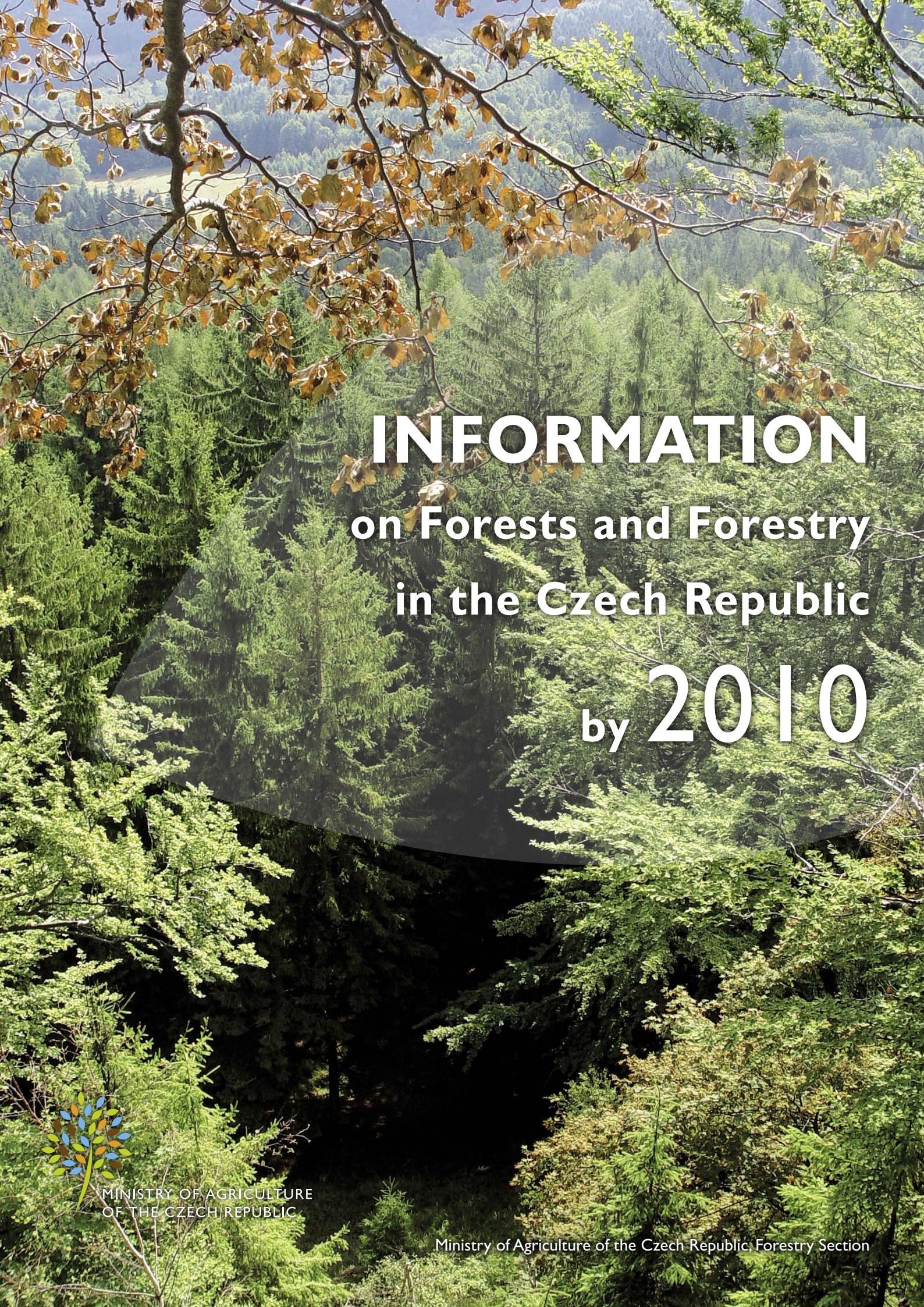




INFORMATION on Forests and Forestry in the Czech Republic by 2010



MINISTRY OF AGRICULTURE
OF THE CZECH REPUBLIC

Ministry of Agriculture of the Czech Republic Forestry Section



MINISTRY OF AGRICULTURE
OF THE CZECH REPUBLIC

Published by the Ministry of Agriculture of the Czech Republic
Těšnov 17, 117 05 Prague 1
[http: www.eagri.cz](http://www.eagri.cz), e-mail: info@mze.cz

ISBN 978-80-7434-010-9 - Information on Czech Forestry

Print: MS Polygrafie, Mladoboleslavská 716, 294 21 Bělá pod Bezdězem

I. GENERAL MACROECONOMIC CONDITIONS IN THE CZECH REPUBLIC AND FOREST POLICY

I.1 Czech National Economy - General Macroeconomic Conditions

In 2010, the economic recession was subsiding in the Czech Republic and GDP resumed year-on-year growth, which amounted in fixed prices to 2.2%, the figure having been seasonally adjusted. The GDP growth was higher than the EU 27 average as well as compared with the Eurozone (16 countries¹⁾, which indicated an improved position of the Czech Republic in Europe.

Calculations from the preliminary Eurostat data suggest that the Czech Republic reached in 2010 an average level of GDP volume index per capita in purchasing power parity for EU 27 at 82%. Converted by common exchange rate, the ratio is 57%.

Trade balance in 2010 reached plus figures again and ended with a surplus of 54.0 billion CZK at a year-on-year decrease by 27.2 billion CZK². The balance was achieved with a year-on-year increase of exports by 376 billion CZK and with a concurrent increase of imports by 404 billion CZK.



Macroeconomic indicators of national economy development¹⁾

National economy	Unit	2009	2010
GDP in current prices	billion CZK	3 625.9	3 669.8
	year-on-year index	98.3	101.2
GDP in fixed consumer prices	year-on-year index	96.0	102.2
Relative GDP per capita ²⁾	EU 27 = 100	82	82
	EU 15 = 100	74	75
Mean monthly salary ³⁾	CZK	23 488	23 951
	year-on-year index	104.0	102.0
Inflation rate	%	1.00	1.50
Mean interest rates on bank credits ⁴⁾	%	4.58	4.10
Trade balance	billion CZK	81.20	54.0
Current account of trade balance	billion CZK	-114.8	-139.2
Amount of state budget balance	billion CZK	-192.4	-156.4
Debt in the sector of state institutions ⁵⁾	billion CZK	1 282.3	1 413.5
Deficit in the sector of state institutions ⁵⁾	% GDP	5.90	4.71
Debt in the sector of state institutions ⁵⁾	% GDP	35.40	38.52
Unemployment rate (mean) ⁶⁾	%	6.70	7.40
Parity (mean) CZK/€	CZK	26.445	25.290
CZK/\$	CZK	19.057	19.111

Notes:

¹⁾ Data published by 1 April 2011.

²⁾ Purchasing power parity, preliminary data for 2010.

³⁾ Average monthly gross nominal wages on full-time equivalent number of employees in the national economy.

⁴⁾ Interest rates – situations of trades, 12 month average.

⁵⁾ Balance in the sector of state institutions.

⁶⁾ Share of unemployed persons in total labour force by ILO.

Source: Czech Statistical Office, Czech National Bank, Eurostat

Data of the Czech Statistical Office indicate that the number of employees in the sector of agriculture, forestry and fisheries decreased in 2010 by 7.1% as compared with the year 2009. At the same time, the share of employees in this sector in the total number of employees slightly decreased (-0.14 percentage point). Of this, the share of persons employed in agriculture (including game management and related activities) dropped by 0.12 p. p. Agriculture continues to be characterized by wage disparity and lags behind the CR average in the level of average wages. In 2010, the lagging decreased to 76% as compared with the last year. The growth of nominal wage of employees in agriculture converted to persons amounted to 3.3% and was by 1.3 p.p. higher than the average of the total wage increase in the Czech Republic. Because the nominal wage in agriculture grew higher than the inflation rate, real wages increased by 1.8%.

¹⁾ Eurozone with the common currency consisted of sixteen EU member countries in 2010 – Belgium, Finland, France, Ireland, Italy, Luxembourg, Germany, Netherlands, Portugal, Austria, Spain, Greece, Slovenia, Cyprus, Malta and Slovakia.

²⁾ Based on CNB data on the balance of payments for I-IVQ 2010. According to foreign trade statistics reported by the Czech Statistical Office (ČSÚ) pursuant to EU regulations based on customs statistics and exports appraised in FOB prices and imports in CIF prices, trade balance reached in 2010 the amount of 125 billion CZK with a year-on-year decrease by 25 billion CZK.

1.2 Forest Ownership Structure

Forest Ownership Structure in the Czech Republic in 2010

Ownership		area of forest stands	
		(ha)	%
State forests		1 559 522	60.10
of which	Forests of the Czech Republic, State Enterprise	1 308 806	50.44
	Military Forests and Farms, State Enterprise	124 306	4.79
	Forests of the Ministry of the Environment (<i>National Parks</i>)	94 880	3.66
	Regional forests (<i>secondary schools and other</i>)	3 794	0.15
	other	22 522	0.87
	Forests of the Ministry of the Environment (<i>Agency for Nature Conservation and Landscape Protection</i>)	1 178	0.05
	Originally state forests*	4 036	0.16
Legal entities		68 519	2.64
Communal and municipal forests		429 337	16.55
Forests owned by church and other religious entities		1 392	0.05
Forest cooperatives and associations		30 606	1.18
Forests owned by individuals		505 560	19.48
Other (not listed) forests		2	0
Total		2 594 938	100

* original large FMPs in state ownership – validity from 1981-1996, partly from 1997; private owners and municipalities run them under an abstract from the FMP and will have new FMPs of their own only upon the FMP renewal.

Source: Forest Management Institute

1.3 National Forest Programme II

In 2008, the Czech government adopted the already second National Forest Programme for the period until the year 2013. It had been prepared in cooperation of experts coming from many institutions, professional organizations, associations and unions as well as from non-governmental environmental movements and initiatives. Individual objectives and measures are to be translated into related resort policies and a decree of the government recommends taking into account NFP intentions at implementing the medium-term strategies of regions.



The organization and technical coordination of activities connected with the elaboration of NFP intentions and measures was delegated to the Forest Management Institute Brandýs nad Labem (<http://www.uhul.cz/nlp>).





2. Results of Forestry

2.1 Sources of Forest Reproductive Material

Central files of the certified sources of forest reproductive material of the Czech Republic are administered by the authorized entity, which is the Forest Management Institute Brandýs nad Labem, in the Registry of the certified sources of reproductive material (ERMA application) www.uhul.cz.

Sources of identified reproductive material

On the date of 15 December 2010, the registered reduced area of tree species sources of stand type amounted to 69 885.38 ha in 6 421 certified units and 311 certified units were registered as seed source type resource. As compared with the year 2009, the number of stand-type resources and the number of seed-source type resources increased by 11.12% and 10%, respectively.

Sources of selected reproductive material

On the date of 15 December 2010, the registered reduced area of tree species sources of "stand" type amounted to 87 165.23 ha in 8 458 certified units. The area of certified stands in the phenotype class „A“ was 10 700.88 ha, which represents a decrease by 526.62 ha as compared with the year 2009, i.e. by 4.69 %. The area of certified stands in the phenotype class „B“ was 76 464.35 ha, which represents a decrease by 3 208.05 ha, i.e. by 4.03 % as compared with the year 2009.

Sources of qualified reproductive material

Parent trees / Clones

On the date of 15 December 2010, the database of the Registry of the certified sources of reproductive material contained a total of 9 370 clones of which 6 211 were conifers (66.29%) and 3 159 broadleaves (33.71%). The registered clones were for 32 tree species of which 10 coniferous species and 22 broadleaved species. Compared with the year 2009, the total number of clones in the database decreased by 77 (7.47%) with the number of conifer clones having increased by 182 and the number of the clones of broadleaves having decreased by 259.



Seed orchards

On the date of 15 December 2010, the Registry of certified sources included a total of 141 certified seed orchards whose total area amounted to 324.88 ha. The seed orchards had been established for 9 coniferous and 13 broadleaved tree species. With their area size of 266.63 ha, conifers represented 82.06% of the total area of certified orchards. In 2010, no seed orchard was closed down or established and the total area of seed orchards did not change either.

Clone mixtures

In 2010, there were altogether 29 certified clone mixtures in the Czech Republic, registered for 6 tree species – broadleaved elm, European aspen, Norway spruce, black poplar, generous poplar and white willow. Two clone mixtures of black poplar clones were certified in 2010.

2.2 Forest Seed Management

Production of seed material

Year	2009	2010	Approximate annual consumption of cones/seeds
Unit			
Norway spruce	71 554.6	99 753.00	46 000
Scots pine	38 524.95	85 978.30	40 000
Silver fir	58 491.9	42 120.10	65 000
European beech	74 102.18	31 263.30	56 000
Pedunculate oak	199 838.50	83 365.00	85 000
Sessile oak	100 997.00	30 572.00	55 000

Source: Forest Management Institute

2.3 Forest Nursery Practice

Licences

Basic prerequisite for the management of the reproductive material of forest tree species is a licence for this type of activity. On the date of 31 December 2010, the central files of suppliers at the Ministry of Agriculture contained entries of 668 holders of such a licence of whom 361 were natural persons and 307 were legal entities. Compared with the year 2009 the number of the licensees increased by 81.

Area of forest nurseries

Year	2009	2010
Unit		ha
Plastic greenhouses	18.614	21.296
Greenhouses	2.972	4.119
Hotbed	21.691	9.350
Outside area	1327.498	1 376.013
Total production area	1370.775	1410.778
Total area	1794.583	1 797.680

Source: Forest Management Institute

2.4 Forest Regeneration and Forestation

Compared to the previous year, the area of regenerated forest stands increased by 1 523 ha due to reforestation following the relatively extensive incidental felling in previous years. A significant share in this increase had a relatively considerable increase of natural regeneration.

Favourable can be considered the development of species composition used in artificial forest regeneration. Compared with the previous year, the area forested with spruce increased in consequence of the generally increased area of artificial regeneration; however, its relative share in the total area remained the same (ca. 43%). A relatively significant increase as compared with the previous year was recorded in area size forested with beech (by 12%). In the total area of artificial regeneration, the share of forestation with broadleaved species reached 40.7%, which is an increase by 2% as compared with the previous year and at the same time the highest value for the period of recording the data by using the stipulated procedure.



Forest regeneration (ha)

Method of regeneration	2000	2002	2004	2008	2009	2010
Artificial	21 867	18 120	19 042	19 888	20 900	21 859
of which: replanting	4 371	3 212	2 766	3 089	3 011	3 087
Natural	3 422	2 941	3 401	3 487	4 563	5 127

Source: Czech Statistical Office

Artificial regeneration by tree species (ha)

Artificial regeneration		2000	2002	2004	2008	2009	2010
		ha					
Total*		21 867	18 120	19 042	19 888	20 900	21 859
of which	planting	21 486	17 676	18 733	19 793	20 782	21 686
	sowing	381	444	309	95	118	173
of which	spruce	9 479	7 941	8 495	8 567	9 162	9 171
	fir	895	923	1 032	1 268	1 314	1 274
	pine	2 597	2 267	2 361	2 141	1 947	2 171
	larch	739	417	327	263	234	206
	other conifers	200	182	124	143	138	145
	Conifers total	13 910	11 730	12 339	12 382	12 795	12 967
	oak	2 428	1 780	1 965	2 246	2 473	2 607
	beech	3 386	3 143	3 406	3 865	4 316	4 899
	linden	397	264	237	251	218	264
	poplar, aspen	46	61	50	53	22	33
	other broadleaves	1 700	1 142	1 045	1 091	1 076	1 089
	Broadleaves total	7 957	6 390	6 703	7 506	8 105	8 892
	% broadleaves	36.4	35.3	35.2	37.7	38.8	40.7

Note:* including underplanting

Source: Czech Statistical Office



2.5 Stand Tending Measures (cleaning and thinning)

Cleaning and thinning (thousand ha)

Year	Cleaning	Thinning	Total
2000	47.7	115.5	163.2
2001	49.7	131.1	180.8
2002	34.9	103.2	138.1
2003	41.2	79.3	120.5
2004	43.4	91.1	134.5
2005	40.7	92.3	133
2006	39.7	83.7	123.4
2007	37.8	53.4	91.2
2008	42.8	66.7	109.5
2009	40.6	85.2	125.8
2010	43.6	85.7	129.3

Source: Czech Statistical Office, Forest Management Institute

2.6 Felling and Removals

The total amount of raw timber felled in forests of the Czech Republic in 2010 was 16.74 mil. m³, which is by 1.24 mil. m³ more than in the previous year. Priority in timber logging was processing of timber from incidental felling (6.46 mil. m³) and supplying the wood raw material to wood-processing industries. Thanks to the revived demand for raw timber, forest owners utilized the growing prices to finance their needs in the administration and management of their properties.

The last year saw a relatively more favourable ratio between planned cutting and incidental felling. The share of incidental felling in 2010 was ca. 38.6% of total felling by which conditions were created for planned forest management more favourable than in several last years.

Total annual felling

Felling	Unit	2000	2002	2004	2006	2007	2008	2009	2010
Conifers	mil.m ³	12.85	13.01	13.92	16.12	17.28	14.88	14.05	15.07
Broadleaves		1.59	1.53	1.68	1.56	1.23	1.31	1.46	1.67
Total		14.44	14.54	15.6	17.68	18.51	16.19	15.5	16.74
Per capita	m ³	1.41	1.43	1.53	1.72	1.79	1.55	1.48	1.59
Per 1 ha of forest		5.48	5.5	5.9	6.67	6.98	6.10	5.84	6.30

Note: Volumes are given in m³ under bark, minimum top diameter 7 cm

Source: Czech Statistical Office

2.7 Forest Protection

As to forest protection, the year 2010 can be again considered as a less favourable period, similarly as 2009. Main harmful factors were more or less the same, wind breakages as abiotic impacts and damages caused by the overpopulation of bark beetle on spruce as a biotic impact. Weather was more stable; the recorded climate extremes (spring spells of drought, summer gales, wet snow) were largely of local character and did not affect large areas as in the years 2007 and 2008. The amount of incidental felling, which reached on a national scale 6.08 mil. m³ was comparable with the year 2009 in which the volume of incidental felling amounted to 6.25 mil. m³.

Compared with the year 2009, the damage by abiotic harmful agents showed a slightly larger volume in 2010 (by about 15%). On the other hand, the damage due to biotic harmful agents decreased considerably (by about 30%). Of abiotic factors responsible for the increased damage, the main role was played by wet snow. Of biotic harmful agents responsible for the considerable decrease it was mainly the low incidence (namely of phyllophagous insects and most fungal pathogens) combined with a considerably stabilized situation of corticolous pests on spruce (mainly bark beetle). Nevertheless, the chronic problems with the overpopulated hoof game stock persisted.

2.8 Forest Health Status

The pronounced decrease of air pollution load in the past years undoubtedly reflected in the health condition of forest stands, which respond to positive environmental changes with a certain delay. However, the forest stands still exhibit high rate of defoliation, which is one of the highest as compared with other European countries and in spite of certain oscillations shows a very mildly increasing trend over long-term monitoring. The high rate of defoliation results both from the fact that the forests are still affected by air pollution load, albeit on a lower level, and from the fact that the stability of forest ecosystems has been for long time disturbed by extreme air pollution load in the past tens of years. There are of course other adverse factors of biotic and abiotic nature contributing to the high defoliation rate of which some gain recently an ever increasing importance (climate extremes, corticolous insects).

Some forest stands namely in north-eastern Bohemia suffered mechanical damage by storm gales and hails (sized 5-8cm) at the beginning of the growing season during May. Compared with the long-term normal, mean monthly temperatures were mostly above the average in the growing season, especially in June and July (+3.1°) and below the average only in September and October. The mean monthly total precipitation amount was mostly above average, too, showing below-average values only in June (88%) and October (31%).

Emissions of main pollutants (solids, SO₂, NO_x, CO, VOC, NH₃) did not exhibit any significant change in the last ten years; total emissions of most of these substances show a mild decrease with some fluctuations while the emissions of solids and NH₃ exhibit a steady state.

Incidental felling by causes

Year	Felling				
	abiotic	air pollution	insects	other	total
	mil. m ³				
2000	2.39	0.08	0.32	0.5	3.29
2001	1.49	0.06	0.23	0.6	2.38
2002	3.38	0.03	0.29	0.51	4.21
2003	6.12	0.06	1.26	0.76	8.2
2004	2.76	0.04	1.27	1.3	5.37
2005	2.3	0.04	0.98	1.21	4.54
2006	5.97	0.03	1.14	0.89	8.03
2007	12.65	0.04	1.56	0.64	14.89
2008	7.6	0.04	2.31	0.8	10.75
2009	3.25	0.03	2.62	0.73	6.63
2010	4.07	0.03	1.79	0.57	6.46

Source: Forestry and Game Management Research Institute, Czech Statistical Office

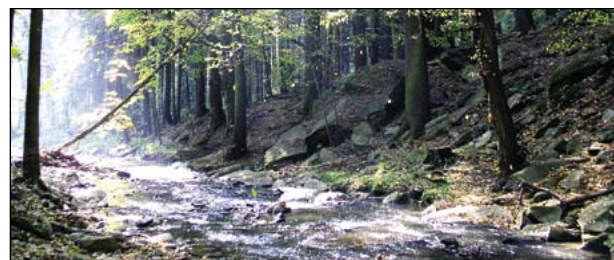
2.9 Non-Market Forest Production and Forest Visitors

The amount of picked main forest fruits in physical and monetary units and the number of visits to forests by the Czech citizens have been ascertained by means of questionnaire surveys in households at a representative sample of inhabitants in the Czech Republic since the year 1994.

Total amount of main forest products picked by visitors to forests in the Czech Republic (thousand tons)

Year	Forest fruits						
	Mushrooms	Billberries	Raspberries	Blackberries	Cowberries	Elderberries	Total
1994	23.6	11.3	4.2	2.7	0.7	3.9	46.4
1996	18.4	9.4	3.1	1.8	0.7	1.5	34.9
1998	17.7	10.3	4.9	2.3	0.6	2.6	38.4
2000	23.8	8.7	4.1	2.7	0.7	1.8	41.8
2002	21.2	10.9	3.6	2.1	0.9	2.1	40.8
2004	13.7	6.1	2.1	1.5	1.8	1.4	26.6
2006	26.0	9.4	2.9	1.5	1.0	1.3	42.1
2008	15.2	4.6	1.1	0.6	0.5	0.9	22.9
2010	24.7	9.4	2.1	1.8	0.3	0.7	39.0

Source: Czech University of Life Science Prague



Attendance in forests accessible to public in the Czech Republic*

Year	Number of visits	
	per capita	per 1 ha
1994	25.3	105.7
1996	17.3	72.0
1998	19.4	80.7
2000	22.6	94.1
2002	19.6	81.5
2004	16.2	68.0
2006	18.8	79.3
2008	13.5	56.9
2010	20.3	85.3

Note: * forest land accessible to public (mainly without military forests and some other areas)

Source: Czech University of Life Science Prague

2.10 Certification of Sustainable Forest Management

Certified forests in 2010

Ownership category	PEFC		FSC	
	ha	%	ha	%
State forests	1 530 584	98	48 666	3
Individuals	76 557	15	-	-
Legal entities	57 847	84	1 254	2
Municipalities	191 393	45	2 394	0.5
Total	1 856 381	72	52 314	2

% share of certified forests in the total area of forests of the given ownership category

Source: Forest Management Institute, PEFC CR, FSC CR



3. MAJOR TIMBER PRODUCTION INDICATORS



3.1 Development of Forest Land Area (ha)

Year	2001	2003	2005	2007	2009	2010
Forest land area	2 638 917	2 644 168	2 647 416	2 651 209	2 655 212	2 657 376

Source: Czech Office for Surveying, Mapping and Cadastre, Forest Management Institute

3.2 Forest Categories by Forest Functions

Development of forest categories (%)

Year	Forest category		
	<i>production forest</i>	<i>protection forest</i>	<i>special purpose forest</i>
	%		
1980	78.2	4.0	17.8
1985	68.2	3.1	28.7
1990	58.4	2.5	39.1
1995	57.2	2.7	40.1
2000	76.7	3.5	19.8
2010	75.0	2.7	22.3

Source: Forest Management Institute

3.3 Species Composition of Czech Forests

Forest tree species composition in ha and in % of total timber land area

Species	Year						
	2000	2002	2004	2006	2008	2009	2010
	Area of forest stands in ha / %						
Norway spruce	1 397 012	1 391 970	1 381 407	1 373 628	1 362 205	1 352 820	1 347 239
	54.1	53.8	53.3	53.0	52.4	52.2	51.9
Fir	23 138	23 092	23 534	23 962	24 658	25 274	25 869
	0.9	0.9	0.9	0.9	1.0	1.0	1.0
Pine	453 159	450 224	447 013	443 589	440 188	437 466	436 308
	17.6	17.4	17.3	17.1	17.0	16.9	16.8
Larch	97 170	98 397	99 707	99 887	100 326	100 853	100 761
	3.8	3.8	3.9	3.9	3.9	3.9	3.9
Other conifers	4 586	4 906	5 617	5 764	5 964	6 212	6 352
	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Conifers	1 975 065	1 968 589	1 957 278	1 946 831	1 933 341	1 922 625	1 916 529
	76.5	76.1	75.5	75.1	74.4	74.1	73.9
Oak	163 761	166 603	169 150	171 720	175 495	176 397	178 466
	6.3	6.4	6.5	6.6	6.8	6.8	6.9
Beech	154 791	160 976	168 212	174 858	182 048	187 027	189 998
	6.0	6.2	6.5	6.7	7.0	7.2	7.3
Birch	74 560	74 505	74 447	73 927	73 764	72 895	72 264
	2.9	2.9	2.9	2.9	2.8	2.8	2.8
Other broadleaves	183 696	188 865	195 173	199 710	205 991	207 408	209 559
	7.1	7.3	7.5	7.7	7.9	8.0	8.1
Broadleaves	576 808	590 949	606 983	620 215	637 299	643 728	650 287
	22.3	22.8	23.4	23.9	24.5	24.8	25.1
Total without unstocked forest land	2 551 873	2 559 538	2 564 261	2 567 045	2 570 640	2 566 353	2 566 816
	98.8	98.9	99.0	99.0	99.0	98.9	98.9

Source: Forest Management Institute

The area of coniferous species has been further decreasing. For example, the area of spruce decreased by 49 773 ha as compared with the year 2000. By contrast, the area of broadleaved species has been increasing, e.g. oak, beech but also ash or maple. This is the result of sustained efforts of foresters aimed at changing the forest species composition and partly also the result of targeted financial support provided by the Czech government to ensure a necessary share of soil-improving and reinforcing tree species in the regeneration of forest stands.



3.4 Age Structure of the Forests

Age classes (%)

Year	Unstocked forest land	Without determination	Age class (years)						
			I. 0-20	II. 21-40	III. 41-60	IV. 61-80	V. 81-100	VI. 101-120	VII. 121 +
% of timber land									
1920	1	-	23	24	22	17	10	3	0
1930	2	-	21	21	21	19	11	5	0
1950	2	-	18	21	21	19	12	7	0
1960	1	-	17	21	20	19	13	6	3
1970	1	-	17	20	19	20	13	7	3
1980	1	-	17	15	20	20	15	8	4
1990	1.5	-	16.1	14.7	19.4	18.9	16.8	8.2	4.4
2000	1.2	0.0	16.7	15.5	14.7	18.8	17.3	10.2	5.5
2010	1.1	0.0	17.0	14.8	14.2	18.0	15.8	12.0	7.1
Normality	-	-	18.1	18.1	17.8	17.3	15.5	9.3	4.0

Source: Forest Management Institute

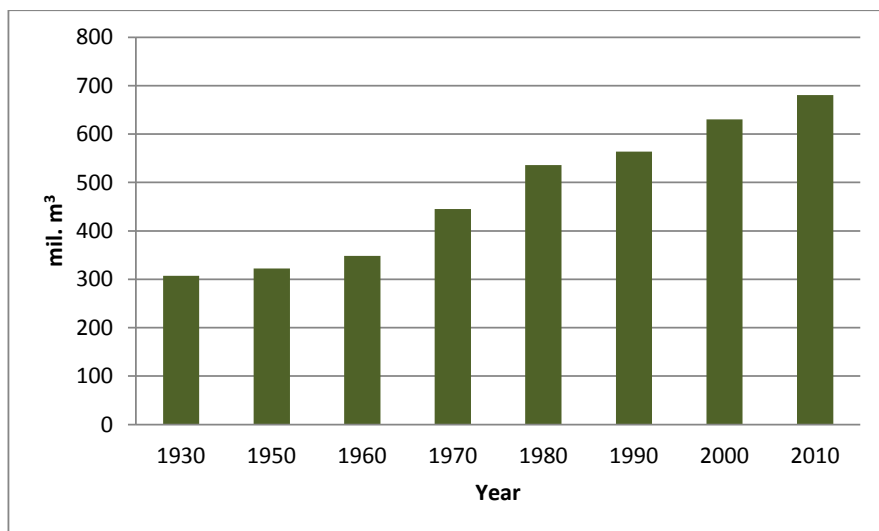
3.5 Standing Volumes and Increments

Total standing volume (million m³)

Year	1930	1950	1960	1970	1980	1990	2000	2010
mil. m ³	307	322	348	445	536	564	630.5	680.6

Note: Volume in m³ u. b., min. top diameter of 7 cm.

Source: Forest Management Institute



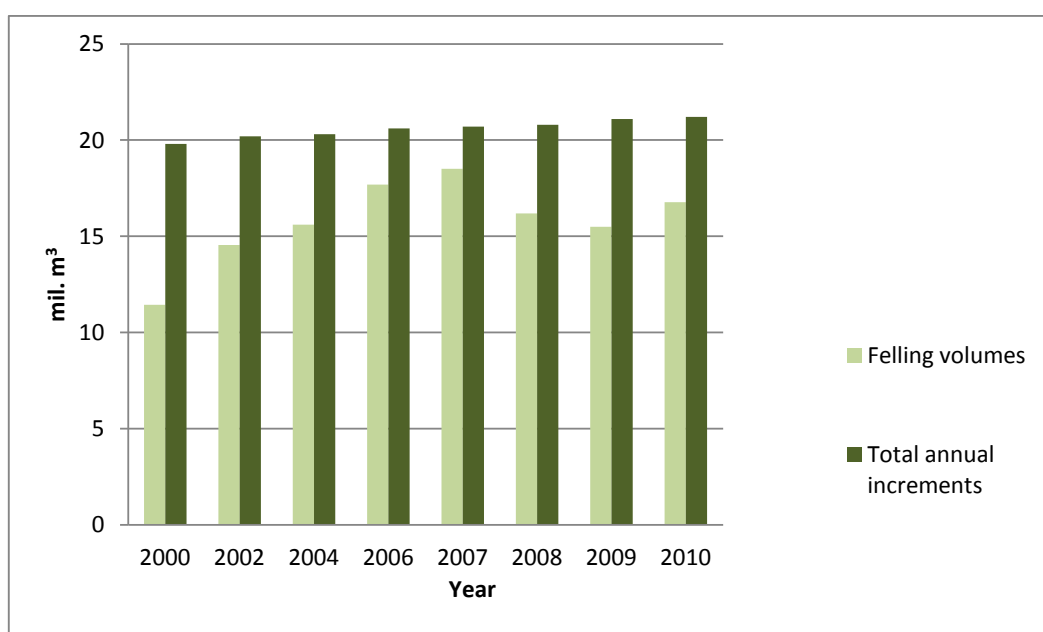
Total mean annual increment and total current increment

Increment	Year						
	1950	1970	1980	1990	2000	2009	2010
	mil. m ³ u.b. annually						
Total mean	9.0	13.5	16.0	16.3	16.8	17.7	17.7
Total current	9.2	14.8	17.1	17.0	19.8	21.1	21.2
	m ³ u.b. per ha of timber area annually						
	1950	1970	1980	1990	2000	2009	2010
	m ³ u.b. per ha of timber area annually						
Total mean	3.7	5.3	6.2	6.3	6.5	6.8	6.8
Total current	3.8	5.8	6.7	6.6	7.7	8.1	8.2

Note: Including forests sized below 10 ha, forests not intended for wood supply and afforested non-forest land.

Source: Forest Management Institute

Comparison of felling volumes and total current increments



Source: Czech Statistical Office, Forest Management Institute

The comparison of timber volume felled and total current increment shows that total removals were lower than the volume of increment in the given period. The

increased total cut in 2007 was due to the elimination of damage caused by wind throw disaster.





4. Forest Economics

4.1 Economic Situation of Forest Owners

Following a dramatic slump of economic results after the year 2006 (in 2007-2009), the economic situation of forest owners in their forest management and possible other activities markedly improved in 2010 for all categories of forest owners. The highest profit values (including provided subsidies and grants) were achieved in state-owned forests (2 311 CZK/1 ha). The state forests were followed in this indicator by private forests (1 974 CZK/1 ha) and the lowest profit values were recorded in forests owned by towns and municipalities (1 051 CZK/1 ha). The conspicuous improvement of the economic situation of forest owners resulted from the increased demand for raw timber with distinctly increased average prices in the decisive raw timber assortments. Therefore, the wood-processing industry could offer forest owners much

higher prices for supplying raw timber due to revived sales and increased consumption of wood-based products. Favourable effect had also measures implemented to save costs both in forest operations and in forest management and administration.

Economic result (profit before tax) per 1 ha forest showed the highest year-on-year increase in the category of state-owned forests (by 1 750 CZK); private forests and forests owned by towns and municipalities reported economic profit increase by 579 CZK and 571 CZK, respectively. The management results in state forests were to a decisive extent contributed to by Lesy České Republiky, s.p. (Forests of the Czech Republic, State Enterprise), which recorded the formation of profit before tax at 3 160 mil. CZK, i.e. year-on-year increase by 2 376 mil. CZK.

The allowance provided for the forest management from regional budgets as well as the coverage of some mandatory expenses from the state budget (pursuant to Forest Law) and subventions provided from EU funds represented an important financial support to forest owners (tenants).

Average prime costs of some operations by ownership categories (CZK/unit)

Operation	Unit	State forests	Communal forests	Private forests	Average
Forest regeneration	ha	72 773	71 491	57 294	68 854
Tending of young plantations	ha	9 755	7 677	8 125	9 036
Cleaning	ha	8 612	6 477	6 626	7 798
Forest protection	ha	124	201	102	131
Silviculture total	ha of forest	1 967	1 883	1 478	1 836
Felling	m ³	315	199	191	267
Skidding	m ³	239	224	220	232
Haulage	m ³	152	146	144	149
Road repair and maintenance	ha of forest	672	354	479	575

Source: Ministry of Agriculture

Economic result of forest owners (without subsidies for forest management) (CZK/ha)

Profit before tax	2008	2009	2010
State forests	412	481	2 127
Communal forests	-152	-228	450
Private forests	518	772	1 521
Average	348	439	1 717

Source: Ministry of Agriculture

Economic result of forest owners (incl. subsidies for forest management) (CZK/ha)

Profit before tax	2008	2009	2010
State forests	520	561	2 311
Communal forests	612	480	1 051
Private forests	1 077	1 395	1 974
Average	667	748	2 031

Source: Ministry of Agriculture

4.2 Social Aspects in the Forest Sector

4.2.1 Labour market in forestry

Employees in forestry

		2007	2008	2009	2010
Forestry sector-Total		19 398	17 959	16 041	15 150
of which	state	5 783	5 850	5 574	5 130
	private	11 320	9 924	8 406	8 015
	communal	2 295	2 185	2 061	2 005

Source: Czech Statistical Office

4.2.2 Development of average wages in forestry

As compared with the year 2009, the average wage of employees in physical persons increased by 6.1% in forestry and related activities. Thus, the growth rate of average wages in forestry outperformed the growth of wages in the industry (3.9%) as well as in the national economy (1.9%). However, the average wage of physical persons in forestry and related activities (for both entrepreneurial and non-entrepreneurial sphere) lags behind the average wage in the industry in absolute figures by 2 211 CZK and in the national economy by 2 004 CZK. In forestry, the highest average wage is paid in the state sector and surmounts the average wage in the private sector by 6 050 CZK.

Average monthly wages in CZK

		2007	2008	2009	2010	2010/ 2009
		CZK				%
Forestry		18 183	18 970	19 856	21 074	106.1
of which	state forests	21 407	22 361	23 462	24 923	106.2
	private forests	16 774	17 164	17 632	18 873	107.0
	communal forests	17 010	18 093	19 179	20 020	104.4
Industry		20 212	21 675	22 417	23 285	103.9
National economy		20 336	21 958	22 637	23 078	101.9

Source: Czech Statistical Office, Ministry of Agriculture

4.3 State Budget Funds for the Forestry Sector

4.3.1 Financial liabilities of the state pursuant to the Forest Law

Forestry is a discipline of human activities dealing with the preservation and improvement of forests at a full utilization of their produce to the benefit of forest owners and the community.

By issuing legal documents in the years 1994 and 1995, the state forest policy amended its requirements for the assurance of beneficial forest functions in all forms of forest ownership, stipulating cases in which the forest owner has a legal right to the provision of financial amounts for operations and measures covered by the state.

The total amount provided for liabilities of the state following out from the Forest Law in 2010 was 243.5 mil. CZK.

The partial coverage of increased costs for planting a minimum share of soil-improving and reinforcing tree species amounted to 11.3 mil. CZK. Thus, the government supported the regeneration of 2 442 ha of forest stands, in which the share of these species ranged from 5% to 30%, i.e. the support was provided for about 14 thousand hectares of mixed forest stands.

Resources provided for the work of licensed forest manager to forest owners managing forests at a total area below 50 ha amounted to 163.1 mil. CZK. The pursuit was performed on an area of 408 865 ha.

Owners of forests sized up to 50 ha of total area who do not have a forest management plan for their forest land property, are provided by the state the coverage of costs for the elaboration of forest management guidelines. In 2010, the total coverage of such costs amounted to 21.7 mil. CZK and the area of forests under this type of management was 35 721 ha.

The total amount provided for reclamation and torrent training related measures in forests carried out in public interest was 47.4 mil. CZK. The measures were made to train 14 km of torrents, to repair or build retention basins with a total retention capacity of 28 thousand m³ of water. Reclamation of forest lands by improving their water regime were not made from government resources in 2010. Technical units relate only to actions finalized in the year 2010 that had been funded from the state budget also in previous years.

Financial liabilities of the state pursuant to the Forest Law (million CZK)

Activities	2008	2009	2010
	approved in		
Soil-improving and reinforcing species	9.7	12.9	11.3
Licensed forest managers	152.4	160.1	163.1
Forest management guidelines	20.0	23.4	21.7
Soil reclamation and torrent training	71.2	42.8	47.4
Total	253.3	239.2	243.5

Source: Ministry of Agriculture

4.3.2 Services provided by the state to support forest management

The state helps to forest owners to enhance the forest management standard and to ensure the protection of their forests against harmful agents by providing free services. Within the framework of counselling services, up-to-date information is provided to forest owners concerning the preventive protection of their forests and possibilities of defensive measures against harmful effects.

In 2010, lime dolomite was spread by aerial application onto forest stands in regions of the Czech Republic affected by air pollution. The treatment at a cost of 16.9 mil. CZK was applied over a total area of 1 654 ha. The liming of forest stands with dolomite limestone was made at a dose of 3 tons per 1 hectare of the forest.

Indispensable service to forest owners was assurance of aerial fire-fighting service on a total area of 2.4 mil. of forest lands in forests occurring on the Czech territory, i.e. on 91% of the area of all forests. A total amount expended for the service was 27. 6 mil. CZK.

Large-scale forest protection measures consisted only of controlling horse-chestnut leaf-miner by aerial spraying applied on a total area of 60 ha. Moreover, reconnaissance flights (64 flight hours) were made in 2010 over forests in the Czech Republic to monitor their health condition, namely the actual state of the infestation of forest stands by the bark beetle. Total costs of the large-scale treatments and reconnaissance flights amounted to 0.6 mil. CZK.

VÚLHM, v. v. i. continued in providing expert and counselling services to forest owners free of charge on request in the field of forest protection, forest seed material production and treatment, forest nursery management, artificial forest regeneration and forestation including the assessment of planting stock

quality, planting of fast-growing tree species, regeneration and tending of forest stands, game management and forest protection against game damage, in the field biotechnologies and preservation of forest tree species gene pools and support to economic vitality of forest enterprises. The Institute also provided free of charge necessary statements of the Forest Protection Service for granting subsidies (forest potential restoration). The Ministry of Agriculture covered the VÚLHM, v. v. i. costs of these services at a total amount of 33.7 mil. CZK.

The standard of forest management was improved also thanks to workshops for forest owners and their forest managers organized within the framework of counselling and educational activities. The Ministry of Agriculture paid for the services 1.5 mil. CZK.

Other services were worth a total amount of 7.0 mil. CZK and included costs of soil sampling, sampling of assimilatory organs for the research of the condition of forest soils and nutrition of forest stands in selected natural forest regions, follow-up analyses and evaluations of samples from "Permanent sample plots", assessment of the efficiency of forest liming and fertilization including the preparation of projects for chemical reclamation and control of carried out fertilization.

Service provided by the state to support forest management (million CZK)

Type of service	2007	2008	2009	2010
Aerial liming and fertilizing	22	44	19	17
Aerial fire-fighting service	10	25	1	28
Large-scale forest protection measures	1	1	2	1
Counselling	23	21	33	35
Other services	3	6	6	7
Total	59	97	61	88

Source: Ministry of Agriculture



4.3.2.1 State budget contribution

Support to forest management in the form of the financial contribution from the state budget was provided pursuant to Annex 9 to Act no. 487/2009 Coll. on the state budget of the Czech Republic for the year 2010.

Financial contributions provided from budgets of the Ministry of Agriculture and Regions for forest management by purpose and ownership category (mil. CZK)

Subject of subsidy	Ownership category	2007	2008	2009	2010
Regeneration of forests affected by air pollution	communal		8.9	0.8	8.5
	state		0	0.0	0
	other		2.2	0.4	2.4
	total	1.8	11.1	1.2	10.9
Reforestation, establishment of stands and their tending	communal		97.5	77.0	73.3
	state		0.3	0.5	0.1
	other		172.1	150.0	129.0
	total	206.7	270.0	228.0	202.4
Grouping of small-size forest owners	other	1.3	1.3	1.4	1.4
	total	1.3	1.3	1.4	1.4
Ecological and nature-friendly technologies	communal		11.3	8.1	6.2
	state		0.1	0.1	0.01
	other		24.8	21.3	14.7
	total	29.7	36.2	29.5	20.9
Support to endangered wildlife species	communal	0.0	0.0	0.1	0.0
	state	1.5	0.8	0.6	0.6
	other	12.3	11.2	9.4	9.6
	total	13.8	12.0	10.1	10.2
Preparation of forest management plans	communal	12.1	7.6	6.3	11.0
	state	41.7	33.0	52.6	30.0
	other	10.2	14.3	14.2	11.3
	total	64.0	54.9	73.1	52.3
Other forest management	communal		0.1	0.0	0.01
	state		1.7	1.5	1.7
	other		0.2	0.2	0.2
	total	2.9	2.0	1.7	1.9
Breeding and training of national hunting dog breeds and birds of prey	communal	0	0	0.0	0
	state	0	0	0.0	0
	other	1.6	2.1	1.9	2.1
	total	1.6	2.1	1.9	2.1
Total subsidies	communal		125.4	92.3	98.9
	state		35.9	55.4	32.5
	other		228.3	199.0	171.1
	total	321.8	389.6	346.9	302.5

Source: Ministry of Agriculture

4.3.3 Subventions from the Podpůrný a garanční rolnický a lesnický fond, a.s. (Support and Guarantee Agricultural and Forestry Fund)

One of possible aids to forest entities is the subvention provided by the Support and Guarantee Agricultural and Forestry Fund (hereinafter "Fund"). The subject of activities of the Fund, which is a 100% state-controlled corporation, is among other things to provide subventions in the form of reduced interest load on loans, securing of bank loans and last but not least providing the financial aid of insurance.

The Fund has received a total of 646 applications from the field of forestry since it had been established, of which 566 have been approved. The total amount of hitherto aided loans is 2 489 mil. CZK, the total amount of issued guarantees is 598 mil. CZK and the amount of approved subventions is 470 mil. CZK. All promised aids from the approved contracts were paid to the date of 31 December 2010.

The total amount paid for securities on the date of 31 December 2010 was 80 mil. CZK and over 10 mil. CZK were paid on payment schedules. No guarantee payment was made in 2010. Based on repayment plans a total amount of 73 thousand CZK was reimbursed from the formerly paid guarantees.

4.4. Aid Co-funded by EU within the Rural Development Programme in the Czech Republic for the period 2007 – 2013

The year 2010 was the fourth year during which resources could be claimed from the European Agricultural Fund for Rural Development for the period 2007-2013 through the Rural Development Programme in the Czech Republic for the period 2007-2013. The Rural Development Programme stems from the National strategic plan of rural development, which was elaborated in line with the Council Regulation (EC) no. 1698/2005 and delegated legislative rules of the quoted regulation. In the Rural Development Programme of the Czech Republic, forestry is focused namely by Axis I – Enhancement of competitiveness of agriculture and forestry, which includes Measure 1.1.2 – Investment into forests, and by Axis II – Improvement of the environment and landscape, within the framework of which applications continued to be received for Measure 11.2.1 – Forestation of agricultural land (see separate Chapter 6.6); applications for Measure 11.2.2 – Payments within NATURA 2000 in forests continued to be received for the third year, and applications for Measure 11.2.3 – Forest environment payments continued to be received for the second year; the 9th round of applications took place for Measure 11.2.4 – Forest potential restoration after disasters and promotion of social forest functions.

Axis I of the Rural Development Programme includes Measure I.1.2 Forest investments, which breaks down to sub-measures I.1.2.1 Forest technology, I.1.2.2 Technical equipment of forest operations and I.1.2.3 Forest infrastructure. The strategic goal of this Measure is to enhance competitiveness of forestry, to support development of dynamic business in forestry, higher performance of forest enterprises, forest sector restructuring and improved protection of the environment in forestry. The supported actions should solve problematic spheres such as low level of investments in the forest sector or obsolete and technically inadequate equipment of forest enterprises. The support is also conducive to the solution of problems with the deficient infrastructure in forestry.

Sub-measure I.1.2.1 Forest technology: approved were 243 projects at an amount of 116 131 285 CZK, i.e. 36.1% of the total amount of resources allocated for Measure I.1.2 approved in the year 2010.

Sub-measure I.1.2.2 Technical equipment of forest operations: approved were 31 projects at an amount of 24 652 552 CZK, i.e. 7.7% of the total amount of resources allocated for Measure I.1.2 approved in the year 2010.

Sub-measure I.1.2.3 Forest infrastructure: approved were 59 projects at an amount of 180 873 964 CZK, i.e. 56.2% of the total amount of resources allocated for Measure I.1.2 approved in the year 2010.

The year 2010 was the third year during which applications could be submitted for listing in **Measure II.2.2 – Payments within NATURA 2000 in forests**, which includes one **Sub-measure II.2.2.1 – Preservation of the primary group of forest stands from the previous production cycle**. Submitted were 5 applications for the incorporation of 213 ha and registered were 15 applications for the area of 1 107 ha at a total amount of 1.7 mil. CZK. Ten applications for a total area of 1 065 ha were paid at a total amount of 1.7 mil. CZK.

The year 2010 was the second year during which applications could be submitted for listing in **Measure II.2.3 – Forest environment payments**, which includes one **Sub-measure II.2.3.1 – Enhancement of the species composition of forest stands**. Submitted were 16 applications for the incorporation of 482 ha and registered were 39 applications for the area of 2 988 ha at a total amount of 2 mil. CZK. The resources will be paid in the year 2011.

Within the Rural Development Programme, the year 2010 was the third year during which applications could be submitted for **Measure II.2.4 - Forest potential restoration after disasters and promotion of social forest functions**, which includes two sub-measures: **Sub-measure II.2.4.1 – Restoration of the forest potential after disasters and introduction of preventive measures** and **Sub-measure II.2.4.2 – Non-productive investments in forests**. The year 2010 was already the third year for submitting the applications

for subsidies provided for Measure II.2.4 and registered were 131 projects totalling a financial requirement for subsidy at an amount of 155 130 314 CZK. Approved were 106 projects at a total amount of 128 414 113 CZK. The projects will be reimbursed in the coming years depending on the submitted requests for payment.

Sub-measure II.2.4.1 - Goal a) Restoration of the forest potential after disasters: approved were 78 projects at a total amount of 81 353 767 CZK, i.e. 63.35% of total resources allocated for Measure II.2.4 approved in the year 2010.

Sub-measure II.2.4.1 - Goal b) Introduction of preventive measures in forests and mitigation of damage caused by floods: approved were 13 projects at a total amount of 32 310 220 CZK, i.e. 25.16% of total resources allocated for Measure II.2.4 approved in the year 2010.

Sub-measure II.2.4.2 – Non-productive investments in forests: approved were 15 projects at a total amount of 14 750 126 CZK, i.e. 11.49% of total resources allocated for Measure II.2.4 approved in the year 2010.

4.5. Financial Aid for the Afforestation of Agricultural Land

Financial support to afforestation has relatively a long tradition in the Czech Republic. Until the year 2003, the afforestation aid was provided only from the national financial resources. Since the year 2004, afforestation programmes have been supported namely from the EU resources, at first from the Horizontal Rural Development Plan of the Czech Republic for the period 2004–2006 and since 2007 from the follow-up Rural Development Programme of the Czech Republic for the period from 2007–2013.

A part of the Rural Development Programme of the Czech Republic for the period from 2007–2013 is Measure II.2.1 – Afforestation of agricultural land, which included one Sub-measure II.2.1.1 – The initial afforestation of agricultural land. The implementing national legal regulation is Government Decree no. 239/2007 Coll. on the stipulation of conditions for the provision of subsidies for agricultural land afforestation as amended.

This aid creates space for production diversification, which contributes to strengthen economic and social dimensions of sustainable agriculture and rural areas and to reduce the share of arable land with no risk of increased proportion of unmanaged farmland. The Sub-measure makes it possible for the owners or tenants of farmland intended for afforestation to gain an aid. The number of applications for the subsidy submitted in the year 2010 totalled 960 at a total amount of 50.9 mil. CZK. The approved 1 560 applications from previous years were disbursed in the year 2010 a total amount of 65 mil. CZK.



5. Raw Timber Market

5.1 Domestic Raw Timber Market

The total year-on-year supply of raw timber increased by 1 234 thousand m³ to a total volume of 16 736 thousand m³; of this the supplies of softwood and hardwood amounted to 15 066 and 1 670 thousand m³, respectively.

The year-on-year increase of softwood and hardwood supplies was 1 019 thousand m³ and 215 thousand m³, resp. Final removals and subsequent raw timber supplies were affected by the gradual revival of production in all wood-processing industries both at home and abroad and the past crisis in the wood sector was replaced by the increase of both domestic consumption of raw timber and exports. The growing sales of decisive commodities of the timber conversion industry inevitably brought a considerably increased interest in raw timber. The pronounced increase of demand for decisive raw timber assortments (namely coniferous round wood and pulpwood) resulted therefore in their gradual price increase during the year. Thus, the favourable development of raw timber price encouraged most forest owners (or forest managers and tenants) to higher felling and timber supplies after decreased volumes in the previous two years; after all, receipts from the supply of raw timber are decisive for the assurance of financial resources required for administration and management of the forest properties.

Timber supplies (in thousand m³)

Supplied assortments (excl. imports)		2008	2009	2010
		1 000 m ³		
Round wood ^{x)}		8 928	8 852	9 427
of which	softwood	8 503	8 332	8 982
	hardwood	425	520	445
Pulpwood ^{xx)}		5 379	4 917	5 344
of which	softwood	4 984	4 556	4 747
	hardwood	395	361	597
other wood		1 880	1 733	1 965
of which	softwood	1 390	1 159	1 337
	hardwood	490	574	628
total timber supply		16 187	15 502	16 736
of which	softwood	14 877	14 047	15 066
	hardwood	1 310	1 455	1 670

Note: x) including pole and mine timber

xx) including ground wood

The volume of felling residues and forest chips at ca. 1.1 mil. m³ is not included in total round wood supplies for the year 2010

Source: Czech Statistical Office

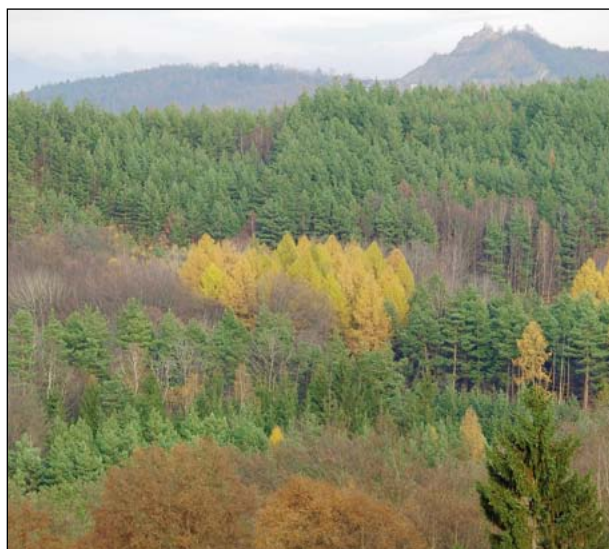
5.2 Raw Timber Exports and Imports

The year-on-year exports of raw timber decreased by 202 thousand m³ to a total volume of 5 364 thousand m³ with a pronounced decrease in the exports of coniferous round wood (by 856 thousand m³) and an increase in the exports of coniferous pulpwood (by 504 thousand m³).

The year-on-year imports of raw timber increased by 754 thousand m³ to a total volume of 2 616 thousand m³ with an increase by 470 thousand m³ in coniferous round wood and pulpwood, by 72 thousand m³ in broadleaved round wood and pulpwood and by 212 thousand m³ in fuel wood, chips, sawdust and sawmill residues.

Active year-on-year foreign trade balance increased however in raw timber by 409 million CZK and totalled 4.205 bill. CZK. The largest proportion (99.7%) of total exports went to EU-27 countries; most to Austria (57.1%), Germany (34.9%), Poland (3.0%) and Slovakia (1.8%). A greater part of raw timber imports came from the EU-27 countries as well (85.4% of total imports); mostly from Slovakia (43.0%), Poland (24.9%), Germany (12.1%) and Ukraine (4.6%).

As compared with the year 2009, the exports of raw timber recorded a total decrease by 202 thousand m³ with a simultaneous increase in the value of exports (by 1 354 mil. CZK), increased imports of raw timber (by 754 thousand m³) and the increased value of imports (by 945 mil. CZK). Thus, the increased demand for raw timber apparently reflected in its increased price both in the Czech Republic and abroad. In spite of the growing domestic consumption namely of coniferous round wood and pulpwood, a considerable proportion of the domestic raw material continued to be exported (18.5% of produced coniferous round wood and 44.3% of produced coniferous pulpwood from domestic felling). By contrast, some regions of the Czech Republic lacked coniferous round wood and pulpwood for domestic production in sawmills and pulp mills and had to import the commodities especially from Slovakia, Poland, Germany and Ukraine.





Exports and imports of raw timber in the Czech Republic

	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports
	mil. CZK			1 000 m ³			Average price CZK/m ³	
Total	7 556	3 351	4 205	5 364	2 616	2 748	1 409	1 281
of which								
EU - 27	7 530	2 862	4 668	5 325	2 293	3 032	1 414	1 248
Germany	2 634	405	2 229	2 151	275	1 876	1 225	1 473
Austria	4 315	99	4 216	2 874	131	2 743	1 501	756
Slovakia	133	1 441	-1 308	157	1 189	-1 032	847	1 212

Source: Czech Statistical Office

Annual volumes of raw timber exports and imports (million CZK)

Trade balance	2008			2009			2010		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
Total	5 281	1 420	3 861	6 202	2 406	3 796	7 556	3 351	4 205
of which EU	5 256	1 270	3 986	6 186	2 208	3 978	7 530	2 862	4 668

Source: Czech Statistical Office

Exports and imports of raw timber in the Czech Republic (thousand m³)

Assortment		Exports	Imports
Coniferous logs and pulp		3 762	1 886
of which:	spruce	3 194	1 407
	pine	429	467
	other	139	12
Broadleaved logs and pulp		179	214
of which:	oak	26	27
	beech	101	116
	poplar	4	18
	birch	9	19
	other	39	34
Industrial round wood		3 941	2 100
Charcoal		2	15
Fuel wood		106	90
Chips, particles		373	160
Sawdust		770	130
Wood residues		172	121
Total		5 364	2 616

Source: Ministry of Agriculture, Czech Statistical Office





6. RELATED ACTIVITIES AND SECTORS

6.1 Game Management

In the Czech Republic, game management was pursued in 2010 in 5 747 hunting districts with a total hunting area of 6 864 932 ha, of which 190 were game preserves with a total area of 46 755 ha and 287 pheasantries with a total area of 96 454 ha. Average size of the hunting district, game preserve and pheasantry was 1 194 ha, 246 ha and 336 ha, respectively.

Spring stocks of dominant game species (pcs)

Game species	2006	2007	2008	2009	2010
Red deer	27 812	28 977	29 266	29 895	30 865
Fallow deer	22 494	23 964	25 067	25 701	26 415
Mouflon	18 689	20 510	20 182	20 738	21 196
Roe deer	296 509	310 920	318 252	317 596	312 321
Wild boar	48 084	56 986	57 770	57 981	60 500

Source: Ministry of Agriculture, Ministry of the Environment, Czech Statistical Office

Hunting (shooting and catch) of dominant game species (pcs)

Game species	2006	2007	2008	2009	2010
red deer	16 871	20 217	21 415	21 527	21 820
fallow deer	9 972	11 395	13 394	13 309	14 209
mouflon	6 893	8 320	9 304	9 118	9 368
roe deer	99 074	108 992	127 213	131 875	120 206
wild boar	59 904	121 192	138 854	121 821	144 305
duck	247 322	328 225	315 773	286 024	272 422
pheasant	588 555	664 251	598 176	530 444	528 878
hare	67 544	115 065	105 745	84 111	62 848

Source: Ministry of Agriculture, Ministry of the Environment, Czech Statistical Office

The Ministry of Agriculture continued in promoting some game management activities within the policy of subsidies and disbursed ca. 12.2 million CZK. The largest part of the amount was used to improve living conditions for game, i.e. to establish and maintain feeding grounds 46.90%, to purchase and install fox holes made of concrete for fox catching 9.80%, to manufacture and place nesting boxes for water birds 8.40% and to conduct field trials of dogs (Czech rough-haired pointer, Czech terrier) 6.40%. The drawing of other items was from 0.10% to 4.80%. The main emphasis in providing the aid was put on the enhancement of living conditions of game and on the stock control of predatory species.

6.2 Timber Processing Industry

Timber industry is nearly exclusively focused on the conversion of the domestic renewable raw material – raw timber, mostly coniferous and broadleaved round wood. Its production markedly increased after the crisis on the sawn timber market in previous years. The demand for sawn timber increased especially in foreign countries, less in the Czech Republic although large sawmills and other timber processing plants are strongly depending on exports.

The total breakdown of domestic coniferous and broadleaved round wood amounted to 8.0 mil. m³ of which 4.492 mil. m³ of coniferous sawn timber and 0.252 mil. m³ of broadleaved sawn timber was produced. Compared with the previous year, the volume of produced coniferous and broadleaved sawn timber was higher by 696 thousand m³. The exports of coniferous and broadleaved sawn timber increased by 376 thousand m³. The year-on-year imports of sawn timber increased by 68 thousand m³ and thus the domestic consumption of sawn timber increased by 388 thousand m³. As compared with the year 2009, the produce of particleboards and fibreboards increased too (by 157 thousand m³ and 2 thousand m³, respectively).

The domestic consumption of wood and wood-based products continued to markedly lag behind; for example, the annual consumption of wood per capita in the USA and Japan was by 150% higher than in the Czech Republic and the share of timber use in building industries was only a fifth as compared with the neighbouring countries (Germany and Austria). The use of timber for housing construction continues to be very low in the Czech Republic.

Round wood breakdown and sawn timber production (thousand m³)

	2008	2009	2010
Sawing of logs	7 650	6 700	8 000
Sawn wood production	4 636	4 048	4 744

Source: Ministry of Agriculture



Forest products market (thousand m³)

Product	Year	Production	Import	Export	Consumption
coniferous logs	2008	8 503	548	1 825	7 226
	2009	8 332	416	2 514	6 234
	2010	8 982	786	1 658	8 110
non-coniferous logs ^{x)}	2008	425	203	81	547
	2009	520	122	82	560
	2010	445	193	85	553
coniferous sawn wood	2008	4 409	387	1 897	2 899
	2009	3 800	558	2 743	1 615
	2010	4 492	700	3 166	2 026
non-coniferous sawn wood	2008	227	167	63	331
	2009	248	409	292	365
	2010	252	335	245	342
particleboards	2008	1 436	345	1 029	752
	2009	928	288	1 042	174
	2010	1 085	473	1 285	273
plywood	2008	149	59	45	163
	2009	175	70	141	104
	2010	204	48	36	216
fibreboards	2008	80	251	78	253
	2009	44	223	82	185
	2010	46	205	87	164
coniferous pulpwood ^{xx)}	2008	4 984	131	402	4 713
	2009	4 556	1 000	1 600	3 956
	2010	4 747	1 100	2 104	3 743
non-coniferous pulpwood	2008	395	20	86	329
	2009	361	20	65	316
	2010	597	21	94	524

Note: x) including poles and mine timber

xx) including ground wood

Source: Ministry of Agriculture

6.3 Pulp and Paper Industry

In 2010, the pulp and paper industry produced a total of 722 thousand tons of pulpwood of which 718 thousand tons was wood pulp. This shows that the production of chemical pulp mildly increased (by 4 thousand tons) as compared with the year 2009 and the production of mechanical pulp decreased (by 14 thousand tons).

The production of paper, cardboards and paperboards according to CEPI classification used in the paper and pulp industry decreased by 4.5% as compared with the year 2009 to a total volume of 769 thousand tons.

The production structure of the Czech pulp and paper industry continues to be inadequate for the domestic demand with a half of pulp production being exported and short-fibre pulp being imported, which is not made in the Czech Republic. As to the paper, cardboard and paperboard assortments, types exported are primarily those of low added value (wrapping and brown papers) and types imported are mainly expensive graphic and printing papers. This explains for a considerable loss in foreign trade balance.

Consumption of wood for pulp production (thousand m³)

Timber assortment	Consumption		
	2008	2009	2010
Chips and particles	1 360	1 055	1 220
Pulpwood	1 981	2 270	1 980
Total	3 341	3 325	3 200

Source: Association of Pulp and Paper Industry

Production of pulp, paper, cardboard and paperboard (thousand tons)

Product	2008	2009	2010
Mechanical pulp	46	27	13
Chemical pulp	652	701	705
Pulp of other fibres	4	4	4
Total	702	732	722
Paper, cardboard and paperboard	932	805	769

Source: Association of Pulp and Paper Industry, Czech Statistical Office

7. Abbreviations

CEPI	Confederation of European Paper Industries
CNB	Czech National Bank
CZK	Czech crown (currency)
EU	European Union
FMP	Forest Management Plan
FSC CR	Forest Stewardship Council - Czech Republic
GDP	Gross Domestic Product
ILO	International Labour Organization
NFP	National Forest Programme
PEFC CR	Programme for the Endorsement of Forest Certification Schemes – Czech Republic
USA	United States of America
VÚLHM	Forestry and Game Management Research Institute





MINISTRY OF AGRICULTURE
OF THE CZECH REPUBLIC

Published by the Ministry of Agriculture of the Czech Republic
Těšnov 17, 117 05 Prague 1
[http: www.eagri.cz](http://www.eagri.cz), e-mail: info@mze.cz

ISBN 978-80-7434-010-9 - Information on Czech Forestry