GLOBAL FOREST RESOURCES ASSESSMENT 2015

COUNTRY REPORT

Czech Republic

Rome, 2014

FAO, at the request of its member countries, regularly monitors the world´s forests and their management and uses through the Global Forest Resources Assessment (FRA). This country report is prepared as a contribution to the FAO publication, the Global Forest Resources Assessment 2015 (FRA 2015).
The content and the structure are in accordance with the recommendations and guidelines given by FAO in the document Guide for country reporting for FRA 2015 (http://www.fao.org/3/a-au190e.pdf). These reports were submitted to FAO as official government documents.

TABLE OF CONTENTS

Report preparation and contact persons

Contact persons

The present report was prepared by the following person(s)

Name (FAMILY NAME, first name)	Institution/address	Email	Tables
KUBIŠTA, Jaroslav	Forest Management Institute Okružní 1326, Brandýs nad Labem, 250 01 Czech republic	kubista.jaroslav@uhul.cz	all
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Introductory Text

Place an introductory text on the content of this report

Main data sources concerning forest characteristics remain unchanged since FRA 2010 - main source is compilation of Forest management plans. Second round of forest inventory is going on with results expected in 2015 - after that change of main data source to forest inventory is envisaged.

Desk Study?

Check "yes" if this survey is a Desk Study, "no" otherwise	
Desk Study?	no

1. What is the area of forest and other wooded land and how has it changed over time?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

1.1 Categories and definitions

Category	Definition
Forest	Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.
Other wooded land	Land not classified as "Forest" spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of 5-10 percent or trees able to reach these thresholds ; or with a combined cover of shrubs bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.
Other land	All land that is not classified as "Forest" or "Other wooded land".
...of which with tree cover *(sub-category)*	Land considered as "Other land", that is predominantly agricultural or urban lands use and has patches of tree cover that span more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity. It includes bothe forest and non-forest tree species.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.
Forest expansion	Expansion of forest on land that, until then, was not defined as forest.
...of which afforestation *(sub-category)*	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not defined as forest.
...of which natural expansion of forest *(sub-category)*	Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture).
Deforestation	The conversion of forest to other land use or the longterm reduction of the tree canopy cover below the minimum 10 percent threshold.
...of which human induced *(sub-category)*	Human induced conversion of forest to other land use or the permanent reduction of the tree canopy cover below the minimum 10 percent threshold.
Reforestation	Natural regeneration or re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.
...of which artificial reforestation *(sub-category)*	Re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.

1.2 National data

1.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Czech Statistical Office (www.czso.cz)	Total area of country, forest area, inland water, orchards, Reforestation	1996-2012	http://www.czso.cz/

2	Zaverecna zprava prvni etapy specialnich hospodárskych planu (Final report on special management plans. Inventory of water flows and tree groups growing outside forest), 1976, Lesprojekt Brandýs n. L.	other land with tree cover	1976	N/A
3	Annual report on the state of forests and forestry, Ministry of agriculture, Prague	Reforestation, afforestation	1996-2012	N/A
4	Annual implementation report on the Horizontal rural development plan, Ministry of agriculture	Afforestation	2004-2006	Subsidised afforestation on the agricultural land
5	Annual implementation report on the Operational program Rural development plan and multifunctional agriculture, Ministry of agriculture	Afforestation	2004-2006	Subsidized afforestation on the agricultural land
6	Annual implementation report on the Rural development plan, Ministry of agriculture	Afforestation	2007-2013	Subsidized afforestation on the agricultural land

1.2.2 Classification and definitions

National class	Definition
Lesni p#da (PUPFL) - Forest:	Land registered in cadastre as forest *. * That land must be in accordance with forest act reforested in 2 years after deforestation, tree density must be higher than 70 % (if less, it is obligatory to cut it down and reforest it). Size in area is not limited. Incl. roads, cleared tracks etc.
Vnitrozemske vodni plochy - Inland water	Major rivers, ponds, lakes and water reservoirs.
Stromy mimo les - na brezich rek, potoku a jezer, vetrolamy, male izolovane lesiky. Trees on river and lake banks, protection belts and small isolated forested lots.	Trees on river and lake banks, protection belts and small isolated forested lots. “Special management plans” for them were elaborated in the 1970´s.
Other wooded land	Not a national category. See comment below.

1.2.3 Original data

Forest area

Total area of country

Czech Statistical Yearbook 2012 on Web - 7 886 619 ha,

FAOSTAT Total 7 887 thous.ha , land 7 728 thous. ha, inland water 159 thous. ha

	1990	2000	2005	2006	2007	2008	2009	2010	2011	2012
	1000 ha									
forest	2 629	2 637	2 647	2 649	2 651	2 653	2 655	2 657	2 660	2 662
other wooded land	0	0	0	0	0	0	0	0	0	0
Other land	5 099	5 090	5 078	5 076	5 073	5 071	5 068	5 066	5 063	5 061
… of which orchards		49	47	47	47	46	47	47	46	46
inland water bodies	159	159	161	161	162	163	163	163	163	164
Total	7 887	7 887	7 887	7 887	7 887	7 887	7 886	7 887	7 887	7 887

Land with tree cover – trees outside forest (Source: Special management plans 1976)

	banks length		
	rivers	**ponds**	**reservoirs**
	km		
special plans	93 116.695	3 687.880	722.485

Stock assessment: 45 m3/ha

Forest expansion, reforestation

	1985	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Affore-station												403	493
Refore-station	34 149	n.a	35 016	34 523	32 073	30 175	28 395	27 715	31 291	30 324	26 576	26 890	25 770

of which artif.	33 555	n.a	35 016	33 615	31 516	29 600	27 698	26 897	30 128	28 426	24 038	24 257	23 165
Refor. Introd.sp	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
of which artif.	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Affore-station	908	1 091	1 203	940	570	746	985	654	524	383	388	355	324
Refore-station	25 776	22 421	22 060	21 394	23 844	22 328	22 508	22 119	23 375	25 463	26 986	26 830	25 464
of which artif.	21 867	19 109	18 120	17 164	19 042	18 318	18 445	18 804	19 888	20 900	21 859	21 755	19 903
Refor. Introd.sp.	n.a.	850	704	612	584	532	472	501	522	539	505	525	507
of which artif.	n.a.	n.a.	650	525	509	454	388	444	450	415	384	384	370

1.3 Analysis and processing of national data

1.3.1 Adjustment

Forest expansion, reforestation

Not needed.

1.3.2 Estimation and forecasting

Forest area

Other land estimation

Total area – forest – inland water = other land.

Forecasting to 2015 – done by excel function FORECAST

	1990	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2015
	1000 ha														
forest	2 629	2 637	2 639	2 643	2 644	2 646	2 647	2 649	2 651	2 653	2 655	2 657	2 660	2 662	2667
Other land	5 099	5 090	5 088	5 084	5 082	5 081	5 078	5 076	5 073	5 071	5 068	5 066	5 063	5 061	5 054
… of which orchards		49	49	48	48	47	47	47	47	46	47	47	46	46	45
inland water bodies	159	159	160	160	160	161	161	161	162	163	163	163	163	164	165
Total	7 887	7 887	7 886	7 887	7 887	7 887	7 887	7 887	7 887	7 887	7 886	7 887	7 887	7 887	7 887

1.3.3 Reclassification

Forest area

Area calculation of the other land with tree cover (Source: Special management plans 1976)

	banks length			**Stock**	**Stock**	**Area**	**Area**	**Area**
	rivers	**ponds**	**reservoirs**	**total**		(total stock/ average stock per ha) **2000**	(total stock/ average stock per ha) **2005**	(total stock/ average stock per ha) **2010**
	km			**1000 m ^{3}**	**(m ^{3} / km)**	**1 000 ha**	**1 000 ha**	**1 000 ha**
special plans	93 116.695	3 687.880	722.485					

total	97 527				21.5 *	46	46	46
small lots				101,157 *		2	2	2
orchards						49	47	45
total land with tree cover						**97**	**95**	**92**

* avg stock 45 m ^{3} /ha

1.4 Data

Table 1a

Categories		Area (000 hectares)				
		1990	2000	2005	2010	2015
CFRQ	Forest	2629	2637	2647	2657	2667
CFRQ	Other wooded land	0	0	0	0	0
CFRQ	Other land	5098	5090	5079	5067	5055
CFRQ	... of which with tree cover	96	97	95	94	93
CFRQ	Inland water bodies	160	160	161	163	165
	TOTAL	7887.00	7887.00	7887.00	7887.00	7887.00

Table 1b

Categories		Annual forest establishment / loss (000 hectares per year)				...of which of introduced species (000 hectares per year)			
		1990	2000	2005	2010	1990	2000	2005	2010
CFRQ	Forest expansion	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which afforestation	N/A	0.82	0.779	0.395	N/A	N/A	N/A	N/A
CFRQ	... of which natural expansion of forest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CFRQ	Deforestation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which human induced	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

CFRQ	Reforestation	32.947	24.583	22.439	25.624	N/A	0.777	0.54	0.52
CFRQ	... of which artificial	32.437	21.304	18.355	20.861	N/A	0.65	0.464	0.401

Tiers

Category	Tier for status	Tier for reported trend
Forest	Tier 2	Tier 2
Other wooded land	Tier 1	Tier 1
Forest expansion	Tier 1	Tier 1
Deforestation	Tier 1	Tier 1
Reforestation	Tier 2	Tier 2

Tier criteria

Category	Tier for status	Tier for reported trend
• Forest • Other wooded land • Afforestation • Reforestation • Natural expansion of forest • Deforestation	**Tier 3** : Data sources: Either recent (less than 10 years ago) National Forest Inventory or remote sensing, with ground truthing, or programme for repeated compatible NFIs **Tier 2** : Data sources: Full cover mapping / remote sensing or old NFI (more than 10 years ago) **Tier 1** : Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

1.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trends

Forest	The Czech and the FRA definitions of the forest (lesni puda, PUPFL) are very similar. Differences: - FRA size limits (0,5 ha) - in the CR, a "forest" could be smaller depending on how the individual land lot is registered in the cadaster; no information on this is available; total area of such isolated lots smaller than 0,5 ha could be approx. from hundreds to 2 thousands (max.) of hectares. - It is obligatory to reforest any forest stand in 2 years after felling; it is also obligatory to maintain a density of a forest stand higher than 70 %. In some cases the regeneration time could be prolonged by state forest authority. - An unknown part of the approx. 6 000 ha of dwarf pine is not a regular forest according to the FRA definition (it mostly does not reach a height of 5 m in situ): these dwarf pine groups ("spots"), mostly mixed with spruce, form parts - larger or smaller than 0.5 ha - of regular forest stands mainly in high mountains. Here, these (roughly 0,2 % of total forest area) are included into "forest" because they are used and protected like regular forest stands having more non-wood producing functions than a regular forest has. It is also better to keep them within "forest" than to introduce absolutely groundless subjective assessments into reporting tables. The height and area size limits are not fully useful for a forest definition in Central Europe.	Subsidised part of the afforestation of marginal agriculture land amounts less than 1 000 ha annually
Other wooded land	None "other wooded land" is registered in the CR. Case the agriculture land is abandoned and occupied by (forest) trees, the owner willing manage it as forest must change the attribute in the cadaster. Forest inventory is expected to deliver information on this category in future	N/A
Other land	N/A	N/A
Other land with tree cover	Registered orchards are included here into the other land with tree cover. Parks (towns, castles, botanical gardens; approx. hundreds of hectares in total) cannot be clearly identified from the cadastre registers. Forest inventory is expected to deliver information on this category in future	The area of the registered orchards is decreasing by approx. 200 ha per year
Inland water bodies	N/A	N/A

Forest expansion	Afforestation - All the available data concerns subsidised afforestation only – four main sources were included – Afforestation subsidised by: 1. according to 505/2000 regulation (until 2003) 2. Horizontal rural development plan (2004-2006) 3. Operational program Multifunct. agriculture...(2004-2006) 4. Rural development plan (2007-2013) No data on unsubsidised Afforestation is available No data on Afforestation prior to 1997 No data on Natural expansion of forest	N/A
Deforestation	N/A	N/A
Reforestation	Detailed statistics on the particular species are only available since 2001	N/A

Other general comments to the table
N/A

2. What is the area of natural and planted forest and how has it changed over time?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

2.1 Categories and definitions

Term	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Naturalized introduced species	Other naturally regenerated forest where the tree species are predominantly non-native and do not need human help to reproduce/maintain populations over time.
Introduced species	A species, subspecies or lower taxon occurring outside its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).
Category	**Definition**
Primary forest	Naturally regenerated forest of native species where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Other naturally regenerated forest	Naturally regenerated forest where there are clearly visible indications of human activities.
...of which of introduced species *(sub-category)*	Other naturally regenerated forest where the trees are predominantly of introduced species.
...of which naturalized *(sub-sub category)*	Other naturally regenerated forest where the trees are predominantly of naturalized introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
...of which of introduced species *(sub-category)*	Planted forest where the planted/seeded trees are predominantly of introduced species.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
...of which planted *(sub-category)*	Mangroves predominantly composed of trees established through planting.

2.2 National data

2.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Registered natural forests in the Czech republic - Czech natural forests databank (The Silva Tarouca Research Institute for Landscape and Ornamental Gardening) www.pralesy.cz	Extent of natural forests in Czech rep.	2005-2012	N/A
2	N/A	N/A	N/A	N/A

3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

2.2.2 Classification and definitions

National class	Definition
original forest	Original forest, is considered to be the forest, where species and spatial composition corresponds to the stand conditions. No indications of human activities and the ecological processes are not significantly disturbed.
natural forest	Forest established by natural processes but in past influenced by human activities (mostly by harvesting and pasture – not seeding and planting)
near-natural forest	Forest with species composition predominantly corresponding to stand conditions, but with simpler spatial composition
planted forest	Managed forest composed of domestic species, regenerated artificially or naturally.

2.2.3 Original data

No plantations are recorded – none clear ligniculture exists in the CR, x-mas tree plantations size varies localities (mostly on agriculture land) moving in response to the market and these cover less than approx. 500 ha in maximum.

Artificial regeneration is prevailing but use of domestic and the site proper species is requested. The management aims are all the forest functions, not only the production one. Use of introduced species is strongly limited and must be approved by regional bodies of the ministry of environment and of the agriculture.

	2005	2010
	hectars	
Original forest	921	2 467
Natural forest	8368	7 525
Near natural forest left to spontaneous development	12724	13500

2.3 Analysis and processing of national data

2.3.1 Adjustment

Planted forest is considered as a rest to total forest area

	2005	2010
	ha	
Original forest	921	2467
Natural forest	8368	7525
Near natural forest left to spontaneous development	12724	13500
Planted forest	2 625 403	2 633 884
Total	2 647 416	2657376

2.3.2 Estimation and forecasting

Forecasting done by expert estimation by mr. Tomáš Vrška

	2015
	ha
Original forest	2467
Natural forest	7600
Near natural forest left to spontaneous development	14000
Planted forest	2 643 345
Total	2 667 412

2.3.3 Reclassification

National category	FRA 2015 category
Original forest	Primary forest
Natural forest	

2.4 Data

Table 2a

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
CFRQ	Primary forest	N/A	N/A	9	10	10
CFRQ	Other naturally regenerated forest	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which naturalized	N/A	N/A	N/A	N/A	N/A
CFRQ	Planted forest	N/A	N/A	2625.4	2633.9	2643.3
CFRQ	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
TOTAL		.00	.00	2634.40	2643.90	2653.30

Table 2b

Primary forest converted to (000 ha)								
1990-2000			2000-2010			2010-2015		
Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2c

Categories	Area (000 hectares)				
	1990	2000	2005	2010	2015
Mangroves (forest and OWL)	0	0	0	0	0

... of which planted	0	0	0	0	0

Tiers

Category	Tier for status	Tier for reported trend
Primary forest	Tier 1	Tier 1
Other naturally regenerated forest	Tier 1	Tier 1
Planted forest	Tier 1	Tier 1
Mangroves	Tier 1	Tier 1

Tier Criteria

Category	Tier for status	Tier for reported trend
Primary forest/Other naturally regenerated forest/Planted forest	**Tier 3** : Data sources: Recent (less than 10 years) National Forest Inventory or remote sensing with ground truthing or data provided by official agencies or programme for repeated compatible NFIs **Tier 2** : Data sources: Full cover mapping/ remote sensing or old NFI (more than 10 years) **Tier 1** : Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

2.5 Comments

Category	Comments related to data definitions etc	Comments on reported trend
Primary forest	N/A	N/A
Other naturally regenerating forest	Apart from Primary forest category, we dont have an information on the origin of particular stands. according to the guidelines we should put remaining forests to other naturally regenerated, but we believe its not appropriate in our case, because we have an evidence that in previous time planting was significantly exceeding the amount of natural regeneration. Therefore we decided to put N/A	N/A

Planted forest	Apart from Primary forest category, we dont have an information on the origin of particular stands. according to the guidelines we should put remaining forests to other naturally regenerated, but we believe its not appropriate in our case, because we have an evidence that in previous time planting was significantly exceeding the amount of natural regeneration. Therefore we decided to put N/A Prevailing regeneration during last period (especially during second half of 20th century) was artificial. That proportion has been changed in the recent years; the percentage of natural regeneration is increasing and currently exceeds 20%.	N/A
Mangroves	No such plantations in Czech republic	N/A

Other general comments to the table
N/A

3. What are the stocks and growth rates of the forests and how have they changed?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

3.1 Categories and definitions

Category	Definition
Growing stock	Volume over bark of all living trees with a minimum diameter of 10 cm at breast height (or above buttress if these are higher). Includes the stem from ground level up to a top diameter of 0 cm, excluding branches.
Net Annual Increment (NAI)	Average annual volume of gross increment over the given reference period less that of natural losses on all trees, measured to minimum diameters as defined for "Growing stock".
Above-ground biomass	All living biomass above the soil including stem stump branches bark seeds and foliage.
Below-ground biomass	All biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Dead wood	All non-living woody biomass not contained in the litter either standing lying on the ground or in the soil. Dead wood includes wood lying on the surface dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in above-ground biomass	Carbon in all living biomass above the soil including stem stump branches bark seeds and foliage.
Carbon in below-ground biomass	Carbon in all biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Carbon in dead wood	Carbon in all non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in litter	Carbon in all non-living biomass with a diameter less than the minimum diameter for dead wood (e.g. 10 cm) lying dead in various states of decomposition above the mineral or organic soil.
Soil carbon	Organic carbon in mineral and organic soils (including peat) to a soil depth of 30 cm.

3.2 National data

3.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Summary of the Forest Management Plans, Forest Management Institute, Brandys n. L.	Growing stock Land use, forest cover, growing stock	1990-2012	Compilation of forest management plans and guidelines
2	Zjistovani biomasy v lesnich ekosystemech (Biomass volume assessment in the forest ecosystems), VULHM Opocno, 2003	under to overbark coefficient	2003	special study

3	Expert activity in founding and evaluating of biomass accumulation in forest ecosystems, Forestry and Game Management Institute(VULHM), Opocno,	BCEF for AG and BG biomass Soil carbon, carbon in litter	2005,2006,2007,2008	Project of the Ministry of Agriculture CR
4	Dead wood- Forest Management Institute research	Dead wood	1991	Field research
5	Project: Analysis of the forest harvesting energetic residues availability in connection with natural conditions, forest management and economic of the whole process, Forest Management Institute (ÚHÚL) 2008	Above ground biomass, below ground biomass, volume to weight coefficient	2008	Project of the Ministry of Environment CR
6	Tables: Pa#ez, Žlábek, Kop#iva, ÚHÚL	Stem to above ground woody biomass	1990	N/A
7	National forest inventory-FMI report	deadwood	2001-2004	The first Czech national forest inventory output
8	FRA Guidelines 2010	Biomass to carbon stock coefficient	2008	N/A
9	Project: Czech Carbo – investigation of carbon cycle in terrestrial ecosystems of the Czech Republic, Institute of Forest Ecosystem Research (IFER)	Soil carbon, carbon in litter	2007	Project of the Ministry of Environment CR

3.2.2 Classification and definitions

National class	Definition
Porostni zasoba - Growing stock of all forests	Volume of living trees with the minimum DBH of 7 cm. in m3 under bark
Koeficient hroubi s kurou -under bark to over bark coefficient	weighted average 1.1082967 Coniferous 1.1000011 Broadleaved 1.1500069
Above-ground biomass	All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage.
Below-ground biomass	All biomass of live roots.
Dead wood	Dead wood includes wood lying on the surface.
Carbon in above-ground biomass	Carbon in all living biomass above the soil, including stem, stump, branches, bark, seeds, and foliage.
Carbon in below-ground biomass	Carbon in all biomass of live roots.
Carbon in dead wood	Dead wood includes only wood lying on the surface.

Carbon in litter	Carbon in litter layer without any humification.
Soil carbon	Carbon in mineral and organic soil to a 30 cm depth

3.2.3 Original data

Growing stock

Growing stock of all the forests (mill. m ^{3} u.b.)

Stock volume (under bark) milion m3	1990	2000	2005	2010
Picea abies	366,60	399,45	414,86	420,16
Pinus sylvestris	91,96	94,80	98,71	100,44
Fagus silvatica	29,86	37,34	40,78	43,22
Quercus robur	24,30	27,93	27,28	24,11
Larix decidua	17,04	22,95	26,82	29,27
Betula pendula	5,14	8,28	8,44	8,65
Abies alba	9,77	7,71	7,87	8,01
Tilia cordata	2,95	4,78	5,33	5,81
Fraxinus excelsior	3,96	4,54	5,17	5,72
Carpinus betulus	3,27	4,52	4,75	4,95
Remaining species	9,27	18,19	23,17	30,25
Coniferous	485,94	527,53	551,46	561,42
Broadleaved	78,17	102,95	111,72	119,17
total	564,11	630,48	663,17	680,59

Net annual increment m3 under bark/ha

m3ub/ha	1990	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
conife-rous		7,85	7,95	8,05	8,13	8,14	8,23	8,29	8,35	8,44	8,50	8,83	8,74	8,85	8,93
Broad-leaves		6,94	7,09	7,11	7,08	7,02	6,98	7,01	6,96	6,90	6,88	7,27	6,89	6,93	6,91
total	6,60	7,55	7,66	7,75	7,80	7,79	7,85	7,90	7,94	7,98	8,02	8,34	8,19	8,26	8,31

Biomass stock

1.Aboveground dendromass: growing stock *1,225*0,64 (Stem to above ground woody biomass including stumps without foliage volume- project "Expert activity in founding and evaluating of biomass accumulation in forest ecosystems", Forestry and Game Management Institute VULHM: *1,225* ; volume to weight coefficient - project "Analysis of the forest harvesting energetic residues availability in connection with natural conditions, forest management and economic of the whole process", Forest Management Institute UHUL 2008: *0,64*)

2.Foliage: growing stock*1,204*0,06*0,64 (tree stock coefficient – project "Expert activity in founding and evaluating of biomass accumulation in forest ecosystems", Forestry and Game Management Institute VULHM: *1,204* ; foliage volume - tables Pa#ez, Žlábek, Kop#iva(Lesnictví 1990): *0,06* ; volume to weight coefficient – project "Analysis of the forest harvesting energetic residues availability in connection with natural conditions, forest management and economic of the whole process", Forest Management Institute UHUL 2008: *0,64*)

above ground biomass = 1+2

3.Belowground biomass coniferous: growing stock coniferous*0,2*0,64(coniferous roots volume - project "Expert activity in founding and evaluating of biomass accumulation in forest ecosystems", Forestry and Game Management Institute VULHM: *0,2* ; volume to weight coefficient – project "Analysis of the forest harvesting energetic residues availability in connection with natural conditions, forest management and economic of the whole process", Forest Management Institute UHUL 2008: *0,64*)

4.Below ground biomass broadleaved: growing stock broadleaved*0,42*0,64(broadleaved roots volume- project "Expert activity in founding and evaluating of biomass accumulation in forest ecosystems", Forestry and Game Management Institute VULHM : *0,42* ; volume to weight coefficient – project "Analysis of the forest harvesting energetic residues availability in connection with natural conditions, forest management and economic of the whole process", Forest Management Institute UHUL 2008: *0,64*)

below ground biomass = 3+4

5. Dead wood = forest area*21*0,64 (deadwood volume per ha - project UHUL: *21* ; volume to weight coefficient "Analysis of the forest harvesting energetic residues availability in connection with natural conditions, forest management and economic of the whole process", Forest Management Institute UHUL *0,64*)

	1990	**2000**	**2005**	**2010**	**2015**
Growing stock (million cubic meters)	624,431	698,680	735,077	754,614	791,244
above ground woody biomass including stumps without foliage volume (million cubic meters)	764,928	855,883	900,469	924,402	969,273
above ground woody biomass including stumps without foliage weight (million metric tonnes)	489,554	547,765	576,300	591,617	620,335
foliage volume (million cubic meters)	45,109	50,473	53,102	54,513	57,159
foliage weight - volume to weight coefficient (million metric tonnes)	28,870	32,302	33,985	34,889	36,582

above-ground biomass (million metric tonnes)	**518,423**	**580,068**	**610,285**	**626,506**	**656,917**
Conniferous (million cubic meters)	534,533	580,283	606,601	617,565	642,376
Broadleaved (million cubic meters)	89,898	118,397	128,475	137,048	148,868
below-ground biomass conniferous volume (million cubic meters)	106,907	116,057	121,320	123,513	128,475
below-ground biomass conniferous weight (million metric tonnes)	68,420	74,276	77,645	79,048	82,224
below-ground biomass broadleaved volume (million cubic meters)	37,757	49,727	53,960	57,560	62,524
below-ground biomass broadleaved weight (million metric tonnes)	24,165	31,825	34,534	36,839	40,016

below-ground biomass (million metric tonnes)	**92,585**	**106,101**	**112,179**	**115,887**	**122,240**
forest area (ha)	2 629 418	2 637 290	2 647 416	2 657 376	2 667 412
deadwood volume (million cubic meters)	55,218	55,383	55,596	55,805	56,016
deadwood weight (million metric tonnes)	**35,339**	**35,445**	**35,581**	**35,715**	**35,850**
total	646,3	721,6	758,0	778,108	815,007

Carbon stock

Carbon in AG, BG biomass and dead wood using 0,47 biomass stock to carbon stock coefficient FRA 2010

Carbon in litter = foliage biomass *0,47 coefficient FRA 2010 (assuming that previous years foliage is present as litter)

Carbon in soil = forest area *64t Project “Expert activity in founding and evaluating of biomass accumulation in forest ecosystems” VÚLHM coefficient for carbon stock in soil

	1990	2000	2005	2010	2015

above-ground biomass (million metric tonnes)	518,423	580,068	610,285	626,506	656,917
above-ground carbon (million metric tonnes)	243,659	272,632	286,834	294,458	308,751
below-ground biomass (million metric tonnes)	92,585	106,101	112,179	115,887	122,240
below-ground carbon (million metric tonnes)	43,515	49,868	52,724	54,467	57,453
deadwood weight (million metric tonnes)	35,339	35,445	35,581	35,715	35,850
deadwood carbon (million metric tonnes)	16,610	16,659	16,723	16,786	16,850
foliage weight (million metric tonnes)	28,870	32,302	33,985	34,889	36,582
carbon in litter (million metric tonnes)	13,569	15,182	15,973	16,398	17,194
forest area (ha)	2 629 418	2 637 290	2 647 416	2 657 376	2 667 412
carbon in soil (million metric tonnes)	168,283	168,787	169,435	170,072	170,714

3.3 Analysis and processing of national data

3.3.1 Adjustment

data reported under bark, adjustment to over bark done using these koeficients:

coniferous: 1,1000011

broadleaved:1,1500069

total: 1,1082967

mil.m3 ob	1990	2000	2005	2010
Picea abies	403,26	439,40	456,35	462,18
Pinus sylvestris	101,15	104,28	108,58	110,48
Fagus silvatica	34,34	42,94	46,89	49,70
Quercus robur	27,94	32,12	31,37	27,72
Larix decidua	18,74	25,25	29,50	32,19
Betula pendula	5,91	9,52	9,70	9,95
Abies alba	10,74	8,48	8,66	8,81
Tilia cordata	3,39	5,50	6,13	6,69
Fraxinus excelsior	4,55	5,22	5,94	6,58
Carpinus betulus	3,77	5,19	5,46	5,69
Remaining species	10,63	20,78	26,49	34,62
Coniferous	534,53	580,28	606,60	617,57
Broadleaved	89,90	118,40	128,48	137,05
total	624,43	698,68	735,08	754,61

m3ob/ha	1990	2000	2005	2010
Net annual increment	7,31	8,52	8,75	9,11
... of which coniferous	n.a.	8,86	9,19	9,72
... of which broadleaved	n.a.	7,82	7,73	7,73

1990 – only one figure,

2000,2005,2010 – 5-year averages

3.3.2 Estimation and forecasting

Growing stock

Forecasting done by excel function “Forecast” using the data set 2000-2012

mil m3 over bark	**2015**
Total growing stock	791,24
... of which coniferous	642,38
... of which broadleaved	148,87

Increment

Forecasting done by excel function “Forecast” using the data set 2000-2012

m3ob/ha	**2015**
Net annual increment	9,41
... of which coniferous	10,05
... of which broadleaved	8,03

Carbon stock

Carbon in AG, BG biomass and dead wood according to biomass stock volume in data set 1990, 2000, 2005, 2010,2015 FRA2010.

Carbon in litter and soil carbon according to forest area volume in data set 1990, 2000, 2005, 2010,2015 FRA2010.

3.3.3 Reclassification

3.4 Data

Table 3a

Category		Growing stock volume (million m ^{3} over bark)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
CFRQ	Total growing stock	624.4	698.7	735.1	754.6	791.2	0	0	0	0	0
CFRQ	... of which coniferous	534.5	580.3	606.6	617.6	642.4	0	0	0	0	0
CFRQ	... of which broadleaved	89.9	118.4	128.5	137	148.8	0	0	0	0	0

Table 3b

Category/Species name			Growing stock in forest (million cubic meters)			
Rank	Scientific name	Common name	1990	2000	2005	2010
1 st	Picea abies	Norway Spruce	403.3	439.4	456.4	462.2
2 nd	Pinus sylvestris	Scots pine	101.2	104.3	108.6	110.5
3 rd	Fagus silvatica	Beech	34.3	42.9	46.9	49.7
4 th	Quercus robur	Oak	27.9	32.1	31.4	27.7
5 th	Larix decidua	Larch	18.7	25.3	29.5	32.2
6 th	Betula pendula	Birch	5.9	9.5	9.7	9.9
7 th	Abies alba	Silver fir	10.7	8.5	8.7	8.8
8 th	Tilia cordata	Linden	3.4	5.5	6.1	6.7
9 th	Fraxinus excelsior	Ash	4.6	5.2	5.9	6.6
10 th	Carpinus betulus	Hornbeam	3.8	5.2	5.5	5.7

Remaining			10.6	20.8	26.4	34.6
TOTAL			624.40	698.70	735.10	754.60

THE PRE-FILLED VALUES FOR GROWING STOCK REFER TO THE FOLLOWING THRESHOLD VALUES (SEE TABLE BELOW)

Item	Value	Complementary information
Minimum diameter (cm) at breast height of trees included in growing stock (X)	7	N/A
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	7	N/A
Minimum diameter (cm) of branches included in growing stock (W)	7	N/A
Volume refers to above ground (AG) or above stump (AS)	AS	N/A

PLEASE NOTE THAT THE DEFINITION OF GROWING STOCK HAS CHANGED AND SHOULD BE REPORTED AS GROWING STOCK DBH 10 CM INCLUDING THE STEM FROM GROUND LEVEL UP TO A DIAMETER OF 0 CM, EXCLUDING BRANCHES.

Table 3c

Category		Net annual increment (m^3 per hectare and year)				
		Forest				
		1990	2000	2005	2010	2015
CFRQ	Net annual increment	7.31	8.52	8.75	9.11	9.41
CFRQ	... of which coniferous	N/A	8.86	9.19	9.72	10.05
CFRQ	... of which broadleaved	N/A	7.82	7.73	7.73	8.03

Table 3d

Category		Biomass (million metric tonnes oven-dry weight)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
CFRQ	Above ground biomass	518.4	580.1	610.3	626.5	656.9	0	0	0	0	0
CFRQ	Below ground biomass	92.6	106.1	112.2	115.9	122.2	0	0	0	0	0

CFRQ	Dead wood	35.3	35.4	35.6	35.7	35.9	0	0	0	0	0
TOTAL		646.30	721.60	758.10	778.10	815.00	.00	.00	.00	.00	.00

Table 3e

Category		Carbon (Million metric tonnes)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
CFRQ	Carbon in above ground biomass	243.7	272.6	286.8	294.5	308.8	0	0	0	0	0
CFRQ	Carbon in below ground biomass	43.5	49.9	52.7	54.5	57.5	0	0	0	0	0
CFRQ	*Subtotal Living biomass*	287.2	322.5	339.6	348.9	366.2	0	0	0	0	0
CFRQ	Carbon in dead wood	16.6	16.7	16.7	16.8	16.8	0	0	0	0	0
CFRQ	Carbon in litter	13.6	15.2	16	16.4	17.2	0	0	0	0	0
CFRQ	*Subtotal Dead wood and litter*	30.2	31.8	32.7	33.2	34	0	0	0	0	0
CFRQ	Soil carbon	168.3	168.8	169.4	170.1	170.7	0	0	0	0	0
TOTAL		485.70	523.20	541.60	552.30	571.00	.00	.00	.00	.00	.00

Tiers

Variable/category	Tier for status	Tier for trend
Total growing stock	Tier 2	Tier 2
Net annual increment	Tier 2	Tier 2
Above ground biomass	Tier 2	Tier 2
Below ground biomass	Tier 2	Tier 2
Dead wood	Tier 2	Tier 2
Carbon in above-ground biomass	Tier 1	Tier 1

Carbon in below ground biomass	Tier 1	Tier 1
Carbon in dead wood and litter	Tier 1	Tier 1
Soil carbon	Tier 1	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend
Total growing stock	Tier 3: Data sources Recent 10 years National Forest Inventory or remote sensing with ground truthing or programme for repeated compatible NFI 10 years Domestic volume functions Tier 2: Data sources/registers and statistics modelling or old NFI 10 years or partial field inventory Tier 1: Other data sources	Tier 3: Estimate based on repeated compatible tiers 3 (tier for status) Domestic growth functions Tier 2: Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 tier for status Tier 1: Other
Net annual increment	Tier 3: Scientifically tested national volume and growth functions Tier 2: Selection of volume and growth functions as relevant as possible Tier 1: Other	Tier 3: Confirmation/adjustment of functions used through scientific work Tier 2: Review work done to seek alternative functions Tier: 1 Other
Biomass	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied or other domestic or otherwise nationally relevant biomass studies Tier 2: Application of country specific national or sub-national biomass conversion factors from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other
• Carbon in above ground biomass • Carbon in below ground biomass • Carbon in dead wood and litter • Soil carbon	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied Tier 2: Application of country specific national or sub-national biomass conversion factors form from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

3.5 Comments on growing stock biomass and carbon

Category	Comments related to data definitions etc	Comments on the reported trend
Total growing stock	Data from summary of forest management plans	Growing stock is increasing because: the measurement methods and tools are improving reaching more accuracy, current increment is going up in Europe, rotation period length is increasing in the CR, thinning is insufficient here, average age is increasing, etc.
Growing stock of broadleaved coniferous	Data from summary of forest management plans	N/A

Growing stock composition	Data from summary of forest management plans	N/A
Net annual increment	N/A	Average increment per hectar is increasing. Due to the mixed influence of increasing increment on one hand and higher proportion of broadleaved in reforestation and younger stands on the other, the average broadleaved increment is almost stable.
Above-ground biomass	The above-ground biomass is derived from total growing stock in table T6 in the country report.	the trend is dependent on growing stock which is increasing
Below-ground biomass	The below-ground biomass is derived from above-ground biomass	N/A
Dead wood	N/A	N/A
Carbon in above-ground biomass	Carbon in AG biomass amount is derived from AG biomass stock using coefficient 0,47.	N/A
Carbon in below-ground biomass	Carbon in BG biomass amount is derived from BG biomass stock using coefficient 0,47.	N/A
Carbon in dead wood	Carbon in dead wood amount is derived from dead wood using coefficient 0,47.	N/A
Carbon in litter	Carbon in litter is defined in Czech projects as a carbon in litter layer	N/A
Soil carbon	Soil carbon is defined in Czech projects as a carbon in mineral and organic soils	N/A

Other general comments to the table
N/A

4. What is the status of forest production and how has it changed over time?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

4.1 Categories and definitions

Term	Definition
Primary designated function	The primary function or management objective assigned to a management unit either by legal prescription documented decision of the landowner/manager or evidence provided by documented studies of forest management practices and customary use.
Non wood forest product (NWFP)	Goods derived from forests that are tangible and physical objects of biological origin other than wood.
Commercial value of NWFP	For the purpose of this table, value is defined as the commercial market value at the forest gate.
Category	**Definition**
Production forest	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Multiple use forest	Forest area designated for more than one purpose and where none of these alone is considered as the predominant designated function.
Total wood removals	The total of industrial round wood removals and woodfuel removals.
...of which woodfuel	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

4.2 National data

4.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Summary of the Forest Management Plans), Forest Management Institute, Brandys n. L.	primary functions	1978-2012	N/A
2	Prehled subkategoii vcetne prekryvu (Summary of categories including overlaps), special survey, 1991, Forest Management Institute.	Multiple functions	1991	Overlaps of the other functions (excluding the production one)
3	Report on the state of forest and forestry in the Czech Republic, Ministry of agriculture	Collection of mushrooms and berries	2010	Data are being collected by representative questionnaire survey by Czech university of life science
4	Czech statistical office	Game weight	2010	N/A

5	Questionnaire survey	Game meat prices	2010	Performed by magazine Sv#t myslivosti, published in issue 8/2010
6	Czech statistical office	Wood removals	1990-2011	figures are slightly different in some years from those prefilled from Faostat

4.2.2 Classification and definitions

National class	Definition
1. Les hospodarsky Production forest	Plnici produkcni funkci Production of timber and other goods
2.Ochranne lesy – Protection forest	a) na mimoradne nepriznivych stanovistich on extraordinary unfavourable sites b) vysokohorske pod horni hranici stromove vegetace alpine forest below tree line c) v pasmu kosodreviny in the zone of dwarf pine d) k zajisteni ochrany pudy needed for soil protection
3. Lesy zvlastniho urceni - Special purpose forest	a) ochranna pasma vodnich zdroju 1. stupne protective zones of water sources, strictly controlled b) ochranna pasma prirodnich lecivych zdroju a lesy lazenske protective zones of natural curative resources and forest in spas c) v uznanych oborach a bazantnicich game preserves and pheasantries d) narodni parky a CHKO national parks and protected landscape regions e) postihovane exhalacemi affected by air pollution f) urcene pro lesnicky vyzkum forestry research g) jiné potreby spolecnosti (vojenske, rekreacni atd.) other social demands (military, recreation, gene preserves etc.)
Porostni p#da - Timberland	Forest land actually covered by trees or temporary unstocked and to be reforested in next two years. Forest roads, cleared tracks, forest enterprise facilities etc. not included. Data on forest are collected on the timberland.
N/A	1996-2012 (law No. 289/1995 Coll.)
1. Les hospodarsky Production forest	11) les nezarazeny do jine kategorie Production of timber and other goods
2. Les ochranny Protection forest	21) na mimoradne nepriznivych stanovistich extremely unfavourable sites 22) vysokohorske pod hranici stromove vegetace chranici nize polozene in high mountains below tree line, protecting forest stands down slopes 23) v klecovem vegatcnim stupni in dwarf pine vegetation zone

3. Les zvlastniho urceni Special purpose forest	31) pasma hygienicke ochrany 1. stupne protective zones of water sources, strictly protected 32) ochranna pasma lecivych zdroju protective zones of curative and mineral water sources 33) narodni parky a narodni prirodni rezervace national parks and national nature reserves 41) první zony CHKO a prirodni rezervace 1st zones of protected landscape regions and natural reserves 42) lazenske in spas 43) primestske a rekreacni forest in outskirts of cities and recreation forest 44) lesnicky vyzkum a vyuka forestry research and education 45) pudoochranne, vodoochranne a krajinotvorne soil and water protective and landscape creative 46) zachovani biologicke ruznorodosti biodiversity protective 47) v oborach a bazantnicich game preserves and pheasantries 48) jiny verejny zajem other society needs (other public interest)

4.2.3 Original data

1990

National class	**Definition (prevailing function)**	**1990** ha of timberland
1.Production forest		1 507 418
2. Protection forest 63 608	a)	44 931
	b)	13 377
	c)	4 026
	d)	1 275
3. Special purpose forest 1 011 754	a)	10 640
	b)	7 595
	c)	41 321
	d)	8 046
	e)	734 094
	f)	3 449
	g)	206 610
Total timberland* (t)		2 582 780

*timberland = land covered by trees or temporary unstocked only, not including forest roads etc.

2000-2012

National class	Definition	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	ha of timberland													
1.Production forest	11	1 981 885	1 972 212	1 965 785	1 958 125	1 952 670	1 971 327	1 966 106	1 957 301	1 959 287	1 944 748	1 947 186	1 938 972	1 938 129
2. Protection forest	21	67 224	66 388	65 491	64 073	59 062	54 267	50 852	49 586	49 967	49 334	49 326	49 760	48 469
	22	17 736	17 389	21 604	21 812	16 427	16 324	16 658	16 706	16 769	16 937	16 937	16 633	13 127
	23	4 462	4 456	4 456	4 442	4 402	4 346	4 260	4 254	4 254	4 254	4 254	4 134	4 134
sub-total		89 422	88 233	91 552	90 327	79 891	74 937	71 770	70 545	70 989	70 525	70 517	70 527	65 730
3. Special purpose forest	31	12 565	12 393	12 015	11 788	11 889	11 509	11 170	10 810	10 740	10 154	10 234	10 222	10 259
	32	39 822	43 690	51 719	58 906	62 356	65 144	66 426	67 854	66 184	66 101	64 398	65 989	67 422
	33	99 118	99 408	98 681	95 504	101 265	104 305	102 145	97 491	96 916	96 297	96 330	96 880	97 521
	41	7 252	8 689	13 136	16 974	25 356	31 903	35 230	44 130	47 171	49 505	51 113	51 806	52 125
	42	207	207	207	207	207	212	212	425	709	615	1 662	1 664	1 623
	43	9 217	11 818	16 796	18 150	21 391	22 275	23 994	25 374	26 381	26 524	27 554	27 478	27 650
	44	25 212	19 282	20 207	18 402	18 269	18 227	18 208	18 203	18 181	18 184	18 479	18 818	18 998
	45	25 022	43 143	49 204	56 215	60 444	72 119	77 675	86 551	87 699	99 457	100 275	106 619	112 530
	46	38 785	42 140	48 606	56 986	65 281	78 773	85 915	89 880	86 659	85 116	84 399	88 416	86 349

	47	33 772	32 458	30 496	29 752	31 976	31 423	32 411	31 623	31 598	31 976	33 109	29 383	29 739
	48	220 557	212 316	189 457	177 827	160 057	108 751	101 694	94 996	95 188	94 721	89 681	89 163	89 110
sub-total		511 529	525 542	530 525	540 711	558 491	544 640	555 079	567 336	567 425	578 650	577 235	586 437	593 327
total timber-land (t)		**2 582 836**	**2 585 987**	**2 587 861**	**2 589 162**	**2 591 052**	**2 590 903**	**2 592 955**	**2 595 182**	**2 597 702**	**2 593 923**	**2 594 938**	**2 595 936**	**2 597 186**
total forest (f)		**2 637 290**	**2 638 917**	**2 643 058**	**2 644 168**	**2 645 737**	**2 647 416**	**2 649 147**	**2 651 209**	**2 653 033**	**2 655 212**	**2 657 376**	**2 659 837**	**2 661 889**

Non-wood forest products 2010

NWFP	tons	thousands CZK
Mushrooms	19500	2 950 000
Blueberries	7600	920 000
wild boar	5027,9	290 771
Raspberries	2600	215 000
Blackberries	1300	187 000
roe deer	1864,3	152 921
red deer	1547,9	95 967
Elderberries	1300	63 000
Cranberries	800	35 000
fallow deer	301,5	23 716

4.3 Analysis and processing of national data

4.3.1 Adjustment

Timberland to total forest recalculation

1990

National class	Definition (prevailing function)	1990
Total timberland (t)		2 582 780
Total forest (f)		2 629 418
coefficient f/t		1.018057

		ha of forest (t * coefficient)	
1.Production forest		1 534 638	
2. Protection forest	a)	45 742	
	b)	13 619	
	c)	4 099	
	d)	1 298	
3. Special purpose forest	a)	10 832	
	b)	7 732	
	c)	42 067	
	d)	8 191	
	e)	747 350	
	f)	3 511	
	g)	210 341	

2000-2007

National class	Defini-tion	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	ha of forest													

total timber-land (t)		**2 582 836**	**2 585 987**	**2 587 861**	**2 589 162**	**2 591 052**	**2 590 903**	**2 592 955**	**2 595 182**	**2 597 702**	**2 593 923**	**2 594 938**	**2 595 936**	**2 597 186**
total forest (f)		**2 637 290**	**2 638 917**	**2 643 058**	**2 644 168**	**2 645 737**	**2 647 416**	**2 649 147**	**2 651 209**	**2 653 033**	**2 655 212**	**2 657 376**	**2 659 837**	**2 661 889**
coeffi-cient (f/t)		**1,021083**	**1,020468**	**1,021329**	**1,021245**	**1,021105**	**1,021812**	**1,021671**	**1,021589**	**1,021300**	**1,023628**	**1,024061**	**1,024616**	**1,024913**
1.Produ-ction forest	11	2 023 669	2 012 580	2 007 714	1 999 724	1 993 882	2 014 325	2 008 714	1 999 557	2 001 020	1 990 698	1 994 038	1 986 701	1 986 413
2.Prote-ction forest	21	68 641	67 747	66 888	65 434	60 308	55 451	51 954	50 656	51 031	50 499	50 513	50 985	49 677
	22	18 110	17 744	22 064	22 275	16 774	16 680	17 019	17 066	17 126	17 337	17 344	17 042	13 454
	23	4 556	4 548	4 551	4 536	4 495	4 440	4 352	4 346	4 344	4 354	4 356	4 236	4 237
sub-total		91 308	90 039	93 504	92 246	81 577	76 571	73 325	72 068	72 501	72 191	72 213	72 263	67 368
3. Special purpose forest	31	12 830	12 646	12 271	12 038	12 140	11 760	11 412	11 043	10 969	10 394	10 480	10 474	10 514
	32	40 661	44 584	52 822	60 157	63 672	66 565	67 865	69 318	67 594	67 663	65 947	67 613	69 102
	33	101 207	101 443	100 786	97 533	103 402	106 580	104 359	99 596	98 981	98 573	98 648	99 264	99 951
	41	7 405	8 866	13 416	17 334	25 892	32 599	35 993	45 082	48 176	50 674	52 343	53 082	53 424
	42	211	211	212	212	211	216	216	434	724	630	1 702	1 705	1 664
	43	9 411	12 059	17 155	18 536	21 842	22 760	24 514	25 922	26 943	27 151	28 217	28 154	28 339
	44	25 744	19 677	20 638	18 793	18 655	18 624	18 603	18 596	18 568	18 614	18 924	19 281	19 471
	45	25 549	44 026	50 254	57 409	61 719	73 692	79 358	88 419	89 567	101 807	102 688	109 243	115 334

	46	39 602	43 002	49 643	58 197	66 659	80 491	87 777	91 821	88 505	87 127	86 430	90 593	88 500
	47	34 484	33 122	31 147	30 384	32 651	32 109	33 113	32 306	32 271	32 732	33 906	30 106	30 480
	48	225 207	216 662	193 498	181 605	163 435	111 124	103 898	97 047	97 216	96 959	91 839	91 358	91 330
sub-total		522 313	536 298	541 840	552 198	570 279	556 520	567 109	579 584	579 511	592 323	591 124	600 873	608 108
total forest		2 637 290	2 638 917	2 643 058	2 644 168	2 645 737	2 647 416	2 649 147	2 651 209	2 653 033	2 655 212	2 657 376	2 659 837	2 661 889

4.3.2 Estimation and forecasting

Forecasting of 2015 value done by excel function Forecast

4.3.3 Reclassification

Primary function

1990

FRA Categories / Designated function -		**National definition**
Forest		
Production		1. Production
Protection of soil and water	…of which production of clean water	3 a) water sources sites
		3 b) curative resources
	…of which erosion, flood protection or reducing flood risk	2 a) unfavourable
		2.d) soil protection
Conservation of biodiversity		2 b) alpine
		2 c) dwarf pine
		3 c) game preserves

		3 d) natl. parks, nature reserves and protected landscape
		3 g) other (gene bases 124 864 ha)
Social services	… of which other	3 f) forestry research-
		3 g) other (-124 864)
Multiple purpose		3 e) air pollution

2000 - 2012

FRA categ.		National class	Definition
Production		Production forest	11
Protection of soil and water	…of which erosion, flood protection or reducing flood risk *(sub-category)*	21 unfavourable sites	21
		45 soil and water protection	45
	…of which production of clean water *(sub-category)*	31 water sources	31
		32 mineral water	32
Conservation of biodiversity		22 high mountains	22
		23 dwarf pine zone	23
		33 natl. parks and reserves	33
		41 1 st zones protected landscape regs. and reserves	41
		46 biodiversity protection	46
		47 game reserves	47
Social services	… of which public recreation	43 recreation	43

	… of which other (please specify in comments below the table)	42 spas	42
		44 research and education	44
		48 public interests	48

4.4 Data

Table 4a

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
CFRQ	Production forest	1534	2024	2014	1994	1980
CFRQ	Multiple use forest	747	N/A	N/A	N/A	N/A

Table 4b

Rank	Name of product	Key species	Commercial value of NWFP removals 2010 (value 1000 local currency)	NWFP category
1 st	Mushrooms	n	2950000	1
2 nd	Blueberries	Vaccinium myrtillus	920000	1
3 rd	Wild boar	Sus scrofa	290771	12
4 th	Raspberries	Rubus idaeus	215000	1
5 th	Blackberries	Rubus fruticosus	187000	1
6 th	Roe deer	Capreolus capreolus	152921	12
7 th	Red deer	Cervus elaphus	95967	12
8 th	Elderberries	Sambucus nigra	63000	3
9 th	Cranberries	Vaccinium vitis-idaea	35000	13
10 th	Fallow deer	Dama dama	23716	12
TOTAL			4933375.00	

2010

Name of local currency	CZK Czech crown, Koruna #eská

Category
Plant products / raw material
1 Food
2 Fodder
3 Raw material for medicine and aromatic products
4 Raw material for colorants and dyes
5 Raw material for utensils handicrafts construction
6 Ornamental plants
7 Exudates
8 Other plant products
Animal products / raw material
9 Living animals
10 Hides skins and trophies
11 Wild honey and beewax
12 Wild meat
13 Raw material for medicine
14 Raw material for colorants
15 Other edible animal products
16 Other non-edible animal products

Table 4c Pre-filled data from FAOSTAT

Year	FRA 2015 category (1000 m ^{3} u.b.)	
	Total wood removals	...of which woodfuel
1990	12828	1301
1991	10878	1014
1992	9870	833

1993	10141	710
1994	11972	791
1995	12640	668
1996	12646	738
1997	13491	662
1998	13991	878
1999	14203	902
2000	14441	974
2001	14374	1091
2002	14541	1015
2003	15140	1210
2004	15601	1220
2005	15510	1274
2006	17678	1438
2007	18508	1870
2008	16187	1880
2009	15502	1733
2010	16736	1965
2011	15381	1914

Tiers

Category	Tier for status	Tier for reported trend
Production forest	Tier 3	Tier 3
Multiple use forest	Tier 1	Tier 1

Tier Criteria

Category	Tier for status	Tier for reported trend

Production forest Multiple use forest	Tier 3: Updated including field verifications national forest maps including functions Tier 2: Forest maps older than 6 years including forest functions Tier 1: Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

4.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Production forest	In the original data, the area, where no other potential function has been identified is considered to be the production function area. Major part of the other potential function areas is used also for timber production - with a proper management the non-wood producing functions are not endangered in the majority of the cases. Due emphasis on multifunctionality of forests is being given in forest act and all other relevant policy.	N/A
Multiple use forest	1990 - included were forests under heavy influence of air pollution. After 1996, that category is out of use (not needed) .This category was overlapping other categories and after 1996 forests were reclassified accordingly.	N/A
Total wood removals	N/A	N/A
Commercial value of NWFP	It is not possible to distinguish game hunted at forest and agriculture fields. However only forest related game species are included. Value of mushrooms and berries is estimated and includes major part of goods collected for own domestic consumption. Collection for this purpose is right of every citizen of the Czech Republic according to Forest act	N/A

Other general comments to the table
N/A

5. How much forest area is managed for protection of soil and water and ecosystem services?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

5.1 Categories and definitions

Category	Definition
Protection of soil and water	Forest area designated or managed for protection of soil and water
...of which production of clean water *(sub-category)*	Forest area primarily designated or managed for water production, where most human uses are excluded or heavily modified to protect water quality.
...of which coastal stabilization *(sub-category)*	Forest area primarily designated or managed for coastal stabilization.
...of which desertification control *(sub-category)*	Forest area primarily designated or managed for desertification control.
...of which avalanche control *(sub-category)*	Forest area primarily designated or managed to prevent the development or impact of avalanches on human life assets or infrastructure.
...of which erosion, flood protection or reducing flood risk *(sub-category)*	Forest area primarily designated or managed for protecting communities or assets from the impacts of erosion riparian floods and landslides or for providing flood plain services.
...of which other *(sub-category)*	Forest area primarily designated or managed for other protective functions.
Ecosystem services, cultural or spiritual values	Forest area primarily designated or managed for selected ecosystem services or cultural or spiritual values.
...of which public recreation *(sub-category)*	Forest area designated or managed for public recreation.
...of which carbon storage or sequestration *(sub-category)*	Forest area designated or managed for carbon storage or sequestration.
...of which spiritual or cultural services *(sub-category)*	Forest area designated or managed for spiritual or cultural services.
...of which other *(sub-category)*	Forest area designated or managed for other ecosystem services.

5.2 National data

5.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Summary of the Forest Management Plans, Forest Management Institute, Brandys n. L.	Primary functions	1990-2012	N/A

2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

5.2.2 Classification and definitions

National class	Definition
1. Les hospodarsky Production forest (1978-1995 (Decree 13/1976 Coll))	Plnici produkcni funkci Production of timber and other goods
2.Ochranne lesy – Protection forest (1978-1995 (Decree 13/1976 Coll))	a) na mimoradne nepriznivych stanovistich on extraordinary unfavourable sites b) vysokohorske pod horni hranici stromove vegetace alpine forest below tree line c) v pasmu kosodreviny in the zone of dwarf pine d) k zajisteni ochrany pudy needed for soil protection
3. Lesy zvlastniho urceni - Special purpose forest (1978-1995 (Decree 13/1976 Coll))	a) ochranna pasma vodnich zdroju 1. stupne protective zones of water sources, strictly controlled b) ochranna pasma prirodnich lecivych zdroju a lesy lazenske protective zones of natural curative resources and forest in spas c) v uznanych oborach a bazantnicich game preserves and pheasantries d) narodni parky a CHKO national parks and protected landscape regions e) postihovane exhalacemi affected by air pollution f) urcene pro lesnicky vyzkum forestry research g) jiné potreby spolecnosti (vojenske, rekreacni atd.) other social demands (military, recreation, gene preserves etc.)
Porostni p#da - Timberland	Forest land actually covered by trees or temporary unstocked and to be reforested in next two years. Forest roads, cleared tracks, forest enterprise facilities etc. not included. Data on forest are collected on the timberland.
1. Les hospodarsky Production forest (1996-2012 (Fores Act 289/1995 Coll))	11) les nezarazeny do jine kategorie Production of timber and other goods
2. Les ochranny Protection forest (1996-2012 (Fores Act 289/1995 Coll))	21) na mimoradne nepriznivych stanovistich extremely unfavourable sites 22) vysokohorske pod hranici stromove vegetace chranici nize polozene in high mountains below tree line, protecting forest stands down slopes 23) v klecovem vegatcnim stupni in dwarf pine vegetation zone
3. Les zvlastniho urceni Special purpose forest (1996-2012 (Fores Act 289/1995 Coll))	31) pasma hygienicke ochrany 1. stupne protective zones of water sources, strictly protected 32) ochranna pasma lecivych zdroju protective zones of curative and mineral water sources 33) narodni parky a narodni prirodni rezervace national parks and national nature reserves 41) první zony CHKO a prirodni rezervace 1st zones of protected landscape regions and natural reserves 42) lazenske in spas 43) primestske a rekreacni forest in outskirts of cities and recreation forest 44) lesnicky vyzkum a vyuka forestry research and education 45) pudoochranne, vodoochranne a krajinotvorne soil and water protective and landscape creative 46) zachovani biologicke ruznorodosti biodiversity protective 47) v oborach a bazantnicich game preserves and pheasantries 48) jiny verejny zajem other society needs (other public interest)

5.2.3 Original data

1990

National class	Definition (prevailing function)	1990 ha of timberland
1.Production forest		1 507 418
2. Protection forest 63 608	a)	44 931
	b)	13 377
	c)	4 026
	d)	1 275
3. Special purpose forest 1 011 754	a)	10 640
	b)	7 595
	c)	41 321
	d)	8 046
	e)	734 094
	f)	3 449
	g)	206 610
Total timberland* (t)		2 582 780

*timberland = land covered by trees or temporary unstocked only, not including forest roads etc.

2000-2012

National class	Defini-tion	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	ha of timberland													
1.Produ-ction forest	11	1 981 885	1 972 212	1 965 785	1 958 125	1 952 670	1 971 327	1 966 106	1 957 301	1 959 287	1 944 748	1 947 186	1 938 972	1 938 129

2.Protection forest	21	67 224	66 388	65 491	64 073	59 062	54 267	50 852	49 586	49 967	49 334	49 326	49 760	48 469
	22	17 736	17 389	21 604	21 812	16 427	16 324	16 658	16 706	16 769	16 937	16 937	16 633	13 127
	23	4 462	4 456	4 456	4 442	4 402	4 346	4 260	4 254	4 254	4 254	4 254	4 134	4 134
sub-total		89 422	88 233	91 552	90 327	79 891	74 937	71 770	70 545	70 989	70 525	70 517	70 527	65 730
3. Special purpose forest	31	12 565	12 393	12 015	11 788	11 889	11 509	11 170	10 810	10 740	10 154	10 234	10 222	10 259
	32	39 822	43 690	51 719	58 906	62 356	65 144	66 426	67 854	66 184	66 101	64 398	65 989	67 422
	33	99 118	99 408	98 681	95 504	101 265	104 305	102 145	97 491	96 916	96 297	96 330	96 880	97 521
	41	7 252	8 689	13 136	16 974	25 356	31 903	35 230	44 130	47 171	49 505	51 113	51 806	52 125
	42	207	207	207	207	207	212	212	425	709	615	1 662	1 664	1 623
	43	9 217	11 818	16 796	18 150	21 391	22 275	23 994	25 374	26 381	26 524	27 554	27 478	27 650
	44	25 212	19 282	20 207	18 402	18 269	18 227	18 208	18 203	18 181	18 184	18 479	18 818	18 998
	45	25 022	43 143	49 204	56 215	60 444	72 119	77 675	86 551	87 699	99 457	100 275	106 619	112 530
	46	38 785	42 140	48 606	56 986	65 281	78 773	85 915	89 880	86 659	85 116	84 399	88 416	86 349
	47	33 772	32 458	30 496	29 752	31 976	31 423	32 411	31 623	31 598	31 976	33 109	29 383	29 739
	48	220 557	212 316	189 457	177 827	160 057	108 751	101 694	94 996	95 188	94 721	89 681	89 163	89 110
sub-total		511 529	525 542	530 525	540 711	558 491	544 640	555 079	567 336	567 425	578 650	577 235	586 437	593 327
total timber-land (t)		**2 582 836**	**2 585 987**	**2 587 861**	**2 589 162**	**2 591 052**	**2 590 903**	**2 592 955**	**2 595 182**	**2 597 702**	**2 593 923**	**2 594 938**	**2 595 936**	**2 597 186**

total forest (f)		**2 637 290**	**2 638 917**	**2 643 058**	**2 644 168**	**2 645 737**	**2 647 416**	**2 649 147**	**2 651 209**	**2 653 033**	**2 655 212**	**2 657 376**	**2 659 837**	**2 661 889**

5.3 Analysis and processing of national data

5.3.1 Adjustment

Timberland to total forest recalculation

1990

National class	**Definition (prevailing function)**	**1990**
Total timberland (t)		2 582 780
Total forest (f)		2 629 418
coefficient f/t		1.018057

		ha of forest (t * coefficient)	
1.Production forest		1 534 638	
2. Protection forest	a)	45 742	
	b)	13 619	
	c)	4 099	
	d)	1 298	
3. Special purpose forest	a)	10 832	
	b)	7 732	
	c)	42 067	
	d)	8 191	
	e)	747 350	
	f)	3 511	

	g)	210 341	

2000-2012

National class	Definition	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	ha of forest													
total timber-land (t)		**2 582 836**	**2 585 987**	**2 587 861**	**2 589 162**	**2 591 052**	**2 590 903**	**2 592 955**	**2 595 182**	**2 597 702**	**2 593 923**	**2 594 938**	**2 595 936**	**2 597 186**
total forest (f)		**2 637 290**	**2 638 917**	**2 643 058**	**2 644 168**	**2 645 737**	**2 647 416**	**2 649 147**	**2 651 209**	**2 653 033**	**2 655 212**	**2 657 376**	**2 659 837**	**2 661 889**
coeffi-cient (f/t)		**1,021083**	**1,020468**	**1,021329**	**1,021245**	**1,021105**	**1,021812**	**1,021671**	**1,021589**	**1,021300**	**1,023628**	**1,024061**	**1,024616**	**1,024913**
1.Produ-ction forest	11	2 023 669	2 012 580	2 007 714	1 999 724	1 993 882	2 014 325	2 008 714	1 999 557	2 001 020	1 990 698	1 994 038	1 986 701	1 986 413
2.Prote-ction forest	21	68 641	67 747	66 888	65 434	60 308	55 451	51 954	50 656	51 031	50 499	50 513	50 985	49 677
	22	18 110	17 744	22 064	22 275	16 774	16 680	17 019	17 066	17 126	17 337	17 344	17 042	13 454
	23	4 556	4 548	4 551	4 536	4 495	4 440	4 352	4 346	4 344	4 354	4 356	4 236	4 237
sub-total		91 308	90 039	93 504	92 246	81 577	76 571	73 325	72 068	72 501	72 191	72 213	72 263	67 368
3. Special purpose forest	31	12 830	12 646	12 271	12 038	12 140	11 760	11 412	11 043	10 969	10 394	10 480	10 474	10 514
	32	40 661	44 584	52 822	60 157	63 672	66 565	67 865	69 318	67 594	67 663	65 947	67 613	69 102
	33	101 207	101 443	100 786	97 533	103 402	106 580	104 359	99 596	98 981	98 573	98 648	99 264	99 951
	41	7 405	8 866	13 416	17 334	25 892	32 599	35 993	45 082	48 176	50 674	52 343	53 082	53 424

	42	211	211	212	212	211	216	216	434	724	630	1 702	1 705	1 664
	43	9 411	12 059	17 155	18 536	21 842	22 760	24 514	25 922	26 943	27 151	28 217	28 154	28 339
	44	25 744	19 677	20 638	18 793	18 655	18 624	18 603	18 596	18 568	18 614	18 924	19 281	19 471
	45	25 549	44 026	50 254	57 409	61 719	73 692	79 358	88 419	89 567	101 807	102 688	109 243	115 334
	46	39 602	43 002	49 643	58 197	66 659	80 491	87 777	91 821	88 505	87 127	86 430	90 593	88 500
	47	34 484	33 122	31 147	30 384	32 651	32 109	33 113	32 306	32 271	32 732	33 906	30 106	30 480
	48	225 207	216 662	193 498	181 605	163 435	111 124	103 898	97 047	97 216	96 959	91 839	91 358	91 330
sub-total		522 313	536 298	541 840	552 198	570 279	556 520	567 109	579 584	579 511	592 323	591 124	600 873	608 108
total forest		2 637 290	2 638 917	2 643 058	2 644 168	2 645 737	2 647 416	2 649 147	2 651 209	2 653 033	2 655 212	2 657 376	2 659 837	2 661 889

5.3.2 Estimation and forecasting

Forecasting of 2015 value done by excel function Forecast

5.3.3 Reclassification

Primary function

1990

FRA Categories / Designated function -		**National definition**
Forest		
Production		1. Production
Protection of soil and water	…of which production of clean water	3 a) water sources sites
		3 b) curative resources

	…of which erosion, flood protection or reducing flood risk	2 a) unfavourable
		2.d) soil protection
Conservation of biodiversity		2 b) alpine
		2 c) dwarf pine
		3 c) game preserves
		3 d) natl. parks, nature reserves and protected landscape
		3 g) other (gene bases 124 864 ha)
Social services	… of which other	3 f) forestry research-
		3 g) other (-124 864)
Multiple purpose		3 e) air pollution

2000 - 2012

FRA categ.		National class	Definition
Production		Production forest	11
Protection of soil and water	…of which erosion, flood protection or reducing flood risk *(sub-category)*	21 unfavourable sites	21
		45 soil and water protection	45
	…of which production of clean water *(sub-category)*	31 water sources	31
		32 mineral water	32
Conservation of biodiversity		22 high mountains	22
		23 dwarf pine zone	23
		33 natl. parks and reserves	33

		41 1 st zones protected landscape regs. and reserves	41
		46 biodiversity protection	46
		47 game reserves	47
Social services	… of which public recreation	43 recreation	43
	… of which other (please specify in comments below the table)	42 spas	42
		44 research and education	44
		48 public interests	48

5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
CFRQ	Protection of soil and water	66	148	207	230	271
CFRQ	... of which production of clean water	19	53	78	76	90
CFRQ	... of which coastal stabilization	0	0	0	0	0
CFRQ	... of which desertification control	0	0	0	0	0
CFRQ	... of which avalanche control	0	0	0	0	0
CFRQ	... of which erosion, flood protection or reducing flood risk	47	94	129	153	181
CFRQ	... of which other (please specify in comments below the table)	0	0	0	0	0

Other
N/A

Table 5b

Categories	Forest area (1000 hectares)				
	1990	2000	2005	2010	2015
Ecosystem services, cultural or spiritual values	89	261	153	141	80
...of which public recreation	0	9	23	28	36
...of which carbon storage or sequestration	0	0	0	0	0
...of which spiritual or cultural services	0	0	0	0	0
...of which other (please specify in comments below the table)	89	251	130	113	44

Tiers

Category	Tier for reported trend	Tier for status
Protection of soil and water	Tier 3	Tier 3
Ecosystem services, cultural or spiritual values	Tier 3	Tier 3

Tier criteria

Category	Tier for status	Tier for reported trend
Protection of soil and water	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations or legislation relating to soil and water protection. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

• Cultural or spiritual values • Public recreation • Spiritual or cultural services • Other	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

5.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Protection of soil and water	reported area regards only forests where its primary function is soil and water protection. Generally all forests fulfill to some extent water and soil protective function	N/A
Production of clean water	N/A	N/A
Coastal stabilization	N/A	N/A
Desertification control	N/A	N/A
Avalanche control	N/A	N/A
Erosion, flood protection or reducing flood risk	N/A	N/A
Other protective functions	N/A	N/A
Ecosystem services, cultural or spiritual values	N/A	N/A
Public recreation	N/A	N/A
Carbon storage or sequestration	N/A	N/A
Spiritual or cultural services	N/A	N/A
Other ecosystem services	Includes forests in spas, research and education forests and forests with other public interests requiring special management	N/A

Other general comments to the table
N/A

6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

6.1 Categories and definitions

Category	Definition
Conservation of biodiversity	Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.

6.2 National data

6.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Summary of the Forest Management Plans, Forest Management Institute, Brandys n. L	primary functions	1978-2012	N/A
2	Statistical environmental yearbook of the Czech Republic, Ministry of environment	Forests in protected areas	2004-2012	N/A
3	Special case study to identify overlaps of protected areas, Forest management institute	Forests in protected areas	2007,2010	N/A
4	N/A	N/A	N/A	N/A

6.2.2 Classification and definitions

National class	Definition
See 4.2.2.	N/A
N/A	N/A
N/A	N/A
N/A	N/A

6.2.3 Original data

See 4.2.3.

6.3 Analysis and processing of national data

6.3.1 Adjustment

See 4.3.1.

Data on forest within different types of protected areas available in 2004-2012 period. Unfortunately these data do not bring the information on the overlap of particular types of protected areas. We used the GIS case study to find out the ratio between the sum of areas of particular types and the whole area of protected areas respecting the overlaps. This ratio was then used for adjustment. Original study was done based on 2007 data for FRA 2010, for FRA 2015 next round of case study on 2010 data was done.

An average of both was then applied to estimate total forests in protected areas without influence of overlaps.

	2007	2010	average
conversion ratio	0,984885	0,970995	**0,97794**

6.3.2 Estimation and forecasting

See 4.3.2.

6.3.3 Reclassification

See 4.3.3.

6.4 Data

Table 6

Categories		Forest area (000 hectares)				
		1990	**2000**	**2005**	**2010**	**2015**
CFRQ	Conservation of biodiversity	193	205	273	293	337

CFRQ	Forest area within protected areas	N/A	700	736	734	743

Tiers

Category	Tier for status	Tier for reported trend
Conservation of biodiversity	Tier 3	Tier 3
Forest area within protected areas	Tier 3	Tier 3

Tier criteria

Category	Tier for status	Tier for reported trend
• Conservation of biodiversity • Forests within protected areas	Tier 3: Data obtained from national or state agencies responsible for conservation and protected area or legislation relating to area protection. Tier 2: Studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates Tier 1 Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

6.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Conservation of biodiversity	N/A	N/A
Forest area within protected areas	As mentioned in adjustment section, data on forests in protected areas are available as area of different categories of protected areas. These categories are overlaping in some cases, therefore a case study to identify the overlaps was carried out on 2007 and 2010 data, then the average ratio of overlaps was used to adjust figures	N/A

Other general comments to the table
N/A

7. What is the area of forest affected by woody invasive species?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

7.1 Categories and definitions

Category	Definition
Invasive species	Species that are non-native to a particular ecosystem and whose introduction and spread cause, or are likely to cause, socio-cultural, economic or environmental harm or harm to human health.

7.2 National data

7.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

7.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

7.2.3 Original data

7.3 Analysis and processing of national data

7.3.1 Adjustment

7.3.2 Estimation and forecasting

7.3.3 Reclassification

7.4 Data

Table 7

Scientific name of woody invasive species	Forest area affected (000 ha)	
	2005	2010
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
Total	N/A	N/A

Tiers

Category	Tier for status	Tier for reported trend
Invasive species	Tier 1	Tier 1

Tier Criteria

Category	Tier for status	Tier for reported trend

Invasive species	Tier 3: Systematic assessment in forest inventory or other survey (e.g. by conservation department) within the last 5 years) Tier 2: Systematic assessment in forest inventory or other survey (e.g. by conservation department conducted more than 5 years ago) Tier 1: Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

7.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Invasive species	Woody species, which can act as invasive species might be following: Robinia pseudoacacia, Ailanthus altissima, Pinus strobus, Acer negundo, Padus serotina, Lycium barbarum. Of these only Robinia pseudoacacia is of considerable extent (0.55% of forest area in 2007) but on most stands it does not act as an invasive species. According to our legislation (decree 215/2008 Coll.), these species are not considered as an invasive species to be controlled and monitored - therefore we consider this area to be 0	N/A

Other general comments to the table
N/A

8. How much forest area is damaged each year?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

8.1 Categories and definitions

Category	Definition
Number of fires	Number of fires per year
Burned area	Area burned per year
Outbreaks of insects	A detectable reduction in forest health caused by a sudden increase in numbers of harmful insects.
Outbreaks of diseases	A detectable reduction in forest health caused by a sudden increase in numbers of harmful pathogens, such as bacteria, fungi, phytoplasma or virus.
Severe weather events	Damage caused severe weather events, such as snow, storm, drought, etc.

8.2 National data

8.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Statistical yearbook on fire prevention, Fire rescue service of the Czech republic	Number and area of forest fires, Number of all fires	2003-2012	N/A
2	Report on forest pest conditions, Forest Protection Service, Forestry and Game Management Research Institute	Forest damaging agents	1996-2011	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

8.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

8.2.3 Original data

Forest Fires

year	ha	1000ha	number of fires
1991	76	0,076	1 019
1992	1 278	1,278	2 092
1993	1 151	1,151	
1998	1 132	1,132	2 563
1999	336	0,336	1 403
2000	375	0,375	1 499
2001	87	0,087	483
2002	179	0,179	569
2003	1 236	1,236	1 712
2004	335	0,335	846
2005	226	0,226	626
2006	405	0,405	679
2007	316	0,316	847
2008	86	0,086	504
2009	178	0,178	556
2010	205	0,205	732
2011	337	0,337	1 337
2012	634	0,634	1 549

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	thousand cubic meters															

wind +snow +icing	3 318	2 545	1 835	2 007	1 661	1 039	2 595	4 071	1 793	1 530	4 191	9 043	4 951	2 130	2 700	1 439
drought	596	194	208	188	196	157	113	292	457	378	295	243	256	203	127	140
emissions	278	192	191	73	56	33	24	28	27	17	14	27	27	29	13	13
others	134	191	110	87	73	42	23	79	76	34	44	30	36	28	27	15
Total abiotic	4 326	3 122	2 344	2 355	1 987	1 272	2 755	4 471	2 353	1 959	4 544	9 344	5 269	2 391	2 867	1 607

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	thousand cubic meters															
Ips Typo-graphus, Ips Imatinus, Pityo-genes Chalco-graphus	948	369	320	249	285	165	170	857	836	588	607	1 085	1 436	1 711	1 197	731
Ips Dupli-catus	16	5	7	2	7	5	9	133	84	38	93	200	209	147	78	80
Poly-graphus Poli-graphus	3	0	3	12	4	8	13	12	14	9	8	7	6	5	4	3
Pityo-phtorus Pityo-graphus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ips Acumi-natus	10	1	1	2	1	1	1	5	5	6	3	2	2	2	1	0
Tomi-cus Pini-perda, T. Minor	5	1	1	2	1	1	2	2	1	5	5	2	4	5	3	2
Ips Sex-dentatus	1	0	0	0	0	0	0	0	5	1	1	1	1	0	0	0
Phaenops Cyanea	3	2	0	1	1	0	1	1	7	10	1	1	2	3	1	1
Pityo-kteines spp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ips Cembrae	0	3	0	0	0	0	0	1	1	0	1	1	1	0	0	0
Scolytus Intricatus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scolytus Ratzeburgii	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hylesinus spp.	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
spruce chlorosis	ha	6 151	3 714	3 259	9 732	15 071	18 484	20 305	24 364	27 236	28 857	35 775	35 790	21 637	24 139	24 887	26 860

8.3 Analysis and processing of national data

8.3.1 Adjustment

Data on some of damages agents are reported through volume of salvage fellings. No information on area is available,therefore recalculation to hectars was done by mean stock volume in particular years.

Also respondents network for damages agents does not cover all forests, coverage diifers in years slightly around 70%, adjustment to 100% is necessary

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
wind +snow +icing	ha	18 905	14 437	10 311	11 211	9 072	5 932	13 879	21 625	9 419	7 971	21 696	49 820	27 163	11 529	14 709	7 811
drought	ha	3 394	1 102	1 167	1 052	1 072	898	606	1 553	2 403	1 969	1 525	1 341	1 402	1 100	691	762
emissions	ha	1 583	1 090	1 075	405	307	189	128	148	143	91	74	151	150	157	73	69
others	ha	766	1 083	617	484	401	241	121	422	397	175	226	165	195	152	145	81
Total abiotic	ha	24 648	17 712	13 170	13 153	10 851	7 260	14 735	23 749	12 362	10 206	23 521	51 477	28 911	12 937	15 617	8 723

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ips Typo-graphus, Ips Imatinus, Pityo-genes Chalco-graphus	ha	5 400	2 091	1 799	1 391	1 558	944	907	4 551	4 393	3 062	3 143	5 979	7 881	9 259	6 519	3 967
Ips Dupli-catus	ha	92	26	42	14	39	31	48	704	439	198	482	1 101	1 148	796	426	436
Poly-graphus Poli-graphus	ha	17	2	16	67	20	44	69	65	76	47	41	38	35	28	19	19
Pityo-phtorus Pityo-graphus	ha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ips Acumi-natus	ha	59	8	4	10	4	4	7	25	27	30	15	10	12	10	3	2
Tomi-cus Pini-perda, T. Minor	ha	27	6	8	11	8	6	8	13	3	28	25	11	20	26	15	10
Ips Sex-dentatus	ha	4	2	1	1	1	1	1	2	24	4	5	4	6	2	3	2
Phaenops Cyanea	ha	15	11	2	4	3	2	3	5	38	54	6	4	9	16	6	3
Pityo-kteines spp.	ha	3	0	0	1	0	0	0	1	1	2	0	2	1	2	2	1
Ips Cembrae	ha	1	16	1	1	1	2	1	3	3	2	7	6	4	2	1	1
Scolytus Intricatus	ha	0	0	1	2	1	1	0	0	0	0	0	1	2	0	0	0
Scolytus Ratzeburgii	ha	2	3	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Hylesinus spp.	ha	0	0	0	0	19	0	0	0	0	0	0	0	1	1	1	0

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
spruce chlorosis	ha	8 201	4 952	4 345	13 151	20 095	26 034	27 073	32 486	36 315	38 476	47 700	51 128	30 909	34 484	35 553	38 371

Micro-sphaera alphitoides and others	ha	0	0	0	22	0	363	333	0	127	206	186	204	211	234	515	0
Lopho-dermium spp.	ha	677	1 120	0	509	433	2 086	2 006	2 410	2 251	2 435	3 226	1 552	1 828	2 496	2 519	2 478
Armil-laria spp.	ha	875	400	0	284	115	1 493	2 228	5 442	3 228	3 011	4 276	5 836	3 640	6 443	6 104	3 126
rodents in forest planta-tions	ha	2 517	3 028	8 297	2 780	1 732	1 617	1 116	1 124	865	1 629	1 279	1 129	878	623	1 319	1 417

8.3.2 Estimation and forecasting

8.3.3 Reclassification

8.4 Data

Table 8a

Category		000 ha, number of fires									
		2003		2004		2005		2006		2007	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
CFRQ	Total land area burned	N/A	28937	N/A	21191	N/A	20183	N/A	20262	N/A	22394
CFRQ	... of which forest area burned	1.236	1712	0.335	846	0.226	626	0.405	679	0.316	847
Category		**2008**		**2009**		**2010**		**2011**		**2012**	
		000 ha	**#**	**000 ha**	**#**	**000 ha**	**#**	**000 ha**	**#**	**000 ha**	**#**
CFRQ	Total land area burned	N/A	20946	N/A	20177	N/A	17937	N/A	21125	N/A	20492

CFRQ	... of which forest area burned	0.086	504	0.178	556	0.205	732	0.337	1337	0.634	1549

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
1	Ips Typographus, Ips amitinus, Pityogenes chalcographus	2007-2010	20.7
3	Windstorm	2007	49.8
2	Spruce chlorosis	2007	51.1
1	Tortricidae and Geometridae on oaks (Tortrix viridana, Operophtera brumata, Archips crataeganus)	1997	21.2
1	Lymantria monacha	1993-1996	30
1	Lymantria dispar	1992-1994	12
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Outbreak category
1 Insects
2 Diseases
3 Severe weather events

Tiers

Category	Tier for status	Tier for trend
Area affected by fire	Tier 3	Tier 3
• Insects • Diseases • Severe weather events	Tier 2	Tier 2

Tier criteria

Category	Tier for status	Tier for reported trend

Burned area	**Tier 3** : National fire monitoring routines **Tier 2** : Remote sensing surveys **Tier 1** : Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other
• Insects • Diseases • Severe weather events	**Tier 3** : Systematic survey (e.g. via inventory or aerial damage assessment) **Tier 2** : Management records **Tier 1** : Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

8.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Burned area	data on total burned area is not available at national level, provided FAO dataset is quite inconsistent with national data as regards burned forest area (national data about 30 times higher), therefore we did not report the total burned area from FAO dataset	N/A
Insects	N/A	N/A
Diseases	Spruce chlorosis is mentioned here as a disease although it is not a disease as such. Its rather symptoms of magnesium deficiency caused by several not clearly known causes	N/A
Severe weather events	Orcan Kirill	N/A

Other general comments to the table
N/A

9. What is the forest area with reduced canopy cover?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

Category	Definition
Reduction in canopy cover	Forest that has undergone a reduction of canopy cover of more than 20% between the years 2000 and 2010 within the forest canopy cover range of 30-80% as detected by the MODIS VCF sensor.

Table 9

Category	Area of forest with reduced canopy cover (000 ha)
Reduction in canopy cover	N/A

Tiers

Category	Tier for reported trend
Reduction in canopy cover	N/A

Tier criteria

Category	Tier for reported trend
Reduction in canopy cover	**Tier 3** : Remote sensing with ground truthing and/or Landsat imagery **Tier 2** : Remote sensing using Modis (using pre-filled data provided by FAO) **Tier 1** : Expert opinion

Comments

Category	Comments related to data definitions etc
Reduction in canopy cover	N/A

Other general comments

10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

10.1 Categories and definitions

Category	Definition
Policies supporting sustainable forest management	Policies or strategies that explicitly encourage sustainable forest management.
Legislation and regulations supporting sustainable forest management	Legislation and regulations that govern and guide sustainable forest management, operations and use.

10.2 National data

10.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	National forest program II until year 2013	Policies supporting sustainable forest management	2007 - now	http://www.uhul.cz/forum/download/file.php?id=444 from 2007 until 2013 as stated in the title, but it has not been replaced (renewed) yet
2	Forest act (289/1995 Coll.)	Legislation and regulations supporting sustainable forest management	1995-now	N/A
3	Regional rules for financial Contributions to forest management	Policies supporting sustainable forest management	N/A	For each region in the Czech republic
4	N/A	N/A	N/A	N/A

10.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

10.2.3 Original data

10.3 Data

Table 10

Category				
	National	Sub-national		
		Regional	Provincial/State	Local
Policies supporting sustainable forest management	yes	yes	no	no
... of which, in publicly owned forests	yes	yes	no	no
... of which, in privately owned forests	yes	yes	no	no
Legislation and regulations supporting sustainable forest management	yes	yes	no	no
... of which, in publicly owned forests	yes	yes	no	no
... of which, in privately owned forests	yes	yes	no	no

10.4 Comments

Variable / category	Comments related to data definitions etc
Policies supporting sustainable forest management	National forest program II until year 2013. As for regional level - each region has its own rules for subsidies to promote forest management.
Legislation and regulations supporting sustainable forest management	Forest act (289/1995 Coll)

Other general comments

11. Is there a national platform that promotes stakeholder participation in forest policy development?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

11.1 Categories and definitions

Category	Definition
National stakeholder platform	A recognized procedure that a broad range of stakeholders can use to provide opinions, suggestions, analysis, recommendations and other input into the development of national forest policy.

11.2 National data

11.2.1 Data sources

	References to sources of information	Years	Additional comments
1	Coordination council for implementation of National forest program II	N/A	http://www.uhul.cz/forum/viewforum.php?f=11&sid=971960107567cdca9f885437fd08e234 Council contains representatives of ministries as well as different stakeholders. Coordinating role is with Forest Management Institute
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A

Table 11

Is there a national platform that promotes or allows for stakeholder participation in forest policy development?	yes

11.3 Comments

Category	Comments related to data definitions etc
National stakeholder platform	Coordination council for implementation of National forest program II includes representatives of all major stakeholders groups. Work of this council was resumed by Conclusions and recommendations of coordination council.

Other general comments

12. What is the forest area intended to be in permanent forest land use and how has it changed over time?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

12.1 Categories and definitions

Category	Definition
Forest area intended to be in permanent forest land use	Forest area that is designated or expected to be retained as forest and is highly unlikely to be converted to other land use.
...of which permanent forest estate *(sub-category)*	Forest area that is designated by law or regulation to be retained as forest and may not be converted to other land use.

12.2 National data

12.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Czech Statistical Office (www.czso.cz)	forest area	2010	N/A
2	Forest act (289/1995 Coll.)	permanent forest land	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

12.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

12.2.3 Original data

12.3 Analysis and processing of national data

12.3.1 Adjustment

12.3.2 Estimation and forecasting

12.3.3 Reclassification

12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
CFRQ	Forest area intended to be in permanent forest land use	2657
CFRQ	... of which permanent forest estate	2657

Tiers

Category	Tier for status
Forest area intended to be in permanent forest land use	Tier 3
Permanent forest estate	Tier 3

Tier Criteria

Category	Tier for status
Forest area intended to be in permanent forest land use	**Tier 3** : National or sub-national land use plans strategy documents or other reports within the past 10 years **Tier 2** : National or sub-national land use plans strategy documents or other reports within the past 20 years **Tier 1** : Other
Permanent forest estate	**Tier 3** : National or sub-national land use plans strategy documents or other reports within the past 10 years **Tier 2** : National or sub-national land use plans strategy documents or other reports within the past 20 years **Tier 1** : Other

12.5 Comments

Category	Comments related to data definitions etc
Forest area intended to be in permanent forest land use	Once the parcel is declared as a forest it has to be reforested after harvest according to forest act. Exceptions of changing forest to other land use are possible according to forest act, but are subject to approval by relevant authorities
Permanent forest estate	N/A

Other general comments

13. How does your country measure and report progress towards SFM at the national level?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

13.1 Categories and definitions

Category	Definition
Forest area monitored under a national forest monitoring framework	Forest area monitored by a national monitoring framework or systems that provide measurement based periodic monitoring of forest extent and quality.
Forest reporting at national scale	National reporting of forest extent and characteristics that includes some measure of progress toward sustainable forest management.

13.2 National data

13.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	National forest inventory, Forest management institute	forest inventory	2001-2004	http://www.uhul.cz/images/nil/NIL_CR_2001-2004_NFI_CZ_2001-2004.pdf
2	Forest management plans and guidelines	other field assessment	ongoing	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

13.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

13.3 Data

Table 13a

Category	% of total forest area	Most recent year	Check all boxes that apply					
			Continuous	Periodic	Permanent ground plots	Temporary ground plots	Aerial/ remote sensing sample based	Aerial/ remote sensing full coverage
Forest inventory	100	2004	no	yes	yes	no	no	yes
Other field assessments	100	2012	yes	yes	no	no	no	yes
Updates to other sources	N/A	N/A						
Expert estimate	N/A	N/A						

Table 13b

Type of forest reporting used at national scale	Check boxes that apply
1 Criteria and Indicators reporting	yes
2 Periodic national state of the forest report	yes
3 Other (please document)	
4 None	

Other type of forest reporting
N/A

13.4 Comments

Category	Comments
Forest inventory	Currently second period of national forest inventory is going on with results expected at 2015. There is a recommendation of Coordination council for implementation of NFP II to shift from periodic to continuous national forest inventory
Other field assessments	It is obligatory according to forest act to prepare Forest management plan for all forest properties above 50ha, for smaller properties simplier form of FMP called forest management guidelines is developed. Usually FMP or guidelines are renewed every 10 years with full field survey. Guidelines are stored in forestry information data center at Forest management institute together with major part of forest management plans. This way monitoring at stand level is carried out.
N/A	N/A

Other general comments

14. What is the area of forest under a forest management plan and how is this monitored?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

14.1 Categories and definitions

Category	Definition
Forest area with management plan	Forest area that has a long-term documented management plan, aiming at defined management goals which is periodically revised
...of which for production *(sub-category)*	Forest management plan mainly focused on production
...of which for conservation *(sub-category)*	Forest management plan mainly focused on conservation
Monitoring of forest management plans	Government monitoring of forest management plan implementation conducted through field visits or audits of forest management plan performance

14.2 National data

14.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Souhrnny lesni hospodarsky plan, SLHP (Summary of the Forest Management Plans), Forest Management Institute, Brandys n. l.,	Forest area with management plan	1978-2012	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

14.3 Data

Table 14a

Forest plan type	Forest area 2010 (000 ha)
Forest area with management plan	2657
... of which for production	N/A
... of which for conservation	N/A

Table 14b

Indicate which (if any) of the following are required in forest management plans in your country

1 Soil and water management	yes
2 High conservation value forest delineation	yes
3 Social considerations community involvement	yes

Table 14c

Percent of area under forest management plan that is monitored annually	100

Tiers

Category	Tier for status
Forest area with management plan	Tier 3
Percent of area under forest management plan that is monitored annually	Tier 3

Tier criteria

Category	Tier for status
Forest area with management plan	**Tier 3** : Reports that describe national records 5 years old or less that contain long-term forest monitoring plans **Tier 2** : Industry or other records indicating the presence of a long-term forest management plan **Tier 1** : Other
Percent of area under forest management plan that is monitored annually	**Tier 3** : Government documentation of monitoring extent **Tier 2** : Reports from forest managers or other documental sources **Tier 1** : Other

14.4 Comments

Category	Comments
Forest area with management plan	As described in 13.4. it is obligatory according to forest act to prepare Forest management plan for all forest properties above 50ha, for smaller properties simplier form of FMP called forest management guidelines is developed.
Soil and water management High conservation value forest delineation Social considerations/community involvement	According to forest act, each legal or private person, whose rights or duties might be influenced by forest management plans as well as state administration may raise its requirements and comments during preparation of forest management plan or guidelines.
Percent of area under forest management plan that is monitored annually	Usually forest management plans and guidelines are renewed every 10 years, so approximately 1/10 is renewed each year. Approval of forest management plan includes field verification. State forest authority is controling the state of forests in their respective jurisdiction, so 100% is monitored. Apart from this - forest owners have to use the service of licensed forest manager according to forest act, this forest manager monitores forest continuously.

Other general comments

15. How are stakeholders involved in the management decision making for publicly owned forests?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

15.1 Categories and definitions

Category	Definition
Stakeholder involvement	Stakeholder involvement is defined as significant inputs into at least one aspect of forest management at the operational scale

Table 15

Please indicate the type of stakeholder involvement in forest management decision making required in your country	
1. Planning phase	yes
2. Operations phase	no
3. Review of operations	no

Tiers

Category	Tier for status
Type of stakeholder inputs	Tier 3

Tier criteria

Category	Tier for status
Type of stakeholder inputs	**Tier 3** : Government (national or sub-national) documentation of stakeholder inputs **Tier 2** : Government (national or subnational) requirement but stakeholder inputs not documented **Tier 1** : Other

15.2 Comments

Category	Comments
Planning phase	According to forest act, each legal or private person, whose rights or duties might be influenced by forest management plans as well as state administration may raise its requirements and comments during preparation of forest management plan or guidelines.
N/A	N/A
N/A	N/A

Other general comments

16. What is the area of forest under an independently verified forest certification scheme?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

16.1 Categories and definitions

Category	Definition
FSC certification	Forest area certified under the Forest Stewardship Council certification scheme
PEFC certification	Forest area certified under the Programme for the Endorsement of Forest Certification scheme
Other international forest management certification	Forest area certified under an international forest management certification scheme with published standards and is independently verified by a third-party, excluding FSC and PEFC certification.
Certified forest area using a domestic forest management certification scheme	Area certified under a forest management certification scheme with published standards that are nationally recognized and independently verified by a thirdparty

16.2 Data

Table 16a

International forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
CFRQ	FSC	11.34	11.34	11.34	11.34	14.13	26.17	33.88
CFRQ	PEFC	0	0	1789	1909.747	1935.998	1957.051	1975.904
CFRQ	Other	0	0	0	0	0	0	0
		2007	2008	2009	2010	2011	2012	
CFRQ	FSC	14.55	109.16	53.28	40.71	49.88	50.18	
CFRQ	PEFC	1874.305	1880.361	1824.118	1856.381	1856.381	1827.326	
CFRQ	Other	0	0	0	0	0	0	

Table 16b

Domestic forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
CFRQ	N/A	0	0	0	0	0	0	0
CFRQ	N/A	0	0	0	0	0	0	0
CFRQ	N/A	0	0	0	0	0	0	0

		2007	2008	2009	2010	2011	2012	
CFRQ		0	0	0	0	0	0	
CFRQ		0	0	0	0	0	0	
CFRQ		0	0	0	0	0	0	

Tier criteria

Category	Tier for status
International forest management certification	Tier 3: International forest management scheme records maintained by the certifying organization for the reporting year Tier 2: International forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other
Domestic forest management certification	Tier 3: National registry reports for domestic forest management certification maintained by the certifying organization for the reporting year Tier 2: Domestic forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other

Tiers

Category	Tier for status
International forest management certification	Tier 3
Domestic forest management certification	N/A

16.3 Comments

Category	Comments related to data definitions etc
Certified forest area using an international forest management certification scheme	pre-filled FSC data changed by data from local FSC and PEFC authority
Domestic forest management certification	N/A

Other general comments

17. How much money do governments collect from and spend on forests?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

17.1 Categories and definitions

Category	Definition
Forest revenue	All government revenue collected from the domestic production and trade of forest products and services. For this purpose revenue include: • Goods : roundwood; sawnwood; biomass; woodbased panels; pulp and paper and non-wood forest products. • Services : including concession fees and royalties, stumpage payments, public timber sales revenue taxes and charges based on forest area or yield, taxes on domestic trade and export of forest products, special levies on forestry activities and payments into forest related funds, other miscellaneous inspection, licence and administrative fees levied by forest administrations, permit and licence fees for recreation and other forest related activities.
Public expenditure on forestry	All government expenditure on forest related activities.

17.2 National data

17.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010
Forest revenue	N/A	N/A	N/A
Public expenditure on forestry	N/A	N/A	N/A

	2000	2005	2010
Name of Local Currency	CZK – Czech Koruna	N/A	N/A

17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	no complete data available
Public expenditure on forestry	no complete data available
Other general comments	N/A

Other general comments

18. Who owns and manages the forests and how has this changed?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

18.1 Categories and definitions

Category	Definition
Public ownership	Forest owned by the State or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at national scale *(sub-category)*	Forest owned by the State at the national scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at the sub-national government scale *(sub-category)*	Forest owned by the State at the sub-national government scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
Private ownership	Forest owned by individuals, families, communities, private cooperatives corporations and other business entities, private, religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
...of which individuals *(sub-category)*	Forest owned by individuals and families.
...of which private business entities and institutions *(sub-category)*	Forest owned by private corporations cooperatives companies and other business entities as well as private nonprofit organizations such as NGOs nature conservation associations, and private religious and educational institutions etc.
...of which local tribal and indigenous communities *(sub-category)*	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area or forest owned by communities of indigenous or tribal people The community members are coowners that share exclusive rights and duties and benefits contribute to the community development.
Unknown ownership	Forest area where ownership is unknown includes areas where ownership is unclear or disputed.
Categories related to management rights of public forests	**Definition**
Public Administration	The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation.
Individuals households	Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements.
Private companies	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities private cooperatives, private nonprofit institutions and associations, etc., through long-term leases or management agreements.
Communities	Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements.
Other form of management rights	Forests for which the transfer of management rights does not belong to any of the categories mentioned above.

18.2 National data

18.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Annual report on the state of forests and forestry, Ministry of agriculture, Prague	forest ownership	annually	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

18.2.2 Classification and definitions

National class	Definition
State	Forest owned by the State (national, state and regional governments) or government-owned institutions or corporations
Municipalities	forest owned by cities, towns, municipalities, communities and villages.
Regions	Forest owned by regional government
Church	Forest owned by churches
Forest cooperatives	forest owned by individuals joined in co-operatives or similar organisations
private	Forest owned by individuals
Corporate bodies	Forest owned by corporations
JZD - agriculture cooperatives	Forest owned by former agriculture co-operatives

18.2.3 Original data

National class	1990	2000	2001	2002	2003	2004	2005
	%						
State	95.8	63.1	61.5	60.7	60.5	60	59.8
Municipalities	0	13.6	14.4	15	15.1	15.4	15.5
Regions			0.2	0.2	0.2	0.2	0.2

Church							
Forest cooperatives	0	0.9	0.9	1	1	1	1
Other private	0.1	22.4	23	23.1	23.2	23.4	23.5
Agriculture cooperatives	4.1	0	0	0	0	0	0

Rem.: there was a significant change in methodology of reporting starting in 2006 data. Previous dataset is not continued

kód	**description**	**rok 2010**
1x	State forests	1 559 522,15
10	L#R, s. p. *Forests of the Czech Republic, State Enterprise*	1 308 806,17
11	Vojenské lesy a statky #R, s. p. *Military Forests and Farms, State Enterprise*	124 306,12
12	MŽP (NP) *Ministry of the Environment (National Parks)*	94 880,13
13	krajské lesy (st#ední školy aj.) *regional forests (secondary schools and other)*	3 794,02
14	ostatní *other*	22 522,06
15	MŽP (AOPK) *Ministry of the Environment (Nature Conservation Agency)*	1 177,80
19	p#vodní státní (*) *originally state forests* (*)	4 035,85

30	Právnické osoby *Legal persons*	68 519,21
40	Obecní a m#stské lesy *Communal and municipal forests*	429 336,82
50	Lesy církevní a náboženské spole#nosti *Forests owned by church and other religious entities*	1 391,75
60	Lesní družstva *Forest cooperatives*	30 605,52
70	Lesy ve vlastnictví fyzických osob *Forest owned by individuals*	505 560,17
90	Ostatní (neza#azené) lesy *Other forests(not listed elsewhere)*	2,40
	CELKEM *Total timberland*	2 594 938,03
	Total forests	2 657 376,00

(*) *original large FMPs owned by state – validity from 1981–1996, partly from 1997; private owners and municipalities manage their forests under an abstract from FMP and will have new FMPs upon their renewal.*

18.3 Analysis and processing of national data

18.3.1 Adjustment

all the data reported on timberland were recalculated to whole forest area

18.3.2 Estimation and forecasting

18.3.3 Reclassification

Owner - national	FRA	
State	of which owned by the state at national scale	Public ownership
Municipalities	…of which owned by the state at the sub-national government scale	
Regions		
Forest cooperatives	Private business entities and institutions	Private ownership
Corporate bodies		
Agriculture cooperatives		
Individuals	Individuals	

18.4 Data

Table 18a

Categories		Forest area (1000 hectares)			
		1990	2000	2005	2010
CFRQ	Public ownership	2519	2031	2007	2036
CFRQ	... of which owned by the state at national scale	2519	1672	1591	1592
CFRQ	... of which owned by the state at the sub-national government scale	0	359	416	444
CFRQ	Private ownership	110	606	640	621
CFRQ	... of which owned by individuals	N/A	N/A	N/A	518
CFRQ	... of which owned by private business entities and institutions	N/A	N/A	N/A	103

CFRQ	... of which owned by local, tribal and indigenous communities	0	0	0	0
CFRQ	Unknown ownership	0	0	0	0
TOTAL		2629.00	2637.00	2647.00	2657.00

Tiers

Category	Tier for status	Tier for reported trend
Public ownership	Tier 3	Tier 3
Private ownership	Tier 3	Tier 3
Unknown ownership	Tier 3	Tier 3

Tier criteria

Category	Tier for status	Tier for reported trend
Ownership	Tier 3: National forestry statistics registers of land titles or maps on land ownership or all forest area under one ownership category that is five years old or less. Tier 2:National forestry statistics registers of land titles or maps on land ownership or questionnaires that are more than five years old. Tier 1: Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

Table 18b - Holder of management rights of public forests

Categories	Forest area (000 hectares)			
	1990	2000	2005	2010
Public Administration	2519	2031	2007	2036
Individuals	0	0	0	0
Private companies	0	0	0	0
Communities	0	0	0	0
Other	0	0	0	0
TOTAL	2519.00	2031.00	2007.00	2036.00

Category	Tier for reported trend	Tier for status
Public Administration	Tier 3	Tier 3

Individuals	Tier 3	Tier 3
Private companies	Tier 3	Tier 3
Communities	Tier 3	Tier 3
Other	Tier 3	Tier 3

18.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Public ownership	Forests owned by municipalities are included in public ownership	N/A
Private ownership	N/A	The restitution process started in 1991 is almost finished. The restitution of forests that belonged originally to churches and religious orders is ongoing
Unknown ownership	N/A	N/A
Management rights	state enterprises established to manage state forests are considered as Public administration	N/A

Other general comments to the table
N/A

19. How many people are directly employed in forestry?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

19.1 Categories and definitions

Category	Definition
Full-time equivalents (FTE)	A measurement equal to one person working full-time during a specified reference period.
Employment in forestry	Employment in activities related to production of goods derived from forests. This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

19.2 National data

19.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Czech statistical office	employment	1990-2011	issued annually
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

19.2.2 Classification and definitions

National class	Definition
Employment in forestry sector	Persons in primary production and services.
Persons in services	Managers of all levels, forestry service institutions, forest management planning
N/A	N/A
N/A	N/A

19.2.3 Original data

Number of employees in forestry sector

Year	1990	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011

Total forestry employees	57 700	32 264	29 804	26 968	24 893	23 996	21 835	20 342	19 398	17 959	16 041	15 150	14 138
Full-time equivalents	55 412	30 758	28 437	25 702	22 782	22 982	21 069	19 853	18 811	17 294	15 532	14 766	13 820
ratio	1,041	1,049	1,048	1,049	1,093	1,044	1,036	1,025	1,031	1,038	1,033	1,026	1,023

Full time equivalent for 1990 is not known, therefore an average of full-time equivalent to employees ratio from 2000 to 2011 was used to recalculate 1990 figure

19.3 Data

Table 19

Category		Employment (000 years FTE)			
		1990	2000	2005	2010
CFRQ	Employment in forestry	55.4	30.8	21.1	14.8
CFRQ	... of which female	N/A	N/A	N/A	N/A

19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Employment in forestry	this figure relates to employed only. Self-employed are not included as data is not available.	N/A

Other general comments to the table
N/A

20. What is the contribution of forestry to Gross Domestic Product (GDP)?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

20.1 Categories and definitions

Category	Definition
Gross value added from forestry (at basic prices)	This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

20.2 Data

Table 20 (Pre-filled data from UNdata/EUROSTAT)

Category	Million	Currency	Year for latest available information
Gross value added from forestry (at basic prices)	25714	Czech koruna	2011

20.3 Comments

Category	Comments
GVA	source - Czech statistical office www.czso.cz

Other general comments

21. What is forest area likely to be in the future

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

21.1 Categories and definitions

Category	Definition
Government target/ aspiration for forest area	Government target/aspiration for forest area for a specific year.
Forests earmarked for conversion	Forest area that is allocated/classified or scheduled to be converted into non-forest uses.

21.2 National data

21.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

21.3 Data

Table 21a

Category	Forest area (000 ha)	
	2020	2030
Government target/aspiration for forest area	N/A	N/A

Table 21b

Category	Forest area (000 ha)
	2013
Forests earmarked for conversion	N/A

21.4 Comments

Category	Comments

Government target/aspiration for forest area	Particular long-term overall target is not set. At the moment only a target for afforestation measure under Rural development program 2007-2013 is set.
Forests earmarked for conversion	N/A

Other general comments