 m	41.5
151 - 350 m	45.6
351 - 750 m	12.5
751 - 1015 m	0.4
<b>Total forest area</b>	<b>100.0</b>

Distribution by forestry climatic zones	
climate	area %
Beech	8.8
Oak - Hornbeam	38.3
Sessile oak - Turkey oak	27.8
Forest steppe	25.1
<b>Total forest area</b>	<b>100.0</b>

### SILVICULTURAL REGIONS OF HUNGARY



#### AREAL RATE OF INDIVIDUAL REGION GROUPS:

	%		%
1. Western Transdanubia	11.4	6. Loess region of the Great Plain	2.4
2. Southern Transdanubia	17.1	7. Sandy region of the Great Plain	19.2
3. Small Plain	4.4	8. Alkali region of the Great Plain	3.5
4. Transdanubian Medium Mountains	14.4	9. Peatlands and flooded region of the Great Plain	4.5
5. Northern Medium Mountains	22.9		
			100.0

Source: ÁESZ 2002.01.01.

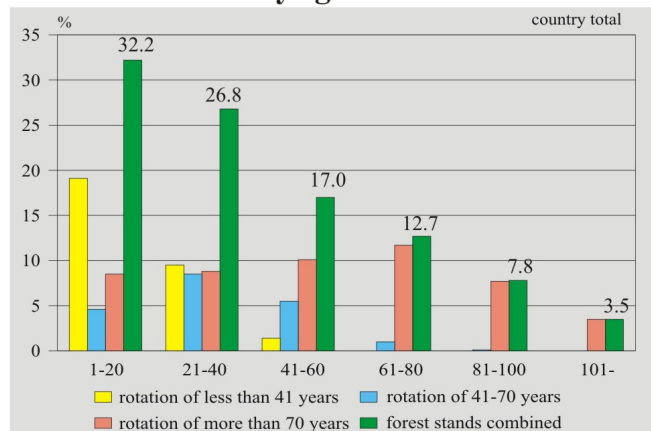
## • Tree species distribution

	Area %	Growing stock %
Oak	20.9	24.9
Turkey oak	11.5	13.1
Beech	6.1	11.9
Hornbeam	5.7	5.4
Black locust	21.8	12.1
Improved poplar	6.6	3.9
Indigenous poplar	3.2	2.6
Other broad-leaved	10.3	10.7
Conifers	13.9	15.4

Source: ÁESZ 2002.01.01.

Actually 57 % of the forests area is covered by indigenous tree species in Hungary. The rest (43 %) is occupied either by introduced and domesticated species (such as black locust, red oak and conifers) or by clones (genetically improved poplars).

## • Area distribution by age classes



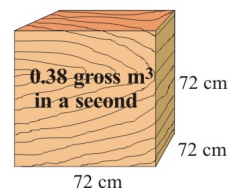
Source: ÁESZ 2002.01.01. + forestation in process

## • Growing stock and gross annual increment

Distribution of the gross annual increment by tree species: %

Oak	20.5
Turkey oak	8.1
Beech	7.2
Black locust	22.0
Other hardwood	8.2
Poplar	11.5
Other soft deciduous	6.5
Conifers	16.0
<b>Total</b>	<b>100.0</b>

Total gross increment grown in the Hungarian forests: 12.1 million m<sup>3</sup>/year =



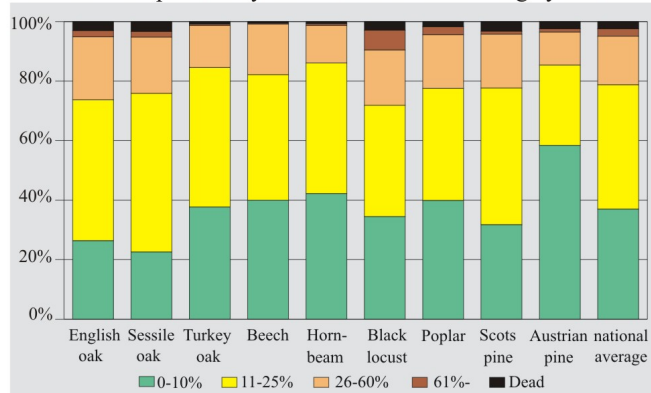
Development of the growing stock:

1998.01.01.	319.8 million m <sup>3</sup>
1999.01.01.	323.1
2000.01.01.	325.2
2001.01.01.	326.4
2002.01.01.	328.8

Source: ÁESZ

## • Health conditions

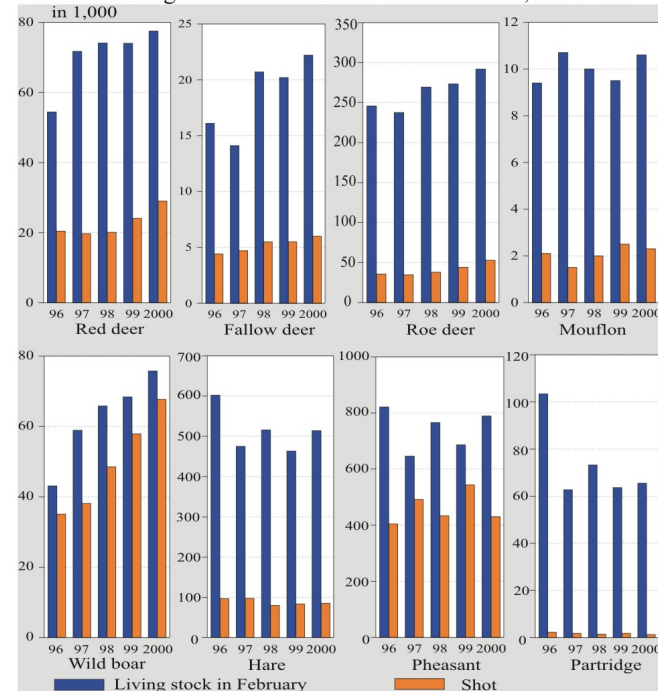
Defoliation as specified by the ICP Forests Monitoring System



Source: ÁESZ Register of health conditions of the forests. 2001.

## • Wildlife management and hunting

Estimated living stock and the amount of shot animals, 1996-2000



Source: Research Institution for Agro-Economy and Agro-Informatics (AKII)

National trophy qualification in 2000 according to the CIC system

Game	Total evaluated	Prized trophies		
		Gold	Silver	Bronze
Red deer	8186	224	844	1373
Fallow deer	1304	92	147	144
Roe deer	20956	250	564	743
Mouflon	599	24	52	83
Wild boar	3795	183	292	487

Source: National Trophy Awarding Commission (Országos Tróféabíráló Bizottság)

Wild living stock is an integrated part of the forest ecosystem representing a considerable natural value. Trophies of red deer, fallow deer and roe deer shot in Hungary are on the top of the world. Licence hunting in Hungary is an important source of income.

In order to ease the damages caused by the game, the major task of the **wildlife management** is to maintain a balanced stock of games which is in accordance with the interests of conservation, as well as of the farmers and forest managers.

Recorded damages caused by game in the plantation

Growing season	Damage in quantity	
	Damage in quantity hectare	Damage in quality hectare
1996/97	357	5422
1997/98	354	5708
1998/99	226	4987
1999/2000	313	4807
2000/2001	715	5219

Source: ÁESZ Records on the technical revision of plantings



# FOREST RESOURCES, FORESTRY AND WOOD MANAGEMENT

## IN HUNGARY



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### • Forestation (regeneration and afforestation)

Achievements in the growing season 2000/2001 in hectare

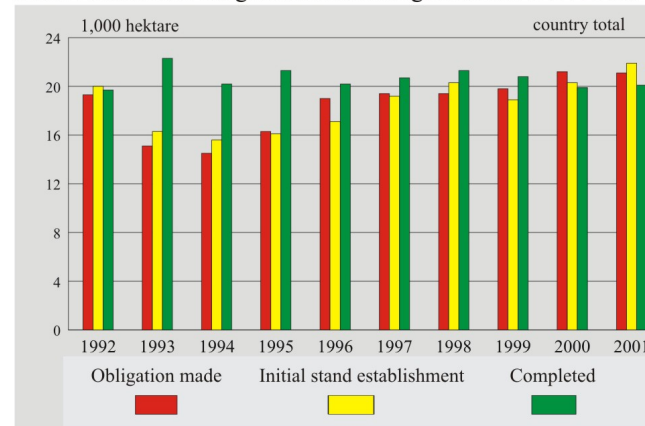
	State Forestry companies	Other owners	Total
<b>Initial stand establishment (ISE):</b>			
Natural regeneration by seed	2844	490	3334
Natural regeneration by sprout	1975	4971	6946
Artificial regeneration	5826	5821	11647
Total regeneration	10645	11282	21927
Total afforestation	346	12791	13137
Total initial stand establishment	10991	24073	35064
<b>Total blank filling</b>	4863	4317	9180
<b>Initial stand establishment + blank filling</b>	15854	28390	44244
<b>Completed stand establishment:</b>			
in forest regeneration	10451	9676	20127
in afforestation	380	7187	7567
<b>Invested work for 1 ha completed stand establishment:</b>			
in forest regeneration	1.4	1.1	1.3
in afforestation	1.7	1.1	1.2
<b>Unstocked area</b>	2551	9386	11937
<b>Regeneration delay</b>	1962	11268	12960

Target stand types in the forestation (ISE)

	in forest regeneration	in afforestation %	Total in forestation
Oak	19.0	22.2	20.2
Turkey oak + other hardwood	11.2	4.3	8.6
Beech	4.8	0.1	3.0
Black locust	36.3	31.2	34.4
Poplar + other soft broadleaf	25.3	40.5	31.0
Conifers	3.4	1.7	2.8
Total	100.0	100.0	100.0

Source: National summary of the annual reports of forest inspectorates 2001

Achievements and obligations in forest regeneration. 1992-2001.



Source: ÁESZ, National summary of the annual reports of forest inspectorates

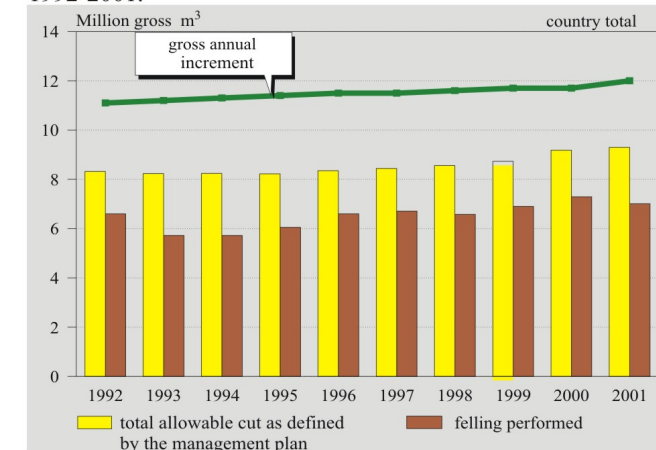
### • Fellings

Felling achievements in 2001

	State Forestry companies	Other owners	Total
<b>by type of felling:</b>	in 1,000 gross m <sup>3</sup>		
Final cut	3072	1935	5007
Increment thinning	549	129	678
Selection thinning	416	234	650
Cleaning	196	157	353
Sanitary cut	195	73	268
Other cut	25	30	55
Total	4453	2558	7011
	hectare		
Area equivalent of final cuts	10805	10204	21009
Area of increment thinning	13173	3438	16611
Area of selection thinning	15973	7884	23857
Area of cleaning	18951	11571	30522
<b>by groups of tree species:</b>	in 1,000 m <sup>3</sup>		
Oak	939	219	1158
Turkey oak	826	150	976
Beech	594	61	655
Hornbeam	259	62	321
Black locust	510	914	1424
Other hard broad-leaved species	150	43	193
Improved poplars	377	713	1090
Indigenous poplar	115	65	180
Other soft broad-leaved	154	115	269
Conifers	529	216	745
Total	4453	2558	7011

Source: National summary of the annual reports of forest inspectorates 2001.

Fellings and the total annual increment of the forest stands. 1992-2001.



Source: ÁESZ, National summary of the annual reports of forest inspectorates.

The amount of the allowable cut in the Hungarian forests is defined by the **10 year Forest Management Plans** which are prepared and assembled for the forest holdings on the account of the state budget. The actual forest treatments performed by the responsible manager are approved and recorded by the locally competent forest inspectorate year by year.