Forestry Department
Food and Agriculture Organization of the United Nations

GLOBAL FOREST RESOURCES ASSESSMENT 2010

COUNTRY REPORT

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The Forest Resources Assessment Programme

Sustainably managed forests have multiple environmental and socio-economic functions important at the global, national and local scales, and play a vital part in sustainable development. Reliable and up-to-date information on the state of forest resources - not only on area and area change, but also on such variables as growing stock, wood and non-wood products, carbon, protected areas, use of forests for recreation and other services, biological diversity and forests' contribution to national economies - is crucial to support decision-making for policies and programmes in forestry and sustainable development at all levels.

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. This country report forms part of the Global Forest Resources Assessment 2010 (FRA 2010).

The reporting framework for FRA 2010 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes variables related to the extent, condition, uses and values of forest resources, as well as the policy, legal and institutional framework related to forests. More information on the FRA 2010 process and the results - including all the country reports - is available on the FRA Web site (www.fao.org/forestry/fra).

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The Global Forest Resources Assessment Country Report Series is designed to document and make available the information forming the basis for the FRA reports. The Country Reports have been compiled by officially nominated country correspondents in collaboration with FAO staff. Prior to finalisation, these reports were subject to validation by forestry authorities in the respective countries.

Contents

1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2010 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 *in situ*; 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".
Other land with tree cover (Subordinated to "Other land")	Land classified as "Other land", spanning 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.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.

1.2 National data

1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Cadastre of Actual Agricultural Land Use. Ministry of Agriculture, Forestry and Food. 2002 and 2008.	H	Land use / Land cover	1998, 2007	Land use photo interpreted in scale 1:5 000 from aerial imagery acquired in years 1994 to 2001; 1998 is the average year; covers also all the forested and urban areas.
Forest Cover Inventory. Slovenia Forest Service. 2008.	H	Area of *Pinus mugo* stands	1990 – 2008	
National forest stand map. Slovenia Forest Service. 2008.	M	Contribution to calculation of Forest area and Other wooded land	2008	
Statistical Office of Republic of Slovenia. 2004.	M	Area of inland water bodies	1997	Water bodies larger than 1 ha and rivers wider than 5 m.

1.2.2 Classification and definitions

In this GFRA 2010 report in comparison to the 2005 report additionally the newly available updated version of the Agricultural Land Use Map (ALUM, Ministry of Agriculture, Forestry and Food) was used. Therefore two versions of ALUM map were used to capture forest cover changes: the one published in the year 2002 (reflecting

the land use / land cover situation from the year 1998), and the other published in 2008 (reflecting the situation in the year 2007). This is the first Slovenian GFRA report, where directly comparable data could be used for estimation of forest cover change. This enabled us a much better estimation of forest cover trends, as compared to the former auxiliary and less accurate data source (Hocevar, Spontaneous afforestation …, 2004) used to glean forest cover change in 2005 report. Consequently, some historical figures in T 1 had to be changed as well. These changes are documented in the further text.

Another case where original data were changed and this affected also the historical figures in T1 is the extent of *Pinus mugo* stands. The improved inventory made by the Slovenia Forest Service (SFS) reported an area of 13 276 ha, whereas the former number was 16 583 ha. This difference is due to methodological differences and not due to changes on the ground. In fact, it is the estimation of the SFS, that the area of *Pinus mugo* remains constant in the time span of GFRA.

It is important to note, that despite the high degree of compatibility between the two ALUM maps published in 2002 and 2008, some nomenclature changes were nevertheless introduced into ALUM 2008, due to other national reporting requirements. However, these slight incompatibilities have been taken into account in this report. The new ALUM nomenclature and corresponding class definitions are available here:

- http://rkg.gov.si/GERK/documents/RABA_Pravilnik.pdf
- http://rkg.gov.si/GERK/documents/RABA_pravilnik_dopolnitev_14_01_2008.pdf

The relevant subset of classes of the Cadastre of actual agricultural land use, Ministry of Agriculture, Forestry and Food, 2002:

National class ID	**Description**
1221	Intensive orchards
1222	Extensive orchards
1230	Olive groves
1240	Other permanent crops
1322	Other extensive meadows
1410	Overgrown areas
1420	Forest plantations
1500	Trees and bushes
2000	Forest and other overgrowth areas
5000	Dried open areas with special vegetation

The relevant subset of classes of the Cadastre of actual agricultural land use, Ministry of Agriculture, Forestry and Food, 2008:

National class ID	**Description**
1221	Intensive orchards
1222	Extensive orchards
1230	Olive groves
1240	Other permanent crops
1300	Meadows and pastures
1410	Owergrown areas
1420	Forest plantations
1500	Riparian owergrowth and forest hedges
1800	Forest trees on agricultural land
2000	Forest
5000	Dried open areas with special vegetation

The area of *Pinus mugo* stands during 1990 – 2008 (Slovenia Forest Service, 2008. Forest cover inventory): the total area of forest compartments where *Pinus mugo* dominates, including also *Pinus mugo* stands with individual *Picea abies* or *Larix decidua* trees.

The area of water inland bodies (Statistical Office of Republic of Slovenia, 2004): water inland bodies larger than 1 ha and rivers wider than 5 m.

1.2.3 Original data

The **structure of actual land use in 1998*** as estimated from the GIS database of the Cadastre of actual agricultural land use, Ministry of Agriculture, Forestry and Food, 2002 (ALUM 2002):

National class ID	Definition	Original Area (ha)
1410	Overgrown areas	25 128
1420	Forest plantations	591
1500	Trees and bushes [1]	17 333
2000 Includes *Pinus m*.	Forest and other overgrowth areas	1 209 033
5000 Includes *Pinus m.*	Dried open areas with special vegetation	9 189
	FRA Forest area	
1322	Other extensive meadows [3]	190 546
	Pinus mugo stands [3]	13 276
	FRA Other wooded land	
1221	Intensive orchards	5 057
1222	Extensive orchards	19 180
1230	Olive groves	1 157
1240	Other permanent crops	44
	FRA Tree cover within Other land [4]	25 438
	FRA Other land [5]	744 265
	Inland water bodies [6]	13 237
	SLOVENIA Total	2 027 300

***** 1998 is the average year of the aerial imagery that was the basis for the photo interpretation of the ALUM 2002.

Remarks to the above table:

[1] The class 1500 contains small patches of forest and other natural areas within farmland matrix. Only patches larger than 5 000 m^2 were taken into account (4 371 ha out of 17 333 ha), and from this only 36.5 % was to be actual forest cover (i.e. 1 595 ha). The proportion of 36.5 % is an estimate based on photo interpretation of aerial orthophotos (Slovenia Forest Service and FAO, 2004. Supply and Utilization of Bioenergy to Promote Sustainable Forest Management).

[2] National classes 2000 and 5000 contain both forest and *Pinus mugo* stands (Alenka Rotter, Ministry of Agriculture, Forestry and Food, 2004. Pers. com.), the 16 583 ha of *Pinus mugo* stands are subtracted from the total area of the 2 classes above.

[3] The 13 276 ha of *Pinus mugo* stands are taken into account under the Other wooded land, together with 14.5 % of the class 1322 (Other extensive meadows), which represents mostly abandoned meadows in the initial stages of spontaneous reforestation, which already show some bush and tree encroachment. The proportion of 14.5 % is an estimate based on photo interpretation of aerial orthophotos (Slovenia Forest Service and FAO, 2004. Supply and Utilization of Bioenergy to Promote Sustainable Forest Management). Note that the area of the *Pinus mugo* stands has been corrected to 13 276 ha from the formerly reported number of 16 583 ha, due to improved forest inventory data.

[4] The area was computed as the total of the cadastral classes: 1221, 1222, 1230 and 1240.

[5] Other land = Total country area – (Forest + Other wooded land + Inland water bodies).

[6] Including areas larger than 1 ha and rivers wider than 5 m: 13 237 ha (Statistical Office of Republic of Slovenia, 2003)

The **structure of actual land use in 2007*** as estimated from the GIS database of the Cadastre of actual agricultural land use, Ministry of Agriculture, Forestry and Food, 2002 (ALUM 2008):

FRA class	**National class ID**	**Definition**	**Original Area (ha)**
Forest area	1410	Overgrown areas	21 910
	1420	Forest plantations	341
	1500 [1]	Riparian overgrowth and forest hedges	18 669
	2000 (contains also *Pinus mugo* stands) [2]	Forest	1 219 887
	5000 (contains also *Pinus mugo* stands) [2]	Dried open areas with special vegetation	16 376
Other wooded land	1300	Meadows and pastures [3]	368 538
	1800	Forest trees on agricultural land [3]	6 085
		Pinus mugo stands [2]	13 276
Tree cover within Other land	1221	Intensive orchards	4 767
	1222	Extensive orchards	20 288
	1230	Olive groves	1 614
	1240	Other permanent crops	331
Inland water bodies			13 237

***** 2007 is the average year of the aerial imagery that was the basis for the photo interpretation of the ALUM 2008.

Remarks to the above table (only differences to the ALUM 2002 table are commented):
[1] According to SFS estimation based on National forest stand map, the ALUM class 1500 contains 1 942 ha of FRA forest areas.

[2] The ALUM classes 2000 and 5000, used to calculate FRA Forest, contain also areas of *Pinus mugo*, which in fact belong to FRA Other wooded land. Therefore the *Pinus mugo* area (13 276) is subtracted from classes 2000 and 5000 and added to Other wooded land.

[3] According to SFS estimation based on National forest stand map, the ALUM classes 1300 and 1800, contain 11 619 ha and 1 134 ha of FRA forest area, respectively. Note that due to ALUM nomenclature change between publication years 2002 and 2008, these classes are different than ALUM classes used for the GFRA report 2005. Additionally, on the basis of the altered ALUM nomenclature, new SFS estimations on FRA Forest content in classes 1300 and 1800 had to be provided, which are also not totally compatible with estimations used in the 2005 report. The net result of these incompatibilities is a disturbance in the year 2000 in the course of OWL values. This has been mitigated using linear interpolation of OWL value for the year 2000 based on the OWL values for the years 1998 and 2005.

1.3 Analysis and processing of national data

Analysis and processing for the **year 1998**, based on the structure of actual land use in 1998 as estimated from the GIS database of the Cadastre of actual agricultural land use, Ministry of Agriculture, Forestry and Food, 2002 (ALUM 2002):

National class ID	**Definition**	**Original Area (ha)**	**Correction Factor**	**Corrected Area (ha)**
1410	Overgrown areas	25 128	1.000	25 128
1420	Forest plantations	591	1.000	591
1500	Trees and bushes	17 333		1 595
2000 includes *Pinus m.*	Forest and other overgrowth areas	1 209 033	1.000	
5000 includes *Pinus m.*	Dried open areas with special vegetation	9 189	1.000	
2000 + 5000 (Exc. *Pinus mungo*)				1 201 639
	FRA Forest area			**1 228 950**
1322	Other extensive meadows	190 546	0.145	27 629
	Pinus mugo stands	13 276	1.000	13 276
	FRA Other wooded land			**40 848**
1221	Intensive orchards	5 057	1.000	5 057
1222	Extensive orchards	19 180	1.000	19 180
1230	Olive groves	1 157	1.000	1 157
1240	Other permanent crops	44	1.000	44
	FRA Tree cover within Other land	**25 438**		**25 438**
	FRA Other land	**744 265**		
	Inland water bodies	**13 237**		**13 237**
	SLOVENIA Total	**2 027 300**		**2 027 300**

Due to correction of *Pinus mugo* area (as explained in Section 1.2.3) the figures for FRA Other wooded land and Other land are different in relation to 2005 report.

Analysis and processing for the **year 2007**, based on the structure of actual land use in 2007 as estimated from the GIS database of the Cadastre of actual agricultural land use, Ministry of Agriculture, Forestry and Food, 2008 (ALUM 2008):

National class ID	Definition	Original Area (ha)	Correction Factor	Corrected Area (ha)
1410	Overgrown areas	21 910	1.0	21 910
1420	Forest plantations	341	1.0	341
1500	Riparian overgrowth and forest hedges	18 669		1 942
2000	Forest	1 219 887	1.0	1 219 887
5000	Dried open areas with special vegetation	16 376	1.0	16 376
	Pinus mugo stands	-13 276	1.0	-13 276
	FRA Forest area			**1 247 180**
1300	Meadows and pastures	368 538		11 619
1800	Forest trees on agricultural land	6 085		1 134
	Pinus mugo stands	13 276		13 276
	FRA Other wooded land			**26 029**
1221	Intensive orchards			4 767
1222	Extensive orchards			20 288
1230	Olive groves			1 614
1240	Other permanent crops			331
	FRA Tree cover within Other land			**27 000**
	FRA Other land			**740 854**
	Inland water bodies			**13 237**
	SLOVENIA Total			**2 027 300**

1.3.1 Calibration

A calibration of the cadastral areas was performed to comply with the area of Slovenia of 2 027 (x1 000) ha, which is a better estimate of the actual area of the country than the current FAO value. The Slovenian Statistical Office has already applied for this new value to be put in force with FAO before the official publication of the GFRA 2005 report (official letter to Mr. Dominic Ballayan, FAO Rome from 14.October 2004).

1.3.2 Estimation and forecasting

The Forest area estimation for the year 1998 is based on ALUM 2002 (validity 1998), and for the year 2007 it is based on ALUM 2008 (validity 2007). Forecast for the year 1990 is based on 1998 estimation and remains unchanged from the GFRA 2005 report. However, while the Forest 2000 area is also based on the 1998 estimation, the yearly trend from the 1998 – 2007 difference of ALUM maps is used in this report. This means that historical figure from the GFRA 2005 report has to be changed. The forecast for the years 2005 and 2010 are based on 2007 estimation. In both cases the necessary yearly trends were derived from the 1998 – 2007 ALUM difference. Trends for other classes were estimated in the same way. These trends are computed in the table below:

	Year 1998 [ha]	Year 2007 [ha]	Yearly change [ha]
Forest area	1 228 950	1 247 180	2 026
Other wooded land	40 848	26 029	-1 647
Other land	744 265	740 854	-379
… Tree cover within other land	25 438	27 000	174
Inland water bodies	13 237	13 237	0
Total	2 027 300	2 027 300	0

The auxiliary estimation of trend used in 2005 report (based on Hocevar (2004)) was avoided, because it is less accurate. Therefore historical data in this report are somehow different in comparison with the 2005 report. Additionally, Other Wooded Land area in year 2000 had to be linearly interpolated.

Also, due to changed estimation of past trends in this report (i.e., based on ALUM map differencing), it turned out that the year 2000 forest area, reported in GFRA 2005 (1 239 000 ha), would present a spike in the forest area time series, which would not reflect realistic trend (Fig. 1). For the forest area in the year 2000 it was decided to use linear interpolation instead.

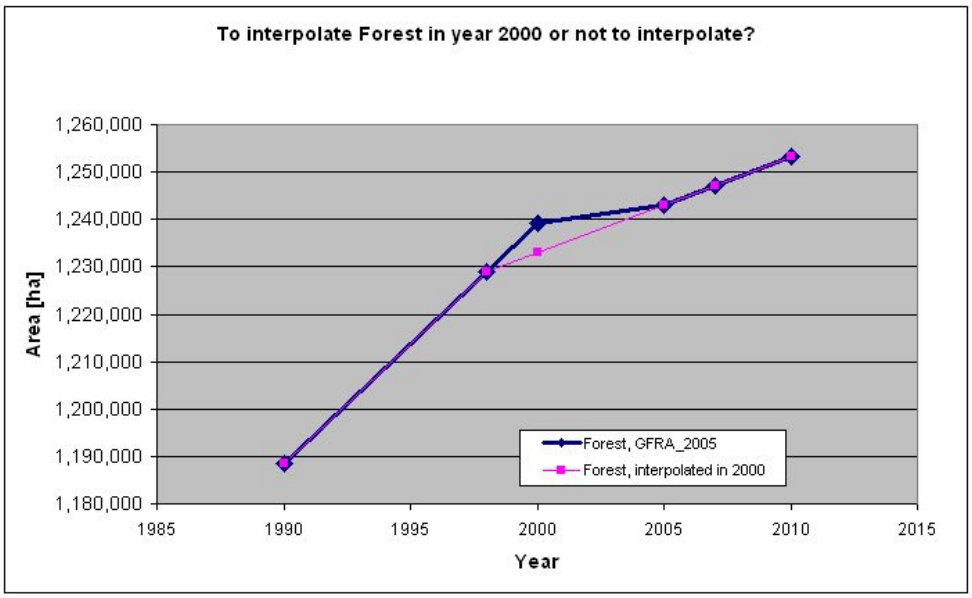

Figure 1: The GFRA 2005 Forest area for the year 2000 would present an unrealistic spike in the time series, therefore linear interpolation was used for year 2000.

Summary of estimation and forecasting:

	Year 1990 [ha]	**Year 1998 [ha]**	**Year 2000 [ha]**	**Year 2005 [ha]**	**Year 2007 [ha]**	**Year 2010 [ha]**
Forest	1 188 382	1 228 950	1 233 001	1 243 129	1 247 180	1 253 257
Other wooded land	40 848	40 848	37 555	29 322	26 029	21 089
Other land	784 833	744 265	743 507	741 612	740 854	739 717
... With trees	26 831	25 438	25 785	26 653	27 000	27 521
Inland water bodies	13 237	13 237	13 237	13 237	13 237	13 237
TOTAL	2 027 300	2 027 300	2 027 300	2 027 300	2 027 300	2 027 300

1.4 Data for Table T1

FRA 2010 categories	**Area (1000 hectares)**			
	1990	**2000**	**2005**	**2010**
Forest	1 188	1 233	1 243	1 253
Other wooded land	41	38	29	21
Other land	785	743	742	740
...of which with tree cover	27	26	27	28
Inland water bodies	13	13	13	13
Total for country	2 027	2 027	2 027	2 027

1.5 Comments to Table T1

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest	The Forest area estimation for the year 1998 is based on ALUM 2002, and for the year 2007 it is based on ALUM 2008.	The Forest area estimation for the year 1998 is based on ALUM 2002 (validity 1998), and for the year 2007 it is based on ALUM 2008 (validity 2007). Forecast for the year 1990 is based on 1998 estimation and remains unchanged from the GFRA 2005 report. However, while the Forest 2000 area is also based on the 1998 estimation, the yearly trend from the 1998 – 2007 difference of ALUM maps is used in this report. This means that historical figure from the GFRA 2005 report has to be changed. The forecast for the years 2005 and 2010 are based on 2007 estimation. In both cases the necessary yearly trends were derived from the 1998 – 2007 ALUM difference.
Other wooded land	Estimation based on ALUM 2002 and 2008, corresponding to years of validity 1998 and 2007 respectively.	Yearly trend is computed from the difference between ALUM 2002 and 2008, corresponding to years of validity 1998 and 2007 respectively. Note that due to ALUM nomenclature change between publication years 2002 and 2008, these classes are different now than ALUM classes used for the GFRA report 2005. Additionally, on the basis of the altered ALUM nomenclature, new SFS estimations on FRA Forest content in the relevant classes had to be provided, which are also not totally compatible with estimations used in the 2005 report. The net result of these incompatibilities is a disturbance in the year 2000 in the course of OWL values. This has been mitigated using linear interpolation of OWL value for the year 2000 based on the OWL values for the years 1998 and 2005.
Other land	The area of OL is computed as 2.027.300 ha – (F + OWL + IWB).	
Other land with tree cover	Estimation based on ALUM 2002 and 2008, corresponding to years of validity 1998 and 2007 respectively.	Yearly trend is computed from the difference between ALUM 2002 and 2008, corresponding to years of validity 1998 and 2007 respectively.
Inland water bodies	Including areas larger than 1 ha and rivers wider than 5 m. Data provided by Statistical Office of Republic of Slovenia, 2003.	The IWB area remains the same throughout 1990 – 2010.

Other general comments to the table
In this GFRA 2010 report in comparison to the 2005 report additionally the newly available updated version of the Agricultural Land Use Map (ALUM, Ministry of Agriculture, Forestry and Food) was used. Therefore two versions of ALUM map were used to capture forest cover changes: the one published in the year 2002 (reflecting the land use / land cover situation from the year 1998), and the other published in 2008 (reflecting the situation in the year 2007). This is the first Slovenian GFRA report, where directly comparable data could be used for estimation of forest cover change. This enabled us a much better estimation of forest cover trends, as compared to the former auxiliary and less accurate data source (Hocevar, Spontaneous afforestation …, 2004) used to glean forest cover change in 2005 report. Consequently, some historical figures in T 1 had to be changed as well. (See above text for detailed explanations).

Expected year for completion of ongoing/planned <u>national</u> forest inventory and/or RS survey / mapping	
Field inventory	No field inventory was performed for this report.
Remote sensing survey / mapping	The ALUM is updated yearly

2 Table T2 – Forest ownership and management rights

2.1 FRA 2010 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.
Private ownership	Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
Individuals *(sub-category of Private ownership)*	Forest owned by individuals and families.
Private business entities and institutions *(sub-category of Private ownership)*	Forest owned by private corporations, co-operatives, companies and other business entities, as well as private non-profit organizations such as NGOs, nature conservation associations, and private religious and educational institutions, etc.
Local communities *(sub-category of Private ownership)*	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties, and benefits contribute to the community development.
Indigenous / tribal communities *(sub-category of Private ownership)*	Forest owned by communities of indigenous or tribal people.
Other types of ownership	Other kind of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed.
Categories related to the holder of management rights of public forest resources	
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 institutions	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit 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.

2.2 National data

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Annual Report of Slovenia Forest Service. Slovenia Forest Service. 2005	H	Ownership structure	1995, 2005	Data based on forest management plans that were made in the period 1996 – 2005 (data collected each year on 1/10 of the total area and then merged into a common database).
Database of land owners of the Surveying and Mapping Authority of the Republic of Slovenia. 2005.	H	Land use structure	1995, 2005	Data about cadastre. Ownership is taken over land register. Official data of land ownership in Slovenia. Yearly up to dated only for 1/10 of areas (areas of forest plans in renewal process).

2.2.2 Classification and definitions

National class	Definition
Private ownership	Land owned by individuals, families, private-cooperatives, enterprises, religious institutions and other private institutions.
Public ownership	Land owned by the State (ministries, Farmland and Forest Fund of Slovenia) or by local communities.

2.2.3 Original data

	Area (1000 hectares)		
Categories	**Forest**		
	1990	**2000**	**2005**
Private ownership	675	815	865
Public ownership	400	343	304
TOTAL	**1 075**	**1 158**	**1 169**

2.3 Analysis and processing of national data

2.3.1 Calibration

The total area is calibrated with Forest area in T1.

2.3.2 Estimation and forecasting

The process of denationalisation is not finished yet. Some bigger properties are still in the process of proof serving on the courts. It is estimated that at the end of the process the share of private forests would be larger. On the other hand a government of Slovenia has a policy of purchasing private forest land and an obligation to repurchase protected forest areas.

2.4 Data for Table T2

Table 2a - Forest ownership

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public ownership	442	365	323
Private ownership	746	868	920
...of which owned by individuals	734	853	885
...of which owned by private business entities and institutions	n.a.	n.a.	n.a.
...of which owned by local communities	12	15	35
...of which owned by indigenous / tribal communities	0	0	0
Other types of ownership	0	0	0
TOTAL	**1 188**	**1 233**	**1 243**

Note: If other type of ownership is reported, please specify details in comment to the table.

Does ownership of trees coincide with ownership of the land on which they are situated?	X	**Yes**
		No
If **No** above, please describe below how the two differ:		

Table 2b - Holder of management rights of public forests

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public Administration	442	365	323
Individuals	0	0	0
Private corporations and institutions	0	0	0
Communities	0	0	0
Other	0	0	0
TOTAL	**442**	**365**	**323**

2.5 Comments to Table T2

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Public ownership		The Denationalisation Act from 1992 forced/obliged the return of private ownership to all the owners, which have been nationalized after the WWII. Therefore, the share of public ownership is falling in the last years, and will fall until the end of the denationalisation process.
Private ownership		The Denationalisation Act from 1992 forced/obliged the return of private ownership to all the owners, which have been nationalized after the WWII. Therefore, the share of private ownership is rising in the last years, and will continue to rise until the end of the denationalisation process.
Other types of ownership		
Management rights	The exploitation rights for the state forests have been given to different Forest Enterprises for a 20 years concession period (it will expire in 2016). They are obliged, to pay an annual fee to the Found of agricultural and forest land, which is a state institution, is completely responsible for the management of state (public) forests. The concession rights are only for exploitation.	

Other general comments to the table

3 Table T3 – Forest designation and management

3.1 FRA 2010 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.
Protected areas	Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
Categories of primary designated functions	
Production	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Protection of soil and water	Forest area designated primarily for protection of soil and water.
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.
Social services	Forest area designated primarily for social services.
Multiple use	Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function.
Other	Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use.
No / unknown	No or unknown designation.
Special designation and management categories	
Area of permanent forest estate (PFE)	Forest area that is designated to be retained as forest and may not be converted to other land use.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.
Forest area under sustainable forest management	To be defined and documented by the country.
Forest area with management plan	Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised.

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Slovenia Forest Service Database. Slovenia Forest Service. 2001-2004.	M	All	2004	
Regional Plans (2001 – 2010). Slovenia Forest Service. 2001.	M	All	2001	
Funkcije gozdov in gozdovi v prostoru v obmocnih gozdnogospodarskih načrtih. Pogacnik, J. Analiza ocena in predlogi. Ljubljana, Gozdarski vestnik, 5-6/92, str. 294-303. 1992.	M	All	1991	

3.2.2 Classification and definitions

National class	Definition
Protection of soil and water	Protective forests: Are forests in adverse ecological conditions which protect themselves, their land and lower lying land, and forests in which is a particular stress on any other ecological function.
Social services	A group of social functions (recreation, tourist, educational, defence, aesthetic, research, hygiene-health , function of protection of the natural and cultural heritage)
Multiple purpose	Multipurpose forests: All forests are performing one or more forest functions. If there is no protective function on primary level (Protective forests) or no declared forests with special purpose (with research, hygiene-health , function of protection of the natural or/and cultural heritage) there are Multipurpose forests.
Production	All forests with planned wood extraction have this function.
Conservation of biodiversity	All rare forest ecosystems and forests nearby rare forest ecosystems. These functions also have small forest ecosystems with rare or endangered plant species and ecosystems, which are important for preservation of rare and endangered animal species. Also all small forest patches designed for increasing forest biodiversity.

Remark: Each function or group of functions can be overlaid with some other function on primary, secondary or third level. This creates a function unit. Sum of areas of function units gives us forest area (but the sum of functions does not represent the whole forest area).

3.2.3 Original data

Data are taken from the map of forest function elaborated in the year 2000.

Primary function	Area
2000	ha
Production	620 300
Protection	145 400
Conservation	76 600
Social Services	159 400

3.3 Analysis and processing of national data

3.3.1 Calibration

The original data are calibrated to T1 Forest areas.

3.3.2 Estimation and forecasting

Linear regression was used for calculating values for some missing fields for the table 3b.

3.3.3 Reclassification into FRA 2010 categories

Conservation of biodiversity: areas within NATURA 2000 areas were chosen, as well as other forests (areas) with the first degree of biodiversity function.

Protection of soil and water: all areas outside NATURA 2000 with the first degree of protection and hydrological were chosen.

Social services: all areas outside NATURA 2000 with the first and second degrees of tourist and recreational function were chosen.

Multiple use: all other forests with the first and second degree of the ecological or social functions.

Production: all other forests.

FRA Categories / Designated function	Area (1000 hectares)		
	Primary function		
	1990	2000	2008
Forest			
Production	581.78	620.33	366
Protection of soil and water	76.07	145.42	72
Conservation of biodiversity	4.98	76.62	544
Social services	50.79	159.40	71
Multiple purpose	357.53	140.35	132
No or unknown function	0	0	0
Total - Forest	**1 071.151**	**1 142.126**	**1 185.145**
Other wooded land	**n.a.**	**n.a.**	**n.a.**

3.4 Data for Table T3

Table 3a – Primary designated function

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production	645	667	676	387
Protection of soil and water	84	158	158	76
Conservation of biodiversity	55	83	84	575
Social services	56	173	173	75
Multiple use	348	152	152	140
Other (please specify in comments below the table)	0	0	0	0
No / unknown	0	0	0	0
TOTAL	**1 188**	**1 233**	**1 243**	**1 253**

Table 3b – Special designation and management categories

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Area of permanent forest estate	n.a.	n.a.	n.a.	n.a.
Forest area within protected areas	228	238	239	241
Forest area under sustainable forest management	1 188	1 233	1 243	1 253
Forest area with management plan	1 188	1 233	1 243	1 253

Remark: linear interpolation for the years 1990 to 2005 with the area.

3.5 Comments to Table T3

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Production		The areas of forests, primary designated for production sank first of all because some of them were included in the category "Conservation of biodiversity".
Protection of soil and water	All forests outside NATURA 2000 with the first degree of protection and hydrological were chosen.	The areas of forests, important for the protection of soil and water sank first of all because some of them were included in the category "Conservation of biodiversity".
Conservation of biodiversity	All forests within NATURA 2000 areas were chosen, as well as other forests (areas) with the first degree of biodiversity function.	In 2005 Slovenia joined the NATURA 2000 network. Therefore, approximately 36% of Slovenian forest were designated as important habitats for wildlife or forest habitat types. All that forests are therefore of extremely importance for the conservation of biodiversity.
Social services	Social services: all forests outside NATURA 2000 with the first and second degrees of tourist and recreational function were chosen.	The areas of forests, important for the social services sank first of all because some of them were included in the category "Conservation of biodiversity".
Multiple use	All other forests with the first and second degree of the ecological or social functions.	The areas of multiple use forests sank first of all because some of them were included in the category "Conservation of biodiversity".
Other		
No / unknown designation		
Area of permanent forest estate		
Forest area within protected areas	Areas, legally protected by law.	
Forest area under sustainable forest management	Sustainable forest management is the ground of Slovenian forestry after WWII, when the clear-cut system was banned. Forest management plans for 233 forest management units are elaborated according the principle of sustainability. The Service for Nature Conservation and the local communities are involved in the process of elaboration of the plan by law.	From the year 2008 166 Forest management plans are also – according by an operational plan accepted by the government of Slovenia - management plans for NATURA 2000 areas. The average planned cut in the last 20 years never exceeded 70% of the increment.
Forest area with management plan	All forests are managed according to the forest management plans guidelines, irrespective of ownership category.	

Other general comments to the table

4 Table T4 – Forest characteristics

4.1 FRA 2010 Categories and definitions

Term / category	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
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).
Characteristics categories	
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.
Other naturally regenerated forest of introduced species *(sub-category)*	Other naturally regenerated forest where the trees are predominantly of introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
Planted forest of introduced species *(sub-category)*	Planted forest, where the planted/seeded trees are predominantly of introduced species.
Special categories	
Rubber plantations	Forest area with rubber tree plantations.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
Bamboo	Area of forest and other wooded land with predominant bamboo vegetation.

4.2 National data

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Slovenian Forestry Institute database	M	Preservation degree	1990	Preservation degrees: 1. Preserved 2. Slightly changed 3. Changed 4. Altered
Slovenia Forest Service database	M	Preservation degree	2000, 2005, 2008	Preservation degrees: 1. Preserved 2. Slightly changed 3. Changed 4. Altered
Ordinance on protection forests and forest reserve	H	Area	2007	The ordinance names the forest reserve.
FAO, 2006. Global planted forests thematic study	M		1990 2000 2005	Data on planted forest area reported to FAO.

4.2.2 Classification and definitions

National class	Definition
Virgin forests	Forests, without man made activities during more decades.
Naturally regenerated forests	Forests which are regenerating naturally, without artificial introduction of tree species.
...of which of introduced species	Forests, with the preservation degree 3 (changed forest) or 4 (altered forests).

4.2.3 Original data

Preservation degrees	2008 (ha)
1 Preserved	648 825
2 Slightly changed	395 957
3 Changed	109 627
4 Altered	30 738
TOTAL	**1 185 147**
Virgin Forests	282

4.3 Analysis and processing of national data

4.3.1 Reclassification into FRA 2010 categories

Primary forest are:

- Virgin forests: Bukov vrh, Snežnik-Ždrocle, Pragozd Krokar, Pragozd Strmec, Pragozd Prelesnikova koliševka, Pragozd Rajhenavski Rog, Pragozd Gorjanci, Pragozd Kopa, Pragozd Pečke, Krakovski pragozd, Ravna gora, Pragozd Donačka gora, Pragozd Belinovec, Šumik,
- all forest reserves
- and protection forests

Their areas are not submitted to change (Regulation on Forest reserves and Protection forests from year 2005 and 2009).

Planted forest: 98 % of forests with preservation degree ="4" - the original data are calibrated to T1 forest area (Based on expert estimation experts R. Pisek, G. Božič, G. Kušar, M. Hočevar, published in FAO 2006/12, Global planted forest thematic supplement: Country Responses to Reporting Tables for Planted Forests Survey)

Other naturally regenerated forest: all other forests with preservation degrees 1, 2, 3 and 2% of degree 4.

The figures were used from Slovenia Forest Service databases for the year 2008. The share of a particular category was then used to calculate the actual forest area of specific categories.

4.4 Data for Table T4

Table 4a

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Primary forest	63	95	111	109
Other naturally regenerated forest	1 091	1 102	1 095	1 112
...of which of introduced species	0	0	0	0
Planted forest	34	36	37	32
...of which of introduced species	n.a.	n.a.	n.a.	n.a.
TOTAL	**1 188**	**1 233**	**1 243**	**1 253**

Table 4b

FRA 2010 Categories	Area (1000 hectares)			
	1990	2000	2005	2010
Rubber plantations (Forest)	0	0	0	0
Mangroves (Forest and OWL)	0	0	0	0
Bamboo (Forest and OWL)	0	0	0	0

4.5 Comments to Table T4

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Primary forest	Forests, without man made activities during more decades (virgin forests).	Their areas of virgin (primary) forests are not subject to change.
Other naturally regenerating forest	Natural regeneration is the main principle of Slovenian sustainable forestry. Artificial regeneration (re-forestation) is used only as supplement, if needed.	The area is rising, as the area of forests as whole.
Planted forest		
Rubber plantations	In Slovenia there are no rubber plantations.	
Mangroves	In Slovenia there are no mangrove forests.	
Bamboo	In Slovenia there are no bamboo forests.	

Other general comments to the table

5 Table T5 – Forest establishment and reforestation

5.1 FRA 2010 Categories and definitions

Term	Definition
Afforestation	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest.
Reforestation	Re-establishment of forest through planting and/or deliberate seeding on land classified as forest.
Natural expansion of forest	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).

5.2 National data

5.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Annual Reports of Slovenia Forest Service 1998-2007. Slovenia Forest Service.	M	forest area	1999 - 2008	

5.2.2 Classification and definitions

National class	Definition
Afforestation	Non-forest land in forest is not allowed by law. Activities for afforestation of agriculture land are not planned.
Artificial regeneration	Regeneration of forests with planting or seeding.

5.3 Analysis and processing of national data

5.3.1 Estimation and forecasting

The trend of artificial regeneration and the trend of the natural expansion of forest is in decline. The area of afforestation of agricultural land is zero.

5.4 Data for Table T5

FRA 2010 Categories	Annual forest establishment (hectares/year)			...of which of introduced species [1)] (hectares/year)		
	1990	2000	2005	1990	2000	2005
Afforestation	0	0	0	0	0	0
Reforestation	n.a.	728	572	n.a.	0	0
...of which on areas previously planted	n.a.	146	114	n.a.	0	0
Natural expansion of forest	n.a.	5 071	1 890	n.a.	0	0

Note: The figures for the reporting years refer to the averages for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

5.5 Comments to Table T5

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Afforestation	Non-forest land in forest is not allowed by law. Activities for afforestation of agriculture land are not planned.	
Reforestation	The natural regeneration prevails as a management tool in Slovenian forests. The artificial regeneration is used only, when the natural regeneration is unsuccessful or insufficient. The area of reforestation on areas previously planted is about 20% of all reforested areas.	The trend of artificial regeneration is in decline.
Natural expansion of forest	The natural expansion of forests for 2005 was calculated on the basis of the forest inventory from the year 1999 and 2008.	The natural expansion of forest is in decline.

Other general comments to the table

6 Table T6 – Growing stock

6.1 FRA 2010 Categories and definitions

Category	Definition
Growing stock	Volume over bark of all living trees more than X cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of Y cm, and may also include branches to a minimum diameter of W cm.
Growing stock of commercial species	Growing stock (see def. above) of commercial species.

6.2 National data

6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forest and Forest Ecosystem Condition Survey (FECS). Slovenian Forestry Institute (SFI).	H	Growing stock[1], growing stock composition	2000, 2007. Years applied: 2005, 2010	The FECS data permits direct calculation of growing stock according to the FRA categories and definitions.
Official data of the Slovenia Forest Service (SFS), based on the inventorying of Forest Management Units. Slovenia Forest Service.	H	Growing stock accumulation - trend	Forest management plan data since 1960	Forest management plans data permit direct calculation of growing stock according to the FRA categories and definitions.
GFRA05	H	Growing stock, growing stock composition	years applied: 1990, 2000	GFRA 2005 report for Slovenia.
Table 1	H	Area for "Forest" and "OWL"	years applied: 1990, 2000, 2005, 2010	GFRA 2010 report.

[1] Calculation of a tree volume is performed by means of tariffs (dbh). A tariff class is chosen using high curves and a forest type.

6.2.2 Classification and definitions

National class	Definition
Growing stock	All living trees with the DBH>9.99 cm in all forest areas.
Commercial growing stock	All tree species including in growing stock assessment are considered commercial.
Growing stock of other wooded lands[1]	All living trees with the DBH>9.99 cm in all forest areas.

6.2.3 Original data

Forest and Forest Ecosystem Condition Survey (FECS). Assessment on grid 4-km x 4-km, years 2000 and 2007:
- growing stock (2000) is **283.19** m3/ha (confidence interval: 269.37 – 297.01 m3/ha)
- growing stock (2007) is **326.43** m3/ha (confidence interval: 312.30 – 340.57 m3/ha)
- increment (gross growth including ingrowth) is **8.65** m3/ha/year for time period 2000-07
- removal (cuttings) is **3.39** m3/ha/year for time period 2000-07
- accumulation of growing stock (trend) is **6.18** m3/ha/year for time period 2000-07
- difference between increment and removal is **5.26** m3/ha/year for time period 2000-07
- growing stock composition:

% of growing stock		year	
Scientific name	Common name	2000	2007
Picea abies	Spruce	33.39	30.94
Fagus sylvatica	Beech	31.65	31.02
Abies alba	Fir	9.27	8.20
Quercus petraea	Oak	5.09	5.75
Pinus sylvestris	Scotch Pine	4.09	4.12
Acer pseudoplatanus	Maple	3.24	3.22
Carpinus betulus	Hornbeam	1.62	2.30
Castanea sativa	Chestnut	1.52	1.89
Pinus nigra	Black Pine	1.16	1.57
Ostrya carpinifolia	Hop Hornbeam	0.82	1.25
Remaining		8.15	9.75
TOTAL		100.00	100.00

6.3 Analysis and processing of national data

Table: Growing stock, increment, removal

m3/ha	Year						
	1990	1995	**2000**	**2005**	2006	2007	**2010**
GS							
GFRA05	230.00	-	270.00	282.50	-	-	-
FECS - SFI	-	272.00	283.19	314.08	-	326.43	344.96
FSS	194.00	208.00	232.00	257.00	262.00	269.00	290.00
FSSkor	213.35	227.35	251.35	276.35	281.35	288.35	309.35
GFRA10	**230.00**	**-**	**270.00**	**300.90**	**-**	313.26	**331.80**
Increment							
FECS – SFI	-	6.40	-	-	-	8.65	-
FSS	4.95	5.46	6.06	6.48	6.52	6.61	-
Removal							
GFRA05	2.50	-	2.06	2.49	-	-	-
FECS – SFI	-	-	-	-	-	3.39	-
FSS	2.27	1.91	2.30	2.78	3.16	2.74	-

Table: Accumulation of growing stock (trend), difference between increment and removal

m3/ha	Year						
	1990	1995	**2000**	**2005**	2006	2007	**2010**
Accumulation							
GFRA05	-	-	4.00	2.50	-	-	-
FECS – SFI	-	-	2.24	-	-	6.18	-
FSS	-	2.80	4.80	5.00	5.00	7.00	-
Increment - removal							
FECS – SFI	-	-	-	-	-	5.26	-
FSS	2.68	3.55	3.76	3.70	3.36	3.87	-

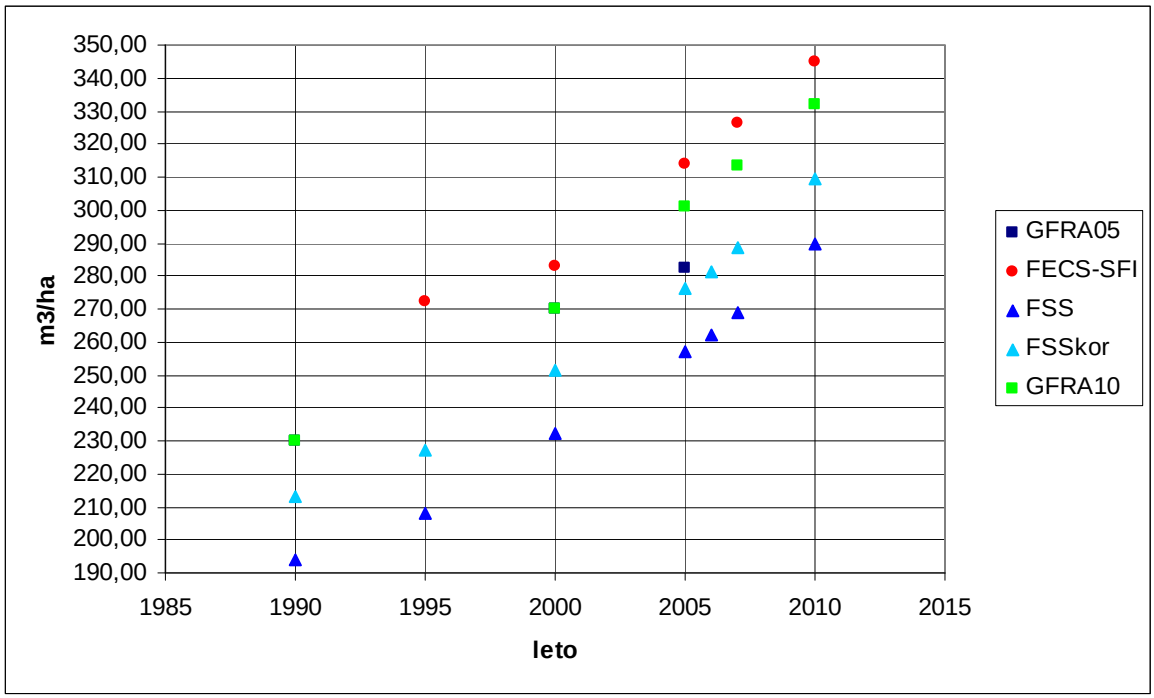

Figure: Growing stock

Comments:

- GFRA05 – assessments for years 1990 and 2000 are the same as for GFRA10 and are overlaid on Figure with GFRA10 assessments,
- FECS – SFI – assessment of FECS on grid 4-km x 4-km for the years 2000 and 2007; for year 1995 (Hocevar 1996); forecasting for year 2010 is based on accumulation (trend) from time period 2000-07 (3*6.18 m3/ha),
- SFS – assessments from annual reports of SFS,
- FSSkor – assessments based on annual reports of SFS are corrected for 5 years difference between increment and removal (5*3.87m3/ha) because of on average 5 years old date (e.g. annual report for year 2008 is referred to year 2005 on average),
- GFRA10 – assessments for years 1990 and 2000 are the same as in GFRA05 report; assessment for the year 2005 is corrected on the base of accumulation trend from time period 2000-07 (5*6.18 m3/ha); forecast for year 2010 is based on year 2005 assessment (300.90 m3/ha) and accumulation trend from time period 2000-07 (5*6.18 m3/ha = 30.9 m3/ha); assessment for year 2007 (313.26 m3/ha) is linear interpolated values between year 2005 assessment (300.90 m3/ha) and year 2010 forecast (331.80 m3/ha),
- New FECS-SFI data was used for correcting estimate of 2005 growing stock form FRA 2005 report. New FECS-SFI data is considered more accurate and in line with trends and will be used also for Kjoto reporting. FECS-SFI system is statistically based and therefore the results are more reliable.

6.3.1 Calibration

Growing stock composition

		% of growing stock				
Scientific name	Common name	1990[1]	2000[2]	2007[2]	2005[3]	2010[4]
Picea abies	Spruce	32.97	33.39	30.94	31.64	29.88
Fagus sylvatica	Beech	31.35	31.65	31.02	31.20	30.75
Abies alba	Fir	9.82	9.27	8.20	8.51	7.75
Quercus petraea	Oak	5.84	5.09	5.75	5.56	6.04
Pinus sylvestris	Scotch Pine	4.88	4.09	4.12	4.11	4.13
Acer pseudoplatanus	Maple	2.34	3.24	3.22	3.22	3.21
Carpinus betulus	Hornbeam	2.60	1.62	2.30	2.10	2.59
Castanea sativa	Chestnut	1.53	1.52	1.89	1.78	2.05
Pinus nigra	Black Pine	-	1.16	1.57	1.45	1.74
Ostrya carpinifolia	Hop Hornbeam	1.05	0.82	1.25	1.13	1.43
Remaining		7.63	8.15	9.75	9.29	10.43
TOTAL		100.00	100.00	100.00	100.00	100.00
Conifers[5]		52.25	49,44	46.39	47.26	45.08
Broadleaves[6]		47.75	50,56	53.61	52.74	54.92

Remarks:
[1] Assessment from GFRA05.
[2] FECS 2000, 2007.
[3] Linear interpolation from years 2000 and 2007.
[4] Linear extrapolation from years 2000 and 2007 needed for Tables 7 and 8 of this report.
[5] % of conifers in growing stock.
[6] % of broadleaves in growing stock.

6.3.2 Estimation and forecasting

Forest

1. GS assessment for year **1990** (**230.00 m3/ha**) is the same as in GFRA05 (extrapolated from year 2000 national data estimate).

2. GS assessment for year **2000** (**270.00 m3/ha**) is the same as in GFRA05. Latest FECS assessment of GS for year 2000 is **283.19 m3/ha.** Assessment from GFRA05 was based on year 2000 survey and old tariffs (in 2007 updated tariffs were used). Estimated GS in year 2000 was lower limit (confidence interval) of assessment.

3. GFRA05 GS estimation for year **2005** was corrected (from 282.50 m3/ha to **300.90 m3/ha**). GFRA05 GS estimation for year 2005 (**282.50 m3/ha**) was based on year 2000 GS assessment (**270.00 m3/ha**) and on assumption that yearly accumulation of GS in time period 2000-05 would be **2.5 m3/ha**. This estimation of yearly GS accumulation was based on assumption that GS accumulation would not continue at the same rate as it was in time period 1990-00 (**4.00 m3/ha**) because of significant increasing in cutting was expected and also increment was underestimated.

But yearly accumulation of GS in time period 2000-07 was far bigger: **6.18 m3/ha** (FECS-SFI) or **5.29 m3/ha** (SFS). If yearly accumulation of GS from time period 2000-07 (**6.18 m3/ha**) is taken into account, than GS assessment for GFRA10 for year 2005 should be **300.90 m3/ha (270 m3/ha + 5*6.18 m3/ha)**. Using method of linear interpolation of FECS data (years 2000 and 2007), GS assessment for 2005 is **314.08 m3/ha ±14.13 m3/ha**, which means that GS assessment for GFRA10 (**300.90 m3/ha)** for year 2005 is inside confidence interval**.**

4. GS estimation for GFRA10 for year **2010** (**331.80 m3/ha**).

Based on:

- Assessment of yearly accumulation of GS for time period 2000-07 is **6.18 m3/ha** (FECS-SFI) or **5.29 m3/ha** (SFS).
- Assessment of yearly difference between increment and removal for time period 2000-07 is **5.26 m3/ha** (FECS-SFI or **3.87 m3/ha** (SFS) for year 2007.
- GS assessment for year 2007 is **326.43 m3/ha** (FECS-SFI) and **269.00 m3/ha** (SFS) or **288.35 m3/ha** (FSSkor) if correction due to on average 5 years old data is taken in account.

On the basis of GS assessment for year 2005 which is **300.90 m3/ha** and assessment of yearly accumulation of GS from time period 2000-07 (**6.18 m3/ha**), GS estimation for year 2010 would be **331.80 m3/ha** (**300.90 m3/ha + 5*6.18 m3/ha**).

Next inventory repetition of FECS on grid 4-km x 4-km is planned for year 2012. GS estimation for this year should be between **342.21** and **344.96 m3/ha** assuming the same rate of accumulation and not significant increasing in cuttings.

Areas for "Forest" and "OWL" for years 1990, 2000, 2005 and 2010 are taken from Table 1 of this report.

Forest, 1990

1990	Growing Stock			
	GSrel	GS%	GSabs	AREA
	m3/ha	%	m3	ha
Total	**230.000**	100.00	273 240 000	**1 188 000**
Conifers	120.175	52.25	142 767 900	1 188 000
Broadleaves	109.825	47.75	130 472 100	1 188 000
Beech	72.105	31.35	85 660 740	1 188 000
Spruce	75.831	32.97	90 087 228	1 188 000
Fir	22.586	9.82	26 832 168	1 188 000
Oak	13.432	5.84	15 957 216	1 188 000
Scotch Pine	11.224	4.88	13 334 112	1 188 000
Maple	5.382	2.34	6 393 816	1 188 000
Hornbeam	5.980	2.60	7 104 240	1 188 000
Chestnut	3.519	1.53	4 180 572	1 188 000
Black Pine*	0.000	0.00	0	1 188 000
Hop Hornbeam	2.415	1.05	2 869 020	1 188 000
Remaining	17.526	7.62	20 820 888	1 188 000
		GSrel/GS	GSrel*Area	

* The share of black pine (*Pinus nigra*) in growing stock is increasing from year 1990 up to now due to growing of (young) black pine stands in Karst region. There are no reliable data for year 1990 (black pine is accounted under »Remaining« category). The share of black pine in year 1990 growing stock is estimated (according data from years 2000 and 2007) to be less than 0.27 % or 0.62 m3/ha or 728 276 m3.

Forest, 2000

2000	Growing Stock			
	GSrel	GS%	GSabs	ARE
	m3/ha	%	m3	ha
Total	**270.000**	100.00	332 910 000	**1 233 000**
Conifers	133.488	49.44	164 590 704	1 233 000
Broadleaves	136.512	50.56	168 319 296	1 233 000
Beech	85.459	31.65	105 371 467	1 233 000
Spruce	90.164	33.39	111 172 504	1 233 000
Fir	25.018	9.27	30 846 709	1 233 000

Oak	13.731	5.09	16 930 865	1 233 000
Scotch Pine	11.054	4.09	13 629 886	1 233 000
Maple	8.750	3.24	10 789 288	1 233 000
Hornbeam	4.364	1.62	5 380 999	1 233 000
Chestnut	4.094	1.52	5 047 579	1 233 000
Black Pine	3.131	1.16	3 861 030	1 233 000
Hop Hornbeam	2.225	0.82	2 743 301	1 233 000
Remaining	22.008	8.15	27 136 371	1 233 000
		GSrel/GS	GSrel*Area	

Forest, 2005

2005	Growing Stock			
	GSrel	GS%	GSabs	AREA
	m3/ha	%	m3	ha
Total	300.900	100.00	374 018 700	1 243 000
Conifers	142.205	47.26	176 761 238	1 243 000
Broadleaves	158.695	52.74	197 257 462	1 243 000
Beech	93.881	31.20	116 693 834	1 243 000
Spruce	95.205	31.64	118 339 517	1 243 000
Fir	25.601	8.51	31 821 460	1 243 000
Oak	16.738	5.56	20 805 054	1 243 000
Scotch Pine	12.370	4.11	15 375 581	1 243 000
Maple	9.699	3.22	12 055 622	1 243 000
Hornbeam	6.329	2.10	7 867 215	1 243 000
Chestnut	5.359	1.78	6 661 781	1 243 000
Black Pine	4.366	1.45	5 427 407	1 243 000
Hop Hornbeam	3.392	1.13	4 216 762	1 243 000
Remaining	27.960	9.29	34 754 467	1 243 000
		GSrel/GS	GSrel*Area	

Forest, 2010

2010	Growing Stock			
	GSrel	GS%	GSabs	AREA
	m3/ha	%	m3	ha
Total	**331.800**	100.00	415 745 400	**1 253 000**
Conifers	149.575	45.08	187 418 026	1 253 000
Broadleaves	182.225	54.92	228 327 374	1 253 000
Beech	102.022	30.748	127 833 396	1 253 000
Spruce	99.155	29.884	124 240 850	1 253 000
Fir	25.715	7.750	32 221 068	1 253 000
Oak	20.039	6.039	25 108 621	1 253 000
Scotch Pine	13.696	4.128	17 160 553	1 253 000
Maple	10.636	3.206	13 327 266	1 253 000
Hornbeam	8.595	2.591	10 769 901	1 253 000
Chestnut	6.789	2.046	8 506 453	1 253 000
Black Pine	5.781	1.742	7 244 072	1 253 000
Hop Hornbeam	4.747	1.431	5 948 500	1 253 000
Remaining	34.625	10.435	43 384 719	1 253 000
		GSrel/GS	GSrel*Area	

Other wooded land (OWL), years 1990, 2000, 2005, 2010

OWL	GSrel[1]	**GSabs**	AREA
Year	m3/ha	**m3**	ha
1990	60.0	**2 460 000**	41 000
2000	60.0	**2 280 000**	38 000
2005	60.0	**1 740 000**	29 000
2010	60.0	**1 260 000**	21 000
		GSrel*Area	

[1]Growing stock (GS) of other wooded lands (OWL) was assessed for GFRA05 by means of sampling as follows: 1. step: interpretation of orthoimages; 2. step: sampling of orthoimages; 3. step: callipering of trees belonging to previously selected areas. So for OWL calculation in GFRA10 report it was taken the same growing stock (m3/ha) as in GFRA05 report, because no better data was available.

6.4 Data for Table T6

FRA 2010 category	Volume (million cubic meters over bark)							
	Forest				Other wooded land[3]			
	1990	2000	2005	2010	1990	2000	2005	2010
Total growing stock	273.2	332.9	374.0	415.7	2.5	2.3	1.7	1.3
... of which coniferous[1]	142.8	164.6	176.8	187.4	1.3	1.1	0.8	0.6
... of which broadleaved[1]	130.5	168.3	197.3	228.3	1.2	1.2	0.9	0.7
Growing stock of commercial species[2]	273.2	332.9	374.0	415.7	2.5	2.3	1.7	1.3

Remarks:
[1]Ratio between coniferous/broadleaved in GS composition:
- year 1990 - from GFRA05 – Table 10
- year 2000 - FECS assessment for year 2000
- year 2005 - linear interpolation from FECS (years 2000 and 2007)
- year 2010 - linear extrapolation from FECS (years 2000 and 2007)

[2]All tree species including in GS assessment are considered commercial, so there is no difference between "Total growing stock" and "Growing stock of commercial species".

[3]Other wooded land (OWL) – GS assessment (60 m3/ha) is taken from GFRA05 report Table 5 (Matijasic, Hocevar, Kovac). Ratio between coniferous/broadleaved in OWL GS composition is the same as in "Forest" category.

Table 6b – Growing stock of the 10 most common species

FRA 2010 category / Species name			Growing stock in forest (million cubic meters)		
Rank	**Scientific name**	**Common name**	**1990**	**2000**	**2005**
1st	*Picea abies*	Spruce	90.1	111.2	118.3
2nd	*Fagus sylvatica*	Beech	85.7	105.4	116.7
3rd	*Abies alba*	Fir	26.8	30.8	31.8
4th	*Quercus petraea*	Oak	16.0	16.9	20.8
5th	*Pinus sylvestris*	Scotch Pine	13.3	13.6	15.4
6th	*Acer pseudoplatanus*	Maple	6.4	10.8	12.1
7th	*Carpinus betulus*	Hornbeam	7.1	5.4	7.9
8th	*Castanea sativa*	Chestnut	4.2	5.0	6.7
9th	*Pinus nigra*	Black Pine	0.0	3.9	5.4
10th	*Ostrya carpinifolia*	Hop Hornbeam	2.9	2.7	4.2
Remaining			20.8	27.1	34.8
TOTAL			**273.2**	**332.9**	**374.0**

Note: Rank refers to the order of importance in terms of growing stock, i.e. 1st is the species with the highest growing stock. Year 2000 is the reference year for defining the species list and the order of the species.

* The share of black pine (*Pinus nigra*) in growing stock is increasing from year 1990 up to now due to growing of (young) black pine stands in Karst region. There are no reliable data for year 1990 (black pine is accounted under »Remaining« category). The share of black pine in year 1990 growing stock is estimated (according data from years 2000 and 2007) to be less than 0.27 % or 0.62 m3/ha or 728 276 m3.

Table 6c – Specification of threshold values

Item	Value	Complementary information
Minimum diameter (cm) at breast height[1] of trees included in growing stock (X)	10	
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	7	
Minimum diameter (cm) of branches included in growing stock (W)	7	
Volume refers to "above ground" (AG) or "above stump" (AS)	AG	

6.5 Comments to Table T6

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total growing stock	Pivot time points for Table T6 are growing stock estimates from years 2000 and 2007.	Trend of growing stock accumulation (6.18 m3/ha and 5.26 m3/ha per year) for time period 2000-07 is much higher as it was estimated and used for predictions in GFRA2005 report (4.0 and 2.5 m3/ha per year). Main reason for this was underestimated of increment (5.0 m3/ha per year instead of 8.6 m3/ha year) and expectation of increasing cutting that was not realized. Cutting rate is varying according years but on average estimate for time period 2000-07 would be around 3.4 m3/ha per year. Trend of forest area extensions is slowing down (rate of afforestation is falling down), see Table 1. Also area of OWL is not constant (as it was in GFRA2005 report) but is decreasing, because OWL is passing into forest category. The main cause of growing stock increasing/accumulation in absolute terms (million cubic meters) is accumulation of growing stock per hectare.
Growing stock of broadleaved / coniferous		The share of broadleaves is increasing due to increase in share of oak, hornbeam, chestnut, and hop hornbeam tree species in growing stock composition.

[1] Diameter at breast height (DBH) refers to diameter over bark measured at a height of 1.30 m above ground level or 30 cm above buttresses if these are higher than 1 m.

		Share of conifers is decreasing mainly because decreasing of spruce and fir tree species in growing stock composition. The share of black pine tree species is increasing in growing stock composition due to growing of (young) stands in Karts region. Roundly 2/3 of total growing stock is composed by spruce (1/3) and beach (1/3) tree species.
Growing stock of commercial species		Trends are the same as for total growing stock because there is no distinction between total and commercial growing stock.
Growing stock composition		See "growing stock of broadleaved / coniferous" in this table.

Other general comments to the table
Working group: Gal Kusar, Marko Kovac (SFI), Dragan Matijasic (SFS).

7 Table T7 – Biomass stock

7.1 FRA 2010 Categories and definitions

Category	Definition
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 2mm 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.

7.2 National data

7.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Table 6	H	Growing stock; growing stock composition	1990, 2000, 2005, 2010	
Table 1	H	Area	1990, 2000, 2005, 2010	
2003 IPCC Good Practice Guidance for LULUCF	M	BEF, R	1990, 2000, 2005, 2010	
2006 IPCC Guidelines for National Greenhouse Gas Inventories	M	WD	1990, 2000, 2005, 2010	
Forest and Forest Ecosystem Condition Survey (FECS). Slovenian Forestry Institute (SFI).	H	Dead wood stock composition (DWD)	2007. Years applied: 1990, 2000, 2005, 2010	

7.2.2 Classification and definitions

National class	Definition
Above-ground biomass	Same as GFRA2010 definition.
Below-ground biomass	Same as GFRA2010 definition.
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: - dead trees (DBH > 10 cm) - stumps (D > 10 cm and H > 20 cm) - snags (D > 10 cm and H > 50 cm) - coarse woody debris (D > 10 cm and L > 50 cm)

7.2.3 Original data

Dead wood

2007	Dead wood	
	DWDrel	DWD%ofGS
	m3/ha	%
Total	18.564	5.692
Conifers	9.686	6.396
Broadleaves	8.878	5.073
Beech	4.215	4.166
Spruce	4.268	4.230
Fir	2.238	8.363
Oak	0.867	4.620
Scotch Pine	0.634	4.721
Maple	0.065	0.620
Hornbeam	0.230	3.068
Chestnut	0.664	10.788
Black Pine	0.306	5.985
Hop Hornbeam	0.249	6.113
Remaining	4.824	15.171

Remarks:
- DWDrel – FECS 2007,
- DWD%ofGS – ratio between dead wood and GS for tree species.

WD, BEF, R for selected tree species

	WD	BEF	R
	t/m3		
Beech	0.580	1.40	0.26
Spruce	0.400	1.30	0.32
Fir	0.400	1.30	0.32
Oak	0.580	1.40	0.26
Scotch pine	0.420	1.30	0.32
Maple	0.520	1.40	0.26
Hornbeam	0.630	1.40	0.26
Chestnut	0.480	1.40	0.26
Black pine	0.420	1.30	0.32
Hop Hornbeam	0.630	1.40	0.26

Remarks:

- WD – Source: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4, Table 4.14,
- BEF – Source: 2003 IPCC Good Practice Guidance for LULUCF – Table 3A.1.10,
- R – Source: 2003 IPCC Good Practice Guidance for LULUCF – Table 3A.1.8.

7.3 Analysis and processing of national data

7.3.1 Estimation and forecasting

Forest, 1990

1990	Biomass									
	GSabs	WD	SB	BEF	AGB	R	BGB	DWD%	DWDabs	DWB
	m3	t/m3	t		t		t	%	m3	t
Beech	85 660 740	0.580	49 683 229	1.400	69 556 521	0.260	18 084 695	4.166	3 568 809	2 069 90
Spruce	90 087 228	0.400	36 034 891	1.300	46 845 359	0.320	14 990 515	4.230	3 810 476	1 524 19
Fir	26 832 168	0.400	10 732 867	1.300	13 952 727	0.320	4 464 873	8.363	2 243 952	897 58
Oak	15 957 216	0.580	9 255 185	1.400	12 957 259	0.260	3 368 887	4.620	737 272	427 61
Scotch Pine	13 334 112	0.420	5 600 327	1.300	7 280 425	0.320	2 329 736	4.721	629 473	264 37
Maple	6 393 816	0.520	3 324 784	1.400	4 654 698	0.260	1 210 221	0.620	39 618	20 60
Hornbeam	7 104 240	0.630	4 475 671	1.400	6 265 940	0.260	1 629 144	3.068	217 980	137 32
Chestnut	4 180 572	0.480	2 006 675	1.400	2 809 344	0.260	730 430	10.788	450 999	216 48
Black Pine	0	0.420	0	1.300	0	0.320	0	5.985	0	
Hop Hornbeam	2 869 020	0.630	1 807 483	1.400	2 530 476	0.260	657 924	6.113	175 396	110 49
Remaining	20 820 888	0.487	10 139 195	1.348	13 671 670	0.291	3 977 926	15.171	3 158 787	1 538 24
TOTAL	**273 240 000**		**133 060 308**		**180 524 419**		**51 444 352**		**15 032 763**	**7 206 82**
			WD*GSabs		BEF*SB		R*AGB		GSabs*DWD%	DWDabs*WD

Remark:
Remaining – WD, BEF and R was calculating as weighted arithmetic mean by tree species composition.

Forest, 2000

2000	Biomass									
	GSabs	WD	SB	BEF	AGB	R	BGB	DWD%	DWDabs	DWB
	m3	t/m3	t		t		t	%	m3	t
Beech	105 371 467	0,580	61 115 451	1.400	85 561 631	0.260	22 246 024	4.166	4 390 000	2 546 200
Spruce	111 172 504	0,400	44 469 002	1.300	57 809 702	0.320	18 499 105	4.230	4 702 333	1 880 933
Fir	30 846 709	0,400	12 338 684	1.300	16 040 289	0.320	5 132 892	8.363	2 579 684	1 031 874
Oak	16 930 865	0,580	9 819 902	1.400	13 747 862	0.260	3 574 444	4.620	782 257	453 709
Scotch Pine	13 629 886	0,420	5 724 552	1.300	7 441 918	0.320	2 381 414	4.721	643 436	270 243
Maple	10 789 288	0,520	5 610 430	1.400	7 854 602	0.260	2 042 196	0.620	66 855	34 764
Hornbeam	5 380 999	0,630	3 390 029	1.400	4 746 041	0.260	1 233 971	3.068	165 105	104 016
Chestnut	5 047 579	0,480	2 422 838	1.400	3 391 973	0.260	881 913	10.788	544 532	261 375
Black Pine	3 861 030	0,420	1 621 633	1.300	2 108 122	0.320	674 599	5.985	231 073	97 051
Hop Hornbeam	2 743 301	0,630	1 728 280	1.400	2 419 591	0.260	629 094	6.113	167 710	105 657
Remaining	27 136 371	0,485	13 155 868	1.348	17 731 925	0.291	5 165 303	15.171	4 116 925	1 995 909
TOTAL	**332 910 000**		**161 396 667**		**218 853 657**		**62 460 956**		**18 389 911**	**8 781 732**
			WD*GSabs		BEF*SB		R*AGB		GSabs*DWD%	DWDabs*WD

Remark:
Remaining –WD, BEF and R was calculating as weighted arithmetic mean by tree species composition.

Forest, 2005

2005	Biomass									
	GSabs	WD	SB	BEF	AGB	R	BGB	DWD%	DWDabs	DWB
	m3	t/m3	t		t		t	%	m3	t
Beech	116 693 834	0.580	67 682 424	1.400	94 755 394	0.260	24 636 402	4.166	4 861 714	2 819 794
Spruce	118 339 517	0.400	47 335 807	1.300	61 536 549	0.320	19 691 696	4.230	5 005 481	2 002 192
Fir	31 821 460	0.400	12 728 584	1.300	16 547 159	0.320	5 295 091	8.363	2 661 202	1 064 481
Oak	20 805 054	0.580	12 066 931	1.400	16 893 704	0.260	4 392 363	4.620	961 257	557 529
Scotch Pine	15 375 581	0.420	6 457 744	1.300	8 395 067	0.320	2 686 421	4.721	725 846	304 856
Maple	12 055 622	0.520	6 268 923	1.400	8 776 492	0.260	2 281 888	0.620	74 701	38 845
Hornbeam	7 867 215	0.630	4 956 345	1.400	6 938 883	0.260	1 804 110	3.068	241 390	152 076
Chestnut	6 661 781	0.480	3 197 655	1.400	4 476 717	0.260	1 163 946	10.788	718 671	344 962
Black Pine	5 427 407	0.420	2 279 511	1.300	2 963 364	0.320	948 277	5.985	324 816	136 423
Hop Hornbeam	4 216 762	0.630	2 656 560	1.400	3 719 185	0.260	966 988	6.113	257 789	162 407
Remaining	34 754 467	0.488	16 967 303	1.350	22 899 199	0.290	6 646 161	15.171	5 272 684	2 574 151
TOTAL	**374 018 700**		**182 597 788**		**247 901 713**		**70 513 343**		**21 105 553**	**10 157 715**
			WD*GSabs		BEF*SB		R*AGB		GSabs*DWD%	DWDabs*WD

Remark:
Remaining –WD, BEF and R was calculating as weighted arithmetic mean by tree species composition.

Forest, 2010

2010	Biomass									
	GSabs	WD	SB	BEF	AGB	R	BGB	DWD%	DWDabs	DWB
	m3	t/m3	t		t		t	%	m3	t
Beech	127 833 396	0.580	74 143 369	1.400	103 800 717	0.260	26 988 186	4.166	5 325 812	3 088 971
Spruce	124 240 850	0.400	49 696 340	1.300	64 605 242	0.320	20 673 677	4.230	5 255 093	2 102 037
Fir	32 221 068	0.400	12 888 427	1.300	16 754 956	0.320	5 361 586	8.363	2 694 621	1 077 848
Oak	25 108 621	0.580	14 563 000	1.400	20 388 200	0.260	5 300 932	4.620	1 160 095	672 855
Scotch Pine	17 160 553	0.420	7 207 432	1.300	9 369 662	0.320	2 998 292	4.721	810 111	340 247
Maple	13 327 266	0.520	6 930 178	1.400	9 702 250	0.260	2 522 585	0.620	82 581	42 942
Hornbeam	10 769 901	0.630	6 785 038	1.400	9 499 053	0.260	2 469 754	3.068	330 453	208 186
Chestnut	8 506 453	0.480	4 083 097	1.400	5 716 336	0.260	1 486 247	10.788	917 674	440 484
Black Pine	7 244 072	0.420	3 042 510	1.300	3 955 263	0.320	1 265 684	5.985	433 539	182 086
Hop Hornbeam	5 948 500	0.630	3 747 555	1.400	5 246 577	0.260	1 364 110	6.113	363 657	229 104
Remaining	43 384 719	0.492	21 331 940	1.351	28 828 561	0.289	8 335 599	15.171	6 582 001	3 236 320
TOTAL	**415 745 400**		**204 418 889**		**277 866 818**		**78 766 653**		**23 955 638**	**11 621 081**
			WD*GSabs		BEF*SB		R*AGB		GSabs*DWD%	DWDabs*WD

Remark:
Remaining –WD, BEF and R was calculating as weighted arithmetic mean by tree species composition.

Other wooded land (OWL), years 1990, 2000, 2005, 2010

Year	Biomass									
	GSabs	WD	SB	BEF	**AGB**	R	**BGB**	DWD%	DWDabs	**DWB**
	m3	t/m3	t		**t**		**t**	%	m3	**t**
1990	2 460 000	0.496	1 219 347	1.35	**1 651 864**	0.29	**475 847**	5.500	135 300	**67 064**
2000	2 280 000	0.496	1 130 126	1.35	**1 530 996**	0.29	**441 029**	5.500	125 400	**62 157**
2005	1 740 000	0.496	862 465	1.35	**1 168 392**	0.29	**336 574**	5.500	95 700	**47 436**
2010	1 260 000	0.496	624 544	1.35	**846 077**	0.29	**243 726**	5.500	69 300	**34 350**
			WD*GSabs		BEF*SB		R*AGB		GSabs*DWD%	DWDabs*WB

Remark:
Average values for WB, BEF, R and DWD% from »Forest« category are used in »OWL« category calculation.

7.4 Data for Table T7

FRA 2010 category	**Biomass (million metric tonnes oven-dry weight)**							
	Forest				**Other wooded land**			
	1990	**2000**	**2005**	**2010**	**1990**	**2000**	**2005**	**2010**
Above-ground biomass	180.5	218.9	247.9	277.9	1.7	1.5	1.2	0.8
Below-ground biomass	51.4	62.5	70.5	78.8	0.5	0.4	0.3	0.2
Dead wood	7.2	8.8	10.2	11.6	0.1	0.1	0.0	0.0
TOTAL	239.2	290.1	328.6	368.3	2.2	2.0	1.6	1.1

7.5 Comments to Table T7

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Above-ground biomass	BEF, WD factors are taken from literature that's why reliability of them is marked as »medium«. GS, BEF, WD factors for OWL are constant for all reporting years because no other reliable data is available. Tree species composition in OWL is assumed to be the same as for forest category.	Biomass increasing is result of growing stock increasing due to growing stock accumulation and slightly increasing of the area of forests. BEF and WD factors are constant for all reporting years so they don't influence the trend. Biomass decreasing in OWL category is result of decreasing of OWL area. Biomass in OWL is negligible (0.3%) in comparison with biomass in forest category.
Below-ground biomass	R, WD factors are taken from literature that's why reliability of them is marked as »medium«.	See »above-ground biomass« in this table.
Dead wood	Dead wood definition includes stumps that represent significant part (22%) of dead wood stock composition. Tree species composition in dead wood in OWL category is assumed to be the same as in forest category.	It is assumed, that the share of dead wood stock is constant in ratio to growing stock for reporting years. So dead wood biomass trend (increasing) is mainly result of growing stock increasing.

Other general comments to the table
Working group: Gal Kusar, Nike Krajnc, Primoz Simoncic, Mitja Piskur (SFI), Dragan Matijasic (SFS).

8 Table T8 – Carbon stock

8.1 FRA 2010 Categories and definitions

Category	Definition
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 specified depth chosen by the country and applied consistently through the time series.

8.2 National data

8.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Table 7	M	Biomass stock	1990, 2000, 2005, 2010	Because of factors for Table 7 calculation are taken from literature, reliability of that table is marked as »medium«.
Research study, M. Kobal, P. Simoncic. SFI, 2008	H	CILf CISf CILo CISo	2008 Years applied: 1990, 2000, 2005, 2010	Data from CVPO (pedological map), BioSoil project plots (n=45), soil profiles for forest (skelet - 30%), average slope derived from DTM.
2003 IPCC Good Practice Guidance for LULUCF	H	CC	1990, 2000, 2005, 2010	Default carbon convention factor (0.5) - Equation 3.2.7, page 3.27.

8.2.2 Classification and definitions

National class	Definition
Carbon in above-ground biomass	Same as GFRA2010 definition.
Carbon in below-ground biomass	Same as GFRA2010 definition.
Carbon in 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: - trees (DBH > 10 cm) - stumps (D > 10 cm and H > 20 cm) - snags (D > 10 cm and H > 50 cm) - coarse woody debris (D > 10 cm and L > 50 cm)
Carbon in litter	Same as GFRA2010 definition
Soil carbon	Same as GFRA2010 definition

8.3 Analysis and processing of national data

8.3.1 Estimation and forecasting

FRA 2010 category	Biomass (million metric tonnes oven-dry weight)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Above-ground biomass	180.524419	218.853657	247.901713	277.866818	1.651864	1.530996	1.168392	0.846077
Below-ground biomass	51.444352	62.460956	70.513343	78.766653	0.475847	0.441029	0.336574	0. 243726
Dead wood	7.206827	8.781732	10.157715	11.621081	0.067064	0.062157	0.047436	0.034350

FRA 2010 category	Carbon (million metric tonnes)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Above-ground biomass	90.262210	109.426828	123.950856	138.933409	0.825932	0.765498	0.584196	0.423038
Below-ground biomass	25.722176	31.230478	35.256672	39.383326	0.237923	0.220514	0.168287	0.121863
Dead wood	3.603413	4.390866	5.078858	5.810540	0.033532	0.031078	0.023718	0.017175

Values from Table 7 were multiplied by 0.5. Default carbon convention factor (CC = 0,5) 2003 IPCC Good Practice Guidance for LULUCF – Equation 3.2.7, page 3.27 was used to get carbon stock in aboveground and belowground biomass and in dead wood.

Carbon in litter and Soil carbon

Year	Forest					OWL				
	Area	CILf[1]	CISf[2]	C in Litter	C in Soil	Area	CILo[3]	CISo[4]	C in Litter	C in Soil
	ha	t/ha	t/ha	t	t	ha	t/ha	t/ha	t	t
1990	1 188 000	5.6	98.5	6 652 800	117 018 000	41 000	3.4	100.3	139 400	4 235 300
2000	1 233 000	5.6	98.5	6 904 800	121 450 500	38 000	3.4	103.3	129 200	3 925 400
2005	1 243 000	5.6	98.5	6 960 800	122 435 500	29 000	3.4	103.3	98 600	2 995 700
2010	1 253 000	5.6	98.5	7 016 800	123 420 500	21 000	3.4	103.3	71 400	2 169 300
				Area*CILf	Area*CISf				Area*CILo	Area*CISo

[1] CILf - average amount of carbon in litter for forest category (5.6 t/ha). Research study, M. Kobal, P. Simoncic. SFI, 2008
[2] CISf - average amount of carbon in soil for forest category (98.5 t/ha). Research study, M. Kobal, P. Simoncic. SFI, 2008
[3] CILo - average amount of carbon in litter for OWL category (3.4 t/ha). Research study, M. Kobal, P. Simoncic. SFI, 2008
[4] CISo - average amount of carbon in soil for OWL category (103.3 t/ha). Research study, M. Kobal, P. Simoncic. SFI, 2008

8.4 Data for Table T8

FRA 2010 Category	Carbon (Million metric tonnes)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Carbon in above-ground biomass	90.3	109.4	124.0	138.9	0.8	0.8	0.6	0.4
Carbon in below-ground biomass	25.7	31.2	35.3	39.4	0.2	0.2	0.2	0.1
Sub-total: Living biomass	***116.0***	***140.7***	***159.2***	***178.3***	***1.1***	***1.0***	***0.8***	***0.5***
Carbon in dead wood	3.6	4.4	5.1	5.8	0.0	0.0	0.0	0.0
Carbon in litter	6.7	6.9	7.0	7.0	0.1	0.1	0.1	0.1
Sub-total: Dead wood and litter	***10.3***	***11.3***	***12.0***	***12.8***	***0.2***	***0.2***	***0.1***	***0.1***
Soil carbon	117.0	121.5	122.4	123.4	4.2	3.9	3.0	2.2
TOTAL	**243.3**	**273.4**	**293.7**	**314.6**	**5.5**	**5.1**	**3.9**	**2.8**

Soil depth (cm) used for soil carbon estimates	50

8.5 Comments to Table T8

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Carbon in above-ground biomass	0.5 default carbon conversion factor is used.	Because default carbon conversion factor is used reported trend is similar to biomass trend. See comments in Table 7.
Carbon in below-ground biomass	0.5 default carbon conversion factor is used.	Because default carbon conversion factor is used reported trend is similar to biomass trend. See comments in Table 7.
Carbon in dead wood	0.5 default carbon conversion factor is used.	Because default carbon conversion factor is used reported trend is similar to biomass trend. See comments in Table 7.
Carbon in litter	CILf and CILo are from national research study.	Values for CILf and CILo are constant for all reporting years, so the trend (increasing/decreasing) of carbon in litter is result of changing in forest and OWL areas.
Soil carbon	CISf and CISo are from national research study.	Values for CISf and CISo are constant for all reporting years, so the trend (increasing/decreasing) of soil carbon is result of changing in forest and OWL areas.

Other general comments to the table
Working group: Gal Kusar, Primoz Simoncic, Milan Kobal (SFI).

9 Table T9 – Forest fires

9.1 FRA 2010 Categories and definitions

Category	Definition
Number of fires	Average number of vegetation fires per year in the country.
Area affected by fire	Average area affected by vegetation fires per year in the country.
Vegetation fire *(supplementary term)*	Any vegetation fire regardless of ignition source, damage or benefit.
Wildfire	Any unplanned and/or uncontrolled vegetation fire.
Planned fire	A vegetation fire regardless of ignition source that burns according to management objectives and requires limited or no suppression action.

9.2 National data

9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Calculation of area from annual report of Slovenia Forest Service	H	ha	2003-2007	
Calculation of area from annual report of Slovenia Forest Service	H	ha	1998-2002	
Calculation of area from annual report of Slovenia Forest Service	M	ha	1988-1992	

9.2.2 Classification and definitions

National class	Definition
Forest fire	Uncontrolled expansion of fire in the forest area

9.2.3 Original data

Data about forests affected by fire in ha, (Annual report of Slovenia Forest Service)

Year	2003	2004	2005	2006	2007
Forests	1 592.84	76.87	142.23	1 022.81	98.61
Other wooded land	507.30	61.30	137.50	378.51	25.43

Year	1998	1999	2000	2001	2002
Forests	725.10	321.1	124.14	240.36	77.47
Other wooded land	528.53	112.00	141.24	99.73	83.32

Year	1988	1989	1990	1991	1992

Forests	181.75	120.00	615.77	624.90	319.37
Other wooded land	15.50	0.00	51.00	52.20	106.90

9.3 Analysis and processing of national data

9.3.1 Estimation and forecasting

The damage caused by fires will rise in the next years. The basic source is in the climate changes. The average temperatures rise and the dry periods in the growing season are more frequently.

9.4 Data for Table T9

Table 9a

FRA 2010 category	Annual average for 5-year period					
	1990		2000		2005	
	1000 hectares	number of fires	1000 hectares	number of fires	1000 hectares	number of fires
Total land area affected by fire	0.417	n.a.	0.491	85	0.809	119
... of which on forest	0.372	n.a.	0.298	85	0.587	119
... of which on other wooded land	0.045	n.a.	0.193	n.a.	0.222	n.a.
... of which on other land	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Table 9b

FRA 2010 category	Proportion of forest area affected by fire (%)		
	1990	2000	2005
Wildfire	100.00	100.00	100.00
Planned fire	0.00	0.00	0.00

Note: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

9.5 Comments to Table T9

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Area affected by fire		
Number of fires	Slovenia Forest Service records only the forest fires which start in the forests or which start on the other land and expand in the forests. The exact number of fires, which expanded on OWL or other land, is not known.	
Wildfire / planned fire		

Other general comments to the table

10 Table T10 – Other disturbances affecting forest health and vitality

10.1 FRA 2010 Categories and definitions

Term	Definition
Disturbance	Damage caused by any factor (biotic or abiotic) that adversely affects the vigour and productivity of the forest and which is not a direct result of human activities.
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.
Category	**Definition**
Disturbance by insects	Disturbance caused by insect pests.
Disturbance by diseases	Disturbance caused by diseases attributable to pathogens, such as bacteria, fungi, phytoplasma or virus.
Disturbance by other biotic agents	Disturbance caused by biotic agents other than insects or diseases, such as wildlife browsing, grazing, physical damage by animals, etc.
Disturbance caused by abiotic factors	Disturbances caused by abiotic factors, such as air pollution, snow, storm, drought, etc.

10.2 National data

10.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Annual Report of Slovenia Forest Service. Slovenia Forest Service. 2000.	H	m^3 of sanitary felling	2003-2007	
Calculation of area from annual report of Slovenia Forest Service	H	ha	2003-2007	
Annual Report of Slovenia Forest Service. Slovenia Forest Service. 2000.	H	m^3 of sanitary felling	1998-2002	
Calculation of area from annual report of Slovenia Forest Service	H	ha	1998-2002	

10.2.2 Classification and definitions

National class	Definition
cause - insects	the cause for sanitary felling are insects
cause - diseases	the cause for sanitary felling are tree diseases
other causes	the cause for sanitary felling are other causes

10.2.3 Original data

Sanitary felling in Slovenia for the years 1998-2002, by causes of felling in m3 (Annual report of Slovenia Forest Service):

Causes of felling	Tree species	1998 m^3	1999 m^3	2000 m^3	2001 m^3	2002 m^3	Average
Insects	Conifers	169.949	100.777	116.798	131.647	165.980	137.030
	Deciduous	1.558	1.814	2.005	1.082	1.111	1.514
	Together	171.507	102.591	118.803	132.729	167.091	138.544
Tree disease	Conifers	71.713	55.590	69.342	67.426	68.857	66.586
	Deciduous	52.874	49.396	60.930	56.568	51.943	54.342
	Together	124.587	104.986	130.272	123.994	120.800	120.928
Wild animals Hoofed animal	Conifers	6.534	4.657	5.528	6.939	7.383	6.208
	Deciduous	253	164	250	148	122	187
	Together	6.787	4.821	5.778	7.087	7.505	6.396
Wind	Conifers	35.433	45.216	37.944	29.491	53.250	40.267
	Deciduous	6.143	9.912	8.953	4.984	10.726	8.144
	Together	41.576	55.128	46.897	34.475	63.976	48.410
Snow	Conifers	40.761	112.339	25.496	11.679	9.457	39.946
	Deciduous	5.079	51.480	12.759	7.166	3.097	15.916
	Together	45.840	163.819	38.255	18.845	12.554	55.863
Ice, sleet	Conifers	70.321	17.125	13.031	7.974	3.742	22.439
	Deciduous	144.319	47.712	29.697	14.975	7.774	48.895
	Together	214.640	64.837	42.728	22.949	11.516	71.334
Avalanche	Conifers	5.499	4.855	2.666	3.134	1.386	3.508
	Deciduous	1.363	1.553	934	1.738	671	1.252
	Together	6.862	6.408	3.600	4.872	2.057	4.760
Imissions (local)	Conifers	12.376	6.704	6.241	5.498	6.729	7.510
	Deciduous	886	697	408	604	501	619
	Together	13.262	7.401	6.649	6.102	7.230	8.129
Forest work	Conifers	42.317	46.841	52.379	51.810	46.639	47.997
	Deciduous	20.575	21.574	23.606	20.113	18.982	20.970
	Together	62.892	68.415	75.985	71.923	65.621	68.967
Other	Conifers	70.388	68.647	74.053	69.743	82.193	73.005
	Deciduous	7.896	9.107	9.192	10.703	9.400	9.260
	Together	78.284	77.754	83.245	80.446	91.593	82.264
Together	Conifers	525.291	462.751	403.478	385.341	445.616	444.495
	Deciduous	240.946	193.409	148.734	118.081	104.327	161.099
	Together	766.237	656.160	552.212	503.422	549.943	605.595

Sanitary felling in Slovenia for the years 2003-2007, by causes of felling in m3 (Annual report of Slovenia Forest Service):

Causes of felling	Tree species	2003 m^3	2004 m^3	2005 m^3	2006 m^3	2007 m^3	Average
Insects	Conifers	405.566	566.660	744.822	700.595	510.664	585.661
	Deciduous	1.055	6.898	2.311	2.129	1.472	2.773
	Together	406.621	573.557	747.132	702.725	512.136	588.434
Tree disease	Conifers	70.540	85.149	74.343	73.873	74.144	75.610
	Deciduous	54.648	45.369	49.104	56.545	49.665	51.066
	Together	125.188	130.518	123.447	130.418	123.808	126.676
Wild animals Hoofed animal	Conifers	5.439	3.518	4.140	3.249	3.675	4.004
	Deciduous	229	125	106	49	45	111
	Together	5.668	3.643	4.246	3.298	3.720	4.115
Wind	Conifers	145.964	117.793	128.886	149.359	49.728	118.346
	Deciduous	20.143	42.627	44.456	30.921	17.422	31.114
	Together	166.107	160.420	173.342	180.280	67.150	149.460
Snow	Conifers	99.320	27.337	9.999	42.486	155.831	66.995
	Deciduous	12.476	10.294	3.930	4.835	26.882	11.683
	Together	111.796	37.631	13.929	47.321	182.713	78.678
Ice, sleet	Conifers	3.806	1.220	1.407	1.472	19.184	5.418
	Deciduous	4.734	2.439	1.997	1.618	13.658	4.889
	Together	8.540	3.659	3.404	3.091	32.842	10.307
Avalanche	Conifers	1.701	1.522	2.029	3.948	2.043	2.249
	Deciduous	965	485	372	3.735	633	1.238
	Together	2.666	2.007	2.400	7.683	2.676	3.486
Imissions (local)	Conifers	3.635	4.385	3.647	3.618	4.026	3.862
	Deciduous	469	629	198	53	155	301
	Together	4.104	5.014	3.846	3.671	4.181	4.163
Forest work	Conifers	39.608	37.460	37.114	44.955	35.223	38.872
	Deciduous	17.667	13.710	16.565	16.192	13.877	15.602
	Together	57.275	51.170	53.679	61.147	49.099	54.474
Other	Conifers	75.090	73.719	69.604	67.873	73.777	72.013
	Deciduous	10.591	10.880	14.512	14.551	9.480	12.003
	Together	85.681	84.599	84.116	82.424	83.256	84.015
Together	Conifers	850.669	918.763	1.075.991	1.091.428	928.295	973.029
	Deciduous	122.977	133.456	133.551	130.628	133.289	130.780
	Together	973.646	1.052.218	1.209.541	1.222.058	1.061.581	1.103.809

The original data has only number of cut trees and volume of total felling, dividing to the cause of sanitary felling. The damages are dispersed through the forest, so the SFS can just calculate the reduce area from the number of trees and total felling volume. From that data we calculate an average volume tree for conifers and deciduous trees. The area, that is adequate to each tree of definite volume and species, was calculated from the Table values for the spruce SI_{100} = 30 (site index – dominant height for 100 years old stand), the second production class and for beech SI_{100} = 24 (site index – dominant height for 100 years old stand), the second production class. If the volume of average tree is between two classes, we did interpolation. The calculated areas are net areas of affected forest.

Sanitary felling in Slovenia for the years 1998-2002, by causes of felling, in number of trees
(Annual report of Slovenia Forest Service)

Causes of felling	Tree species	1998 No. of trees	1999 No. of trees	2000 No. of trees	2001 No. of trees	2002 No. of trees	Average
Insects	Conifers	154.078	102.558	114.577	133.540	141.201	129.191
	Deciduous	2.016	3.610	2.375	1.650	1.453	2.221
	Together	156.094	106.168	116.952	135.190	142.654	131.412
Tree disease	Conifers	67.656	51.615	72.086	62.082	62.275	63.143
	Deciduous	91.275	86.658	103.836	90.218	86.954	91.788
	Together	158.931	138.273	175.922	152.300	149.229	154.931
Wild animals Hoofed animal	Conifers	31.844	22.180	24.838	32.494	31.182	28.508
	Deciduous	602	428	641	459	238	474
	Together	32.446	22.608	25.479	32.953	31.420	28.981
Wind	Conifers	36.659	34.593	31.433	28.477	40.893	34.411
	Deciduous	8.345	13.821	14.652	6.923	10.008	10.750
	Together	45.004	48.414	46.085	35.400	50.901	45.161
Snow	Conifers	108.046	207.961	50.165	24.370	17.510	81.610
	Deciduous	14.145	96.694	29.444	17.826	8.477	33.317
	Together	122.191	304.655	79.609	42.196	25.987	114.928
Ice, sleet	Conifers	179.444	45.151	28.500	11.626	5.717	54.088
	Deciduous	399.895	144.018	88.112	48.896	26.664	141.517
	Together	579.339	189.169	116.612	60.522	32.381	195.605
Avalanche	Conifers	6.061	4.293	2.702	2.823	1.151	3.406
	Deciduous	1.737	2.345	1.313	2.515	836	1.749
	Together	7.798	6.638	4.015	5.338	1.987	5.155
Imissions (local)	Conifers	13.101	7.412	7.031	6.590	8.688	8.564
	Deciduous	948	612	361	545	986	690
	Together	14.049	8.024	7.392	7.135	9.674	9.255
Forest work	Conifers	36.393	37.579	44.087	40.328	37.775	39.232
	Deciduous	27.210	27.198	31.062	24.406	21.922	26.360
	Together	63.603	64.777	75.149	64.734	59.697	65.592
Other	Conifers	45.183	44.571	46.786	49.594	48.331	46.893
	Deciduous	10.228	12.275	10.979	14.612	10.638	11.746
	Together	55.411	56.846	57.765	64.206	58.969	58.639
Together	Conifers	678.465	557.913	422.205	391.924	394.723	489.046
	Deciduous	556.401	387.659	282.775	208.050	168.176	320.612
	Together	1.234.866	945.572	704.980	599.974	562.899	809.658

Sanitary felling in Slovenia for the years 2003-2007, by causes of felling, in number of trees
(Annual report of Slovenia Forest Service)

Causes of felling	Tree species	2003 No. of trees	2004 No. of trees	2005 No. of trees	2006 No. of trees	2007 No. of trees	Average
Insects	Conifers	342.677	478.685	618.517	606.237	439.818	497.187
	Deciduous	1.632	4.900	2.574	2.535	1.857	2.700
	Together	344.309	483.585	621.091	608.772	441.675	499.886
Tree disease	Conifers	65.652	79.767	60.079	61.700	58.510	65.142
	Deciduous	85.269	68.993	77.438	93.243	79.800	80.949
	Together	150.921	148.760	137.517	154.943	138.310	146.090
Wild animals Hoofed animal	Conifers	21.700	14.928	17.694	14.089	13.534	16.389
	Deciduous	370	149	302	124	92	207
	Together	22.070	15.077	17.996	14.213	13.626	16.596
Wind	Conifers	118.127	92.281	102.173	118.351	43.235	94.833
	Deciduous	23.338	36.863	45.004	46.131	20.081	34.283
	Together	141.465	129.144	147.177	164.482	63.316	129.117
Snow	Conifers	143.657	51.424	19.109	89.411	367.620	134.244
	Deciduous	23.759	24.696	10.456	11.010	47.439	23.472
	Together	167.416	76.120	29.565	100.421	415.059	157.716
Ice, sleet	Conifers	5.807	1.813	1.639	2.691	43.942	11.178
	Deciduous	14.074	7.453	5.417	5.097	21.195	10.647
	Together	19.881	9.266	7.056	7.788	65.137	21.826
Avalanche	Conifers	1.332	1.399	1.634	3.880	1.891	2.027
	Deciduous	1.007	660	441	6.046	1.278	1.886
	Together	2.339	2.059	2.075	9.926	3.169	3.914
Imissions (local)	Conifers	3.569	3.759	2.653	3.111	3.522	3.323
	Deciduous	581	682	219	106	248	367
	Together	4.150	4.441	2.872	3.217	3.770	3.690
Forest work	Conifers	30.922	31.193	28.806	39.236	26.909	31.413
	Deciduous	22.194	18.237	20.489	20.508	18.668	20.019
	Together	53.116	49.430	49.295	59.744	45.577	51.432
Other	Conifers	45.671	46.245	41.654	38.482	46.256	43.662
	Deciduous	13.827	15.622	21.194	20.829	14.329	17.160
	Together	59.498	61.867	62.848	59.311	60.585	60.822
Together	Conifers	779.114	801.494	893.958	977.188	1.045.237	899.398
	Deciduous	186.051	178.255	183.534	205.629	204.987	191.691
	Together	965.165	979.749	1.077.492	1.182.817	1.250.224	1.091.089

Sanitary felling in Slovenia for the years 1998-2002, by causes of felling, in average tree volume (Annual report of Slovenia Forest Service)

Causes of felling	Tree species	1998 m^3	1999 m^3	2000 m^3	2001 m^3	2002 m^3	Average	Calculated area ha
Insects	Conifers	1,10	0,98	1,02	0,99	1,18	1,06	184,03
	Deciduous	0,77	0,50	0,84	0,66	0,76	0,68	3,95
	Together	1,10	0,97	1,02	0,98	1,17	1,05	187,98
Tree disease	Conifers	1,06	1,08	0,96	1,09	1,11	1,05	92,00
	Deciduous	0,58	0,57	0,59	0,63	0,60	0,59	178,41
	Together	0,78	0,76	0,74	0,81	0,81	0,78	270,41
Wild animals Hoofed animal	Conifers	0,21	0,21	0,22	0,21	0,24	0,22	15,46
	Deciduous	0,42	0,38	0,39	0,32	0,51	0,40	0,82
	Together	0,21	0,21	0,23	0,22	0,24	0,22	16,28
Wind	Conifers	0,97	1,31	1,21	1,04	1,30	1,17	52,26
	Deciduous	0,74	0,72	0,61	0,72	1,07	0,76	18,54
	Together	0,92	1,14	1,02	0,97	1,26	1,07	70,80
Snow	Conifers	0,38	0,54	0,51	0,48	0,54	0,49	71,58
	Deciduous	0,36	0,53	0,43	0,40	0,37	0,48	68,42
	Together	0,38	0,54	0,48	0,45	0,48	0,49	140,01
Ice, sleet	Conifers	0,39	0,38	0,46	0,69	0,65	0,41	42,32
	Deciduous	0,36	0,33	0,34	0,31	0,29	0,35	230,84
	Together	0,37	0,34	0,37	0,38	0,36	0,36	273,16
Avalanche	Conifers	0,91	1,13	0,99	1,11	1,20	1,03	5,33
	Deciduous	0,78	0,66	0,71	0,69	0,80	0,72	3,11
	Together	0,88	0,97	0,90	0,91	1,04	0,92	8,44
Emissions (local)	Conifers	0,94	0,90	0,89	0,83	0,77	0,88	10,80
	Deciduous	0,93	1,14	1,13	1,11	0,51	0,90	0,92
	Together	0,94	0,92	0,90	0,86	0,75	0,88	11,72
Forest work	Conifers	1,16	1,25	1,19	1,28	1,23	1,22	62,49
	Deciduous	0,76	0,79	0,76	0,82	0,87	0,80	44,85
	Together	0,99	1,06	1,01	1,11	1,10	1,05	107,34
Other	Conifers	1,56	1,54	1,58	1,41	1,70	1,56	88,13
	Deciduous	0,77	0,74	0,84	0,73	0,88	0,79	20,08
	Together	1,41	1,37	1,44	1,25	1,55	1,40	108,21
Together	Conifers	0,77	0,83	0,96	0,98	1,13	0,91	624,40
	Deciduous	0,43	0,50	0,53	0,57	0,62	0,50	569,94
	Together	0,62	0,69	0,78	0,84	0,98	0,75	1.194,34

Sanitary felling in Slovenia for the years 2003-2007, by causes of felling, in average tree volume (Annual report of Slovenia Forest Service)

Causes of felling	Tree species	2003 m^3	2004 m^3	2005 m^3	2006 m^3	2007 m^3	Average	Calculated area ha
Insects	Conifers	1,18	1,18	1,20	1,16	1,16	1,18	772,73
	Deciduous	0,65	1,41	0,90	0,84	0,79	1,03	5,40
	Together	1,18	1,19	1,20	1,15	1,16	1,18	778,13
Tree disease	Conifers	1,07	1,07	1,24	1,20	1,27	1,16	100,02
	Deciduous	0,64	0,66	0,63	0,61	0,62	0,63	111,32
	Together	0,83	0,88	0,90	0,84	0,90	0,87	211,34
Wild animals Hoofed animal	Conifers	0,25	0,24	0,23	0,23	0,27	0,24	9,51
	Deciduous	0,62	0,84	0,35	0,40	0,49	0,53	0,25
	Together	0,26	0,24	0,24	0,23	0,27	0,25	9,77
Wind	Conifers	1,24	1,28	1,26	1,26	1,15	1,25	153,53
	Deciduous	0,86	1,16	0,99	0,67	0,87	0,91	60,72
	Together	1,17	1,24	1,18	1,10	1,06	1,16	214,25
Snow	Conifers	0,69	0,53	0,52	0,48	0,42	0,50	116,53
	Deciduous	0,53	0,42	0,38	0,44	0,57	0,50	28,04
	Together	0,67	0,49	0,47	0,47	0,44	0,50	144,58
Ice, sleet	Conifers	0,66	0,67	0,86	0,55	0,44	0,48	8,82
	Deciduous	0,34	0,33	0,37	0,32	0,64	0,46	12,33
	Together	0,43	0,39	0,48	0,40	0,50	0,47	21,15
Avalanche	Conifers	1,28	1,09	1,24	1,02	1,08	1,11	3,00
	Deciduous	0,96	0,73	0,84	0,62	0,50	0,66	2,58
	Together	1,14	0,97	1,16	0,77	0,84	0,89	5,58
Emissions (local)	Conifers	1,02	1,17	1,37	1,16	1,14	1,16	5,10
	Deciduous	0,81	0,92	0,90	0,50	0,63	0,82	0,62
	Together	0,99	1,13	1,34	1,14	1,11	1,13	5,72
Forest work	Conifers	1,28	1,20	1,29	1,15	1,31	1,24	50,32
	Deciduous	0,80	0,75	0,81	0,79	0,74	0,78	31,94
	Together	1,08	1,04	1,09	1,02	1,08	1,06	82,26
Other	Conifers	1,64	1,59	1,67	1,76	1,59	1,65	85,29
	Deciduous	0,77	0,70	0,68	0,70	0,66	0,70	25,35
	Together	1,44	1,37	1,34	1,39	1,37	1,38	110,65
Together	Conifers	1,09	1,15	1,20	1,12	0,89	1,08	1.304,86
	Deciduous	0,66	0,75	0,73	0,64	0,65	0,68	278,55
	Together	1,01	1,07	1,12	1,03	0,85	1,01	1.583,42

10.3 Analysis and processing of national data

10.3.1 Estimation and forecasting

The damage cause by insects and disease will rise in the next years. The basic source is in the climate changes. The average temperatures rise and the dry periods in the growing season are more frequently. Other damages will stay at the same level.

10.4 Data for Table T10

Table 10a – Disturbances

FRA 2010 category	Affected forest area (1000 hectares)		
	1990	2000	2005
Disturbance by insects	0.341	0.188	0.778
Disturbance by diseases	0.174	0.270	0.211
Disturbance by other biotic agents	n.a.	0.124	0.092
Disturbance caused by abiotic factors	n.a.	0.612	0.502
Total area affected by disturbances	**0.515**	**1.194**	**1.583**

Notes: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

The total area affected by disturbances is not necessarily the sum of the individual disturbances as these may be overlapping.

Table 10b – Major outbreaks of insects and diseases affecting forest health and vitality

Description / name	Tree species or genera affected (scientific name)	Year(s) of latest outbreak	Area affected (1000 hectares)	If cyclic, approx. cycle (years)
Outbreak of insects	*Picea abies*	2005	1.000	The bark Beatle outbreak in Slovenia started in 2003, the culmination was in the year 2005 and the end in the years 2007/2008.

Note: Area affected refers to the total area affected during the outbreak.

Table 10c – Area of forest affected by woody invasive species

Scientific name of woody invasive species	Forest area affected 2005 (1000 hectares)
Robinia pseudoaccacia	8.769
Total forest area affected by woody invasive species	8.769

Note: The total forest area affected by woody invasive species is not necessary the sum of the values above, as these may be overlapping.

10.5 Comments to Table T10

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Disturbance by insects		The bark Beatle outbreak in Slovenia started in 2003, the culmination was in the year 2005 and the end in the years 2007/2008.
Disturbance by diseases		
Disturbance by other biotic agents	The total area affected by biotic disturbances includes different causes of felling, such as wildlife browsing, grazing, physical damage by animals and forest work.	
Disturbance caused by abiotic factors	The total area affected by abiotic disturbances includes different causes of felling, such as wind, ice and sleet, snow, avalanche and local emissions.	
Major outbreaks		
Invasive species	The area was calculated using the data for all stands with more than 50% of the total growing stock in the single stand.	

Other general comments to the table

11 Table T11 – Wood removals and value of removals

11.1 FRA 2010 Categories and definitions

Category	Definition
Industrial roundwood removals	The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel).
Woodfuel removals	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

11.2 National data

11.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Statistical yearbook of the Republic of Slovenia Years 1993, 2003, 2008. Statistical Office of Republic of Slovenia. 1993, 2003, 2008	M	Production of raw wood categories	1988 1989 1990 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007	Data on removals was gathered from the annual reports submitted by forest management organisations until 1990. In the period of transition (1991 to 1993) the data was insufficient. Since 1994 reporting has been entirely the responsibility of the Slovenia Forest Service.
Statistical yearbook of the Republic of Slovenia Years 1993, 2003 Statistical Office of Republic of Slovenia. 1993, 2003, 2006	M	Purchase prices	1991 1992 1998 1999 2000 2001 2002 2003 2004 2005	Purchase of wood from private forests bought via cooperatives and forest management organisations. Reports on the purchase of wood from private forests are submitted by co-operatives and forest management organisations.
Statistical yearbook of the Republic of Slovenia Year 2008 Statistical Office of Republic of Slovenia. 2008	H/M	Purchase prices	2006 2007	Purchase of wood from private forests bought via cooperatives and forest management organisations. Reports on the purchase of wood from private forests are submitted by co-operatives and forest management organisations. Purchase prices for detailed raw wood categories are available for years 2006 and 2007.

11.2.2 Classification and definitions

National class	Definition
Logs	According to FAO/UNECE/Eurostat definition.
Pulpwood	According to FAO/UNECE/Eurostat definition.
Other industrial wood	According to FAO/UNECE/Eurostat definition.
Fuelwood	According to FAO/UNECE/Eurostat definition.
Industrial roundwood	According to FAO/UNECE/Eurostat definition.
Technical wood	Logs and other industrial wood.

11.2.3 Original data

Wood removals

Production of raw wood categories 1000 m^3 (u.b.)								
	1988[1]	1989[1]	1990[1]	1998	1999	2000	2001	2002
Total	**2 486**	**2 427**	**1 790**	**2 132**	**2 068**	**2 253**	**2 257**	**2 283**
Conifers	1 602	1 499	1 153	1 187	1 147	1 209	1 240	1 272
Non-conifers	884	928	637	945	921	1 044	1 017	1 011
Logs	**1 339**	**1 258**	**979**	**1 001**	**992**	**1 120**	**1 144**	**1 164**
Conifers	1 006	901	720	736	727	786	819	844
Non-conifers	333	357	259	265	265	334	325	320
Pulpwood	**421**	**390**	**281**	**451**	**434**	**396**	**410**	**414**
Conifers	353	328	238	356	329	302	310	323
Non-conifers	68	62	43	95	105	94	100	91
Other industrial wood	**537**	**540**	**335**	**142**	**137**	**205**	**408**	**425**
Conifers	243	270	194	95	91	121	112	105
Non-conifers	294	270	141	47	46	84	296	320
Fuelwood	**189**	**239**	**195**	**539**	**505**	**532**	**295**	**280**

Remark:
[1]Data on removals was gathered from the annual reports submitted by forest management organisations until 1990. This data do not include wood for private/domestic use. In order to get yearly volumes of total removals the factor 1.3333 was used in further calculations. This factor is not real conversion factor. It includes also calibration in order to include private/domestic use of wood.

Production of raw wood categories 1000 m^3 (u.b.)					
	2003	2004	2005	2006	2007
Total	**2 591**	**2 551**	**2 733**	**3 179**	**2 882**
Conifers	1 549	1 556	1 713	1 885	1 789
Non-conifers	1 042	995	1 020	1 294	1 093
Logs	**1 291**	**1 372**	**1 403**	**1 712**	**1 699**
Conifers	939	1107	1 210	1 422	1 413
Non-conifers	352	265	192	290	286
Pulpwood	**572**	**283**	**288**	**445**	**353**
Conifers	452	210	246	331	223
Non-conifers	120	73	42	114	131
Other industrial wood	**369**	**171**	**99**	**39**	**41**
Conifers	158	114	85	22	27
Non-conifers	211	57	14	16	15
Fuelwood	**359**	**725**	**943**	**984**	**788**

Value of wood removals

Years: 1991; 1998-2005

Assortment	Year	1991	1998	1999	2000	2001	2002	2003	2004	2005
Technical wood	SIT/m^3 (u.b.)	2 181	9 767	9 844	10 229	10 730	10 847	11 110	10 984	11 011
Pulpwood	SIT/m^3 (u.b.)	916	3 141	3 013	3 051	2 967	2 997	2 967	3 145	3 522
Fuelwood	SIT/m^3 (u.b.)	765	3 427	3 234	3 407	3 414	3 466	3 414	3 626	4 577

Years: 2006 and 2007

Assortment	Year	2006	2007
Logs Conifers	EUR/m^3 (u.b.)	46.3	55.3
Logs Oak	EUR/m^3 (u.b.)	80.1	88.8
Logs Beech	EUR/m^3 (u.b.)	60.8	62.7
Logs Other non-conifers	EUR/m^3 (u.b.)	68.1	74.9
Pulpwood Conifers	EUR/m^3 (u.b.)	16.2	20.0
Pulpwood Non-conifers	EUR/m^3 (u.b.)	26.5	31.9
Other industrial wood Conifers	EUR/m^3 (u.b.)	30.2	33.5
Other industrial wood Non-conifers	EUR/m^3 (u.b.)	34.1	40.4
Fuelwood Conifers	EUR/m^3 (u.b.)	16.2	17.7
Fuelwood Non-conifers	EUR/m^3 (u.b.)	26.7	35.4

11.3 Analysis and processing of national data

11.3.1 Calibration

Calibration was not needed.

11.3.2 Estimation and forecasting

Wood removals

Conversion factors for the periods 1998-2002 and 2003-2007 used for transformation of the volumes from under bark to over bark are for conifers 1.1765 and for non-conifers 1.1364.

Combined transformation factor for year 1991 is 1.3333. It includes conversion factors (conifers 1.1765 and non-conifers 1.1364) and factor representing the proportion of domestic wood use (1.1533).

The data for years 1991 and 1992 are incomplete and not applicable. The average for year 1990 is calculated according to data for years 1988, 1989 and 1990.

The figures for the reporting years 2000 and 2005 refer to the averages for the 5-year periods 1998-2002 and 2003-2007 respectively.

Value of wood removals

Purchase prices for year 1990 are based on prices related to year 1991. No exchange rates are available for years 1988-1990. Any linear interpolation would give unrealistic prices so it is not used as a method.
5-years average of weighted values was used for reporting years 2000 and 2005.

Recalculation from EUR to national currency for years 2006 and 2007 was done by using rate 1 EUR = 239.640 SIT.

Values of wood removals were rounded to 1 000 000 SIT and reported in 1 000 SIT.

11.3.3 Reclassification into FRA 2010 categories

Wood removals

	Industrial wood removal	Woodfuel removal
	%	%
Logs	100	0
Conifers	100	0
Non-conifers	100	0
Pulpwood	100	0
Conifers	100	0
Non-conifers	100	0
Other industrial wood	100	0
Conifers	100	0
Non-conifers	100	0
Fuelwood	0	100

Value of wood removals

Years: 1991; 1998-2005

National classes	Industrial wood removal	Woodfuel removal
	%	%
Technical wood	100	0
Pulpwood	100	0
Fuelwood	0	100

Years: 2006 and 2007

National classes	Industrial wood removal	Woodfuel removal
	%	%
Logs Conifers	100	0
Logs Oak	100	0
Logs Beech	100	0
Logs Other non-conifers	100	0
Pulpwood Conifers	100	0
Pulpwood Non-conifers	100	0
Other industrial wood Conifers	100	0
Other industrial wood Non-conifers	100	0
Fuelwood Conifers	0	100
Fuelwood Non-conifers	0	100

11.4 Data for Table T11

FRA 2010 Category	Industrial roundwood removals			Woodfuel removals		
	1990	2000	2005	1990	2000	2005
Total volume (1000 m^3 o.b.)	2 701	2 058	2 368	277	489	868
... of which from forest	2 701	2 058	2 368	277	489	868
Unit value (local currency / m^3 o.b.)	1 690	7 395	8 792	662	2 975	4 685
Total value (1000 local currency)	4 564 000	15 222 000	20 817 000	183 000	1 454 000	4 065 000

Note: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

	1990	2000	2005
Name of local currency	Slovenian tolar – SIT	Slovenian tolar – SIT	Slovenian tolar – SIT

11.5 Comments to Table T11

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total volume of industrial roundwood removals		
Total volume of woodfuel removals	Data related to removals from OWL are not available. According t expert judgement removals from OWL are used as woodfuel.	
Unit value	Purchase prices for years2006 and 2007 were transformed into national currency using an exchange rate: 1 EUR = 239.640 SIT.	
Total value		

Other general comments to the table
Working group: Mitja Piskur, Mirko Medved, Nike Krajnc (SFI), Dragan Matijasic (SFS).

12 Table T12 – Non-wood forest products removals and value of removals

12.1 FRA 2010 Categories and definitions

Term	Definition
Non-wood forest product (NWFP)	Goods derived from forests that are tangible and physical objects of biological origin other than wood.
Value of NWFP removals	For the purpose of this table, value is defined as the market value at the site of collection or forest border.

NWFP categories

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 bee-wax
12. Wild meat
13. Raw material for medicine
14. Raw material for colorants
15. Other edible animal products
16. Other non-edible animal products

12.2 National data

12.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Slovenian Hunting Organization	M	Hides, skins and trophies	2002 - 2007	
Slovenian Hunting Organization	M	Wild meat	2002 - 2007	
Annual Report of Slovenia Forest Service. 2002, 2003, 2004, 2005, 2006, 2007	H	Christmas trees -	2002 - 2007	
Database of Slovenia Forest Service	M	Food - Chestnut	2007	
Estimate	L	Mushrooms	2005	

12.2.2 Original data

Original data are presented directly in the reporting table below.

12.3 Data for Table T12

Rank	Name of product	Key species	Unit	NWFP removals 2005		NWFP category
				Quantity	Value (1000 local currency)	
1st	Hides, skins and trophies		No.	10 269	1 126 059	10
2nd	Wild meat		No.	44 496	712 273	12
3rd	Mushrooms		tons	1 000	239 640	1
4th	Food	Chestnut	tons	750	89 865	1
5th	Christmas trees	Spruce, Fir, Pine	No.	50 000	239 640	6
6th						
7th						
8th						
9th						
10th						
All other plant products					0	
All other animal products					0	
TOTAL					**2 407 477**	

	2005
Name of local currency	**Slovenski tolar – SIT (1€=239.64 SIT)**

12.4 Comments to Table T12

Variable / category	Comments related to data, definitions, etc.
10 most important products	
Other plant products	
Other animal products	
Value by product	
Total value	

Other general comments to the table

13 Table T13 – Employment

13.1 FRA 2010 Categories and definitions

Category	Definition
Full-time equivalents (FTE)	A measurement equal to one person working full-time during a specified reference period.
Employment	Includes all persons in paid employment or self-employment.
Paid employment	Persons who during a specified reference period performed some work for wage or salary in cash or in kind.
Self-employment	Persons who during a specified reference period performed some work for profit or family gain in cash or in kind (e.g. employers, own-account workers, members of producers' cooperatives, contributing family workers).

13.2 National data

13.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Statistical yearbook of the Republic of Slovenia Year 1991. Statistical Office of Republic of Slovenia (SORS). 1991.	H	Persons in paid employment in enterprises and other organizations by activity – Forestry	1990	Until 1991 private enterprises were excluded.
Economic accounts for forestry. Statistical Office of Republic of Slovenia (SORS). 2008	H	Employment in primary production	2000 2005	Labour input in forestry, measured in annual work units (AWU).
Annual Report of Slovenia Forest Service. Year 2000. Slovenia Forest Service. 2001	H	Number of employees	2000	Formally established in 1993.
Annual Report of Slovenia Forest Service. Year 2005. Slovenia Forest Service 2006	H	Number of employees	2005	

13.2.2 Classification and definitions

WEB

National class	Definition
Persons in paid employment in enterprises and other organizations (y. 1990)	Persons in paid employment in enterprises and other organizations who have signed a work contract for a fixed or unspecified period of time, irrespective of whether they work in the enterprise or other organization full time or less than full time (including trainees).
Forestry labour input (employment) in forestry	Forestry labour input (employment) in forestry is, in order to take into account part-time and seasonal work, measured in annual work units (AWU). One AWU equals one person in full-time employment in forestry unit of forestry or agricultural industry in one year (1.800 h). Total labour force in forestry covers salaried and non-salaried labour force. Economic accounts for forestry cover: • forestry enterprises, • individual private entrepreneurs registered in forestry or agricultural industry, • family farms that perform activities in forestry industry.
Employment in primary production of goods of which paid employment (FTE)	According to FRA 2010 definition. SFS excluded.
Employment in primary production of goods of which self-employment (FTE)	According to FRA 2010 definition. SFS excluded.

13.2.3 Original data

Source: Economic accounts in Forestry (SORS)	2000	2005
Employment in primary production of goods (Total FTE)	5 137	5 994
...of which paid employment (FTE)	1 879	1 789
...of which self-employment (FTE)	3 258	4 205

Source: Slovenia Forest Service	2000	2005
Paid employment (FTE)	800	719

Source: Slovenia Forest Service (SORS)	1990
Employment in Forestry	6 061

13.3 Analysis and processing of national data

13.3.1 Estimation and forecasting

For 2000 and 2005 reference years Employment in primary production of goods of which paid employment (FTE) was calculated as sum of SORS data and data for Slovenia Forest Service. SFS employees dealing with hunting are excluded from totals.

13.4 Data for Table T13

FRA 2010 Category	Employment (1000 years FTE)		
	1990	2000	2005
Employment in primary production of goods	6	6	7
...of which paid employment	6	3	3
...of which self-employment	n.a.	3	4
Employment in management of protected areas	n.a.	n.a.	n.a.

13.5 Comments to Table T13

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Employment in primary production of goods	Until 1991 private enterprises were excluded.	Data are not comparable according to changes in methodology.
Paid employment / self-employment		
Employment in management of protected areas		

Other general comments to the table
Additional comment to section 13.2.2 National class: Forestry labour input (employment) in forestry: Agriculture part is excluded in presented data. Some entrepreneurs are however registered in agricultural industry and perform also some forestry activities. Only employment in forestry activities is covered within these entrepreneurs. Working group: Mitja Piskur, Mirko Medved (SFI), Spela Gale (SORS).

14 Table T14 – Policy and legal framework

14.1 FRA 2010 Categories and definitions

Term	Definition
Forest policy	A set of orientations and principles of actions adopted by public authorities in harmony with national socio-economic and environmental policies in a given country to guide future decisions in relation to the management, use and conservation of forest and tree resources for the benefit of society.
Forest policy statement	A document that describes the objectives, priorities and means for implementation of the forest policy.
National forest programme (nfp)	A generic expression that refers to a wide range of approaches towards forest policy formulation, planning and implementation at national and sub-national levels. The national forest programme provides a framework and guidance for country-driven forest sector development with participation of all stakeholders and in consistence with policies of other sectors and international policies.
Law (Act or Code) on forest	A set of rules enacted by the legislative authority of a country regulating the access, management, conservation and use of forest resources.

14.2 Data for Table T14

Indicate the existence of the following (2008)			
Forest policy statement with national scope		X	Yes
			No
If Yes above, provide:	Year of endorsement	1996 (2007)	
	Reference to document	http://www.mkgp.gov.si	
National forest programme (nfp)		X	Yes
			No
If Yes above, provide:	Name of nfp in country	Resolution on National Forest Programme	
	Starting year	2007	
	Current status		In formulation
		X	In implementation
			Under revision
			Process temporarily suspended
	Reference to document or web site	http://www.mkgp.gov.si	
Law (Act or Code) on forest with national scope		X	Yes, specific forest law exists
			Yes, but rules on forests are incorporated in other (broader) legislation
			No, forest issues are not regulated by national legislation
If Yes above, provide:	Year of enactment	1993	
	Year of latest amendment	2007	
	Reference to document	http://www.mkgp.gov.si	

In case the responsibility for forest policy- and/or forest law-making is decentralized, please indicate the existence of the following and explain in the comments below the table how the responsibility for forest policy- and law-making is organized in your country.		
Sub-national forest policy statements		Yes
	X	No
If Yes above, indicate the number of regions/states/provinces with forest policy statements		
Sub-national Laws (Acts or Codes) on forest		Yes
	X	No
If Yes above, indicate the number of regions/states/provinces with Laws on forests		

14.3 Comments to Table T14

Variable / category	Comments related to data, definitions, etc.
Forest policy statement with national scope	The Forest Development Programme of Slovenia, adopted by National Assembly in 1996, set out a national policy of close-to-nature forest management, guidelines for the conservation and development of forests and conditions for their exploitation and multiple use. In 2007 Slovenian National Assembly adopted National forest programme and replaced previous Forest Development Programme of Slovenia.
National forest programme (nfp)	National Forest Programme is a fundamental strategic document aimed at determining the national policy of sustainable development of forest management. Nfp was adopted on 20 November 2007.
Law (Act or Code) on forest with national scope	
Sub-national forest policy statements	
Sub-national Laws (Acts or Codes) on forest	

Other general comments to the table

15 Table T15 – Institutional framework

15.1 FRA 2010 Categories and definitions

Term	Definition
Minister responsible for forest policy-making	Minister holding the main responsibility for forest issues and the formulation of the forest policy.
Head of Forestry	The Head of Forestry is the Government Officer responsible for implementing the mandate of the public administration related to forests.
Level of subordination	Number of administrative levels between the Head of Forestry and the Minister.
University degree	Qualification provided by University after a minimum of 3 years of post secondary education.

15.2 Data for Table T15

Table 15a – Institutions

FRA 2010 Category	2008	
Minister responsible for forest policy formulation : please provide full title	Republic of Slovenia Ministry of Agriculture, Forestry and Food	
Level of subordination of Head of Forestry within the Ministry	X	1st level subordination to Minister
		2nd level subordination to Minister
		3rd level subordination to Minister
		4th or lower level subordination to Minister
Other public forest agencies at national level	Slovenia Forest Service; Inspectorate for Agriculture, Forestry and Food, Forestry Service	
Institution(s) responsible for forest law enforcement	Inspectorate for Agriculture, Forestry and Food, Forestry Service; Slovenia Forest Service	

Table 15b – Human resources

FRA 2010 Category	Human resources within public forest institutions					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Total staff	**835**	**14.8**	**836**	**14.5**	**835**	**15.0**
...of which with university degree or equivalent	297	17.2	329	16.1	379	17.2

Notes:
1. Includes human resources within public forest institutions at sub-national level
2. Excludes people employed in State-owned enterprises, education and research, as well as temporary / seasonal workers.

15.3 Comments to Table T15

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Minister responsible for forest policy formulation	In the field of forestry the Ministry shall provide for sustainable management of forest ecosystems and their comprehensive inclusion in other areas of space and residence. This includes also hunting and management of wild animals. Special emphasis is given on qualitative timber and adding value to timber products.	
Level of subordination of Head of Forestry within the Ministry	Work of the Ministry is organised within three directorates, which perform tasks in key minister's areas. One of them is Directorate for Forestry, Hunting and Fisheries. Director General reports directly to the Minister.	
Other public forest agencies at national level	The Slovenia Forest Service is a public institution, established by the Republic of Slovenia.	
Institution(s) responsible for forest law enforcement	Inspectorate for Agriculture, Forestry and Food, Forestry Service is responsible for supervision of the implementation of Act on Forest and all regulations issued on the basis of Act on Forest. Slovenia Forest service performs public forestry services in all forests.	
Human resources within public forest institutions	Table 15b includes people employed in Ministry of Forestry, Agriculture and Food (Sector of Forestry), Inspectorate for Agriculture, Forestry and Food (Forestry Service) and Slovenia Forest Service.	

Other general comments to the table

16 Table T16 – Education and research

16.1 FRA 2010 Categories and definitions

Term	Definition
Forest-related education	Post-secondary education programme with focus on forests and related subjects.
Doctor's degree (PhD)	University (or equivalent) education with a total duration of about 8 years.
Master's degree (MSc) or equivalent	University (or equivalent) education with a total duration of about five years.
Bachelor's degree (BSc) or equivalent	University (or equivalent) education with a duration of about three years.
Technician certificate or diploma	Qualification issued from a technical education institution consisting of 1 to 3 years post secondary education.
Publicly funded forest research centers	Research centers primarily implementing research programmes on forest matters. Funding is mainly public or channelled through public institutions.

16.2 National data

16.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Digital library of Biotechnical Faculty of University of Ljubljana	H	Degree, gender	2000, 2005, 2008	http://www.digitalna-knjiznica.bf.uni-lj.si/gozdarstvo.htm gathered: Jure Zlogar, SFI
Annual reports of SFI	H	Degree, gender	2000, 2005, 2008	gathered: Adrijana Trekman, SFI
SICRIS	H	Degree, gender	1999-2003 2004-2008 Years applied: 2000, 2005, 2008	http://sicris.izum.si/ gathered: Gal Kusar, SFI

16.2.2 Original data

Digital library of Biotechnical Faculty of University of Ljubljana	2000		2005		2008	
	All	Female	All	Female	All	Female
DR	4	1	6	4	5	0
MAG	7	5	8	1	4	3
UNI	24	6	22	7	33	10
VIS/VS	23	1	26	4	28	8

SFI	2000		2005		2008	
	All	Female	All	Female	All	Female
DR	9	3	16	4	19	6
MAG	10	1	7	1	3	0
UNI	11	1	17	6	24	9

Remark:
State of the art on 31.12. of the reporting year.

BF Department of Forestry	1999-2003		2004-2008	
	All	Female	All	Female
DR	22	4	15	2
MAG	2	1	2	0
UNI	8	4	11	3

16.3 Data for Table T16

FRA 2010 Category	**Graduation [1)] of students in forest-related education**					
	2000		**2005**		**2008**	
	Number	**%Female**	**Number**	**%Female**	**Number**	**%Female**
Master's degree (MSc) or equivalent	7	71.43	8	12.50	4	75.00
Bachelor's degree (BSc) or equivalent	24	25.00	22	31.82	33	30.30
Forest technician certificate / diploma	23	4.35	26	15.38	28	28.57
FRA 2010 Category	**Professionals working in publicly funded forest research centres [2)]**					
	2000		**2005**		**2008**	
	Number	**%Female**	**Number**	**%Female**	**Number**	**%Female**
Doctor's degree (PhD)	31	22.58	31	19.35	34	23.53
Master's degree (MSc) or equivalent	12	16.67	9	11.11	5	0.00
Bachelor's degree (BSc) or equivalent	19	26.32	28	32.14	35	34.29

Remarks:

[1] Graduation refers to the number of students that have successfully completed a Bachelor's or higher degree or achieved a certificate or diploma as forest technician.

[2] Covers degrees in all of the sciences, not only in forestry.

16.4 Comments to Table T16

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Graduation of students in forest-related education	National = GFRA2010 category Mag = MSc UNI = BSc FTC = VIS/VS	
Professionals working in public forest research centres	Researchers from Slovenian Forestry Institute (SFI) and Department of Forestry and Renewable Forest Sources (DF) of Biotechnical Faculty of University of Ljubljana are included. For DF date for period 1.1.1999-31.12.2003 (P0 0531-0481 (D), 2,33 FTE) is taken for year 2000 and date for period 1.1.2004-31.12.2008 (P4-0059, 2 FTE) is taken for year 2005 as well as for year 2008, because there is no exact data available for report years.	

Other general comments to the table
Working group: Gal Kusar, Adrijana Trekman, Jure Zlogar (SFI).

17 Table T17 – Public revenue collection and expenditure

17.1 FRA 2010 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, forest products include: roundwood; sawnwood; wood-based panels; pulp and paper; and non-wood forest products. As far as possible, this should include revenue collected by all levels of government (i.e. central, regional/provincial and municipal level), but it should exclude the income of publicly owned business entities.
Public expenditure	All government expenditure on forest related activities (further defined below).
Operational expenditure *(sub-category to Public expenditure)*	All government expenditure on public institutions solely engaged in the forest sector. Where the forest administration is part of a larger public agency (e.g. department or ministry), this should only include the forest sector component of the agency's total expenditure. As far as possible, this should also include other institutions (e.g. in research, training and marketing) solely engaged in the forest sector, but it should exclude the expenditure of publicly owned business entities.
Transfer payments *(sub-category to Public expenditure)*	All government expenditure on direct financial incentives paid to non-government and private-sector institutions, enterprises communities or individuals operating in the forest sector to implement forest related activities.
Domestic funding	Public expenditure funded from domestic public financial resources, including: retained forest revenue; forest-related funds; and allocations from the national budget (i.e. from non-forest sector public revenue sources).
External funding	Public expenditure funded from grants and loans from donors, non-governmental organisations, international lending agencies and international organisations, where such funds are channelled through national public institutions.

17.2 National data

17.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Annual Report of Slovenia Forest Service. Slovenia Forest Service 2001 and 2006	H	Revenue from hunting in hunting reserves with special purpose	2000, 2005	
Annual report of Farmland and Forest Found of the Republic of Slovenia 2000 and 2005	H	Concession fee for State forest	2000, 2005	
The Environmental Agency of the Republic of Slovenia Register of mushrooms purchasers	M	Tax on mushrooms trade	2000, 2005	
Tax Administration of republic of Slovenia	M	Tax on trade of forest product,	2000, 2005	

		Taxable person's cadastral income		
Ministry of Finance, State Budget reports	H	Expenditure in forest sector	2000, 2005	

17.2.2 Original data

Forest revenue (SIT)	Year 2000	Year 2005
Concession fee in State forest	535 781 418	1 068 945 273
Hunting in hunting reserves with special purpose	201 552 461	451 676 901
Tax on mushroom trade	16 139 316	16 437 113
Tax on chestnut trade	541 000	764 000
Tax on domestic trade of forest product	1 452 021 321	4 072 716 239
Taxable person's cadastral income from forest	20 000 000	20 000 000

Expenditure (SIT)	Year 2000	Year 2005
Financing of the public forest service	2 969 855 998	4 251 827 078
Financing for purchasing protective forests and forests with special purpose	20 000 000	5 230 341
Financing and co-financing of forest tending, regeneration and protection measures - budget of Republic of Slovenia	322 382 211	204 468 940
Financing and co-financing of forest tending, regeneration and protection measures - European Agriculture Rural Development Fund	0	157 000 000

17.3 Data for Table T17

Table 17a - Forest revenues

FRA 2010 Categories	**Revenues (1000 local currency)**	
	2000	**2005**
Forest revenue	2 226 036	5 630 540

Table 17b - Public expenditure in forest sector by funding source

FRA 2010 Categories	Domestic funding (1000 local currency)		External funding (1000 local currency)		Total (1000 local currency)	
	2000	2005	2000	2005	2000	2005
Operational expenditure	2 989 856	4 257 057	0	0	2 989 856	4 257 057
Transfer payments	322 328	204 469	0	157 000	322 328	361 469
Total public expenditure	3 312 184	4 461 526	0	157 000	3 312 184	4 618 526

If transfer payments are made for forest management and conservation, indicate for what specific objective(s) - Please tick all that apply.		
	X	Reforestation
		Afforestation
	X	Forest inventory and/or planning
	X	Conservation of forest biodiversity
	X	Protection of soil and water
	X	Forest stand improvement
		Establishment or maintenance of protected areas
		Other, specify below

17.4 Comments to Table T17

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest revenue	Forest revenue includes: - Concession fee in State forest; - Revenue from hunting in hunting reserves with special purpose; - Tax on mushrooms and chestnut trade; - Taxable person's cadastral income from forest; - Tax on domestic trade of forest product	
Operational expenditure	Expenditure for Public Forest Service and for purchasing protective forests and forests with a special purpose.	
Transfer payments	Financing and co-financing of forest tending, regeneration and protection measures (Subsidies for forest owners).	

Other general comments to the table
Currency is Slovenian tolar - SIT